



Clwydian Range and Dee Valley AONB

Visitor Impacts Appraisal Final Report



Bryniau Clwyd a Dyffryn Dyfrdwy
Clwydian Range and Dee Valley

Ardal o Harddwch Naturiol Eithriadol
Area of Outstanding Natural Beauty

Clwydian Range and Dee Valley AONB – Visitor Impacts Appraisal

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1. Executive Summary

Highlights

Economic Impacts

- The six sites combined, accounted for an estimated £24.1m in direct expenditure by visitors in 2018. These sites therefore accounted for an estimated 19% of all tourist expenditure in rural Denbighshire in 2018.
- The estimated total of 449 FTE jobs supported by the expenditure of visitors to the six sites in 2018 was equivalent to 19% of all jobs from tourism in rural Denbighshire in 2018.

Social Impacts

- Across all sites, almost 92% of survey participants agreed or strongly agreed that living in or near to the Clwydian Range and Dee Valley AONB is good for life in their community.
- AONB helped participants to relax, escape stress and find personal peace, so we arrive at a wellbeing value of £8.8m per annum.
- Visits to the AONB could lead to an estimated £733,000 of reduced health expenditure per year, made up of approximately £23,000 from reduced incidence of cardiovascular disease and £708,000 from reduced type-2 diabetes.

Environmental Impacts

- We estimate the total cost of litter (including dog waste) and maintenance of paths to be approximately £34,400 per year for all six sites.
- We have estimated that the total value to the AONB's 1.13 million annual visitors of preserving the natural environment is £35.4 million per annum.

The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) forms the dramatic upland frontier of North Wales and includes the Pontcysyllte Aqueduct and Canal UNESCO World Heritage Site (WHS) and parts of the Offa's Dyke National Trail. Covering an area of 150sq miles (390sq km), from Prestatyn Hillside in the north to the North Berwyn and Dee Valley in the south, it is a dramatic combination of windswept hilltops, heather moorland, limestone crags and wooded valleys. The AONB also includes many rural villages and the towns of Llangollen and Corwen. Nearby, the towns of Ruthin,

Denbigh, Mold, Chirk and Prestatyn have an important relationship with the Clwydian Range and Dee Valley.

In the summer of 2018, the AONB commissioned NEF Consulting to carry out a visitor impacts appraisal, to measure and assess the economic and social wellbeing benefits and the environmental impacts of six key visitor sites across the AONB. Sites 1, 5 and 6 are part of the WHS, and site 4 lies in the WHS 'buffer zone' for planning purposes (see Section 3 below):

1. Chirk Aqueduct and Viaduct (CAV)
2. Loggerheads Country Park (LCP)
3. Moel Famau Country Park (MFCP)
4. Panorama (P)
5. Pontcysyllte Aqueduct and Trevor¹ Basin (PATB)
6. Horseshoe Falls and Llantysilio Green (HFLG)

The aim of the study was to inform the AONB and WHS response to increasing visitor numbers at these six key sites and to set out a sustainable approach to management, ensuring that the capacity and resilience of these sites are at the heart of that approach.

This report presents the findings of the visitor impacts appraisal. It is based upon a combination of extensive research into the local context and strategic management of the AONB, a visitor survey conducted in the area during the high and low seasons and online, and interviews with 20 local businesses.

The research findings include visitor profiles based on the survey data, along with an analysis of the economic impact of visitor expenditure in the area. The report provides an analysis of social impacts, including the benefits to the wellbeing of the visitors and both positive and negative impacts on the local communities. An assessment of the environmental impacts of tourism at the six sites completes the analysis.

Based on the deeper understanding of these impacts, the report goes on to make recommendations for reducing the environmental impacts of visitor numbers while maximising and spreading the economic and social benefits to the wider area. The report concludes with an action plan, detailing options and potential timeframes for implementing these recommendations.

¹ Trevor and Trefor used interchangeably throughout this report.



Some key findings of the research are:

Visitor Profiles

- The six sites in the AONB attracted an estimated 1.1 million visitors in 2018. This total is a sum of the values for the individual sites. Some visitors may be counted two or more times if they visited more than one site.
- The majority of visitors are day-trippers with the exception of those visiting the WHS, where a higher proportion of visitors stayed overnight.
- A clear majority of visitors travel in family groups to most of the sites.
- The vast majority of visitors questioned come to the area to participate in and enjoy independent, non-commercialised activities, and particularly to participate in walks of varying lengths.

Economic impacts

- The visitor survey found that the average daily expenditure per visitor (excluding accommodation) across the six sites was £13.34. This is broadly in line with visitor spend in comparable areas.
- Non-local visitors spent 54% more per day than locals in our survey.
- The difference in spending between non-local and local visitors differs considerably by season. During the high season, non-locals spent 131% more than locals did, whereas during the low season the difference was 32%.
- Local visitors spent 32% less during the high season than during the low season. On the other hand, non-locals spent 20% more during the high season than during the low season.
- We have estimated that the value of expenditure on rafting excursions at Horseshoe Falls and Llantysilio Green is approximately £2 million per year.
- The six sites combined accounted for an estimated £24.1m in direct expenditure by visitors in 2018. These sites therefore accounted for an estimated 19% of all tourist expenditure in rural Denbighshire in 2018.
- Using economic multipliers, we estimated that this £24.1m of direct expenditure at the six sites supported 365 FTE jobs and led to £7.8m in indirect expenditure by tourist businesses in their local supply chains, supporting a further 84 FTE jobs in 2018 (excluding spending on accommodation and excursions).

- The estimated total of 449 FTE jobs supported by the expenditure of visitors to the six sites in 2018 was equivalent to 19% of all jobs from tourism in rural Denbighshire in 2018.²

Table 1.1. Summary of gross economic contribution of visitors to the six sites (2018)

A	B	C	D	E	F	G
Source/calculation:	AONB and Visit Wales data	Visitor survey data (2018)	Visitor survey data (2018)	Column C * Column D	Applying the STEAM multiplier to our estimated direct expenditure	Column E + Column F
<i>All figures are per annum in 2018 prices</i>	Visitors (est.)	Visitor days (est.)	Expenditure per visitor day (our survey)	Estimated total direct expenditure	Estimated total indirect expenditure	Direct and indirect expenditure
Chirk Aqueduct and Viaduct	150,000	261,962	£13.65	£3,574,797	£1,160,234	£4,735,031
Loggerheads Country Park	234,580	409,673	£5.59	£2,290,187	£743,301	£3,033,488
Moel Famau Country Park	263,730	460,581	£10.09	£4,648,031	£1,508,561	£6,156,592
Panorama, near Llangollen	40,520	70,765	£15.94	£1,127,811	£366,041	£1,493,852
Pontcysyllte Aqueduct and Trevor Basin	330,083	576,461	£16.09	£9,273,469	£3,009,790	£12,283,259
The Horseshoe Falls and Llantysilio Green	115,000	200,837	£15.71	£3,156,015	£1,024,314	£4,180,329
Total (six sites of interest)	1,133,913	1,980,279		£24,070,310	£7,812,242	£31,882,552
Total for rural Denbighshire as a whole	2,774,284	4,663,542	£27.23	£126,991,352	£41,216,220	£168,207,572
Estimated contribution of our six sites relative to the rural Denbighshire total	40.9%	42.5%		19.0%	19.0%	19.0%

² Based on the total jobs figure reported in 2017 by STEAM, a model of the economic impact of tourism developed by Global Tourism Solutions (UK) Ltd.



Social Impacts

- Visiting the Clwydian Range and Dee Valley AONB with its various green and blue spaces plays an important role for individual and community health and wellbeing. The cycling and walking paths provide an opportunity for many to increase their physical and social activity.
- There is a direct link between people's perception of wellbeing and measurable health outcomes. Further, there is ample evidence that spending time in nature and being active promotes physical and mental wellbeing, which in turn has implications for healthcare costs.
- Across all sites, almost 92% of survey participants agreed or strongly agreed that living in/ near the Clwydian Range and Dee Valley AONB is good for life in their community.
- Negative social impacts and their severity varied between sites. Traffic congestion and issues relating to parking are common concerns across all the busy sites, as is litter.
- Across the six sites, only 8% of the users surveyed considered the site they were visiting to have worse overcrowding than the other natural areas they had visited (with visitors from outside the area being more likely to hold this view, particularly in high season). This figure rose to 20% in relation to vehicle congestion.
- We were able to estimate that the improvement in life satisfaction that people derive from green spaces and parks equates to a wellbeing value of £8.47 per visit. When this valuation is applied to the estimated total number of annual visitors who stated that spending time in the AONB helped them to relax, escape stress and find personal peace, we arrive at a wellbeing value of £8.8m per annum.
- We can also place a monetary value on the health benefits that visitors derive from visiting the AONB. Our survey found that a large majority of visitors to the AONB went walking during their visit. 86% of respondents (204 people) stated that they had done some walking during their visit to the AONB. Like other forms of exercise, walking has a number of important health benefits, including reducing the risk of cardiovascular disease (CVD) and type-2 diabetes. By estimating the extent to which these two categories of risk are reduced, and using the typical cost of treating such health conditions, it is possible to put an approximate monetary value on the health benefits associated with walking while visiting the AONB.
- Our analysis suggests that during their time in the AONB, most people's physical activity amounts to the equivalent of one week of exercise, according to government guidelines. Therefore, we can estimate that visits to the AONB could lead to £733,000 in reduced health expenditure per year, made up of approximately £23,000 from reduced incidence of CVD and £708,000 from reduced incidence of type-2 diabetes.



Environmental Impacts

- Generally, visitors did not perceive many significant adverse environmental impacts on their visits, and many expressed their appreciation of how well kept the sites were. This was borne out by external visitors' comparisons of the sites to other natural areas they had visited, based on two environmental issues: litter and erosion.
- Across the sites, the percentage of users considering the respective environmental impact to be about the same, somewhat better or much better than other natural areas was 92% for litter and 90% for erosion, with no significant divergence in views between local and other visitors on these issues.

However, local users and site managers observed and managed a number of negative environmental impacts on a daily basis at all six sites, principally:

- Litter, including dog waste. This represents a particular cost in terms of staff and disposal charges. We estimate the total cost for all six sites to be approximately £17,500 per year.
- Erosion and damage to vegetation, particularly at the more fragile sites such as Loggerheads, Panorama and Horseshoe Falls.
- Maintenance of paths at the sites is costly. We estimate the total cost for all six sites to be approximately £16,900 per year.
- Damage to livestock. It is difficult to put a figure on the cost of stock lost or injured to dog attacks, as this may manifest itself in the loss of the stock or unborn lambs, loss of value of the stock through injury, vets' bills and so on. However, records indicate that seven sheep were killed by dogs at Moel Famau in each of the last two years.

It is highly likely that the value of having a clean and non-eroded natural environment in the AONB overlaps with the wellbeing benefit that visitors obtain from that same area; however, it is difficult to say by how much the two sources of value overlap. For the purposes of this study, the two are treated as distinct.

- Drawing on definitions used in welfare economics, the wellbeing benefit that a visitor derives from the AONB is assumed to represent the use value of the area, while the value of keeping the AONB in pristine condition is assumed to represent its non-use value.
- We have estimated the value to the AONB's 1.13 million annual visitors, of preserving the natural environment, to be a total of £35.4 million per annum. This estimated valuation draws on recent research by Fields in Trust,¹⁷ which used a survey of UK residents to determine how much the average person was willing to pay to preserve and maintain all parks and green spaces in their local authority area.



2. Introduction

The AONB *Sustainable Tourism Strategy and Action Plan 2015–2020*³ envisages forms of tourism that ‘take full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities’. One of the strategy’s four functional objectives (visitor and place management) is to ‘improve, manage and monitor visitor flows for tourism, spreading benefits and addressing local impacts’.

Sustainable destination management by the AONB therefore involves careful balancing of multiple objectives, including:

- Conservation and management of natural sites that may be environmentally fragile.
- Contributing to the social wellbeing of local people and communities.
- Regional local economic development, and the spread of benefits throughout the AONB and to surrounding towns and villages.
- Continuing to create special and memorable visitor experiences.

The AONB attracts significant – and growing – numbers of visitors every year, many on day trips from the region as well as neighbouring parts of England. However, there are questions around how widely beyond the AONB the benefits of this tourism are currently spread, and whether there is potential to increase the spread of benefits to other towns and villages within and around it. Increased visitation also results in environmental and social pressures, as well as conflicts of interest over land use and resources, particularly in the case of ‘honeypot’ sites (see Chapter 3).

The overall goal of our research was therefore to carry out an appraisal of the economic, social wellbeing and environmental impacts of visits to six key visitor sites within the AONB: Loggerheads Country Park; Moel Famau Country Park; The Horseshoe Falls and Llantysilio Green Car Park and Picnic Area; Pontcysyllte Aqueduct and Trevor Basin; Panorama near Llangollen; and Chirk Aqueduct and Viaduct.

³ Clwydian Range and Dee Valley AONB (2014) *Sustainable Tourism Strategy and Action Plan 2015–2020*, The Tourism Company. Available at <https://www.clwydianrangeanddeevalleyaonb.org.uk/files/1079945525-Sustainable%20Tourism%20Strategy%202015%20-%202020.pdf>



The study drew on primary research, existing data, the strategic direction of the AONB and examples of best practice from further afield, to produce a series of practical recommendations and action plan designed to:

- Support sustainable growth and visitor management at the key sites, balancing visitor demand with environmental needs and the increased spread of social and economic benefits throughout the AONB and beyond.
- Spread economic benefits generated by visitors to the six sites.
- Promote the social wellbeing of local residents.
- Ensure responsible environmental practice at the six sites in line with their visitation capacity, and reduce negative impacts identified through the study.



3. The six key visitor sites

The concept of a ‘honeypot’ is used in tourism management to describe a site which is managed to create a cluster of attractions or facilities, ‘around one or two viewpoints to create a complex capable of absorbing a high population density’ (Cooper et al 2008, p.683).⁴ The six sites chosen for this study all represent this concept, some to a greater extent than others, and each has specific issues relating to their management and capacity to absorb large and increasing numbers of visitors:

1. Chirk Aqueduct and Viaduct (CAV)
2. Loggerheads Country Park (LCP)
3. Moel Famau Country Park (MFCP)
4. Panorama (P)
5. Pontcysyllte Aqueduct and Trevor Basin (PATB)
6. Horseshoe Falls and Llantysilio Green (HFLG)

Although it is difficult to get comparable statistics across all six sites, with different organisations collecting data for different purposes, it is clear that together they represent a significant percentage of visitor numbers for the three local authorities that make up the Visit Wales marketing area of NE Wales (Figure 3.1).

Figure 3.1 Estimated visitors at study sites

	Visitors 2018 (est.)	Source
Chirk Aqueduct and Viaduct	150,000	No accurate data available. A conservative assumption was made, based on data from a 2018 survey for Visit Wales ⁵ , which found that Chirk Castle received 162,351 visitors in 2017.
Loggerheads Country Park	234,580	AONB data 2017/18
Moel Famau Country Park	263,730	AONB data 2017/18
Panorama, near Llangollen	40,520	AONB data 2017/18 for Dinas Bran, used as a proxy for number of visitors to the Panorama

⁴ Cooper, C., Fletcher, J., Fyall, A., Gilbert, D. and Wanhill, S. (2008) *Tourism: Principles and Practice* 4th edn, Prentice Hall.

⁵ <https://gov.wales/docs/caecd/research/2018/181129-visitor-attractions-survey-2017-en.pdf>



Pontcysyllte Aqueduct and Trevor Basin	330,083	Wrexham County Borough Council (CBC) data 2017 (most recent full year available)
The Horseshoe Falls and Llantysilio Green	115,000	AONB data 2017/18
Total (six sites of interest)	1,133,913	Note: This total for the six sites is a simple sum of the values for the individual sites. It does not represent 'unique' visitors as we assume that some visitors may be counted two or more times if they visited more than one site.

With the exception of the Chirk Aqueduct site, these are all existing and longstanding honeypots, with well-documented studies and extensive planning and visitor management measures put in place in recent years. Their management as honeypots by the AONB has often been designed to concentrate visitor activity and thus protect other sensitive landscapes. Measures such as car parking improvement and the addition of facilities have been put in place, in response to increased visitor numbers; this in turn may have led to further increases in the number of people using the sites (discussed further below). It might therefore be useful to characterise some of these sites as 'sacrifice areas' (Pickering and Buckley, 2003),⁶ where choices are made that prioritise visitors over the protection of the environment in an attempt to limit damage elsewhere.

Some of the sites have also seen significant increases in user numbers as a result of the Visit Wales 'Year of Adventure' campaign in 2016, with increased numbers participating in outdoor activities that have a high profile in the area, such as water sports, cycling and walking. The AONB's *Sustainable Tourism Strategy and Action Plan 2015-2020* also contains measures to further increase tourism numbers in the AONB, so the growth in numbers of visitors is likely to continue in the foreseeable future.

The Chirk Aqueduct and Viaduct site is included because it is part of the World Heritage Site (WHS) and visitor numbers are expected to grow in the coming years; increasingly so, as the measures planned for the future will enhance the visitor experience at the site and improve its integration with the rest of the WHS.

This chapter aims to cover:

1. Main facilities and characteristics of each site.
2. Management of the site and arising issues and outcomes.

⁶ Pickering, C. and Buckley, L. (2003) 'Swarming to the Summit', Mountain Research and Development, 23(3). Available online at: [https://doi.org/10.1659/0276-4741\(2003\)023\[0230:STTS\]2.0.CO;2](https://doi.org/10.1659/0276-4741(2003)023[0230:STTS]2.0.CO;2) (Retrieved 15 March, 2019)



3.1 The World Heritage Site

Three of our study sites are located in the Pontcysyllte Aqueduct and Canal WHS. There is a significant body of academic research on the impacts of WHS designation. Various themes emerge:

- The tension between the conservation of heritage and culture, and the economic and social benefits that tourism can bring to such sites.
- The multiple stakeholders involved in decision-making.
- The difficulty of making generalisations about how such sites should be managed versus the individual nature of issues for specific sites.
- The need to produce site-specific management plans.

The Pontcysyllte Aqueduct and Canal received its WHS designation in 2009, and there have been huge increases in visitor numbers to the site since then. Despite this, work undertaken to develop and manage the site, in order to benefit from these increased visitor numbers, has been patchy and underfunded to date.

The particular issues of this WHS relate to its geographical shape and the fact that it crosses three different local authority boundaries, one of which is in England. This produces a particularly complex strategic landscape, a factor that cannot be ignored in our recommendations. There is general recognition (see 3.6 below) that the opportunities generated by the increased visitor numbers since its inscription have not been sufficiently recognised or capitalised on by local communities and businesses, nor by the various administrative bodies related to the site. A number of previous studies have produced a range of different recommendations for the site, including studies by Wrexham County Borough Council (CBC), the Canal and River Trust (CRT) and Denbighshire County Council (DCC). A new version of the Management Plan for the whole WHS and the 'buffer zone' around it are currently in consultation, due for publication during 2019. The Management Plan envisages four delivery groups, relating to: Visitor Management and Economic Regeneration; Planning, Landscape and Conservation; Community; and Education. In addition, the WHS is currently a focus of 'Our Picturesque Landscape' (OPL), a major Heritage Lottery Fund (HLF) project for the AONB focused on the Dee Valley that includes the WHS, which began its implementation phase in November 2018.

The complex issues surrounding the Trevor Basin site are also currently under review, by a multi-stakeholder team led by Wrexham CBC. The Trevor Basin Masterplan is also due to be published in 2019.



3.2 Chirk Aqueduct and Viaduct



Chirk Aqueduct and Viaduct (CAV) marks the eastern end of the WHS. It consists of three historically important structures – the canal tunnel, the aqueduct, and a railway viaduct running alongside the aqueduct: an unusual and attractive juxtaposition. The site is approximately 10 minutes' walk from the town of Chirk. It is at present somewhat under-developed as a tourism site, although popular with walkers and canoeists seeking waters quieter than the Dee and less-crowded than towards Llangollen. A nearby café and car park are slightly away from the centre of the town where other facilities and shops are located. Because of its geography, Chirk tends to be oriented away from the Dee Valley and towards the remote and quieter Ceiriog Valley, with the busy Shropshire town of Oswestry just over the border in England. The canal here has traditionally been a secondary attraction, with the dominant focus of the visitor economy being the National Trust property at Chirk Castle. That latter, together with Erddig Hall in Wrexham, is the most-visited 'paid for' attraction in the area (Visit Wales). Both these National Trust properties are well-promoted outside the region, and, along with the WHS attract the vast majority of tourism visits to Wrexham borough.

The OPL plan for a new interpretation of the site intends to integrate further with the WHS, and it is anticipated that visitor numbers will rise as a result of this.



3.3 Loggerheads Country Park

Loggerheads Country Park (LCP) has been a popular visitor destination since the 1920s, traditionally for day trips from Merseyside and other parts of North West England. Its popularity as a focus for visitors is traditionally attributed to the fact that the outdoor centre now known as Kingswood Colomendy was for many years owned and operated by Liverpool City Council as an outdoor education centre for schools in Liverpool. Before being acquired by DCC, the land was owned by a local bus company, who invested in the site and developed facilities as a destination for coach trips. It was revitalised after purchase by DCC, which has invested a significant amount of money and effort to turn it into the attraction it is today.

Parking has recently been expanded to 140 parking spaces, costing £1 for 2 hours, £2 for 4 hours, or £5 for All Day. The café (Caffi Florence) and Visitor Centre are extremely popular with different visitor groups, and the visitor survey showed some user groups comprised of several generations of the same family (see section 4). It is also popular with locals, especially dog walkers.

LCP is also an SAC/SSSI, so its grassland and woodland are protected. However, it has many well-marked and well-interpreted walking trails aimed at all abilities and ages, and is promoted as both buggy-friendly and dog-friendly. It also acts as a starting point for longer walking trails in the area, connecting with other features such as Moel Famau and other points of interest. Its popularity with walkers has led to challenges in protecting some important habitats within the site (discussed further in 5.3).

Honeypot issues at Loggerheads are the outcome of its historical popularity and the high quality of the visitor experience it now offers. It could be argued that the ‘over-tourism’ issues included in the brief for this project arose as a result of the success of the policies that produced this remarkable and popular attraction. Over-tourism is discussed further in the Analysis (Chapter 5).

One particular challenge relates to the issue of ‘snow days’ – an intractable problem for landowners, local residents and managers of the site. The thousands of visitors who descend on the site in their cars when it snows bring with them congestion, anti-social behaviour, litter and other problems, which were specifically mentioned in the brief for this project. These issues are described and explored further in section 5.3.

3.4 Moel Famau Country Park

Moel Famau Country Park (MFCP) is a large area (2,500 acres) of forest and heathland centred on the 1,821 ft (555 m) Moel Famau. It has always been an agricultural site, used for sheep grazing. Part of the forest is owned by Natural Resources Wales. Access to the site is from the main A494, three miles (4.82 km) to the east of LCP, so the two sites are linked in

several important respects. The hill itself (not quite a mountain) is topped by the Jubilee Tower: a solid chunk of Georgian masonry that has an almost iconic status for many of its user groups. It is clearly visible from the Wirral and parts of Cheshire and Merseyside, meaning that it is a ‘must visit’ destination for a number of different user groups. It has also become a popular venue for charity challenges and other activities, usually involving a race up the hill. These seem to have varied over time, but some recent examples include:

- Clwydian Range Runners:
<http://www.clwydianrangerunners.co.uk/>
- Excalibur off-road event:
<https://www.excaliburmarathon.com/event-info/>
- St Kentigern twilight trek:
<http://www.stkentigernhospice.org.uk/event/twilight-trek-2018/>
- Clwydian Hills fell race:
https://www.clwydianfellrace.org/?page_id=375
- Clwydians Santa dash:
<https://www.timeoutdoors.com/events/runs/Clwydians-Santa-Dash-5K>
- ThisOneCounts: Off-road night trail run:
<http://www.thisonecounts.co.uk/events-races/>

These events clearly make a significant contribution to visitor numbers at Moel Famau. Despite this, the site is only mentioned once in Denbighshire’s events strategy.

The summit of Moel Famau is also a popular landmark on the Offa’s Dyke National Trail, where the final stretch of the path to the north can be seen from Prestatyn, making the end in sight. The surrounding woodland known as Coed Moel Famau is also home to many other walks and mountain biking trails, which were well-promoted during the Visit Wales Year of Adventure campaign in 2016.

A detailed visitor survey of Moel Famau was carried out for Natural Resources Wales in 2014, and the findings have been used alongside our survey to analyse visitor profiles (see Chapter 4). The paths and car parks have been continuously improved by DCC in recent years.

Moel Famau has two car parks: the higher one (Penbarras) is managed by DCC (capacity 90 cars, charge £1.50 per day); the larger one (Coed Moel Famau) is managed by Natural Resources Wales (NRW), with children’s play facilities and toilets (charge £2.00 per day). The only business currently located at the site is the mobile Shepherd’s Hut in the Penbarras car park, which is open throughout the summer and at weekends during the winter, serving drinks and light refreshments.



3.5 Panorama

Although it is not part of the designated WHS, **Panorama (P)** is in the buffer zone for the WHS and is protected as a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI). This means that its landscape and habitats are regarded as being of international significance and are protected as such. The site is associated with the WHS in several ways, in that part of it lies on the Offa's Dyke National Trail (which crosses the Aqueduct to the south) and various parts of the WHS can be viewed from above, from the narrow mountain roads and walking trails. The dominant features of Panorama are the medieval Castell Dinas Bran, and the spectacular carboniferous limestone escarpment and cliffs, which dominate the landscape of the area. The Panorama provides spectacular views across the Dee Valley. It is readily accessible by car, making it a popular place to park and picnic. In terms of our study, it represents a different set of challenges, largely related to its use for activity sports, especially rock-climbing, with some issues arising locally owing to clashes of interest. It is also popular with a number of different social groups locally and some problems arise relating to anti-social behaviour; this is difficult to police and manage because of the remoteness of the site. Both these user groups contribute to problems of access and untidy car parking. Anecdotally, it is also a very popular place for ashes to be scattered, and as such has great meaning and significance for many local people. The OPL project has plans to manage some of the parking issues and repair some of the damaged caused by indiscriminate parking.

3.6 Pontcysyllte Aqueduct and Trevor Basin

The **Pontcysyllte Aqueduct and Trevor Basin (PATB)** comprises of a historic canal basin next to the world-famous Pontcysyllte Aqueduct, located within the county of Wrexham. The Aqueduct is now the 'anchor' attraction for the site, though the Trevor Basin, as part of the Llangollen Canal, has been a hub for canal boat holidays for many years. The Canal is Britain's most popular route for canal boat holidays, due to the beauty of the Dee Valley and the opportunity it provides for boating over the Aqueduct. The draft Management Plan shows that visitor numbers to the site have increased since WHS inscription, from around 200,000 in 2009 to over 300,000 in 2017.

The site falls within the wider context of development and planning policy in Wrexham County Borough, the CRT and the AONB. It consists of a combination of rural and brownfield land, which is currently under-developed from both a community and tourism point of view. The area covered by the Masterplan includes the Basin site and a large brownfield area (formerly a chemical factory), as well as the communities of Acrefair, Cefn Mawr and Froncysyllte, which are classed as having above average levels of social and

economic deprivation.⁷ There are a number of community groups active around the PATB site too: Aqueducks (friends of the WHS), Plas Kynaston Canal Group, and the Froncysyllte Community Centre, each representing different interests and with membership overlapping in some cases.

As the main focus for visitors to the site, the Trevor Basin houses a visitor centre with historical and environmental interpretation, a pub, two locally-owned canal-based day trip companies, a café and a static barge selling light refreshments. It is also a major hub for a national canal boat holiday company. A large new car park opened recently on a former brownfield site necessitates a 5-10 minute walk to the Basin for visitors. The former car park next to the Basin is now for disabled access only. At the time of our study this scenario was still subject to teething problems, with many users unaware of, or unwilling to use, the new car park. Consequently cars were being parked in the streets around the Basin or the former car park, causing traffic congestion. It is interesting to note that several posts on Trip Advisor about the Trevor Basin tell potential visitors that parking is free in the streets around the Aqueduct, and also in Froncysyllte at the southern end of the Aqueduct.

We anticipate that these issues will improve and be resolved as new signage and interpretation is planned as part of the Masterplan and OPL projects.

3.7 Horseshoe Falls and Llantysilio Green



The OPL project also covers the **Horseshoe Falls and Llantysilio Green (HFLG)** area, which is located at the far western end of the WHS, about 11 miles (18 km) from the start of the WHS, at Gledrid in Shropshire. It currently provides 25 parking spaces, toilet and picnic tables, in the car park and the adjacent field. The car park is owned by the National Trust and operated by DCC, with the toilet facilities managed on behalf of the AONB by local group Cymdeithas y Cwm. An AONB Ranger is often in attendance. The parking charge (using a machine) is £1 for up to 2 hours or £3 to park all day. Parking is free to National

⁷ Welsh Assembly Government, 2014. <https://gov.wales/docs/statistics/2015/150812-wimd-2014-infographic-results-revised-en.pdf>

Trust members. An annual permit costing £30 is available from DCC. Some users park for free at the Chain Bridge Hotel, especially if the car park is full.

Despite the fact that there are only 25 spaces, the car park is valued by both locals and visitors. The site provides access to the nineteenth century engineering works that divert water from the River Dee at Horseshoe Falls, which marks the start of the Llangollen Canal and the WHS. Nearby attractions and facilities include Chain Bridge (a recently-restored attraction spanning the River Dee), the upscale Chain Bridge Hotel, and the Llangollen Railway (including Berwyn Station). The car park is also used extensively by commercial providers of activity sports based in Llangollen and elsewhere, as an access point for white-water rafting, kayaking, canoeing and tubing opportunities on the Dee. Typically, a 4-wheel drive vehicle and trailer are used to drop off groups of people who then carry their equipment down to the river, along an unmarked path in the adjoining field. The site is also used for all-day parking for individual water sports enthusiasts. It is extensively promoted on the websites of a large range of user-groups, including the AA, the CRT (as part of WHS), and various walking and water sports organisations.

Appendix A.2 provides a list of websites that mention HFLG as a place to park for various activities. The main issue relating to parking is congestion at peak periods. Peak usage is not related directly to its WHS status, but rather to the volume of river users and walkers. Resolving this issue will become ever more pressing over time, as future OPL development plans will increase visits to the WHS.

The HFLG site was redeveloped in 2015 with funding from the Welsh Assembly Government (WAG) Heritage Tourism Project and Cadw. This enabled the view to be opened up from the car park to the river, provided picnic tables and refurbished the toilets. OPL proposes further changes to the site that will further enhance interpretation, and improve access to some of the historic canal's engineering features at the riverside: this will probably result in an increase in visitor numbers to the car park and greater congestion at peak times. OPL is seeking to address issues of congestion at Horseshoe Falls by engaging with the outdoor activities sector. As well as the OPL projects planned for the site, there is also a AONB Scoping Study in place, with funding from Cadwyn Clwyd, to explore possible redesign of the site.⁸

⁸ Wales Rural Network (WRN) Support Unit (n.d.) 'Llantysilio Green Visitor Flow scoping study' Available on Business Wales website. Accessed on 24 March 2019:
<https://businesswales.gov.wales/walesruralnetwork/local-action-groups-and-projects/projects/llantysilio-green-visitor-flow-scoping-study>

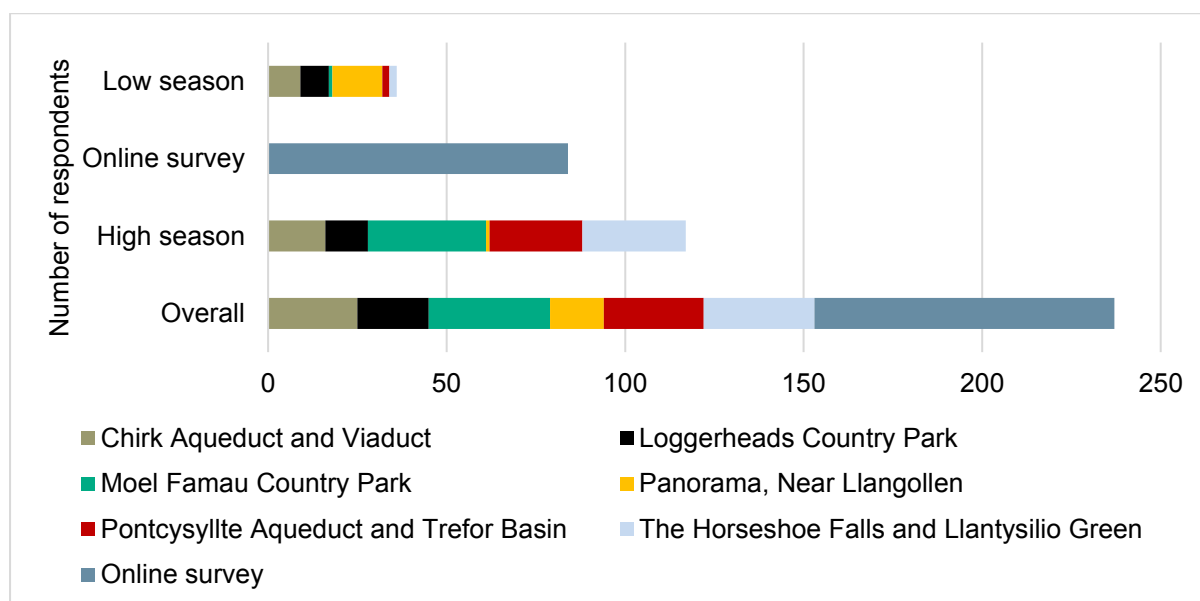


4. Who visits the sites?

4.1 General visitor data

The data for this section comes from responses to visitor surveys conducted at the six sites during one week in the high season (August 2018) and one week in the low season (October 2018), together with an online survey that was open over the same time period. Given the very high numbers of visitors to the six sites over the course of a typical year (over one million in 2018, as shown in Figure 3.1, above) and the short timeframe to conduct the surveys within the scope of the project, the survey results can only be considered an indicative snapshot of the activities at the sites, as opposed to statistically significant findings (Figure 4.1).

Figure 4.1 Sample size by site and season/online survey



The visitor survey sample as a whole is relatively well-balanced between the different sites, but there is an imbalance between the low season and the high season samples. This means that results reported for any given site may be skewed towards one season; similarly, results reported for a given season are skewed towards certain sites. For example, we found that visitors to the Horseshoe Falls, Pontcysyllte Aqueduct and Trevor Basin, and Moel Famau Country Park were mostly non-local. This may be an accurate reflection of the split between local/non-local visitors, or it may be the consequence of our sample at these three sites being > 90% high season, combined with the fact that the average person surveyed during the high season is more likely to be non-local than the average person surveyed in the low season. For this reason, the site-level results should be interpreted with caution.

For the purposes of this study, our definition of 'local' was based on residency in postcodes in Denbighshire, Flintshire and Wrexham. However, it should be noted that as these sites are

close to the English border (for example, Loggerheads is 30 minutes’ drive from Chester) some who might have considered themselves ‘local’ are not included in these figures.

Figures show that for two sites (Panorama and LCP), around two thirds of the visitors were ‘local’. The three WHS sites in particular show a clear majority of non-local visitors. For Moel Famau non-local visitors were also in the majority, while most respondents to the online survey were from the local area (Figure 4.2).

Figure 4.2 Do you live in the counties of Denbighshire, Wrexham or Flintshire?

(Responses shown are for high and low season responses combined)

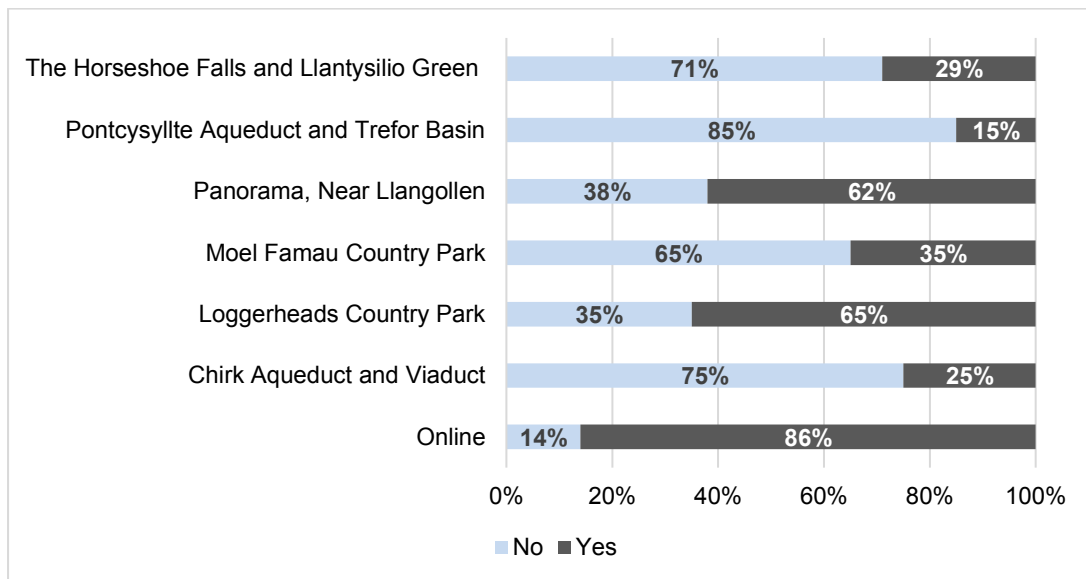
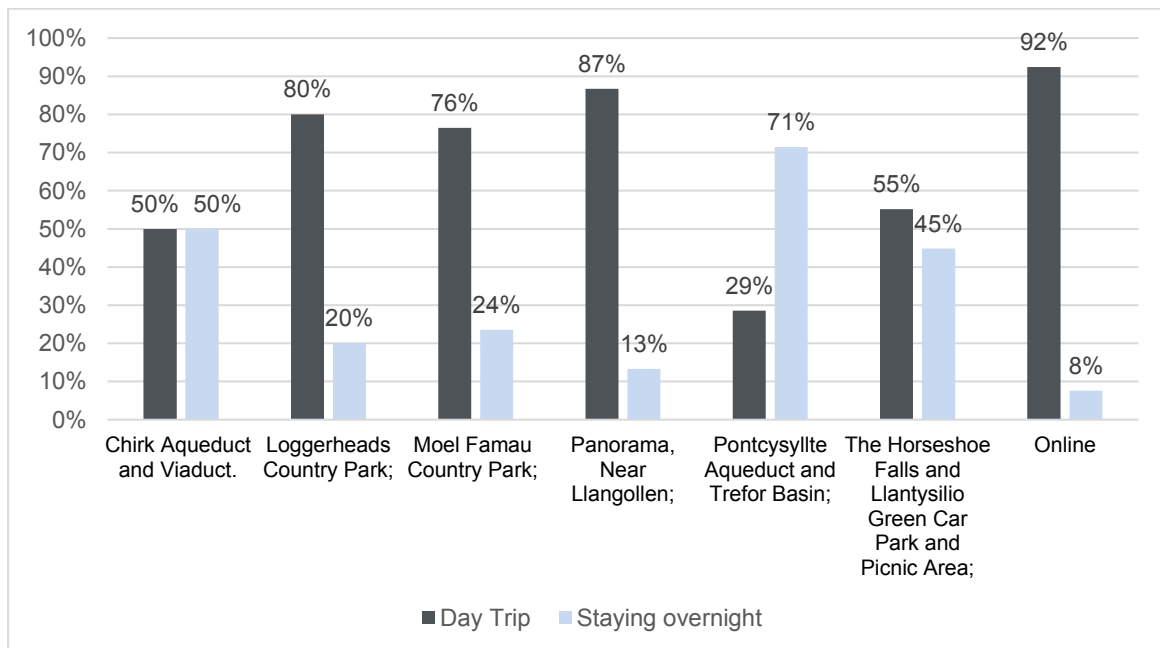


Figure 4.3 Are you on a day trip or staying overnight?





While the WHS sites shows a balance in favour of overnight visitors (people on holiday), the other sites, as well as the online respondents’ survey, show a dominance of day visitors (Figure 4.3). Of the 45 respondents who were ‘overnight’ visitors (predominantly visiting the Dee Valley sites), 29 were staying outside the area: with the largest number staying at the North Wales Coast and 8 or so staying in Cheshire or Shropshire.

Perhaps unsurprisingly, given that the bulk of the survey was completed within the peak school holiday period, the figures relating to the nature of travelling groups (Figure 4.4) show a clear majority of visitors in family groups at most of the sites. The Panorama figures are particularly striking, and when combined with the figures for ‘local’ and ‘non local’ (Figure 4.2) show the value of this site for people who live in the area.

The final group of overview questions focused on people’s motivation for visiting the sites, and asked what they had done or were intending to do during their visit (Figures 4.5 and 4.6). In general, these again show the importance of the WHS as an attraction. They also highlight the fact that the vast majority of visitors questioned come to the area to participate in and enjoy independent, non-commercialised activities, and in particular, to participate in walks of varying lengths. However, this is likely to be at least partly because groups engaged in organised activity sports, such as rock climbing or water sports, could not be easily accessed during the survey.

Figure 4.4 Who are you travelling with today?

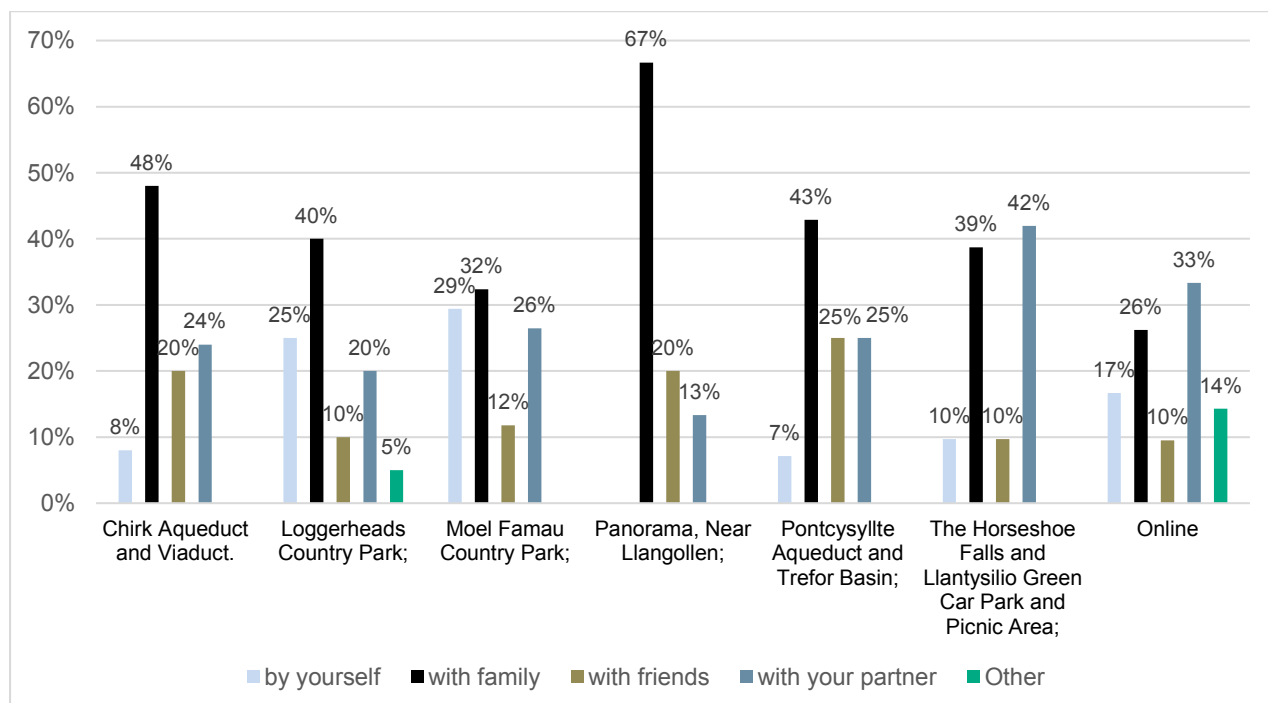




Figure 4.5 What have you done during your visit?

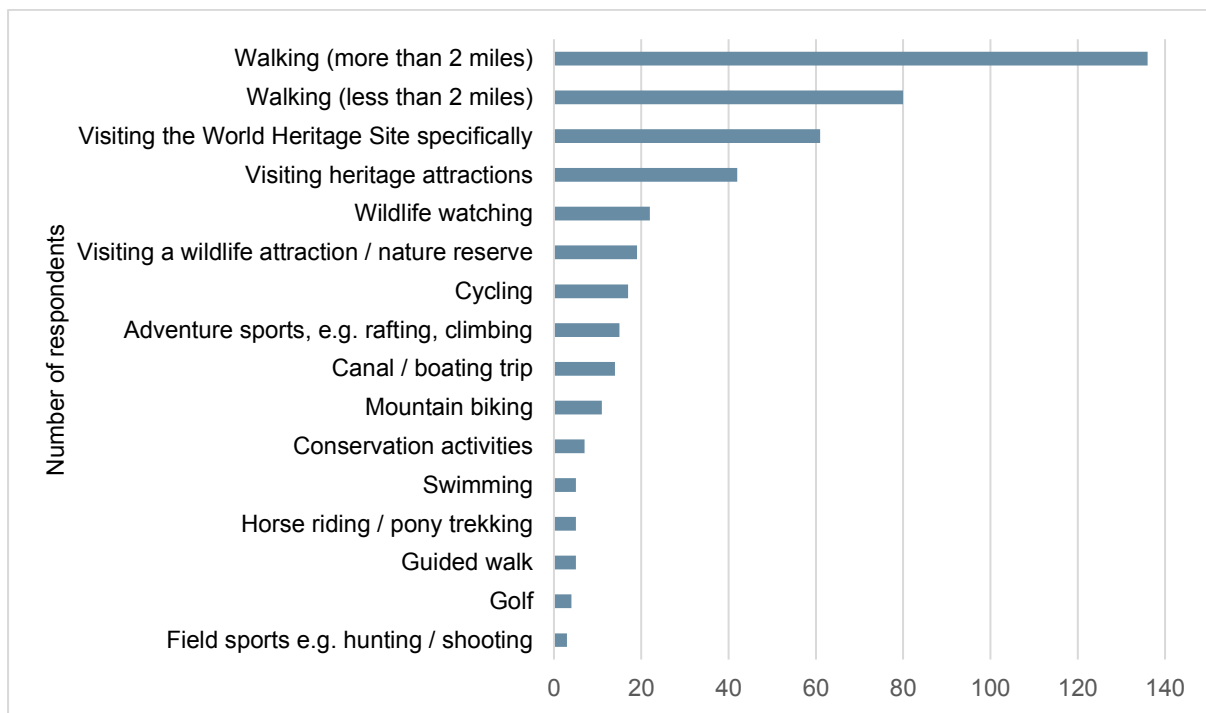
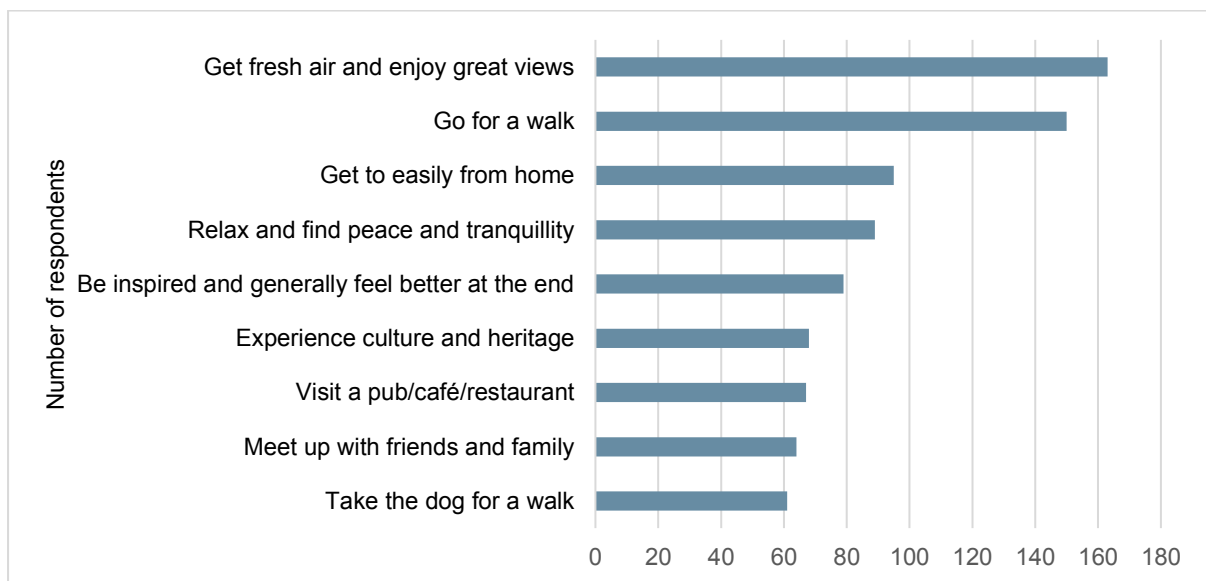


Figure 4.6 Which of the following factors influenced your decision on places to visit in the AONB during your most recent visit (multiple answers invited)?



In response to the general visitor satisfaction question, ‘Is there anything you would like to see improved or changed at the Clwydian Range and Dee Valley AONB?’ more than 25% of respondents answered ‘No’, with ‘car parks’ being the only other answer to be chosen by more than 10% of respondents. Other answers are explored in more depth in the later sections of this report.

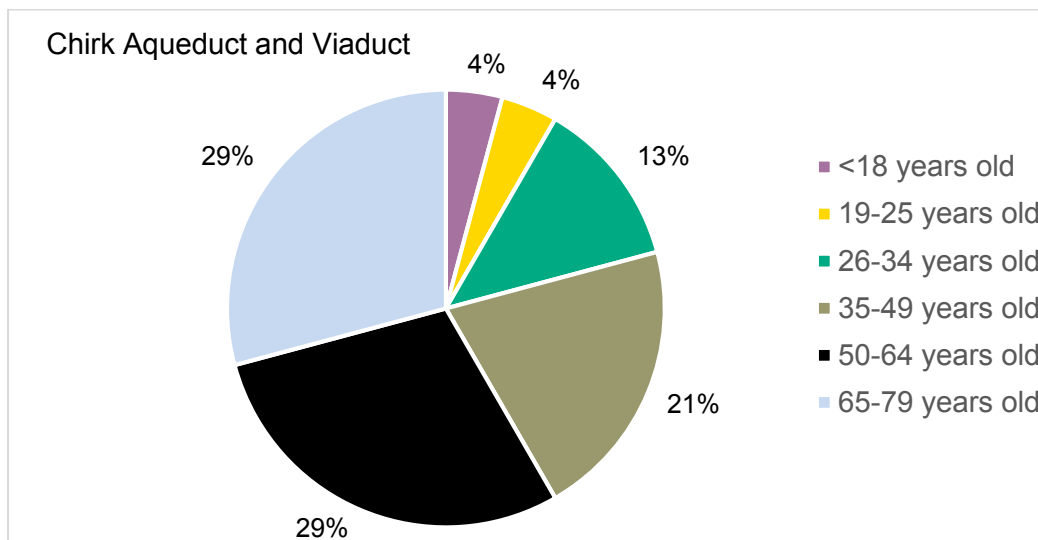


4.2 Typical visitor profile for each site

The graphs below show analysis by age of visitors to each site, based on responses to the visitor survey (Figure 4.7 to Figure 4.13).

4.2.1 Chirk Aqueduct and Viaduct

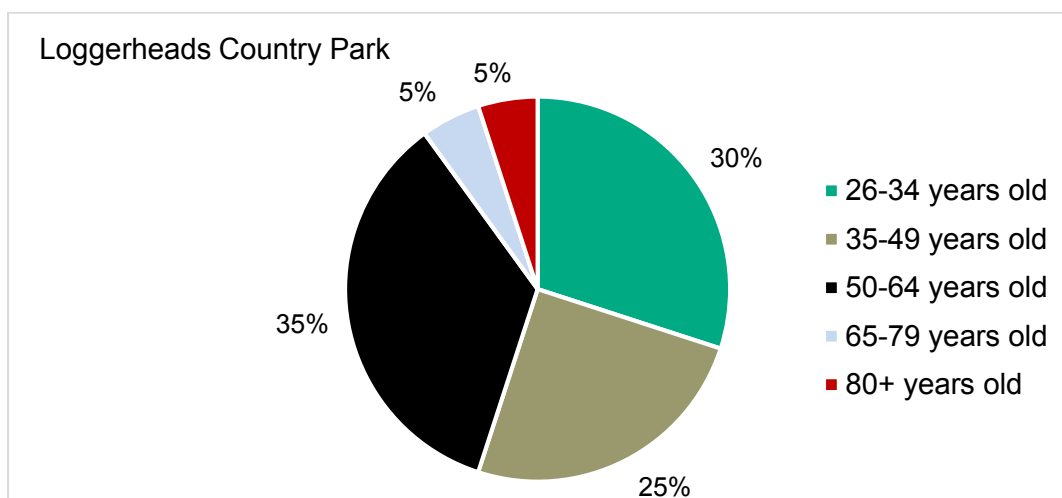
Figure 4.7 Visitor profile: Chirk



The figures for Chirk (Figure 4.7) show a slightly older profile, although this probably reflects a tendency for older people to walk at the site rather than visiting it by boat. We also observed a number of canal boats passing through the site to visit the canal tunnel during the high season visit; though they did not disembark, so we were unable to interview this group of (mainly younger) users. There is nowhere between the Aqueduct and the tunnel for boats to moor.

4.2.2 Loggerheads Country Park

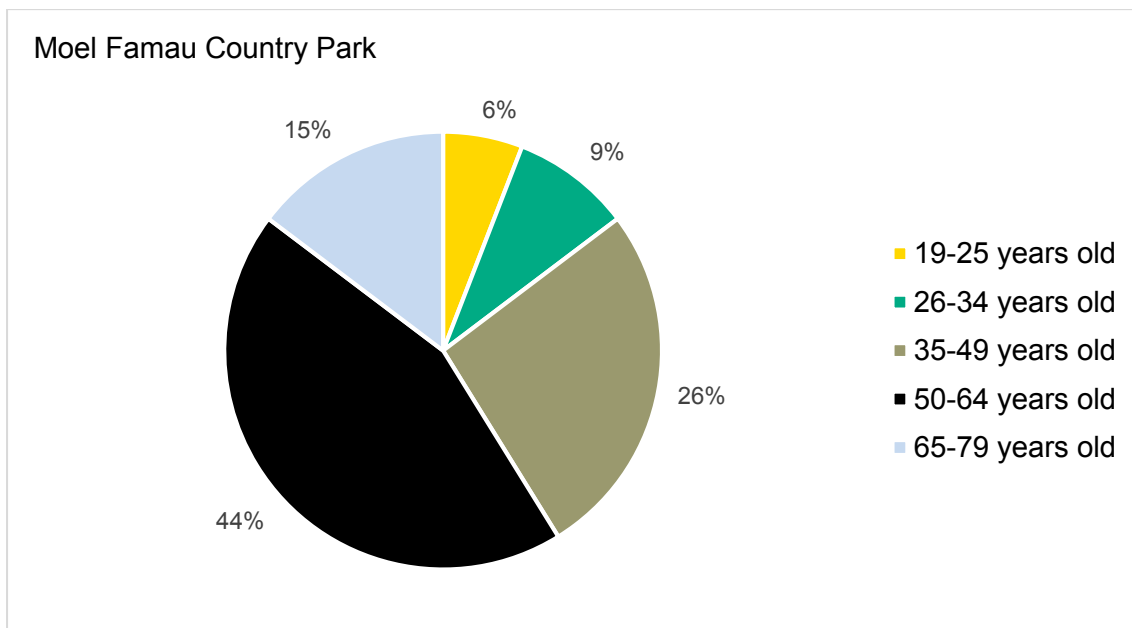
Figure 4.8 Visitor profile: Loggerheads



The figures for Loggerheads show a marked dominance of older age groups (Figure 4.8). However, the absence of younger visitors from these figures may be misleading, as younger children in larger groups may not have been included in the responses given by the person answering the questionnaire. As shown in Figure 4.5, the site is very popular with families, who constitute one of the major user groups, which often includes young children as well as grandparents.

4.2.3 Moel Famau Country Park

Figure 4.9 Visitor profile: Moel Famau



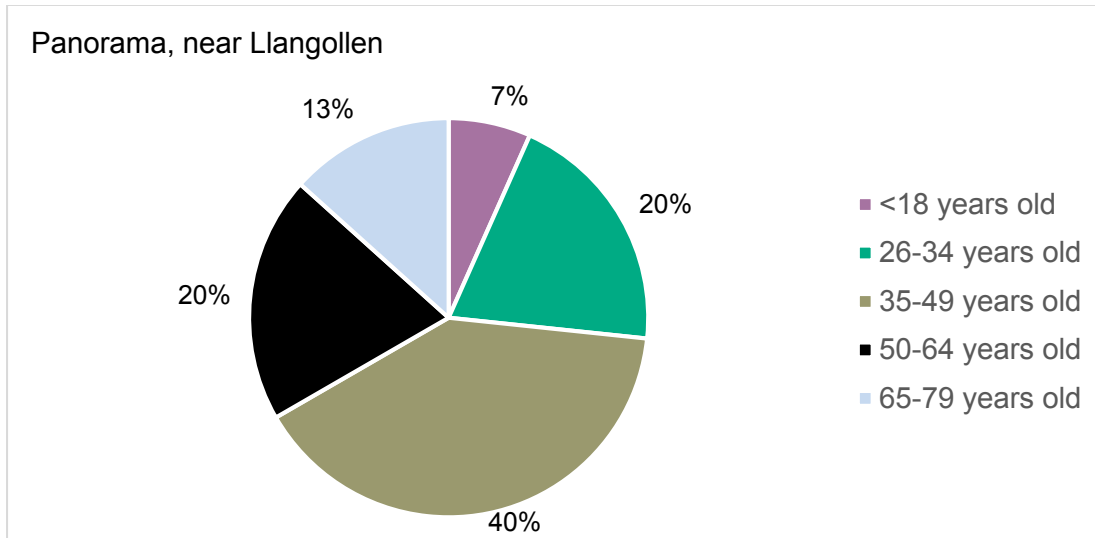
The detailed visitor survey carried out for NRW in 2013⁹ highlighted the popularity of the Moel Famau site, showing that circa 80% of those interviewed were repeat visitors, with circa 60% travelling less than three hours to reach the site. It also showed a visitor profile, which was slightly younger than the profiles for similar forest sites in the rest of Wales. Our figures tend to reflect this picture (Figure 4.9). It is important to note however, that our survey does not capture the large numbers of people using the hill for challenge and charity events, as none were taking place during the period of our survey.

⁹ Natural Resources Wales/Forestry Commission England (2013) *Quality of the Visitor Experience: Moel Famau 2013*.



4.2.4 Panorama

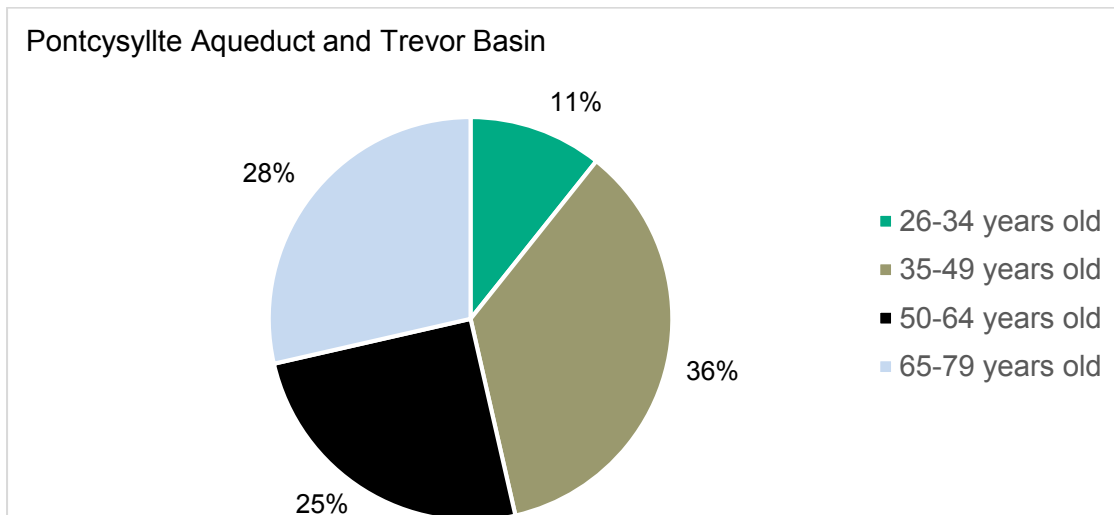
Figure 4.10 Visitor profile: Panorama



The smaller survey sample for Panorama (Figure 4.10) shows a slightly younger visitor profile than the other sites, with more people in the 35-49 age group, which possibly reflects that the site attracts family visits and is used as a venue for activity sports, particularly rock climbing. The figures shown in Figure 4.5 above highlight the popularity of this site for family group visits and also of younger people engaged in activity sports.

4.2.5 Pontcysyllte Aqueduct and Trevor Basin

Figure 4.11 Visitor profile: Trevor Basin



The WHS designation puts the Pontcysyllte Aqueduct and Trevor Basin site in a global rather than local or national context in terms of visitors, and there were more international visitors here than at any of the other sites in the study (Figure 4.11).



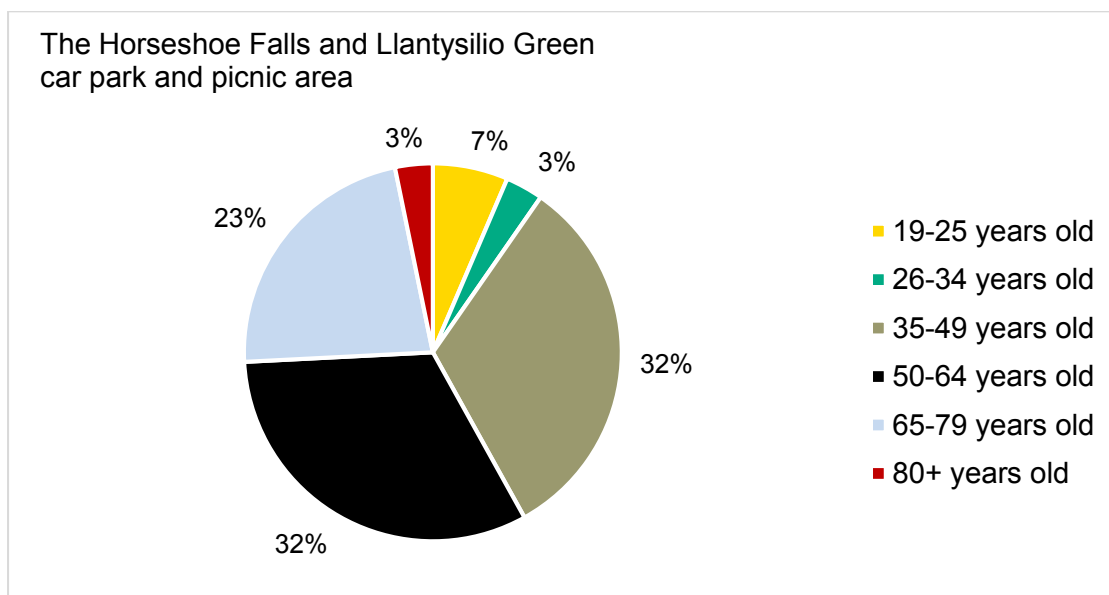
The majority of respondents were aged 35-64 and visiting in a family group or with a partner; they were more likely to be staying overnight, usually in accommodation outside the area. This graph possibly hides a wider range of ages in family groups, as anecdotally some of the groups at this site comprised three generations of family members. Many were also planning to visit Llangollen and Erddig (these are promoted together by Wrexham CBC). Our interviews did not capture feedback from canal boat users; only visitors on foot at the site.

In terms of spend, it was clear that at least some of the overnight visitors on family holidays were anticipating finding more opportunities to spend, possibly on children, and were also looking for opportunities to buy local food (see Section 5.1.3).

It is also interesting to note that very few of those questioned were planning to visit the Horseshoe Falls as part of the WHS visit.

4.2.6 Horseshoe Falls and Llantysilio Green

Figure 4.12 Visitor profile: Horseshoe Falls and Llantysilio Green



The survey interviews took place in the car park at Llantysilio Green rather than at the Horseshoe Falls, so we did not capture the views of visitors to the site who had walked from Llangollen or Trevor, along the towpath. The majority of visitors were parking to visit or use the river, or as a base for walking in the area. There was a smaller percentage of visitors on family picnics, and a very small number who gave visiting the WHS as their main reason for being there (Figure 4.12).

Our interviews also did not record members of organised activity sports groups as they were dropped off and hurried away from the site by the group leaders. The drop-off vehicles do not remain in the car park. These users are generally younger, and would have changed the visitor profile for the site considerably had they been counted in. The visitor

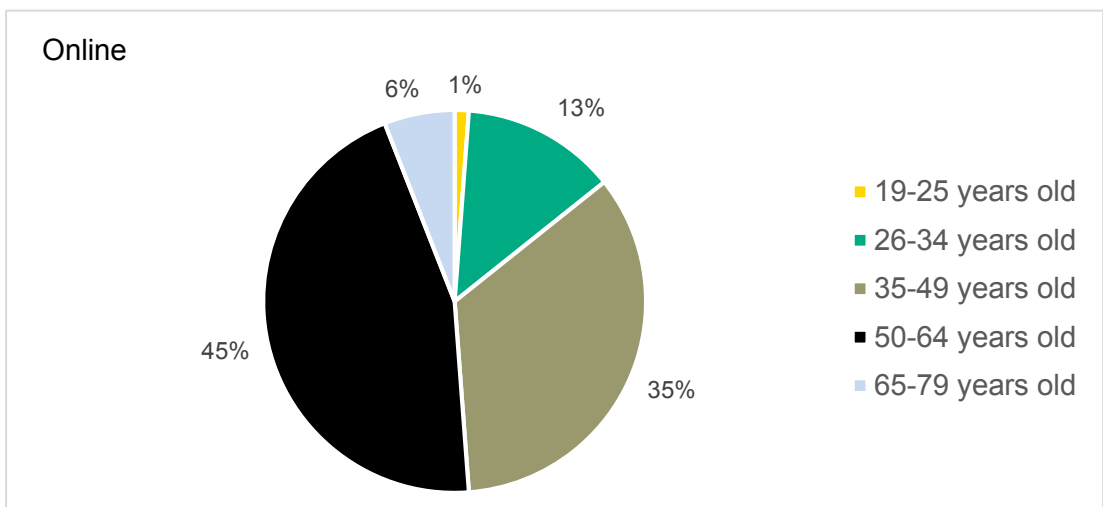


survey data therefore relates to people who arrived at the site by car, occasionally by bike, or sometimes on foot.

The figures do reflect longer stays for individual or small groups of independent water-sports users and walkers or cyclists. We also spoke to (but did not interview) some individuals who had parked at the Chain Bridge Hotel to avoid the charges in the car park. These were mainly independent water-sports participants who parked at the site all day.

4.2.7 Online survey

Figure 4.13 Visitor profile: Online survey



The online survey was completed by 84 individuals with the majority (80%) aged between 35 and 64. It is not clear which of the six sites outlined above the visitors stayed at or whether they visited during high season or low season (Figure 4.13).



5. Analysis of visitor impacts

5.1 Economic impacts

This section discussed findings from two phases of data collection:

1. Business survey
2. Figures on spend from the visitor survey

5.1.1 Across the AONB

The business survey targeted businesses located within the AONB, and near the six sites, as shown below (Figure 5.1). It included two separate elements:

- The first was a series of telephone interviews with businesses within the AONB, carried out over a two-week period in October 2018.
- The second took the form of face-to-face interviews with four key players in the tourism business sector.

Figure 5.1 Summary of telephone business interviews

Site	Business targets	Number interviewed	Comments
LCP	5	3	
MFCP	4	4	
P	4	2	
PATB	8	6	+1 head office outside the area did not reply with requested details
HFLG	4	3	+1 interrupted
CAV	4	2	
Total	29	20	70%

Most of the 'missing' businesses were pubs, because of the difficulty of finding a suitable time when the pub was open and the manager was available to talk. The fragility of the business environment was illustrated by the fact that one of the Dee Valley outdoor activity providers in Llangollen ceased trading in November 2018 – one month after the interview took place.

The businesses were asked a series of questions designed to elicit a range of quantitative data relating to the size of the company, turnover, costs, supply chain, and employment figures – as well as qualitative data on how they valued the six sites in terms of their own



business, their feelings about their own future as businesses, and the area as a tourism destination.

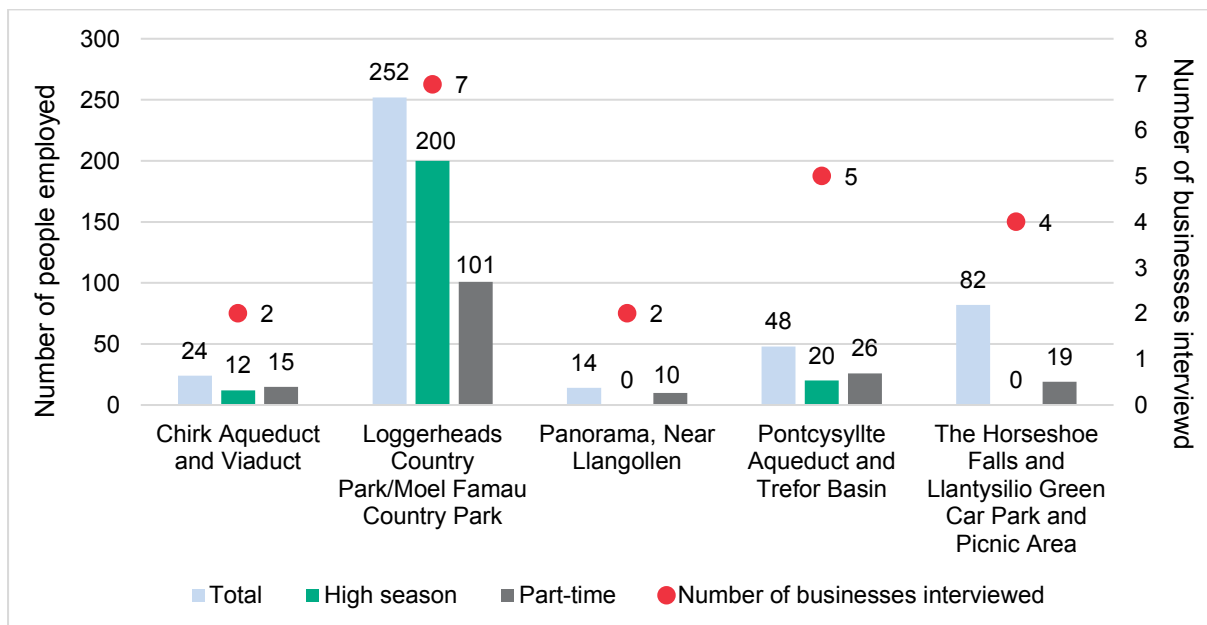
We also conducted four face-to-face interviews with key players in the visitor economy, both within the AONB and in some of the surrounding gateway towns. The aim of these interviews was to elicit an overview of the strengths and weaknesses of the businesses that make up the visitor economy in the area, and where possible, to derive some specific data about supply chains and the use of local suppliers.

Insights across the AONB from the Business Survey

Responses to the telephone survey of businesses within the AONB showed that many businesses were unable or unwilling to provide accurate quantitative data about their revenue and costs. Businesses outside the area (or inside the area but owned by an umbrella organisation) were unable to give accurate performance figures, as the person available for interview was not always in possession of this information. In smaller businesses, the person spoken to (usually a local manager) often did not have an accurate understanding of costs (which vary considerably through the year in any case) and needed encouragement to produce even a ballpark figure for monthly spend with suppliers.

Of the 20 businesses that responded, 3 were owned by larger organisations outside the area, 16 were privately run individual or family businesses and one was in co-operative ownership. A summary of the survey findings in relation to employment is presented in Figure 5.2 below:

Figure 5.2 Summary of employment of surveyed businesses



The following is a summary of the main qualitative findings from the interviews. Findings relating to specific sites are covered in 5.1.2 below.



Attitude

Qualitatively, the business interviews showed a positive outlook across all six sites – most businesses felt they were doing well, and were hopeful about the future, often looking to invest and expand (see below). Almost all felt that there was scope for development of other businesses in the area – but several mentioned there was a lack of people who wanted to run and staff businesses in sometimes remote areas.

It is important to highlight the fact that many are both local and tourism businesses – their success throughout the year (and therefore their sustainability) relies as much on local custom as from visitors. Tourism in high season enables many businesses to survive the lower season and continue to provide a service for local communities.

Several mentioned a lack of support from local authorities as a factor that has, in their opinion, restricted growth opportunities. A few businesses said that they had encountered difficulties with gaining approval from DCC for signage (which they felt would divert passing trade to their business). Both Denbighshire and Wrexham were seen to have had rural planning policies that worked against the development of quality tourism accommodation within the area: now a significant criticism, supported by the visitor surveys (Section 4), which showed that many visitors, particularly to the WHS, were staying outside the area.

Employment

The majority of businesses needing unskilled and part-time workers, employed local people almost exclusively; with 'local' defined as within 10 miles (16 km) of the location of the business. However, there was a strong tendency for more skilled jobs to be filled from outside the area – in particular several catering/hospitality businesses noted the difficulty in hiring high quality chefs (often seen as a barrier to expanding their business). Several businesses (notably pubs and hotels) recognised that excellent quality and local provenance of food were now expected by higher-spending customers. Several employers offered and encouraged the attainment of work-based qualifications for their hospitality staff.

Activity tour operators and centres also hire qualified guides and instructors from outside the area, often on a seasonal basis. These industries are global, with instructors travelling to other parts of the world during northern hemisphere winters.

Use of local suppliers

The extent to which local suppliers were used varied greatly between businesses, often in relation to business type and target market. Some food and drink businesses (for example, Caffi Florence at LCP) have made local supply one of their unique selling points (USP), using and publicising a number of different small and medium-sized local suppliers. Some had different views of 'local' – for example, several regarded Wales as local. (It is interesting to relate this perception to the type of business: upscale outlets with the possibility of a

wider national or international market saw ‘Wales’ as a draw in terms of food provenance, rather than ‘North East Wales’. Smaller businesses had a more immediately local focus, but used this less when marketing their proposition. Interviews also highlighted the importance of food groups (the Dee Valley Good Grub Club and Clwydian Range Food Group) in fostering positive attitude and the desire to use and promote local products. It is important when spreading the economic benefits of tourism that these become a sustainable and visible part of the local tourism offer (see Recommendations, Section 6).

However, several businesses (mainly small catering businesses in the WHS area) said they used local suppliers, but when asked for detail said they used Tesco in Cefn Mawr, or Bookers Cash and Carry in Wrexham, rather than smaller local suppliers whose use would spread the benefits in the immediate area.

Businesses whose ownership lay outside the area had less choice in where to source their supplies and tended to use fewer local suppliers, even for products such as building materials and services. They often bought food and other resources in bulk from suppliers ‘over the border’ in England.

Overall, it is important to recognise and value local community support for these AONB businesses: supplying labour, clients and raw materials.

Insights from business organisations (tourism groups and town centre managers in gateway towns)

These four interviews were designed to get an overview of the economic value and impact of the six sites in ‘gateway’ towns to the AONB. The scope of the brief allowed for attention to focus on four towns: Wrexham, Mold, Ruthin and Llangollen, but further insights, including indicators of spend in Denbigh and Corwen, can be gained from the section below on the analysis of visitor spend (see sections 5.1.2 and 5.1.3).

Discussion in these interviews focused on the key theme of ‘spreading the benefits’ of having large number of visitors to the six sites. The overarching feeling from all four was that the key to this was creating sustainable linkages within the business community. It was recognised that having three local authorities involved, each with a stake in the AONB, comes with its own issues and challenges, and that the creation of a tourism network might be given differing levels of priority by each one.

Overall, it was clear that austerity and central government cuts have had a significant impact on some local tourism initiatives. This had, in some cases, limited the opportunities to develop tourism business networks in the area.

- Denbighshire County Council has a flourishing Tourism Forum, and has also adopted a Tourism Ambassador Scheme, which is being implemented throughout North East Wales. It also supports tourism businesses through its Business

Development Scheme, which is involved in a number of important initiatives involving tourism-related businesses within the county.

- Tourism in Flintshire is suffering from cuts to its funding and uncertainty over future funding options (it is currently dependent on EU rural development funding). However, Flintshire County Council does support a business development officer with responsibility for tourism.
- Wrexham County Borough Council has suffered extreme cuts to its tourism programme. Its Visit Wales-funded Wrexham Tourism Ambassador scheme was proving popular and had grown to 80 members. However, after its funding was cut, it introduced a membership fee, and fell to 22 members. It is now reconstituted as a CIC based around a Wrexham Card, which offers discounts to visitors at member companies.

Understanding and accepting these differences, there is a desire among those interviewed to see a region-wide approach to tourism in North East Wales. This could include creating a stronger brand for the region, greater coordination between towns and popular sites, and the creation of region-wide packages targeted at different sectors of visitors ('interest groups'). At this level, promoting 'North East Wales' as an integrated destination is seen as key to spreading the economic benefits from the six sites to other parts of the area.

- However, it was also suggested in these interviews that across the three local authorities there may be too many local initiatives (including tourism groups for each of the counties, plus other initiatives such as the Clwydian Range Tourism Group, the Clwydian Range Food Group and Dee Valley Good Grub Club). Many are membership groups for owners of small businesses, who have little time to attend meetings, and are confused about which ones are best for them. Some schemes are displacing others – for example, the Good Grub Club has taken on many of the former members of the Wrexham Tourism Ambassador scheme.
- One interviewee also felt that the number of different tourism websites providing information about the area was confusing for visitors.

Compared with the impact on businesses located within the AONB, the business impact of the six sites on the gateway towns is less positive and more variable.

Llangollen

Llangollen is the only town located within the AONB and as such derives many economic benefits from those who visit the area (see Section 5.1.3). However, there are also downsides to the popularity of the town with visitors to the Dee Valley. Many of the businesses interviewed with links to Llangollen mentioned traffic and parking problems within the town as being a significant barrier to growth. This problem was recognised as long ago as

2011¹⁰ The 2011 report also advocated much closer ties between the WHS and the town through transport and marketing initiatives, few of which have been achieved to date. However, the Llangollen 2020 project (currently in a consultation phase) will, if approved, go some way to meeting the recommendations of the 2011 report by making some much-needed improvements, in particular to the flow of traffic, easing traffic congestion and parking problems in the town.

A recent Visitor Survey by Wrexham CBC showed that 70% of those visiting Trevor Basin also visit Llangollen, and it is clear that Llangollen benefits economically from proximity to the WHS (see analysis of spend in 5.1.2) and the absence of opportunities to spend at PATB.

The accommodation sector in Llangollen is seeing developments in different categories after a period of decline, with an emphasis on high-end accommodation. However, one boutique hotel (opened in circa 2013) now offers B&B only, due to the difficulty of finding catering and management staff for a fine dining restaurant.

The Dee Valley Good Grub Club ('where good food and tourism meet') is an important initiative based in Llangollen that is currently being supported by the AONB and the Denbighshire Economic Development Board. The aims of the club are twofold: a) to boost the availability of local food; and b) to attract visitors by promoting the quality of local food.

At the time of writing, the club has 38 members in total, within a 15-mile radius of the River Dee. Of these, 50% of members are in the Dee Valley itself, but it has also 'mopped up' members from some businesses who pulled out of the Wrexham Tourism Ambassador Scheme. (The Good Grub Club has a membership charge of £45 compared with the Ambassador Scheme's £200 pa). The majority of the members are small food producer businesses, but customers are also represented, mainly in the form of hotels and other accommodation providers.

Several of the businesses interviewed for this study are members of the Good Grub Club, and their support for its aims was universal. The opportunity for small suppliers to meet each other and potential customers, through regular meetings and events, was highly valued by both producers and suppliers.

Mold

Mold is a thriving county town with a good range of services including banks, a post office and a wide range of independent shops, making attractive for visitors to the area as well as

¹⁰ Denbighshire County Council (2011) Pontcysyllte Aqueduct and Canal World Heritage Site: A Strategy for Llangollen

locals from the surrounding villages. It is interesting to note Trip Adviser places LCP and MF ‘in’ Mold.

There was a widespread belief among the businesses near LCP and MFCP that Mold is ‘the centre’ for these sites. In particular, caravan site managers said that most of their guests would do the majority of their food shopping in Mold, and the town has worked hard in recent years to cultivate a role as a ‘foodie’ centre, specifically through its leading role in Cittaslow¹¹ UK, and through its successful Saturday Market. This view is not necessarily borne out by the visitor survey. Analysis of spend from visitors to MF and LCL in the survey did not provide strong evidence of economic benefits in Mold, although this may be attributable to the timing of the survey.

The Mold Town Centre Manager felt that more could be done by the three local authorities that comprise North East Wales, to work collaboratively. Specifically, by developing tourism products that would spread the business benefits and encourage people to stay longer in the area; rather than just visiting the individual sites as day visitors. He also felt that the area is ‘desperately short’ of the sort of quality accommodation and food offer that would attract higher spending visitors to stay, rather than doing day trips. His suggestions for broadening the appeal of the whole area, not limited only to attracting visitors to Mold, included:

- Grouping holidays around golfing at different locations across the three counties: to include information and suggestions for things that non-golfers could do.
- Making it easy for coach companies from Liverpool and Manchester to put together tours that cover the whole North East Wales area. (He has done specific promotions for Flintshire at exhibitions in these cities and feels that more could be done by the three counties working collaboratively).

Ruthin

In contrast, it is hard to disagree with the view that there is potential for businesses in Ruthin to derive more benefit from visitors to Moel Famau and LCP (the two nearest sites) than is currently the case. Although it has been shown that the accommodation sector in the town is sustainable, with potential for expansion and a promising future in both leisure and business travel,¹² the feeling is that the town is attracting different, possibly more up-market sectors than those who predominantly come to visit MF and LCP. Indeed, the report

¹¹ Cittaslow is an international organisation which exists to promote environmental improvement and quality of life in its member towns and cities. Towns awarded Cittaslow status have to meet a number of criteria, which include a focus on local food production and maintenance of quality.

¹² Denbighshire Study of Hotel Demand and Potential: Hotel Solutions

suggests that the WHS and Llangollen are significant destinations for the more upmarket and international clients that Ruthin is increasingly tending to attract.

One of the camp site managers interviewed said that her clients go shopping at the Saturday market or at supermarkets in Mold, and that Ruthin is more ‘a place to look around’ rather than go shopping.

The Ruthin tourism co-ordinator (Bro Ruthin) felt that the Vale of Clwyd should be included in the AONB so that the area would gain the benefit, and that AONB officers could attend Bro Ruthin meetings to get a better idea of what they were aiming to achieve in the town in the future. The group currently has around 30 members, who are local businesses or other supporters and they are working closely with the Clwydian Range Food Group and the Denbighshire Tourism Forum to foster links with other businesses in the area. The current Masterplan for the town includes plans for a community centre and visitor hub in a former bank site in the middle of the town, with a facility for local producers to showcase their products, both to locals and visitors.

Chirk

The town of Chirk is very under-supplied in terms of the accommodation needed to produce genuine multiplier effects. There is evidence from the visitor survey (see chapter 4) that towns outside the area (Chester, Oswestry, Ellesmere) clearly benefit from the lack of accommodation in the WHS area.

5.1.2 Spending and jobs

Insights from the visitor spend analysis

Based on our analysis of responses from the face-to-face visitor surveys and the online survey, we first show some basic indices relating to non-accommodation visitor spend at the six sites, and then analyse two further questions:

1. Does non-accommodation expenditure spill over from one site to other sites?
2. What is the total annual economic impact of visitors to the six sites on the local economy?

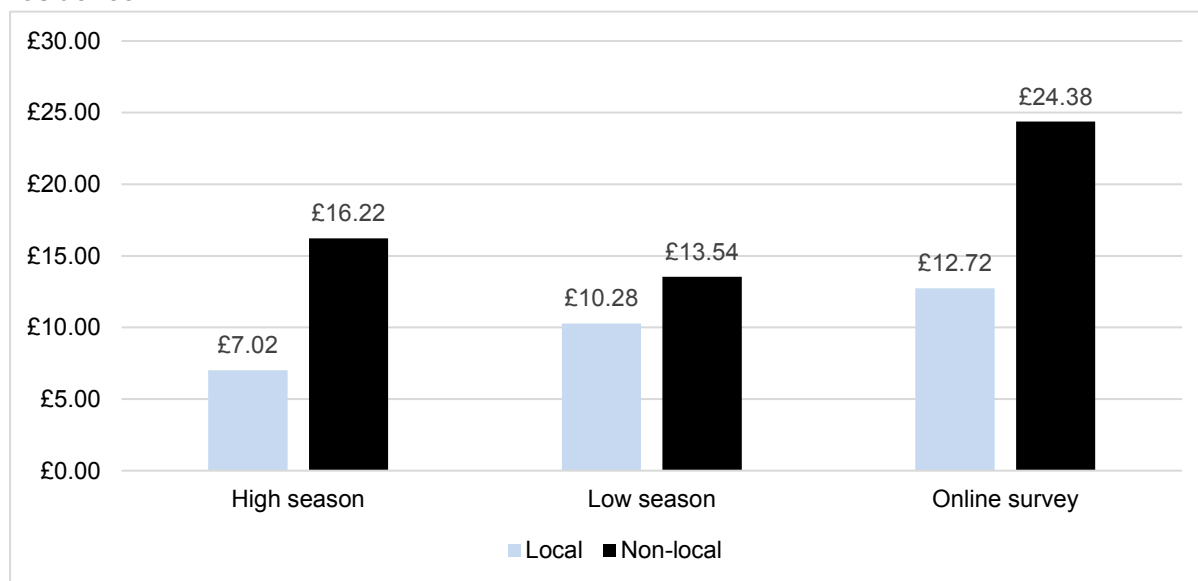
Figure 5.3: Non-accommodation expenditure per visitor per day: by source of visitors

Group	Spend per person	Sample size
Overall	£13.34	237
Local	£10.64	119
Non-local	£16.44	108
High season	£13.28	117
Low season	£11.76	36
Online	£14.18	84

The visitor survey found that the average daily expenditure per visitor (excluding accommodation) across the six sites was £13.34 (see Figure 5.3). This is broadly in line with visitor spend in comparable areas. The data also highlighted the following:

- Of those who responded to the survey question on daily expenditure, ‘non-local’ visitors spent 54% more per day than ‘locals’.
- Those surveyed in person had spent less than those surveyed online, while the amount spent by visitors during the high season (August) was 13% higher than the amount spent by visitors during the low season (October).
- Cross-referencing the season and visitors’ place of residence (Figure 5.4) shows:
 - The difference in spending between non-local and local visitors differs considerably by season. During the high season, non-locals spent 131% more than locals did, whereas during the low season the difference was 32%.
 - Local visitors spent 32% less during the high season than during the low season. On the other hand, non-locals spent 20% more during the high season than during the low season.

Figure 5.4: Non-accommodation expenditure per visitor per day, by season and place of residence



Care should be taken in interpreting these figures, as it is possible that they show a ‘crowding out’ of expenditure, where locals spend less time at the sites, and therefore less money, during the busier high season. Alternatively, it may mean that high season visitors are non-local visitors who are spending more because they are on holiday.

There was considerable variation in the amount spent between the six sites (Figure 5.5).

- Those interviewed at the three WHS sites and the Panorama spent significantly more than those visiting the two more northerly sites (LCP and MF).

- Daily expenditure per visitor was particularly low at Loggerheads Country Park. Visitors to the Panorama, PATB, and the HFLG spent nearly three times as much as visitors to Loggerheads.
- This may be due to visitors viewing Loggerheads as a place to go for a walk, rather than to spend money or eat lunch. The only opportunity to spend money at the park itself is in Caffi Florence. However, the manager of Caffi Florence estimated that at least 50% of her customers come to the park just to visit the café. It is interesting to note that they have never done any surveys of their visitors, and we could suggest that such a survey might provide additional insights into visitor motivations and experience at LCP.

Figure 5.5: Non-accommodation expenditure per visitor per day, by site of survey

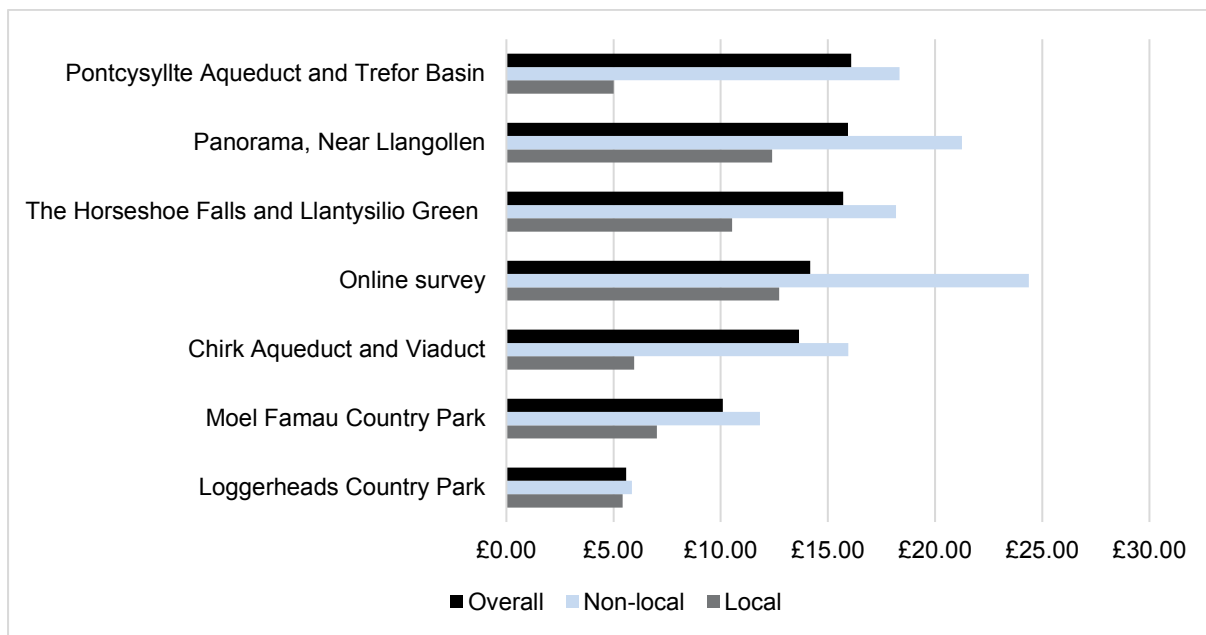
Location where the visitor was surveyed	Spend per person	Sample size
Chirk Aqueduct and Viaduct	£13.65	25
Loggerheads Country Park	£5.59	20
Moel Famau Country Park	£10.09	34
Panorama, near Llangollen	£15.94	15
Pontcysyllte Aqueduct and Trevor Basin	£16.09	28
The Horseshoe Falls and Llantysilio Green	£15.71	31
Online survey	£14.18	84

At all six sites, non-local visitors spent more than those who lived locally (Figure 5.6), though the difference between these two groups varied by site.

- At LCP, non-local visitors spent only 8% more than local visitors.
- In contrast, non-locals outspent locals by approximately 70% at MF, Panorama, and the HFLG.
- The difference in expenditure was most pronounced at Chirk, where non-locals spent approximately 2.7 times as much as locals; and at PATB, where non-locals spent approximately 3.7 times as much as locals.
- The relatively low spend per person at LCP is a surprising result – however this could simply be a low probability outcome, of the type that can sometimes occur in surveys.



Figure 5.6 Daily non-accommodation expenditure per visitor by site: local and non-local (£)



It is important to note that those arriving at HFLG as part of a rafting excursion were not interviewed and their spending is therefore not included in our survey results. We can however estimate the value of their expenditure on the excursions, as follows:

Operator A (using the car park). Charges: rafting £55 per person per session, 4-5 sessions a day throughout the year, 6 people per raft; canoeing/kayaking £50 per half day, £195 for two days (including Bed and Breakfast).

Last season, Operator B ran two trips a day, with a maximum of 30 people on each rafting trip and 16 tubing (so a max of 46 people for any one trip). Groups met at the centre in Llangollen to get changed and have refreshments, so they just used the car park for dropping off.

Operator C has around 4x as many people using the site. The charges are the same as for Operator A. Operator C also runs instructor training classes: £250-1500 for 1-4 day courses.

A conservative calculation, based only on rafting activities (as we do not have reliable participation numbers for the other activities) and assuming 300 days of activity at two thirds capacity, over one year, and that all operators charge the same as Operator A, shows the following economic value:

- Operator A: £264,000 (55 x 4 x 6 x 300 x 2/3)
- Operator B: £660,000 (55 x 2 x 30 x 300 x 2/3)
- Operator C: £1,100,000 (55 x 100 x 300 x 2/3)

Total (3 operators): £2,024,000



5.1.3 Does non-accommodation expenditure spill over from one site to other sites?

Figure 5.7 summarises the survey findings on expenditure spill-overs from the six sites. The percentages indicate the percentage of visitors to a given site (see column heading) that spent money at a given location (see row heading). For example, 66.7% of those surveyed at the Panorama went on to spend some money in Llangollen. The table is colour coded from red (lowest) to green (highest). We can draw some key themes from this analysis:

- Llangollen is capturing more spill-over expenditure from nearby sites than other locations (e.g. Froncysyllte, Trevor Basin, Cefn Mawr, Horseshoe Falls). There are considerable spill-overs in expenditure from the Panorama, Horseshoe Falls and (to a lesser extent) Trevor Basin. For visitors to the Horseshoe Falls, the average spend per group in Llangollen was higher than in other spill-over areas.
- This suggests either that there are things available in Llangollen which are encouraging visitors to spend more, or perhaps that visitors who spend more are more likely to visit the sites nearer Llangollen.
- The spill-over effect into Llangollen does not seem to apply to visitors to the Chirk Aqueduct; they were most likely to spend their money on the site or in the town of Chirk. There were few spill-overs from Chirk Aqueduct to Llangollen.
- There were fewer spill-overs from the two sites further north.
 - Of the visitors to MFCP, only a handful spent money in places other than the site itself, in descending order of number of people spending money there: Loggerheads CP, Mold, Wrexham, Ruthin, Denbigh. While 47% of the visitors to Moel Famau spent some money on site (mainly on car parking), only 9% of them spent money in Mold and 3% in Ruthin.
 - Of the visitors to Loggerheads CP who were surveyed, almost none spent any money anywhere else. There was one case each of spending in Mold, Wrexham and the village of Cilcain.
 - This is interesting, because although in the business surveys several businesses (mainly camp sites) said that Mold was a focus for spending by their customers, this did not appear in the data from the visitor surveys, which showed very little spill-over to Mold for any of the sites.
- Some areas received virtually no spill-overs in expenditure. Out of those surveyed in person (not online), no one spent money in Corwen, only two respondents spent money in Ruthin and one respondent spent money in Denbigh. This suggests that the direct economic impact of spending is quite localised at the sites in question, and expenditure is not being drawn to the gateway towns to the west.

- A final point to note here is the significance of the ‘Other’ category, which shows that up to one-fifth of non-accommodation expenditure from all sites is spent outside the area.

Figure 5.7: Spill-overs in expenditure between locations

		Location where the visitor was interviewed					
		The Horseshoe Falls and Llantysilio Green	Pontcysyllte Aqueduct and Trevor Basin	Panorama, near Llangollen	Moel Famau Country Park	Loggerheads Country Park	Chirk Aqueduct and Viaduct
Location where the visitor spent money	Cefn Mawr		3.6%				
	Chirk	6.5%	3.6%				20.0%
	Chirk Aqueduct and Viaduct			6.7%			40.0%
	Denbigh				2.9%		
	Froncysyllte			6.7%			
	Llangollen	45.2%	21.4%	66.7%			8.0%
	Loggerheads Country Park			13.3%	11.8%	70.0%	
	Moel Famau Country Park				47.1%		
	Mold				8.8%	5.0%	4.0%
	Pontcysyllte Aqueduct and Trevor Basin	9.7%	21.4%	26.7%			
	Ruthin			6.7%	2.9%		
	The Horseshoe Falls and Llantysilio Green	16.1%	3.6%				
	Wrexham		3.6%		5.9%	5.0%	4.0%
	Other location	16.1%	21.4%		11.8%	5.0%	16.0%



5.1.4 Estimating the total annual economic impact of visitors to the six sites, on the local economy

Using multipliers from the STEAM model for rural Denbighshire¹³ and expenditure data collected during our visitor survey, it was possible to estimate the impact of these five sites in terms of:

- Direct expenditure: what visitors spend in the area (excluding accommodation).
- Indirect expenditure: what tourism businesses (who receive the direct expenditure) spend in their supply chains locally.
- Direct full-time equivalent (FTE) jobs: the number of full-time jobs that is equivalent to the number of hours of work that is supported by the aforementioned direct expenditure of visitors.
- Indirect FTE jobs: the number of full-time jobs that is equivalent to the number of hours of work created by the aforementioned indirect expenditure of tourism businesses in their local supply chains.

There is some annual variation in the multipliers used in the STEAM model, so we applied multipliers derived from the average of the last five available years of data (2013-17). These multipliers describe the relationship between direct visitor expenditure, indirect expenditure and employment as follows:

- Direct expenditure → indirect expenditure: every £3.08 spent by visitors creates £1.00 of expenditure by tourism businesses in their local supply chains (see column F of Figure 5.8a, below).
- Direct expenditure → direct FTE jobs: every £65,984 spent by visitors supports one direct FTE job (see column H of Figure 5.8b, below).
- Direct FTE jobs → indirect FTE jobs: every 4.33 direct FTE jobs supported corresponds to one indirect FTE job supported (see column I of Figure 5.8b, below).

Figure 5.8 contains an estimate of the gross economic contribution of the six sites, relative to the overall tourist economy of rural Denbighshire.¹⁴

¹³ While not all of the six sites of interest are located in Denbighshire (two are in Wrexham), of the available STEAM modelling, the rural Denbighshire model was the closest approximation to the geographical area that was analysed in this report.

¹⁴ While not all of the six sites of interest are located within rural Denbighshire, this was seen as the most appropriate geographical benchmark for the sites of interest for which comparable data was available.



Figure 5.8a Gross economic contribution of visitors to the six sites (2018)

A	B	C	D	E	F	G
	<i>AONB and Visit Wales data</i>	<i>Visitor survey data (2018)</i>	<i>Visitor survey data (2018)</i>	<i>Column C * Column D</i>	<i>Applying the STEAM multiplier to our estimated direct expenditure</i>	<i>Column E + Column F</i>
All figures are per annum in 2018 prices	Visitors (est.)	Visitor days (est.)	Expenditure per visitor day (our survey)	Estimated total direct expenditure	Estimated total indirect expenditure	Direct and indirect expenditure
Chirk Aqueduct and Viaduct	150,000	261,962	£13.65	£3,574,797	£1,160,234	£4,735,031
Loggerheads Country Park	234,580	409,673	£5.59	£2,290,187	£743,301	£3,033,488
Moel Famau Country Park	263,730	460,581	£10.09	£4,648,031	£1,508,561	£6,156,592
Panorama, near Llangollen	40,520	70,765	£15.94	£1,127,811	£366,041	£1,493,852
Pontcysyllte Aqueduct and Trevor Basin	330,083	576,461	£16.09	£9,273,469	£3,009,790	£12,283,259
The Horseshoe Falls and Llantysilio Green	115,000	200,837	£15.71	£3,156,015	£1,024,314	£4,180,329
Total (six sites of interest)	1,133,913	1,980,279		£24,070,310	£7,812,242	£31,882,552
Total for rural Denbighshire as a whole	2,774,284	4,663,542	£27.23	£126,991,352	£41,216,220	£168,207,572
Estimated contribution of the six sites relative to the rural Denbighshire total	40.9%	42.5%		19.0%	19.0%	19.0%



Figure 5.8b Gross economic contribution of visitors to the six sites (2018)

A	H	I	J
	<i>Applying the STEAM multiplier to our estimated direct expenditure</i>	<i>Applying the STEAM multiplier to our estimated direct FTE jobs</i>	<i>Column H + Column I</i>
All figures are per annum in 2018 prices	Est. direct FTE jobs	Estimated indirect FTE jobs	Direct and indirect FTE jobs
Chirk Aqueduct and Viaduct	54	13	67
Loggerheads Country Park	35	8	43
Moel Famau Country Park	70	16	87
Panorama, near Llangollen	17	4	21
Pontcysyllte Aqueduct and Trevor Basin	141	32	173
The Horseshoe Falls and Llantysilio Green	48	11	59
Total (six sites of interest)	365	84	449
Total for rural Denbighshire as a whole	1,925	445	2,369
Estimated contribution of the six sites relative to the rural Denbighshire total	19.0%	19.0%	19.0%

The visitor figures for the six sites of interest suggest that they attracted approximately 41% of all tourist visitors to rural Denbighshire during 2018. The average visit from our survey sample was slightly longer than the average visit across rural Denbighshire (1.75 days for our sample, versus 1.68 days in the STEAM 2017 data). This means that the six sites were responsible for visitor days equivalent to 42.5% of all visitor days spent in rural Denbighshire during 2018.



Average non-accommodation expenditure in rural Denbighshire per visitor day in 2018 is estimated at £27.23.¹⁵ This is 2.04 times the amount spent per visitor day by our survey respondents.

Direct expenditure by visitors varied between the six sites (see Figure 5.9). When combined, the sites accounted for an estimated £24.1m in direct expenditure by visitors to the sites in 2018. Looking more specifically at the expenditure by visitors to each site, we found that:

- Visitors to PATB accounted for the largest share, with £9.3m (39% of the total).
- This was followed by MFCP with £4.6m (19%), CAV with £3.6m (15%) and HFLG with £3.2m (13%).
- Relatively less was spent by visitors to LCP (£2.3m or 10% of the total) and at the Panorama (£1.1m or 5% of the total). This was due to lower spend per person at LCP and lower visitor numbers at the Panorama.

It should be noted that that these figures relate to expenditure by visitors to each site but do not imply that all of the expenditure was at the specified site. Our survey aimed to capture all non-accommodation expenditure related to a visit rather than just the site-specific spending.

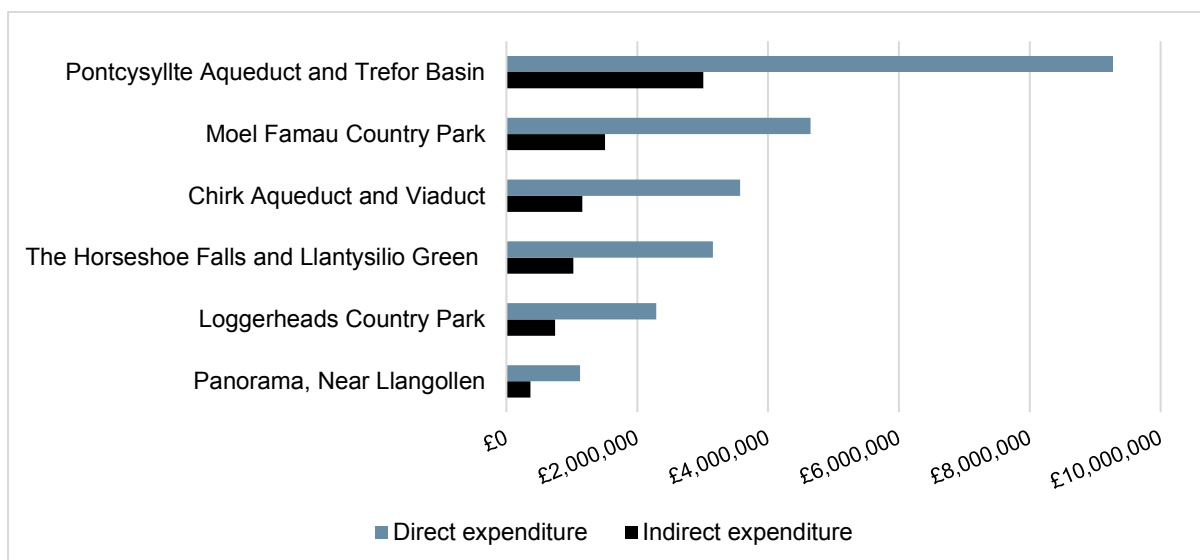
Using the multiplier from the STEAM model, it was estimated that the £24.1m of direct expenditure at the six sites led to £7.8m in indirect expenditure by tourist businesses in their local supply chains.

These six sites therefore accounted for estimated expenditure equivalent to 19% of all tourist expenditure in rural Denbighshire in 2018.

¹⁵ This estimate is derived by removing accommodation expenditure from the 2017 STEAM totals for direct revenue, adding back 20% for VAT, dividing by the number of visitor days from STEAM, and adjusting the resulting number to 2018 prices using the Office for National Statistics GDP deflator.



Figure 5.9: Direct and indirect expenditure by site



Using multipliers from the STEAM model, it is estimated that this direct expenditure by visitors to the six sites directly supported 365 FTE jobs (Figure 5.10).

- This was split in the same proportions as direct expenditure, with visitor expenditure at PATB supporting the most employment (141 FTE jobs or 39% of the total).
- This was followed by LCP (70 FTE jobs), CAV (54), HFLG (48), LCP (35) and the Panorama (17).

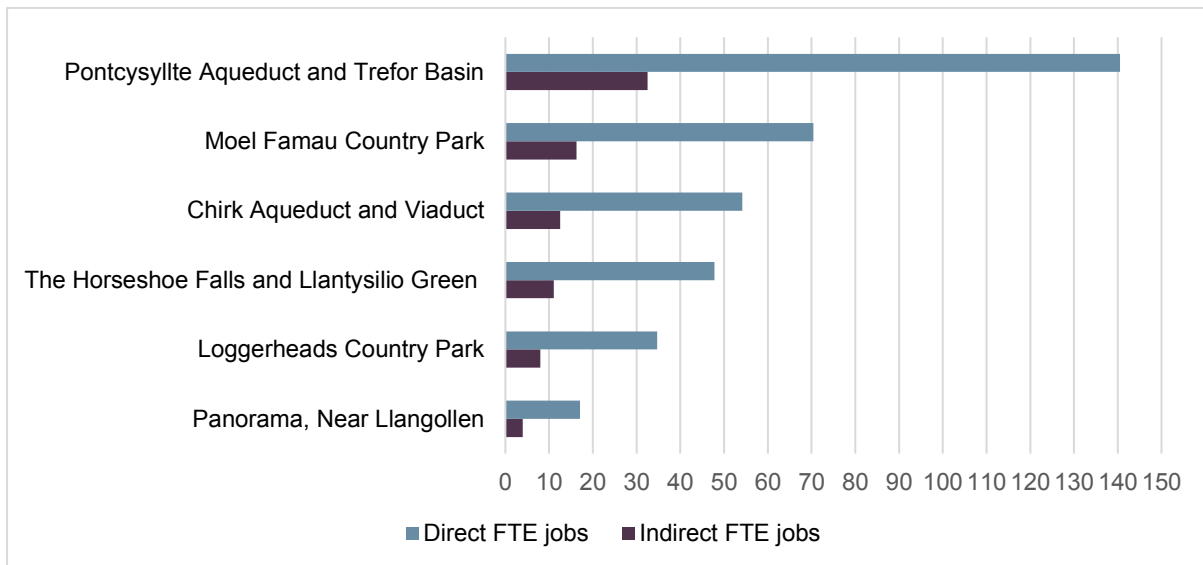
The indirect expenditure by tourism businesses in their local supply chains, which occurs as a result of the direct expenditure of visitors to the six sites, was estimated to support a further 84 FTE jobs in 2018.

The estimated total of 449 FTE jobs supported by the expenditure of visitors to the six sites in 2018 was equivalent to 19% of all jobs from tourism in rural Denbighshire in 2018.¹⁶

¹⁶ Based on the total jobs figure reported by STEAM in 2017.



Figure 5.10: FTE jobs supported by the direct and indirect expenditure of visitors to each site



5.1.5 Economic impacts at site level

Chirk Aqueduct and Viaduct

The CAV site has fewer tourism businesses than some of the other sites in this study, but it clearly has great potential to benefit from closer integration with the WHS. Although the Chirk Basin is quite remote from the town there are some healthy hospitality businesses along the towpath and in the surrounding area. These include a significant and growing water sports business, pub and restaurant at Chirk Marina to the north of the site between the town of Chirk and the Pontcysyllte Aqueduct. The major car park for the CAV section of the WHS is served by a community café and craft shop, which we were unfortunately unable to access for the telephone survey. There is also a community centre and small business hub facility at the car park site. It is possible that with growth in visitor numbers this area could be subject to congestion at times, which might present challenges to the life of this part of the town.

Although the town of Chirk is not a significant focus for tourism, it has a steady throughput of visitors to the popular National Trust property of Chirk Castle. There are also a number of businesses in the town, such as a traditional butcher and several pubs, which are well placed to benefit from a further growth in visitors to the area.

Loggerheads

The figures in Section 4.1 and 4.2 show that the Country Park is visited predominantly by families and older people, with a strong emphasis on 'locals' and day trip visits. The on-site café is very popular in summer (high season), although it has to work hard to maintain revenues in the winter months, and arranges a number of events and food-based courses during the low season. It is a trailblazer for local supply, being a member of the Clwydian

Range Food Group (and formerly the Food Trail) which is making significant steps in promoting the food of the area, both to the tourist trade and to local communities. Local food is part of the Group's USP, and provenance is clearly highlighted in their menus.

It is important to point out that our survey would not have captured the large number of users of the Country Park from the nearby Kingswood Colomendy: a large outdoor sports and activity residential centre located within walking distance of Loggerheads CP. The centre is now part of the Kingswood Group (this is their only centre in Wales), which leases the site from its owners, Liverpool CC. The capacity is 700 beds, and they offer educational and activity-based holidays for a wide range of clients, including school groups, groups of adults, special interest groups. Open all year round, their high season runs from Easter to the end of October. Most customers are from the Cheshire, Liverpool and Birmingham areas, especially school groups and groups from charity organisations running holidays for under-privileged children.

Although owned by an 'outside' organisation, the Centre is becoming increasingly autonomous in terms of its supply chain, and has definite plans to use more local producers in future. Its numbers are significant: they are planning to increase to 1000 beds on site by 2020, and employ up to 200 in the high season.

LCP is therefore seen as 'vital' to their business by Colomendy, the Countryside Centre and Caffi Florence. Other businesses see it as important but not vital. Most businesses, apart from these, noted that local economic health was as important to their business as the value of visitors to the site. Several businesses replied that they would look to expand in response to the projected increase in domestic visitors following Brexit (although this was seen by some businesses in the area as a threat as well, in the form of concerns about the future of the Airbus factory on Deeside).

Mold is seen as an important local hub and supply centre, especially for customers of residential caravan sites in the area.

Moel Famau

This is an extremely well-managed site which is popular with a wide range of different user groups. However, with two exceptions, the businesses that were geographically close to Moel Famau said that the site was not of major importance to their business. This reflects the fact that the businesses were accommodation providers, caravan sites and pubs, whereas most of the visitors interviewed were local, or on day trips. Offa's Dyke Way was seen as a more important attractor than Moel Famau for these accommodation businesses.

Shepherd's Hut is the only business located at the site. It was suggested that the Hut has become a destination in itself. The new owner has started to develop the business further by arranging events on the hill, for which she sells tickets.

One interviewee suggested that more could be done to promote links with other businesses, especially accommodation providers, around the numerous events based at Moel Famau. She also suggested that participants in these events often visit the site beforehand to practice for challenges, or afterwards with their families to show them the course. She saw this as an untapped source of custom for nearby businesses, if they could develop promotion along with the events.

Evidence from the interviews suggested that businesses in Ruthin do not benefit greatly from visitors to Moel Famau. Trip Advisor places it in Mold, and neighbouring accommodation providers and campsites all said that Mold was the main service centre used by their clients.

Panorama

Although the sample size was small for Panorama, the visitor survey figures suggest that more visitors to Panorama are locals and day visitors, suggesting that the benefits of this site are predominantly social (wellbeing) rather than economic.

- The campsites nearby reported that Panorama is not a major draw for their visitors and that Llangollen, Valle Crucis, having space for families, and the river are more important.
- The owner of the small tearoom at the top of Garth (open only Thursday–Sunday in the summer) was the only respondent who said that the Panorama was important. Her customer base includes locals (very important), cycling groups from Cheshire or Merseyside (weekends mainly, but significant in number), and often elderly people, or family groups, on a day outing that includes a drive across the Panorama. This business is likely to close in the near future because the owner wants to retire.
- Outdoor activity providers from the Dee Valley and elsewhere use the cliffs on Panorama for rock climbing, charging £45-55 for a session or £90-95 for a day's rock climbing. Numbers and frequency of use are not known. No charge is currently made by the landowner for use of this facility.
- The walking trail route from Dinas Bran down to the Trevor Basin, which includes part of the Panorama, is an important one, being part of the Offa's Dyke National Trail. It also features in a number of walking guides and websites in the area. Opportunities to derive economic benefit from this probably reside in Llangollen, or Acrefair/Trevor, rather than on the mountain itself.

Pontcysyllte Aqueduct and Trevor Basin

PATB is a different proposition to the other sites. Because of the global reach of the WHS, and the Aqueduct in particular, the survey showed different types of visitor with different expectations: visitors at the Basin expressed surprise that there were not more opportunities to buy local products. People are coming to see a unique site, with expectations that

opportunities to spend money exist. These visitors may be more willing to spend than local visitors to other sites. Further to this, although we did not include visitors on canal boats in our survey at the site, there is also a demand from the large number of boat users who pass through the site, for local food and other tourism items.

The WHS website has few links to other local or Dee Valley businesses. Further, the site is not as well linked to other local suppliers on Trip Adviser as other UK WHS. Alongside any OPL and TBM measures in the future, it is worth considering online presence in more depth, and encouraging the businesses at the site to engage more with the local economy.

The interviews suggested various issues of communication between the different businesses in the area. The longer-standing businesses in the Basin were sceptical that the Masterplan would change anything (having seen a number of different initiatives in the past), and see the new developments as a threat as much as a benefit. One of the newer businesses at the site talked about the difficulty in establishing a relationship with these established businesses, and highlighted the fact that there is currently no sense of unity of purpose between them. One issue seems to be the strong links that one company in particular has with local and regional coach companies, making it difficult for others to enter this lucrative market for large groups of visitors.

A further issue seems to relate to the use of the small parking area at Froncysyllte, by coach companies bringing groups to the Aqueduct for boat trips. In the past, congestion at this site has not been an issue, but recent expansion in other traffic at the Froncysyllte site means that the coaches cannot now be safely accommodated there.

Several of these issues are being explored further by the Masterplan group.

Horseshoe Falls and Llantysilio Green

The economic relationships at this site are interesting. The only business in direct proximity is the Chain Bridge Hotel, a riverside property overlooking the white water rapids for which the area is famous. The hotel has been recently refurbished after a period of decline and has regained its former position as an upmarket place to stay in the area, as well as being a venue for weddings and other events. The owner feels that his 'end' of the WHS is not promoted well enough, whether at the Aqueduct site itself, in Llangollen or the Railway: 'they are not treated as the same brand – it all needs "joining up"' (something that OPL will no doubt seek to do).

The hotel employs mainly younger local (Llangollen) people and offers training in various hospitality-based skills. It has good employee retention and finds it easy to recruit staff if required. They are however thinking of reducing staff in the short-term, in response to challenges in the current market and rising staff costs.

The hotel is also very keen to be seen as sourcing materials locally wherever possible. The manager is a keen contributor to the Dee Valley Good Grub Club, which he sees as an

excellent opportunity to source new suppliers and find out what is going on locally in food and drink production. He feels that it could be more orientated towards hotels as well as suppliers, but thinks it has made an excellent start.

The hotel's visitor profile is somewhat at odds with the profile of most of the visitors to the Horseshoe Falls, and relationships with the site are mixed. When the toilets at the site are closed (often) people often come to use the facilities at the hotel. The hotel also finds an increasing number of cars use the hotel car park, as it is free. One of the problems is restricting access, as the public towpath runs through the hotel car park and directly behind the hotel. The manager characterises his relationship with the site as 'mainly costs without any benefits'.

The HFLG site is also important for camp site operators in the valley above, where many of the water sports users stay, rather than in the more expensive hotel accommodation. These sites offer various forms of lower budget accommodation – caravans, tents, lodges and pods – which are easily accessible and popular with the younger users of the river.

The third category of business relationships with the site is the outdoor and water sports suppliers, who do not pay to use the site, but find it 'invaluable' for their businesses. Many of these users are local companies, based in Llangollen, but it is not unusual to see groups travel to the site from further afield as well.

In terms of adding value to the site, the car park could potentially support a mobile food supplier similar to the Moel Famau Shepherds Hut at peak times.

5.2 Social and environmental impacts across the AONB

5.2.1 Social impacts

Use of the sites by visitors and local people alike generate a number of positive social and wellbeing benefits. Positive social impacts in all six locations include use of the sites by community groups and for physical activity (particularly dog walking). At some sites, local people derive benefit from living near communities whose amenities and shops are boosted by tourism – and therefore their socio-economic environment is also.

Visiting the Clwydian Range and Dee Valley AONB with its various green and blue spaces plays an important role in individual and community health and wellbeing. The cycling and walking paths provide an opportunity for many to increase physical and social activity, for example through dog walking and participation in outdoor group activities.

There is a direct link between peoples' perception of wellbeing and measurable health outcomes. Further, there is ample evidence that spending time in nature and being active



promotes physical and mental wellbeing, such as by lowering blood pressure and enhancing self-esteem, which in turn has implications for healthcare costs.

Beyond individual benefits reported by respondents, we conducted a survey about people’s perception of community benefits living close to the area. Across all sites, almost 92% of survey participants agreed or strongly agreed that living in or near the Clwydian Range and Dee Valley AONB is good for life in their community.

When looking into the variance between sites (Figure 5.11), local visitors to Pontcysyllte Aqueduct and Trevor Basin perceived the highest benefits for their community life, whereas The Horseshoe Falls and Llantysilio Green Car Park and Picnic Area had the most varied view, with 13% disagreement as to community benefits, which correlates with visiting during high season.

Figure 5.11: To what extent do you agree that living in/near the Clwydian Range and Dee Valley AONB is good for life in my community? (Analysis by area)

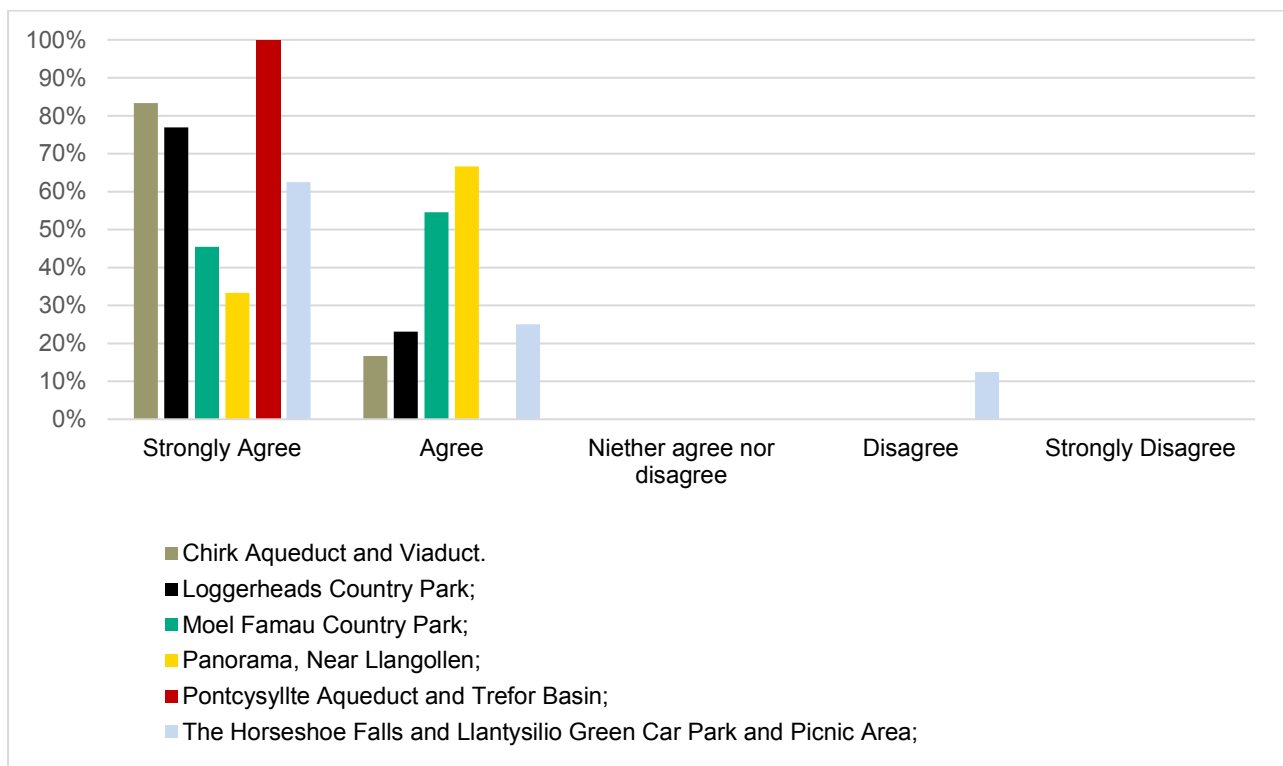
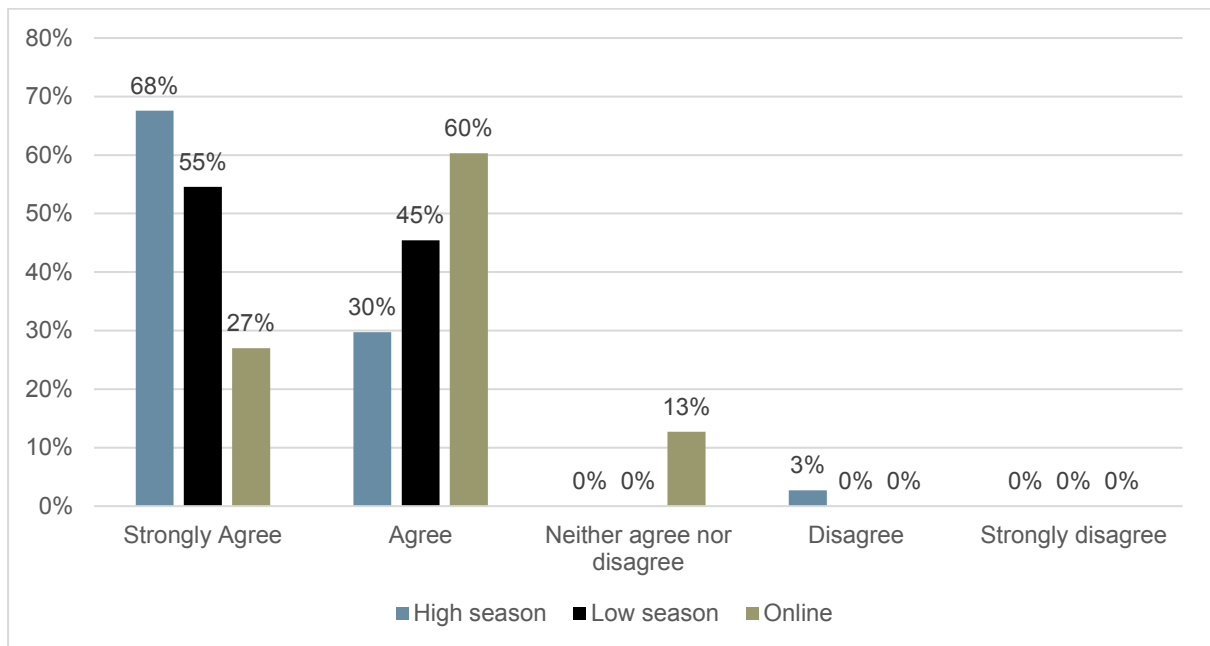


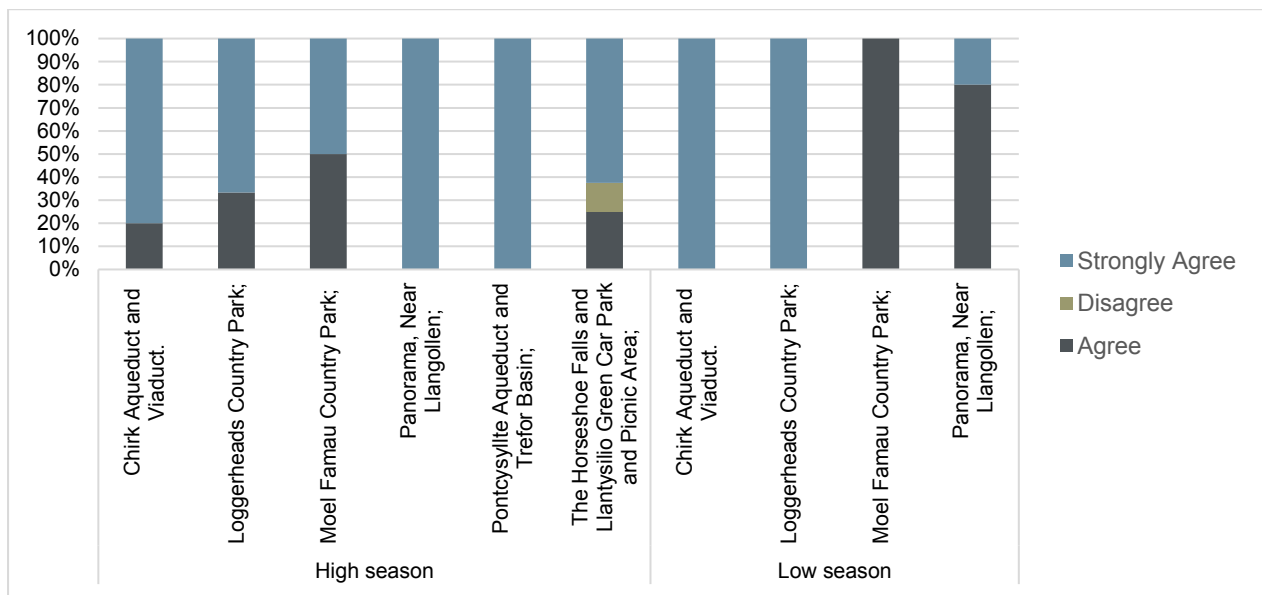


Figure 5.12: To what extent do you agree that living in/near the Clwydian Range and Dee Valley AONB is good for life in my community? (Analysis by season and online responses)



The survey showed a marginal difference (97.3%/100%) between high and low season community benefits, which indicates that in terms of perceived wellbeing, seasonality might play a less significant role than anticipated (Figure 5.12). However, when looking at site-specific responses, it is interesting to note that Chirk Aqueduct and Viaduct and Loggerheads Country Park receive slightly more favourable results during low than during high season, whereas the picture shows the reverse for Moel Famau Country Park and Panorama, near Llangollen (Figure 5.13).

Figure 5.13: To what extent do you agree that living in/near the Clwydian Range and Dee Valley AONB is good for life in my community? (Analysis by season by area)





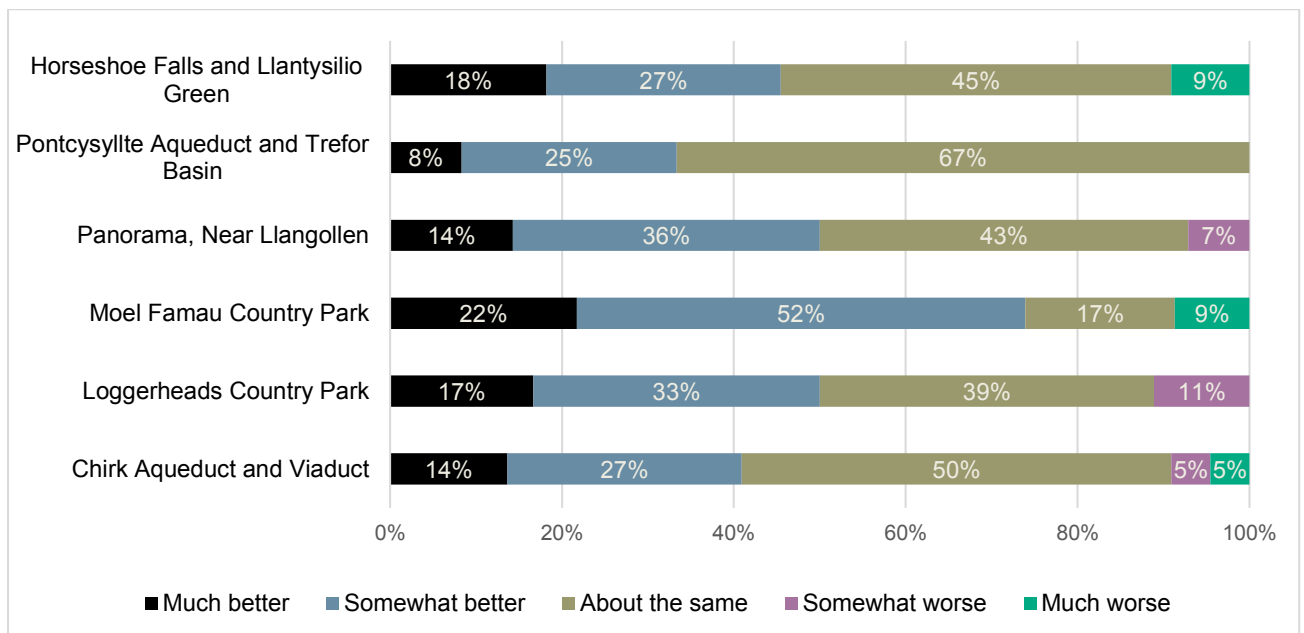
Negative social impacts and their severity varied between sites. Traffic congestion and particularly issues relating to parking were common concerns across all the busy sites, as was litter. Across the six sites, only 8% of the users surveyed considered the site they were visiting to be any worse for overcrowding than other natural areas they had visited (with visitors from outside the area being more likely to hold this view, particularly in high season). This figure rose to 20% in relation to vehicle congestion.

Local people surveyed in the low season had a stronger (i.e. more negative) opinion about this issue than those in the high season, which is perhaps surprising. There is also a perception that there is not sufficient positive 'trade-off' for local residents when the sites are busy, to compensate for the negative impacts they experience.

The graphs below show the spread of opinion among visitors to the six sites, in relation to the two main social impacts on which they were asked to comment: overcrowding and vehicle congestion. They demonstrate that Pontcysyllte Aqueduct was the only location at which all site users considered it to be at least the same, or better, than other natural areas in relation to these two impacts. These responses are analysed at site level in section 5.2.2.

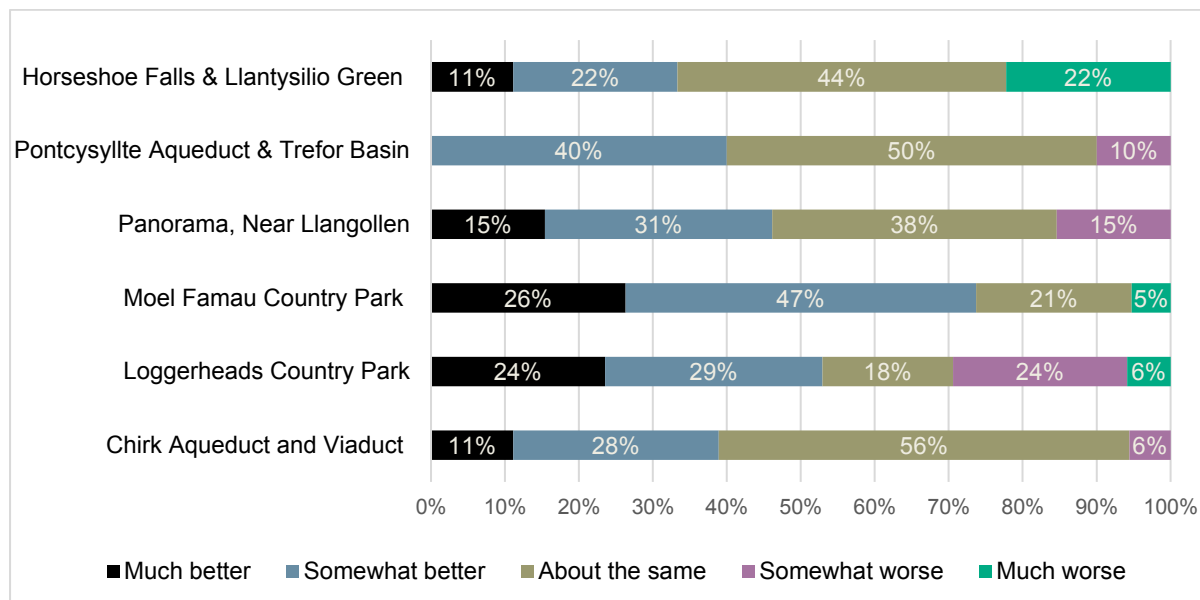
Overcrowding

Figure 5.14: Thinking about other natural areas you have visited, how do the sites you visited on your most recent trip to the Clwydian Range and Dee Valley AONB compare with them on overcrowding?



Vehicle congestion

Figure 5.15: Thinking about other natural areas you have visited, how do the sites you visited on your most recent trip to the Clwydian Range and Dee Valley AONB compare with them on vehicle congestion?



5.2.2 Monetising the social value

There was broad agreement from visitors that ‘spending time in the Clwydian Range and Dee Valley AONB helps me to relax, escape stress and find personal peace’. 92% of those who responded, said they agreed or strongly agreed with this statement.

Similarly, the estimated level of life satisfaction of visitors to the AONB was high, relative to the average across the Welsh population. When standardised on a 0-to-10 scale, the life satisfaction of visitors to the AONB was an estimated 6.4% higher than the population average.

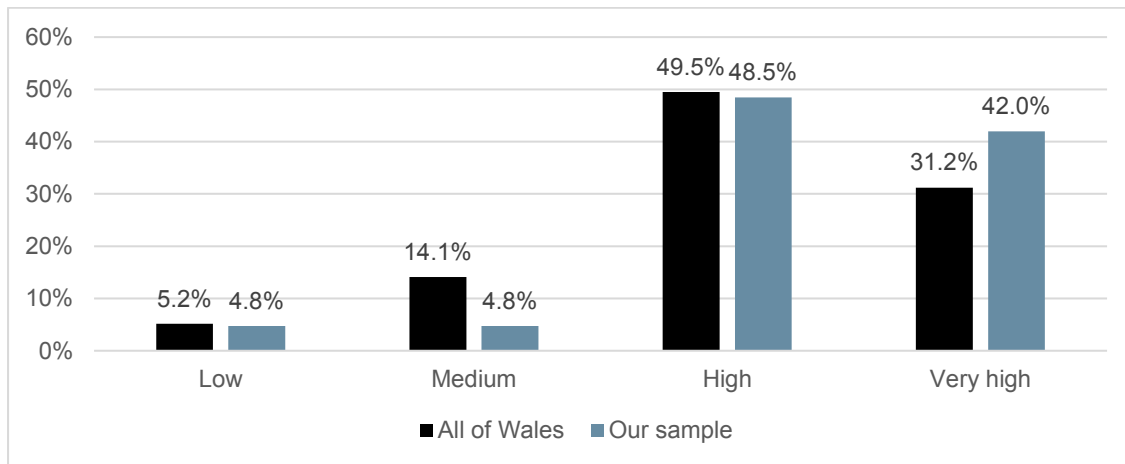
This complements the finding of Fields in Trust (2018)¹⁷ that those who had visited a park or green space at least once in the past year had a life satisfaction score 7.0% higher than those who did not. In fact, we are likely to be underestimating the benefit of visiting the AONB

¹⁷ Fields in Trust. (2018). *Revaluing Parks and Green Spaces: Measuring their economic and wellbeing value to individuals*. Available at: <http://www.fieldsintrust.org/Upload/file/research/Revaluing-Parks-and-Green-Spaces-Report.pdf> [accessed 16/01/2019]



because we are benchmarking visitors’ life satisfaction against the Welsh population average (in the absence a comparable sample of people who do not use green spaces).

Figure 5.16: Level of life satisfaction (2018)



- The above findings suggest that it is appropriate to apply the same monetised wellbeing benefit found by Fields in Trust (2018), to our population of interest: visitors to the AONB. Fields in Trust used the *wellbeing valuation method* to estimate that the improvement in life satisfaction that people derive from green spaces and parks is £8.47 per visit.
- When this valuation is applied to the estimated total number of annual visitors to the six sites analysed in this report (1.13 million), the total wellbeing benefit to visitors is an estimated £9.6 million per annum.
- Conservatively, taking 92% of this value to reflect the proportion of people in our survey who stated that spending time in the AONB helped them to relax, escape stress and find personal peace, we arrive at a wellbeing value of £8.8m per annum.

We can also place a monetary value on the health benefits that visitors derive from visiting the AONB. Our survey found that a large majority of visitors to the AONB went walking during their visit. 86% of respondents (204 people) stated that they had done some walking on their visit to the AONB. The estimated total number of visitors in 2018 to the six key AONB sites covered in this study was 1,133,913 (see Section 5.1.4). Applying the percentage of visitors who said they spent time walking during their visit, this suggests that the six key sites received 976,026 walking visitors in 2018.

Like other forms of exercise, walking has a number of important health benefits, including reducing the risk of cardiovascular disease (CVD) and type-2 diabetes. By estimating the extent to which these two categories of risk are reduced, and using the typical cost of treating such health conditions, it is possible to put an approximate monetary value on the

health benefits associated with walking while visiting the AONB. Full details of the calculation involved are provided in Appendix A.3.

Our analysis suggests that the health benefits of a year's worth of walking visitors to the six key AONB sites equate to an estimated £38.1 million in health spending foregone. Of this, an estimated £1.2 million relates to the assumed reduction in CVD, and a further £36.8 million relates to the assumed reduction in type-2 diabetes. In our calculation we reduced the value, based on the assumption that a visit to walk in the AONB constitutes one part of a full year programme of regular walking exercise. UK guidelines on physical activity for adults aged 19-64 state that: 'Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week. ... Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or combinations of moderate and vigorous intensity activity.'¹⁸

According to these guidelines, we can reasonably assume that physical activity during time spent in the AONB amounts, for most people, to the equivalent of one week of exercise. Therefore, dividing the calculated annual financial benefits by 52 weeks we arrive at a figure of £733,000 of reduced health expenditure, made up of approximately £23,000 from reduced incidence of CVD and £708,000 from reduced type-2 diabetes.

5.2.3 Environmental impacts

Generally, visitors did not perceive many significant adverse environmental impacts on their visits, and many expressed their appreciation for how well kept the sites were. This was borne out by external visitors' comparisons between the six sites and other natural areas they had visited, when considering two environmental issues: litter and erosion.

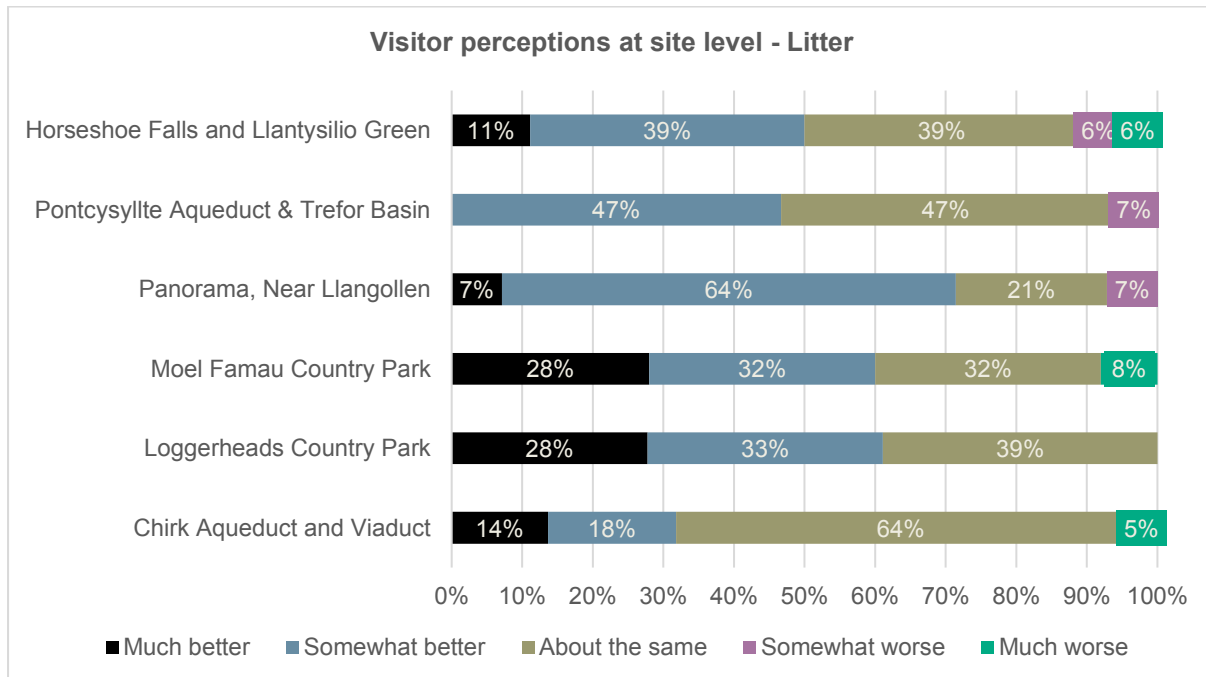
Figures 5.17 and 5.18 show that the site considered to be under most environmental pressure from both issues, is Horseshoe Falls.

¹⁸ Guidance from the Chief Medical Office (CMO) on how much physical activity people should be doing, along with supporting documents. UK physical activity guidelines. Factsheet 4: Physical activity guidelines for ADULTS (19-64).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213740/dh_128145.pdf

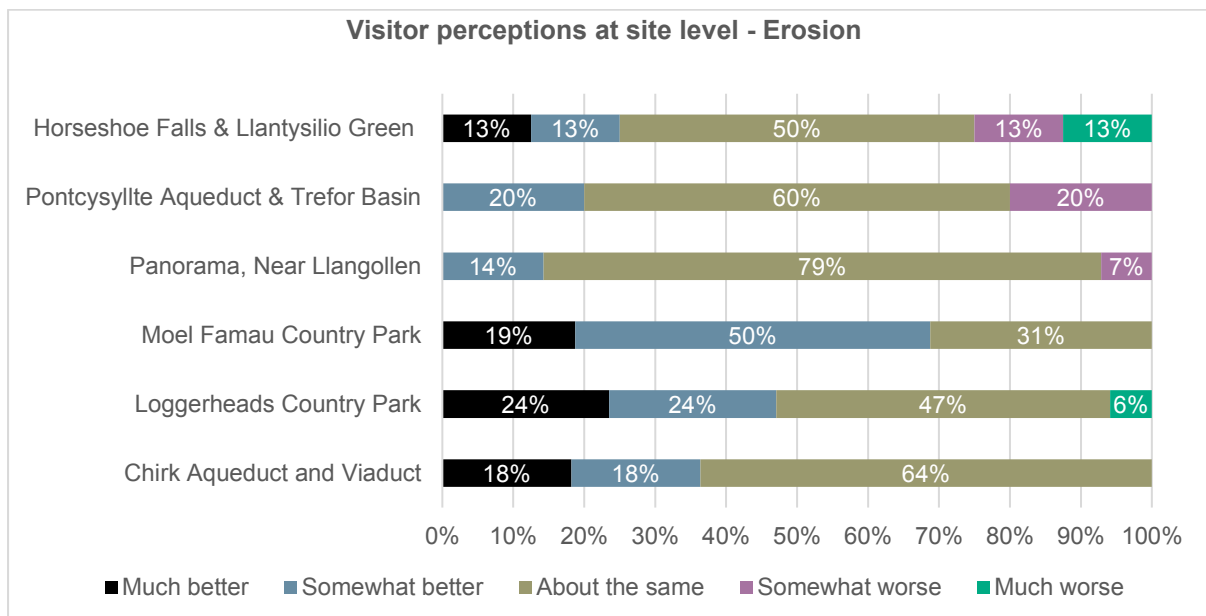


Figure 5.17: Thinking about other natural areas you have visited, how do the sites you visited on your most recent trip to the Clwydian Range and Dee Valley AONB compare with them on litter?



Across the sites, the percentage of users considering them to be about the same, somewhat better or much better than other natural areas was 92% for litter and 90% for erosion, with no significant divergence in views between local and other visitors on these issues.

Figure 5.18: Thinking about other natural areas you have visited, how do the sites you visited on your most recent trip to the Clwydian Range and Dee Valley AONB compare with them on erosion?



However, local users and site managers observe and manage a number of negative environmental impacts on a daily basis at all six sites, principally:

- Litter, including dog waste. This issue in particular represents a cost in terms of staff and disposal charges. The average cost of litter collection over four years was £4,560 per year at Loggerheads Country Park and £1,257 at Llantysilio Green. If we scale up the average of these values to all six sites the total cost would be approximately £17,500 per year.
- Erosion and damage to vegetation, particularly at the more fragile sites such as Loggerheads, Panorama and Horseshoe Falls.
- Maintenance of paths at the sites is costly. The average cost over the last three years was £3,090 per year at Moel Famau, £2,567 per year at Loggerheads and £2,780 per year at Horseshoe Falls. If we scale up the average of these values to all six sites the total cost would be approximately £16,900 per year.
- Damage to livestock. It is difficult to put a figure on the cost of stock lost or injured to dog attacks, as this may manifest in the loss of the stock or unborn lambs, the loss of value of the stock through injury, vets bills etc. However, records indicate that seven sheep were killed by dogs at Moel Famau in each of the last two years.

These impacts are described in more detail at site level below.

Trevor Basin – Pontcysyllte Aqueduct and Canal

In contrast to the other sites, local residents tend to use the Pontcysyllte site for functional rather than leisure use – as a transit route by foot or cycle rather than a walk for relaxation. It is also used by school and community groups. This was the only one of the six sites where all survey respondents, whether local or from outside the AONB, thought the site was the same or better than other natural areas for overcrowding.

Inscription as a World Heritage Site has afforded opportunities in terms of funding, for example, the upgrading of the towpath: making it accessible for wheelchair users and people with pushchairs.

The focus group identified very few environmental issues relating to this site, mainly because it is principally a constructed rather than a natural environment. The main challenge as user numbers grow, relates to maintaining the towpath, as well as the steps down from the aqueduct to the valley below. Damage is also caused to the canal bank by boats hitting it.

Impacts from increased visitor numbers

- Visitor numbers to the site have increased over recent years, especially since the WHS inscription. There is a strong view among local people that the communities

surrounding the site – in particular at Cefn Mawr, Trevor and Froncysyllte – bear the brunt of the negative impacts of visitor activity but see little benefit from tourism. Expectations that tourism would be something of a ‘saviour’ following the decline in local industry and manufacturing in recent decades have been raised but not realised. There is also a feeling among local residents of having been excluded or overlooked in historical planning processes.

- There are two litter bins at the site, which are emptied by staff at the visitor centre. Bins in the car park are managed by Wrexham CBC. No local visitors considered the site to be any worse than other natural areas for litter; 8.3% of visitors from elsewhere thought it was ‘somewhat worse’.
- The toilet facilities at the site are also under extreme pressure on busy days.
- Numerous coach groups visit the site but operate on a tight schedule and tend not to provide opportunities for their guests to use local businesses.
- There can be some recreational use conflict between user groups such as walkers and some cyclists who go along the towpath at speed. Large groups also use the stretch of water along the Pontcysyllte site for paddle sports. There are some issues relating to these user groups, for example when there are large groups of inexperienced paddlers under limited instruction and others who spread their canoes across the grass – as well as the lack of infrastructure for growing numbers of amateur paddle sports users.
- There are also reports of antisocial behaviour at the site, such as drinking and drug-taking, resulting in the police having to be called on occasion.

Congestion, parking and driving

- The principal negative impacts include traffic congestion, especially in summer and at weekends, and parking on residential streets around the site. There is a feeling locally that the infrastructure is not adequate to cope with the level of visitors, especially on busy days. This creates frustration for local residents – although all local survey respondents stated they felt the issue was the same or better than in other natural areas, compared to 12.5% of visitors from outside the area.

In terms of costs, the site is run by four staff, supported by 20 or so volunteers.

The recently opened Chapel Tearooms has been developed in response to the opportunity created by the site’s WHS status and visitor popularity. As such, it also offers a new amenity for local people, who use it as a social meeting place as well as for celebrations such as small gatherings and baby showers – an example of an indirect but positive local social impact created by visitors to the site.

The Masterplan currently being developed for the site should provide opportunities to address these negative impacts and to create more positive benefits for local residents. This is discussed further in the Recommendations in section 6.

Llantysilio – Horseshoe Falls

The site has long been valued by local people as a place to enjoy peace and tranquillity as well as to walk. The inscription as a World Heritage Site served to underline its special qualities and make local people proud. Its WHS status also enabled it to secure funding to upgrade the towpath to be used year-round.

Activities enjoyed by local individuals and groups include water-based activities; use by community groups (such as Scouts, Cubs, Explorers); walking; dog walking; bat walks; and walks along the canal, particularly for those who welcome the level access along the towpath. Groups from further afield such as university canoe clubs or groups from the Plas y Brenin Mountain Centre in Snowdonia are also frequent users. Other positive social impacts include wellbeing benefits.

One practical example provided was that of the local church close to the site, where visitors often spend time and leave written prayers; there is a sense that people find peace there. Donations to the church have increased since the site became part of the AONB and now amount to £500-1000 a year – around 10% of the church's running costs.

However, the character of the Horseshoe Falls site has changed during the last five years. Originally a picnic area with just a few cars, it has transformed to become a car park with a few picnic tables. Increased visitor numbers, an extended tourist season, together with improved and extended access to the river¹⁹ have combined to transform Llantysilio, creating what focus group participants described as 'the perfect storm'. There is a general sense that 'things are moving faster than we can cope with'.

Specific negative social and environmental impacts at this site are:

Impacts from increased visitor numbers

- Increased visitor numbers make the site very crowded in summer, bringing people with barbecues, sunshades and tents, groups, canoes, people sunbathing, children in the river on inflatables; one visitor even used a battery-operated jet ski. As well as organised

¹⁹ Some of the many groups that used to access the river at The Mill now come to Horseshoe Falls. It is also unusual in that it is always possible to canoe at the site, regardless of the weather, compared to the rest of the UK.

groups, it is also common to see groups of 10-15 individual canoeists parking and meeting up to go out on the water together.

- The toilet facilities are managed by local group, Cymdeithas y Cwm. Rising numbers of visitors place these facilities under pressure. Occasionally canoeists use the toilet facilities to get changed, which adds to the user pressure. The running costs of the Llantysilio toilets, excluding water and electricity use, have averaged £4,153 per year over the last four years.
- Some residents felt that the increase in visitor numbers had spoilt the previous sense of peace and tranquillity – with 25% of local survey respondents considering the site to be much worse for overcrowding than other natural areas – in contrast to visitors from further afield who all thought it was the same or better.
- Some local community members consider that the site has deteriorated over the last five years in terms of congestion. As mentioned above, it is notable that this is the only one of the six sites where any local survey respondents (in this case 13%) disagreed with the statement ‘Living in or near the AONB is good for my community’. During the high season local people tend to avoid the site, by going elsewhere. However, it is felt that other locations have also become busier in the last five years.
- There can also be recreational use conflicts between the interests of the different users of the site. These include serious outdoor enthusiasts, amateur groups who slalom their boats down the hill (which threatens the safety of others, especially children and animals) and anglers, who feel their interests have been compromised. There are also some reports of antisocial behaviour and vandalism: ropes intended to rope off the grassland have been taken and made into a rope swing over the river, which has been the cause of two very serious accidents since 2016.

Litter

- Litter is a significant issue at the site. Again, Horseshoe Falls was the only location considered by local people to be worse than in other natural areas: 14.3% thought it was ‘somewhat worse’. For this site 9.1% of visitors from outside the area thought it was ‘much worse’. A member of staff is employed at the site, and Cymdeithas y Cwm also provide assistance.
- The problem is worst in the summer, when the rangers spend three hours every Monday sorting and collecting rubbish that has been scattered around the whole area, in the car park and at the Falls. Volunteers, including outdoor providers’ drivers also collect litter. Operational staff from the Canal and River Trust also carry out regular work to keep the river inlet clear.
- The kind of litter left on the ground by visitors ranges from lager bottles and coffee cups to old barbecues and discarded meat. Eight very large bags (twice the size of domestic rubbish bags) are collected from the bins on Mondays after the weekend, and four on a Friday. Summer 2018 saw exceptional levels of litter, due to the hot

weather. The rangers filled the back of a pick-up truck with tents, barbecues and other litter after just one weekend.

- Installing additional bins beyond the one in the car park would mean that they would need to be emptied around six or seven times a day, which is neither feasible or desirable.
- Dog waste is also an issue here: visitors and locals alike walk their dogs at the site. Some let them off the lead. Dog waste not being picked up is a problem here, as at other sites – particularly near the car park.

Erosion

- Visitor activity – both authorised (use of the site and the water) and unauthorised (such as ‘slaloming’ down the hill, dragging boats, or swinging into the water from the rope swing) is causing erosion of the bank and the grass on the slope leading down to the water. As well as the environmental damage this is causing, it also threatens the integrity of part of the WHS, since the field is part of the inscription.
- Among survey respondents, Horseshoe Falls was the only site where visitors from outside the area considered erosion to be a problem: 20% considered it to be somewhat worse than in other natural areas they had visited. 33% of local people considered that erosion at Horseshoe Falls was much worse than in other comparable areas.

Congestion, parking and driving

- All local survey respondents felt that the issue of congestion, parking and driving was the same or better than in other natural areas, compared to 33% of visitors from outside the area.
- Even the additional parking provided is now under pressure. On busy days when the car park is full, parking spills out onto the road. Although revenue from the car park charges is used to fund the ranger service, which benefits visitors to the site, limited resources make enforcement difficult. Only 40-50% of car park users currently buy a ticket or display a National Trust membership sticker. Some stay in camper vans overnight.
- In addition, the car park was not designed to accommodate the minibuses used by outdoor activity providers. These vehicles also bring trailers with canoes, which find it difficult to turn around in the limited space and cause congestion problems for other vehicles.
- On busy days some water sport companies try to drop off canoes with a member of staff early in the morning, but this is not always practicable. On other occasions they park on the road but this can compromise their customers’ safety.

On the positive side, increased visitor numbers keep the town of Llangollen busy and vibrant, supporting shops directly or indirectly; including a butcher and grocer. Described formerly as a ‘ghost town’ from October to March, the tourist season is now extending so that the winter season only lasts for about two months. However, this is not popular with all local residents, some of whom enjoyed the longer respite from the busy tourist period.

Chirk Aqueduct

The Chirk Aqueduct is a popular site for local people, used for walking – particularly by those with dogs (accounting for some 80% of users). Improvements to the towpath have resulted in more visitors to the site in recent years, and in more people using it to get from one point to another. Visitors staying at the nearby caravan park also walk to the aqueduct. However, many spend only a short time at the site and do not go into Chirk town, which is not well-signed from the site and not obvious to find.

The Chirk site differs from the others in this study as visitor numbers are not generally considered to exceed the capacity of the site to cope with them. However, there are occasions when the site appears under pressure – at peak times, for example, there can be long queues of boats waiting to enter the canal tunnel. The site handles around 15,000 boat manoeuvres a year.

Being a largely ‘constructed’ site meant that few survey respondents expressed environmental concerns about Chirk, as with the Trevor Basin. Just one visitor from outside the area considered it to be ‘much worse’ for litter than other natural areas.

The research therefore focused on identifying social impacts that might result from increased visitor numbers in the future. Since the site is geographically a little removed from the town centre, observations could also be drawn from the experience of Trevor Basin, where many local community members felt they did not gain from tourism to the site. There is already a perception in Chirk that tourism benefits from the WHS are generally concentrated in Trevor, and that the Chirk part of the site is under-promoted.

Impacts from increased visitor numbers

- In terms of current visitor levels, survey respondents who live in and around the AONB did not consider there to be any issues in relation to overcrowding in comparison to other natural sites, whereas some (11.8%) visitors from further afield considered the site to be somewhat or much worse on this issue.
- The main impact currently foreseen – which should be addressed before any further tourism development – is that of inadequate infrastructure, particularly in relation to parking and the potential for congestion. This is not currently perceived as an issue by local survey respondents in comparison to other natural areas, and is considered ‘somewhat worse’ by only 7.7% of visitors from outside the area. However, the area near the site has a good deal of traffic accessing the station (increased by recently

improved access) and other local amenities already, as well as heavy goods vehicles. The road is also used by visitors staying at the caravan park. Being a narrow road through a residential area creates ‘pinch points’.

Nearby Chirk Castle is a very popular visitor attraction,²⁰ which is considered to be close to capacity on busy days. Now that the towpath from Gledrid to Lion Quays is also being upgraded, Chirk will become the first place visitors come to when accessing the WHS from that ‘end’, which creates an opportunity. When combined with the increased investment in the town, and a focus on encouraging visitors to explore the full length of the WHS, there would appear to be the potential to attract more visitors. An increase in visitor numbers to Chirk Aqueduct would be welcomed, if well managed and developed strategically, in order to encourage more visitors into the town itself. However, as outlined above, there are infrastructural and other considerations to be addressed, which we consider further in our Recommendations (Section 6).

Panorama

This site sees visitors for many different reasons, whether walking the Offa’s Dyke National Trail, driving and parking for a walk or outdoor activity, or walking up from Llangollen. It is a destination point because of the attractive view across to Castell Dinas Bran and is therefore a focal point for walks, charity events and occasions such as Bonfire Night. It is clearly valued as a site, especially by local people.

The site is personally valued by the small community of residents and farmers who live there. It also has emotional significance to some local people as a place to remember loved ones. Occasionally memorials are erected, which causes environmental damage, and rangers have to be sensitive when removing them.

The site is used for a variety of purposes – hiking (including many individuals and groups walking the Offa’s Dyke National Trail); dog walking; climbing; mountain biking; and for charity walks, such as the Llangollen Round.²¹ The site is also regularly used by outdoor activity providers who take groups of climbers up to the ridges. At present the companies are not charged for doing so. As with other sites, the interests of these different groups can result in conflicts over recreational use. In addition, although there is public access, the land is a farming landscape. The land is privately owned and importantly, the farming

²⁰ The site received over 162,000 visitors in 2017: <https://gov.wales/docs/caecd/research/2018/181129-visitor-attractions-survey-2017-en.pdf> (Accessed 26 March 2019)

²¹ A charity walk put together by local people – a 33 mile route with a book, with the proceeds going to charity.

community generates its livelihood from it. Not all users appreciate or respect this, which is apparent from the specific negative social impacts identified and described below.

Panorama is an environmentally fragile site, with a number of protected and rare species (such as Peregrine falcons and the Llangollen whitebeam tree) meaning that access by visitors presents particular challenges. The site's status as an SAC and SSSI mean it receives protection and conservation attention, but these are not attributable to tourism. The reported environmental impacts of visitors to the site are unfortunately all currently negative:

Litter

- Litter is a significant issue at the site. The problem is worst in the high season.
- In the summer up to six campervans stay overnight and also leave litter. Denbighshire Council's Street Scene department clear litter from along or near the road once a week, collecting about half a bin bag at a time. In addition, a local volunteer walks the path once a week and collects about a bin bag of litter.
- Twice a year the volunteer group Llangollen Tidy Town Team takes a team of 12–15 people up to Panorama to do a 'deep clean'. The team have recovered a huge variety of items abandoned or fly-tipped there, including a kitchen sink, oxygen mask, tyres, rotting meat, cannabis leftovers, takeaway rubbish and alcohol bottles.
- In November the site is a popular place to set off fireworks and this results in a significant amount of litter being left behind.
- Another issue relates to people picking up dog waste and placing it in a bag but then leaving the bag on the ground, which does not decompose.

Erosion and other damage to flora and fauna

Damage to the rare calcareous grassland and special features of the SAC is caused by people venturing off the path and trampling the ground. There is a deliberate policy of not way-marking in order to preserve the sense of wilderness and protect the landscape at the site, which is one of the few areas of this type in Wales.

- Mountain bikers are not supposed to ride on the site but some do, and take any path, which damages the SAC. Some aggressive behaviour has been reported.
- Motorbike riders and 4x4 drivers use the old tramway from the quarry to illegally access the mountain and cause erosion and damage.
- Fires started by site users have also caused significant damage on occasion.
- The area is a popular place to commemorate loved ones. Some people plant bulbs which are a non-native species and threaten the delicate species of the SAC.
- The majority of the small sample of visitors surveyed at this site did not consider erosion to be any worse at Panorama than in other natural locations they had visited.

- However, the SSSI at Dinas Bran – as well as at Panorama – is seeing impacts on its features from its recreational use, primarily through footfall causing compaction of soils and physical damage to plants and grasslands. Parking along the side of the road is also contributing to erosion.

Farming community impacts

- Lambs escape and stock gets mixed up when visitors leave gates open, and there have been incidents of sheep-worrying by dogs let off the lead, especially towards Dinas Bran. Approximately 20 ewes have been lost during the last 4 years.
- Visitors going off the path also cause damage to fodder intended for silage.
- Elsewhere, visitors frequently try to access a piece of private land where there is no open access and which includes cairns, burial chambers and standing stones, which may be vulnerable to damage.

The environmental damage to the site presents challenges to the AONB in terms of the resources it is able to employ to address them. The damage creates costs, particularly since specialist contractors are often required due to its protected status. For example, on an annual basis, the removal of graffiti at Panorama costs around £4,000 (2017 data) while other remedial work costs around £1,000 per year for 2-3 specialist contractors, plus an estimated 12 – 16 days of time provided by rangers and volunteers. The scale of the work required has increased dramatically in recent years – in 2008 the time required was just one day.

Impacts from increased visitor numbers

- Visitor numbers have increased in recent years, especially at weekends when the site has been described as ‘heaving’. It is now generally busy from Spring to October, as well as in January.
- Climbers use the site year-round whenever the weather is dry. Some walkers get lost and wander off the paths, causing environmental damage (as outlined in the next section), as well as intruding onto private farm property.
- However, there are also examples of positive interaction – for example if a sheep gets stuck on a ledge, walkers will come and tell the farmer so he can rescue it.
- Visitors from outside the AONB do not appear to perceive it as being overcrowded, with all considering it to be either the same or better than comparable natural areas. However, 14.3% of local survey respondents considered it to be ‘somewhat worse’.

Congestion, parking and driving

- The number of cars accessing the site is to some extent limited by the narrow access roads, but on busy days congestion is a significant problem. 16.7% of local survey respondents and 20% of visitors from further afield consider the site to be somewhat worse in this respect than in other natural areas.

- There is no ‘formal’ marked parking, but there are some areas where it is possible to park a few cars.
- Despite boulders being placed along the road to deter people from parking, cars are regularly parked inconsiderately, in passing places or along the road side – as well as causing erosion as mentioned above. Visitors occasionally block the farmer, who owns the land, from getting his tractor or other large vehicles through, to carry out his work.
- Even within the more established parking areas, cars are often parked at random, which prevents the optimum number of cars from being able to use the space, again contributing to the congestion issue.
- Since outdoor activity providers stay with their groups, there can be 5-6 minibuses parked along the site at the same time. The problem is obviously worst on popular days. On Easter Sunday afternoon in 2018 there were 60 cars parked along the one mile (1.5 km) of road between Tan y Castell Farm and the Prospect Garden Tea Rooms.
- The parking issue is also exacerbated by the lack of parking available on Ruabon Moor, which places additional pressure on the Panorama site. In wet weather and snow, cars veer off the road or get stuck and have been frequently pulled out by the farmer.

Anti-social behaviour

- Negative impacts include people, generally considered to be local residents, driving up to the site and drinking, taking drugs or engaging in sexual activity there. It is something of a magnet for young people, especially those who have recently learned to drive.
- The rangers have even had (numerous) reports of people practising golf up on the hillside, causing damage to the roof and windows of a house.
- Anti-social behaviour also causes environmental impacts, explained below.

Loggerheads

The Loggerheads site is well used by local residents and is extremely popular with visitors. For the latter in particular the site has emotional value; it has been used for recreation for almost a hundred years, since Crosville Motor Services brought visitors from the 1920s. Older people now come back to a place associated with their childhood memories, sometimes bringing their own children and grandchildren. Repeat visits are common.

Positive impacts here relate to environmental education: the site receives school groups, Duke of Edinburgh groups, as well as university students coming to carry out studies of the SAC and SSSI designation and river flow. Colomendy outward bound centre also benefits from its proximity to the site.

Local people, similarly, value the site because it has been a place for walking and leisure activities for so many years. The café is well used by residents. Four large events were held at Loggerheads in 2018.



Impacts of visitor numbers

Loggerheads has seen a sharp rise in the number of visitors to the site in recent years. Exacerbated by the extension of the tourist season, this places pressure on the site, especially in relation to parking, the café and toilet facilities. An overflow car park with an additional 70 spaces was created in 2016 to alleviate some of this pressure and avoid the problem of cars being parked along the road. However, on busy days the overflow car park is also often full. 25% of local respondents and 40% of those visiting from outside the area considered Loggerheads to be somewhat worse, or much worse, than other natural areas for vehicle congestion. This view was particularly prevalent among visitors surveyed in the high season.

Visitors surveyed from outside the area all considered the site to be either the same, or better than other natural sites, in relation to overcrowding. However, 16.7% of local respondents felt it was somewhat worse. Focus group respondents explained that there is a feeling among some community members of the area feeling less tranquil and safe, and that their space is being invaded by the increase of tourism.

There are also significant environmental pressures on the site.

There is a particular viewpoint at the top of the cliff, looking across to Moel Famau, where a bench has been situated since it was erected by Crosville Motor Services in around the 1960s. This is an extremely popular and important site in terms of memory making and social wellbeing, which directly conflicts with the fragile environmental character of the site, as explained below. Although another viewpoint has been created to try to discourage visitors from using the older one, evocative associations mean that many visitors will inevitably favour the original.

There has been an increase over the last ten years in the number of visitors to Devil's Gorge, since a 2-mile level route was created – generating positive health and wellbeing benefits particularly for those who would not otherwise have been able to access this spectacular landscape.

There are also frequent complaints about the behaviour of dogs at the site, either from being off the lead or being boisterous around children, especially in the tea gardens area. Dogs going into the river also causes erosion of the bank.

Litter

- Although not a concern for any of the survey respondents, litter is again a significant problem for managers of this site. Every year the rangers collect 6 tonnes of litter from the bins and a further 4.5 tonnes of loose litter, at a total cost of £4,000 per year. While this does not include the rubbish that visitors take home with them, it does demonstrate that 43% of litter left behind at the site is dropped rather than placed in bins.

- In addition, the ranger team collects 8.2 tonnes of dog waste every year. (This is the equivalent in weight of around 400 Welsh border collies!)

Erosion and damage to flora and fauna

- The site is a fragile landscape with SSSI and SAC status. Visitor use causes significant environmental damage to woodland ground flora through erosion and trampling, and it is felt by site managers that there is a ‘ripple effect’ from the increased pressure on the woodlands beyond the park.
- Paths have been gradually widened over time. The worst damage is seen at the popular viewpoint overlooking Moel Famau, where calcareous grassland, an example of the most important grassland in Europe, has been badly damaged. The delicate rock rose also struggles to flourish due to the number of visitors walking across the site.
- This provides a visual illustration of the conflict between the social and wellbeing benefits generated for visitors and the environmental damage caused by so many people walking across the site.
- The extended tourist season (now March to November plus the Christmas holiday period) means that there is an ever-shorter recovery time for such vulnerable species.
- There is also a recreational impact on the caves through increased visitor access, creating threats to species such as bats as well as the geology of the caves. This has resulted in costs such as the £5,000 spent on installing a bat grille at Devil’s Gorge. There is also potential for negative interaction between visitors and the resident adder population.

However, local people generally shared the view of visitors that erosion at Loggerheads was no worse than in other natural areas. This does reinforce the concern that visitors and local people alike may well be unaware of its status as an SAC and SSSI. Managers recognise the issue of whether the site is, or should be promoted as, a ‘country park’ or ‘nature reserve’.

Loggerheads benefits from 2,430 volunteer hours a year – the equivalent of having 1.4 full time workers.

Moel Famau

Moel Famau is well used by local people, who enjoy walking there, especially with dogs – over half the visitors have a dog with them and many have more than one. Visitors are attracted by the spectacular landscape and views and the challenge of reaching the Jubilee Tower at the summit. The site is also part of the Offa’s Dyke National Trail.

Residents are proud of having somewhere beautiful on their doorstep where they can take visitors. Being the highest point in the Clwydian Range also makes it a natural draw for community and other group activities and challenges. It represents a ‘special’ place for local people: for example, a Girl Guide group recently made their pledges at the summit. The site also hosts many charity events on both a small and large scale, from sponsored walks to fancy dress events. 2018 saw 11 large charity events (defined as having 100+ participants).

NRW and DCC jointly operate a permission process for these events and endeavour to spread them out as much as possible. They also encourage early start times, to minimise disruption to other users and local residents.

Impacts from increased visitor numbers

- The majority of survey respondents did not consider overcrowding to be a problem at the site. 11.1% of local residents and 7.1% of visitors from elsewhere considered it to be ‘much worse’ than comparable natural areas.
- The increase in visitor numbers over recent years (circa 20% increase in the last five years) does not currently appear to be having any significant adverse effect on the surrounding community. Very little anti-social behaviour has been observed, although there have been incidences of vandalism to car park ticket machines. The presence of a dedicated ranger team for Moel Famau and Loggerheads helps to manage social impacts.
- However, conflicts over recreational use sometimes arise between user groups such as walkers and mountain bikers. Bikers often go off the paths or descend at speed, causing concerns – especially for those walkers with children or dogs in their group. Despite a mountain bike loop being created at the foot of Moel Famau a few years ago, many still want to go up to the tower and come back down ‘off piste’. This is often fuelled by social media posts.

North East Wales Search and Rescue (NEWSAR) logged nine incidents each year in 2017 and 2018 relating to Moel Famau, compared to a total of just eight across the three previous years. In 2017 to 2018 call outs to Moel Famau represented over 10% of total incidents. The NEWSAR team costs an estimated £25,000 a year to run (being composed of volunteers).

The running costs of the Moel Famau toilets, excluding water and electricity averaged £7,356 over four years.

Congestion, parking and driving

- No local survey respondents considered vehicle congestion at Moel Famau to be an issue compared to other natural areas, but 8.3% of visitors from outside the area thought it was much worse.
- Parking on the roadside – whether to meet up with other members of the rambling group they come with, or to avoid parking charges, is an issue. It can, however, have a traffic calming effect.
- However, those who are not paying represent lost revenue for the AONB which uses the income to fund the rangers at the site.

Moel Famau benefits from around 900 volunteer hours a year – the equivalent of around 0.5 full time workers. They assist with heather management, erosion work, car park management, fencing, gates, building walls and other work. Most are local (from Mold,

Ruthin and Buckley, for example) although some come from further afield, such as Prestatyn and Preston, having a strong attachment to the area. Many are retired; others include university students, especially those studying a relevant subject. These volunteer workers could be considered to save around £7,047 compared with the notional cost of a wage of £7.83 per hour.²²

The main environmental impacts observed by local people and those involved in managing the site are:

Litter

- This is an issue at the site itself as well along the roadside on the access roads. Although local survey respondents did not consider the problem to be any worse than in other comparable areas, 13.3% of visitors from elsewhere thought it was much worse. In a typical year, the rangers collect 5 tonnes of litter – all from the ground – not including the broken plastic sledges left after the snow.
- Local volunteers also collect rubbish, for example as they go around delivering the monthly community magazine.

Dog waste

- More than half of the visitors to Moel Famau have a dog with them, and many have more than one. In one 1.5 hour period in summer 2018, 100 dogs were counted arriving at the site. The site has two dog-waste bins: one in the car park and another along the path towards the summit, some 200 metres from the car park. However, there remains a significant amount of deposited dog waste, particularly at around the 400 metre point from the car park.
- As well as being unpleasant and unsightly for walkers using the path, uncleared dog waste also presents a hazard to livestock. A second bin has been installed along the pathway, which has alleviated the problem to some extent but has by no means resolved it.
- Disposal of the dog waste from the bins also represents a cost to the AONB in terms of staff time and the resources required to collect it.
- In 2018 an estimated total of 3.7 tonnes of dog waste was collected from the bins at Moel Famau.

²² This is a rough estimate based on the National Minimum Wage in 2018 for those aged 25 and over.



Erosion

- The rising number of visitors is contributing to damage to the natural landscape, as demonstrated by damage to the heather, and a gradual widening of the main path to the summit by an estimated 2 metres. The path is the busiest footpath in Denbighshire, since the Jubilee Tower at the summit is a honeypot in its own right, as well as being part of the Offa's Dyke National Trail.
- The ranger team and others, with assistance from NRW, carry out grass reseeding and baling of heather to regenerate it, as well as resurfacing work to the main footpath. This costs between £1,000 and £5,000 every year, assisted by funding from the Offa's Dyke National Trail.
- Mountain biking has also caused erosion in some parts of the site, particularly north of the Jubilee Tower.
- The roadside parking referred to in the section above also causes damage to the banks and affects water run off to nearby housing, as well as looking 'battered and uncared for'.

Damage to livestock

- In common with other areas of North Wales, there have been problems with dogs being let off leads and worrying or even killing sheep, with six sheep known to have been lost in 2017 and another estimated 30 incidences of worrying. This was the subject of a recent campaign by the AONB, using hard-hitting images along the path to seek to change the behaviour of dog owners, resulting in an increase in people keeping their dogs on the lead; in 2018 two sheep were killed. Each year approximately two sheep are knocked down by cars. There is also a concern about the black grouse population at two areas of the site being threatened by dogs running off the lead.
- On other occasions problems are caused by visitors leaving 'self-close' gates propped open (e.g. to enable the rest of their group to pass through quickly on mountain bikes). This enables livestock to escape, causing issues for the farmer as well as environmental damage – for example the sheep will eat saplings in the forest.
- There is a feeling that visitors see the site only as a place for walking and other activities, without appreciating the long-standing use of the landscape for farming; as well as the value that farming offers to their experience in terms of managing the mountain landscape and adding to its aesthetic.

Snow

- Snow causes issues at both Moel Famau and Loggerheads. For safety reasons the car parks are closed but if people have travelled a distance to get to the sites (some from Merseyside and other similar distances) they are not easily deterred.
- Cars are parked dangerously along the main A-roads, plastic sledges are broken or left in the fields; walls and gates are damaged by sliding vehicles.

- Paying a contractor to open the car parks in the snow costs the AONB some £500 per day, as well as a similar amount in lost car park revenue. It also creates additional costs in terms of the staff and other resources required to deal with the impacts created by visitors using the sites on those days.

5.2.4 Monetising the environmental value

Although it is highly likely that the value of having a clean and non-eroded natural environment in the AONB overlaps with the wellbeing benefit gained by visitors to the area, it is difficult to say by how much the two sources of value overlap. For the purposes of this study, the two are treated as distinct. Drawing on definitions used in welfare economics, the wellbeing benefit that a visitor derives from the AONB is assumed to represent the *use value* of the area, while the value of keeping the AONB in pristine condition is assumed to represent its *non-use value*.

Fields in Trust (2018),²³ using a willingness-to-pay survey of UK residents, found that people were willing to pay £2.60 per month on average to a hypothetical non-profit organisation in order to preserve and maintain all parks and green spaces in their local authority area. This translates to £31.20 per person per annum, and is a good approximation of the non-use value of the natural areas within an area comparable in size to the AONB. This is a conservative estimate of the value of the AONB's pristine environment, as the AONB area is more scenic than the average UK local authority and would therefore be expected to attract a higher willingness-to-pay valuation.

When this valuation is applied to the estimated total number of annual visitors to the six sites analysed in this report (1.13 million), the total value to visitors of preserving the natural environment is an estimated £35.4 million per annum.

²³ Fields in Trust. (2018). *Revaluing Parks and Green Spaces: Measuring their economic and wellbeing value to individuals*. Available at: <http://www.fieldsintrust.org/Upload/file/research/Revaluing-Parks-and-Green-Spaces-Report.pdf> [accessed 16/01/2019]



6. Recommendations and Action Plan

6.1 Overarching principles

The research carried out for this project supports, in many respects, what the AONB has done in the past, and recognises the value of the resource invested in strategic planning during the past 15 years. We have set out a number of themed recommendations, for the AONB as a whole and for each individual site. All are guided by the principles below:

6.1.1 Long term sustainability

While funding may be useful and necessary in implementing these recommendations, it is important to ensure that any initiatives developed as an outcome of this work are designed to be sustainable in the long term, beyond any initial period of funding.

Our recommendations are therefore underpinned by a number of key principles or understandings, recognising that:

- The primary focus of the AONB is to manage the sites in a way that protects the environment and enhances natural beauty. This project arises from the ‘tensions’ that result from endeavouring to meet these two requirements – balancing increased social and economic value against the environmental issues that result.
- The AONB also has a formal remit to comply with national legislation, which prioritises the wellbeing of communities and individuals in Wales. In particular, the Wellbeing of Future Generations Act 2015 creates an obligation to consider all aspects of wellbeing – social, economic, environmental and cultural.
- These issues are not unique to this area, and learning derived from similar areas in UK and elsewhere can contribute to achieving a balance.
- Many EU/WAG-funded projects that have taken place in the area over the past 10-12 years have worked towards solving some of the long-term issues identified in this study. Funded projects such as various community bus services in the area, The Pub is the Hub scheme, and various community engagement schemes – such as ‘Bus Stop’ and ‘Out and About’ – provide valuable experience of what does and does not work in the area. It is important that learning produced by these projects is not lost.
- Creating more tourism facilities at our six sites may further increase visitor numbers, which may be problematic in some cases. There is evidence that some of the sites are victims of their own success. Is it possible to improve the situation at these sites, or can they be seen as well-managed ‘sacrifice’ areas, which maintain the natural beauty of other places in the area?
- It is important to work with RDP bodies for all three local authorities – particularly Wrexham/ the Trevor Basin Masterplan, Denbighshire/OPL in relation to the WHS – and local initiatives such as Llangollen 2020 and the Ruthin Masterplan.

- A large number of community consultations have taken place in recent years. Is there community fatigue with these (particularly at Trevor Basin)? Now is the time to show progress and communicate headway to all stakeholders.
- In times of restricted local authority funding, resources for dealing with mental health are increasing.

6.1.2 Thinking about best practice

It is important to point out that there is a great deal in the past and present management of these sites by the AONB that represents good practice. The visitor survey showed that the area is highly valued, both by local people, who understand the social and wellbeing benefits of living in an AONB, who generally recognise the need to protect and conserve the landscape, and are proud that people want to visit the area as tourists; and also by the tourists themselves. Both groups feel generally that the sites are well managed and enjoyable to visit, although there are specific issues relating to individual sites which have been explored in Chapter 5.

Businesses in the visitor economy also showed positive attitudes to the area, many with optimism for the future and plans to expand. The perceived economic value to the business sector varied from site to site, as did the indices calculated to show each site's actual economic value. There is also a perception that towns in the surrounding areas (the 'gateway' towns) do not benefit from the growing visitor numbers, and this is borne out to some extent by the analysis. Llangollen has clear dominance in this respect.

On the other hand, local stakeholders identified a number of specific issues, particularly with regard to relationships with local communities and the sites, which highlighted the ongoing economic, social and environmental issues described in Section 5. There is also the issue of those outside the scope of this study – the 'non-users' of the sites who are also members of the local community, who do not currently access the sites.

The recommendations for two of the sites include the formation of a local business group to provide a coherent approach to site development or management, that helps to anchor and spread the economic benefits of large numbers of visitors. It is important that any such group is supported in becoming outward-looking and sustainable. Evidence from other groups (Llangollen, Ruthin, Wrexham) suggests that it is important that such groups have great leadership – either as an individual or a team of leaders. Identifying such leaders and 'champions' is therefore a vital component of any action designed to form such a group.

Business support schemes such as Denbighshire's #LoveLiveLocal are of vital importance in encouraging local residents to support local businesses, and thereby improve business sustainability. There was also recognition among businesses and business groups of the importance to the area of the North East Wales brand. Can the North East Wales



Ambassador Scheme be further supported to ensure sustainability? Could it link with local business groups?

This study explored a number of comparable issues in other areas, and many of these are listed in the specific recommendations below. However, we found that several projects had parallel themes, which can be considered as part of our overview.

6.1.3 What can we learn from?

The following case studies highlight key points of learning:

The Loop Head project²⁴

- This project emphasises the need to take control of the story of our destination: this is also an objective of the ‘Our Picturesque Landscape’ project in the Dee Valley. Although the AONB as a destination is not directly comparable to Loop Head, being bigger geographically and with more than one centre, the principle of how the destination is represented and promoted in a way that ‘sits well’ with local residents is an important one. We explore this further below.
- Tourism itself is not the goal – it is a tool we can use to build a sustainable community: an important message supported by our business survey and fundamental to our recommendations.
- The importance of networking and collaboration: working together instead of seeing other businesses as rivals and ‘the competition’. This approach is working well through some groups that are working with small tourism businesses and food and drink producers; less so with some of the more ‘visitor economy’ focused groups, especially at the Trevor Basin and Llangollen.
- Promoting local sourcing reduces economic leakage. Build on this by continuing to focus on the quality and value of local food as part of the tourism offer. ‘It’s what people expect’.

As we have seen, there is certainly a perception in the ‘gateway’ towns that other places are benefitting at their expense, and this is probably true in the case of Llangollen (especially in relation to Corwen and Chirk). How can this danger be avoided as the Masterplan and OPL produce a greater focus on the Dee Valley and Llangollen in particular?

As presented by the Loop Head project, this suggests that there is a need to change:

²⁴ <https://www.loophead.ie>

- The **model** – from marketing-led to community-led.
- The **metrics** – recognise that large numbers of visitors are not a guarantee that the local community will benefit. Measure what matters locally.
- The **marketing** – change how tourism is sold – communities should decide the story, who is told, and who tells it.

The Loop Head Project embodies a less disparate community than the AONB, and this needs to be borne in mind when seeking to develop on this model. The ‘communities’ of the AONB are many and varied, and various suggestions are made below as to how this can be built into future planning. However, the key principles of consultation and participation embodied in the Loop Head scheme are central to many of the recommendations we make below.

Offa's Country Project

Clwydian Range AONB was involved in the sustainable tourism plan, ‘Walking with Offa’ from 2010 to 2012, which included collaboration around the Offa’s Dyke National Trail, with Wye Valley and Shropshire Hills AONBs. The National Trail is a key attraction for the area, linking several of the six sites. It passes through the WHS, Panorama and Moel Famau, has identifiable spinoff benefits in the local economy, yet it does not appear to contribute to overcrowding or congestion at the sites. It is not clear whether there was any follow-up to the sustainable tourism plan or whether this was an example of a good collaboration that could not be sustained, perhaps due to lack of funding.

Other AONBs

Although reports are not directly comparable in terms of date and questions asked, many of our key indicators (source of visitors, local/outside balance of visitors, levels of spend) are in line with figures given in recent visitor surveys for these other AONBs.

- Wye Valley AONB (which has similar issues of managing the AONB across local authority areas, and similar issues around honeypot sites such as Symonds Yat).
- Shropshire Hills AONB (which has similar visitor profiles and issues, though fewer problems of honeypots. Why is this?)

Issue-specific sites

- **Skye Connect:** Networking of local businesses to spread positive PR messages and economic benefits, and encourage visitors to move away from honeypot sites to mitigate the well-publicised effects of over-tourism <https://www.skye-connect.com/>
- **CoaST:** Membership-based organisation with nearly 3600 members, focused on business sustainability in Cornwall. Membership covers a wide range of ‘tourism’ and ‘non-tourism’ businesses and promotes ideas, events, networking and sharing business success and interest stories throughout Cornwall. The website covers a wide

range of issues relating to sustainability in its widest sense.

<https://www.coastproject.co.uk/>

- **Surrey Hills AONB:** Dealing with complex honeypot issues with associated environmental and social factors, support for enterprise ('Love Local'); promoting access to the AONB using public transport; charitable Community Foundation to fund local community groups.

<https://www.surreyhills.org/wp-content/uploads/2018/05/Surrey-Hills-Members-Brochure-v12-3.pdf>

<https://www.surreyhills.org/trust-fund/about-the-community-foundation-for-surrey/>

- **Fancy Free Walks** A user-generated site for walkers, highlighting circular walks starting from smaller (free) car parks, and focusing on local food and drink; offers attractions en route.

<http://fancyfreewalks.org/>

- **Landscapes for Life:** Focuses particularly on projects in other AONBs relating to mental health and community wellbeing.

<http://www.landscapesforlife.org.uk/resource/people-enjoying-nature-pen-pilot-project/>

6.2 Suggestions for further research

There are a number of questions that would benefit from further research, which proved beyond the scope of this project in terms of timing and feasibility.

- The visitor survey showed that very few visitors surveyed thought the sites were overcrowded. Can we define 'overcrowding' for each of the sites? There was no overcrowding on any of the days we conducted our survey, even in peak season. What are the specific factors driving overcrowding at each of the sites? For example:
 - Fine weather in school holidays (Llantysilio/ Panorama/Loggerheads).
 - Snow days in winter (Loggerheads, Moel Famau).
- Despite the presence of a number of different types of events within the AONB, the Denbighshire Events Strategy says very little about how these are to be promoted and managed. There would be scope for specific research on different groups of event attendees, for example:
- Moel Famau 'challenge' events: Who attends? Do they stay overnight? If so where? Do they travel alone or in family or groups to these events? What other activities/opportunities might they be looking for during their stay?



- Llangollen Pavilion events such as the Eisteddfod and the Food Festival. Both these (and other smaller events) attract a considerable number of visitors to the area. Visitor profiling would provide useful data.
- The business survey highlighted the difficulty of getting ‘ad hoc’ information from businesses. The regular contact with businesses through Tourism Fora encourages sharing information. Would it be possible to initiate an annual survey to collect ongoing business data?

6.3 Recommendations: AONB-Wide

Management and communication

- Update AONB websites to encourage public understanding of its work. For example, Local Access Forum, AONB Management and AONB Joint Advisory Committee do not have postings of recent meetings and plans.
- Focus on customer communications and messaging through the AONB website and other channels, including social media, to encourage visitors to explore beyond the honey pot sites. For example:
 - On the AONB website, include the gateway towns as well as Llangollen and Corwen under ‘Towns’.
 - Offer support and input into the iBeacon app (funded by Cadwyn Clwyd, and currently in place in Chirk and Mold) with a particular focus on promoting the app through visitor-oriented websites in each location. These could also be linked through the AONB website under the ‘visiting’ tab.
 - Consider a different approach to how the AONB is marketed. One of the objectives of the Denbighshire Destination Management Plan is to ‘promote lesser known attractions and hidden gems to relieve pressure on honeypot sites’. Could an AONB site-specific strategy be based on this aim? Focus on experiences in the AONB as a whole; instead of iconic sites, emphasise the appeal of quiet walks, capturing the moment. This video provides a good example: <https://www.buamarketing.ie/strandhillmoments-video/>
 - Ensure consistency of approach across all AONB and associated staff, including those ‘on the ground’ in management, in customer-facing roles and in communications and marketing. In particular ensure that the challenges of managing the sites on a day-to-day basis are understood and considered by all. For example, this will impact on:
 - Customer messaging. For example, although ‘snow days’ present significant challenges for site managers, perhaps the website is

unintentionally promoting them:

<http://www.clwydianrangeanddeevalleyaonb.org.uk/loggerheads-country-park/>

- Training: include content in training for AONB and other site-based staff to encourage them to recommend places for visitors to go after their visit to the ‘honeypot’ sites, places to eat / stop for a drink on the way home and so on.

Increase engagement with local stakeholders

- Establish stakeholder groups for (at least) four of the sites – Loggerheads, Moel Famau, Llantysilio and Panorama. Each could meet approximately twice a year, before and after the main tourist season. We suggest that the membership should be small and focused, bringing together those responsible for managing the site and those with an interest in it, such as community council and resident representatives. The purpose of the group would be to provide a forum in which to air any concerns and discuss practical issues, and to jointly decide upon and implement solutions, as well as evaluate the success of actions taken. This would help ensure that AONB and other resources are focused on the issues that are of most concern. Ideally the meeting could be timed to take place after local community council meetings, so that any issues raised there could be passed on. Articles could also be contributed to local newsletters and magazines to promote further community engagement.
- Through these groups, explore links with education institutions (schools and colleges) to increase economic sustainability of group members through on-the-job training and qualification opportunities, to increase skill levels and encourage staff retention. There is evidence that this works where it is done. (See the CoaST example above).

Support and coordination of local groups

- Work with and coordinate the work of the Clwydian Range Tourism Group and other tourism groups in the area. Build on the outcomes of the ‘Stay Eat Do’ project including linking into packages and creating itineraries, with the inclusion of gateway towns. Itineraries could be themed e.g. industrial, waterways, hidden gems, food etc.
- Continue to support and publicise Clwydian Range Food Group and Dee Valley Good Grub Club and their initiatives, so they become a recognised part of the tourism and local landscape. Focus on further expanding awareness of group members to potential customers (e.g. Kingswood Colomendy). Look at bringing in local shops to the ‘story’ (e.g. Cilcain, Pwllglas), perhaps through a closer link with Denbighshire CC Business Support campaign #LoveLiveLocal.

- Support and encourage specific efforts at collaboration within these groups. Some examples from Loop Head include: The Bootleggers Ball (a fundraising event, where all chefs cook in one restaurant for the evening); a system whereby restaurants in Kilkee rotate their days off on marginal days, which reduces staff costs and competition for business.

Support business opportunities and product development

- Explore opportunities for more mobile ‘pop up’ food offerings (like Moel Famau Shepherd’s Hut). This would require start-up funding and training on a suitable business model to ensure sustainability.
- Explore opportunities to support non-food business initiatives (see CoaST/ Skye Connect for examples of wider networking in the visitor economy, and the use of technology to enhance these networks).
- Consider a branded loyalty and discount scheme e.g. an AONB-wide card, or code on reverse of parking tickets, to be used at local businesses (Example: New Forest card) or local passport (Example: Ironbridge WHS). The business model for this needs to be carefully researched and supported, as the Wrexham card lost a number of members when it became a membership scheme. Focus on encouraging repeat visits and the discovery of new places ‘next time’. Work with engaged businesses first (ideally through existing tourism and food groups) to demonstrate the benefit.
- Develop a programme of circular walks leaflet or website, with walks starting in village centres or quiet car parks or pub car parks. (See www.fancyfreewalks.co.uk, which has many examples of Pub Walks, including a focus on pubs that welcome walkers). The ‘Fancy Free’ brand is a quietly phenomenal and inexpensive success, with a huge variety of different types of walks for different categories of walker – consider liaising with them to develop a North Wales model; or develop something similar with its own brand.
- Market specific themes, for example: ‘Stay for the day’ (rather than just passing through); ‘hidden’ opportunities for different experiences (such as, packages with glamping (e.g. in Corwen) or multi-activity golf breaks); ‘Where next?’ to encourage visitors to think about returning and visiting another site next time. Also with clusters and packages being developed by the Clwydian Range Tourism Group ‘Stay, Eat, Do’ project; and focus marketing on experiences rather than on specific / honeypot sites.
- Greater events strategy focus: a twofold approach:
 1. Spread the benefits of existing events (such as the Moel Famau challenges or Llangollen Pavilion events) by promoting closer links with accommodation and activities in other centres (Corwen, Ruthin).



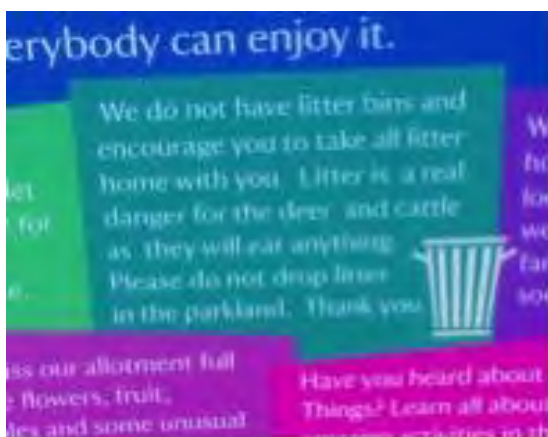
2. Promote events and other attractors that are further away from the honeypots. For example, analysis of the Mythfest event showed that 30% of attendees stayed on in the area overnight.

Infrastructure

- Produce an audit of car parking spaces in the area, including existing public car parks, but also looking for spaces that are under-used at certain times, such as pubs with large car parks (as an added incentive for business), industrial estates at the weekends, sports facilities and otherwise vacant and unused land – to mitigate parking issues. Explore whether and how some of these could be developed into usable (seasonal) parking space for visitors, and consider what steps are needed to enable this (such as negotiation with pub landlords or farmers). See also site-specific issues below.
- In paid-for car parks, use messaging on signs to explain that revenue from the car park funds the ranger service, and generally contributes to making the experience better for the visitor (or what the revenue received this year has paid for). This approach was taken by Surrey Hills AONB at Newlands Corner car park. Emphasise that whilst there is a charge for the car park, access to the site is free (as done at Blaenavon WHS Big Pit).
- Encourage reduced car use: a slightly different strategy may be required at each site, but there may be some common themes. For example: explore cycle hire options at Chirk and Ruabon stations, or at Trevor Basin car park; consider customer pickup by Llangollen activity providers at Trevor Basin for transfer to Llangollen or Llantysilio (providing an option to have a long-term parking permit included in the cost of day/weekend); revisit the Park and Ride bus from Mold, or try one from Ruthin (linked to the events policy); consider trialling sustainable models for shuttle or circular bus routes – see also site-specific suggestions.

Reducing environmental impacts

- Consider behavioural approaches to environmental problems. For example, in relation to messaging in litter strategy: explain to visitors why you don't have bins and why it is important to take litter home.



Example from National Trust (Dyrham Park, Gloucestershire)

- Dog control issue: create specific off-lead areas²⁵; in other places continue to replicate the dog-owner engagement project that saw success in Moel Famau. Focus on explaining why people are being asked to change their behaviour and engage them in the solution. Continue engaging with dog walkers to promote responsible and informed conduct through information, face to face interaction and signage²⁶.
- Dog waste strategy: Explore any more environmentally-friendly (and ranger-friendly) methods for disposal of dog waste, instead of collecting and carrying. For example, some innovative dog waste-to-energy options have been explored elsewhere (such as, to power lighting):
<https://www.theguardian.com/environment/2018/jan/01/stools-to-fuels-street-lamp-runs-on-dog-poo-bio-energy-waste->
<http://www.streetkleen.co.uk/poopy-power.html>
<https://www.walesonline.co.uk/news/wales-news/streetkleen-hopes-use-dog-faeces-3866265>
http://www.pacshell.org/pdf/PSI_TCCD_FeasibilityStudy.pdf

²⁵ For example: <https://www.northyorkmoors.org.uk/visiting/enjoy-outdoors/walking/walking-with-dogs>

²⁶ For example: <https://www.visit-eastern-moors.org.uk/plan-your-visit/take-the-lead-in-the-peak-district/> and <https://www.southdowns.gov.uk/wp-content/uploads/2019/01/SDNPA-HeRe-Evaluating-dog-walking-behaviour-change-Baseline-Report-Final-11-12-18.pdf>



6.4 Site-specific recommendations

6.4.1 Chirk Aqueduct

Management and communication

- The town of Chirk has a very low profile in the area. OPL has a number of suggestions for improved access and interpretation at the WHS site, but the town of Chirk itself does not feature specifically in the plans (although Oswestry and Ellesmere, outside the area, are identified as ‘gateways’ for the OPL area). Lion Quays currently promotes Llangollen and Pontcysyllte on its website as places to visit locally, though says nothing about Chirk. Ensure Chirk is featured and suggested as a place to visit in all AONB and other relevant communications about the area.

Support and coordination of local groups

- There is a clear opportunity for a local business group that would co-ordinate promotion of the town. Improved signage and information (including a website produced by and for Chirk) should encourage people to explore the town. Look at the Chirk and Ceiriog Valley Partnership – ‘a voluntary group of local and tourism-focused businesses committed to protecting and enhancing the visitor experience in Chirk and the Ceiriog Valley’. This group has produced a basic website, leaflet and app, which could form the basis of a more formal (and better funded) business group.

Infrastructure

- OPL has provision for a shuttle bus service for the Aqueduct – could this be linked to the town centre and Chirk station at peak times?
- Develop a parking and traffic management strategy in a way that will avoid congestion; spread traffic around and encourage people to park in places where they will be encouraged to explore the site and the town. Ideally, create lots of small car parks rather than one big one. Explore potential sites and parking options, such as current industrial land, or land owned by Kronospan or Mondelez. Work with businesses that have parking and canal towpath access, to explore options to use their parking (e.g. TnR, Lion Quays).

Support business opportunities and product development

- Explore ways to develop this part of the WHS in a distinctive way. For example:
 - Promote the tunnel as an attraction and be creative with the use of features such as lighting, music, projection and audio.

- Create different vantage points for viewing the aqueduct, such as via marked trails and circular walks, or consider adventurous options such as a tree-top walk.
 - Create trails for children and families, including some leading into the town to sites of interest and businesses such as the Teddy Bear café.
 - Develop and promote Chirk’s industrial heritage story. Could this link with the OPL project?
 - Offer guided tours – creating a potential opportunity for local business.
 - Encourage people to use Glyn Wylfa as a hub, rather than simply parking there. Consider introducing a charge for the car park, that includes a discount at the café.
 - Create circular walks based in the town (as it has a reasonable sized public car park) that incorporate the Aqueduct site.
- Promote Chirk at Trevor Basin: encourage walkers and cyclists in particular to explore the length of the WHS. Interpretation and information should include information on what is available beyond the site in Chirk as well as other businesses along the route.
 - Investigate the feasibility of a bike hire scheme, along the WHS – possibly with funding. Ensure that the business plan is designed for long-term sustainability so that the idea can be taken up by a local group or business.
 - Work specifically with local businesses already attracting visitors to the area, to understand what would appeal to their customers, and what could be developed for them in the town. For example, Lion Quays has parking facilities and will soon benefit from the upgraded towpath access to the site; TnR Coaching, Chirk Marina and the Bunkhouse would be other good businesses to connect with.

6.4.2 Loggerheads

Management and communication

- Emphasise the proximity of the local towns and their amenities on the Loggerheads and AONB web pages, as well as other local websites.
- Promote other walking routes and increase the profile of Community Miles. Set visitors a challenge – such as, how many different routes can they do?



Increase engagement with local stakeholders

- Use the Country Park more for education²⁷. It is a fantastic site, which is well run and provides facilities for people of all ages and abilities to enjoy the outdoors. Building on existing links with local schools would also provide opportunities through schools and via families, to suggest other sites for visiting. By those means, the impacts and benefits could be spread more widely.

Support business opportunities and product development

- Work with local business groups to identify suitable products and services to promote through the channels referred to above.

Reducing environmental impacts

- Emphasise the special and fragile character of the site by focusing on the tone of the message and the way the site is presented to visitors²⁸.
- Work with Natural Resources Wales to identify the most important areas to protect; devise a visitor management strategy to communicate why they need protecting; engage users of the site in the process to help them to understand that the area could be even more beautiful if we all looked after it more. Create a focal point away from the current damaged area, in a less fragile part of the site. Start by roping off the most fragile areas and gradually increase these, monitoring visitor responses.
- Promote the ‘dogs on leads’ message more strongly, especially in the tea gardens area, as well as promoting the available ‘dogs off leads’ walks.

6.4.3 Moel Famau

Support business opportunities and product development

- Explore ways to spread the benefits of events by linking ‘challenge’ events on the hill with local businesses: promoting places to stay, eat, celebrate, buy gifts and so on. Event participants could be encouraged to bring a bigger group, make a ‘family day’

²⁷ For example, see resources developed by North York Moors National Park:

<https://www.northyorkmoors.org.uk/about-us/school-and-group-visits/schools-and-colleges/key-stage-3/resources/conflicts-and-problems/Conflict-problems-solutions-2.pdf>

²⁸ This also applies to other sites, in particular Panorama and Moel Famau. An example is the approach taken in the Chilterns AONB:

https://www.chilternsaonb.org/uploads/files/ConservationBoard/ManagementPlan/Management%20Plan%202014-19/chilterns_management_plan_2014-19_final.pdf

or weekend of it. These events are regular and frequent and should be part of the Denbighshire events strategy plan, but at present they do not even feature in the strategy document. Link with Denbigh and Ruthin as places to visit as part of these events.

- Consider the interpretation at the viewpoint at the bottom of the path – highlight Ruthin, Denbigh and other places, create interest so that people want to go and visit. Interpretation should feature the Vale of Clwyd as a whole.
- Continue to explore the possibility of a ‘joint’ car park ticket with Ruthin, so that visitors are encouraged to visit the town, either on this or a subsequent visit.
- See AONB-wide suggestions for developing business networks of suppliers and customers with the aim of supporting year-round sustainability.

Infrastructure

- Promote annual parking passes among local people and regular visitors, such as repeat visitors to the caravan park. It could be that reducing the cost of parking for locals would encourage the use of paid parking and lead to a reduction in roadside free parking.

Reducing environmental impacts

- Focus on behaviour change strategies: for example, by encouraging ramblers’ groups to pay and park responsibly, or to engage with the site more in a practical or financial way²⁹; walkers to keep to the trail; dog owners to understand the reasons why they need to keep their pet on a lead; mountain bikers to avoid eroding the landscape. Focus on engaging and educating visitors about the agricultural nature and heritage of the site, a place where people’s livelihoods depend on the considerate use of the countryside by all.
- Continue to work on creating a dog-friendly route, such as one where people can let their dogs off the lead through the forest and then put them back on the lead when they come out.
- The snow days issue is difficult to manage – most locals and businesses said it causes huge problems (damage and congestion) with no benefits. Other than closing the road to Moel Famau, which would cause a new set of problems, there are no really obvious practical solutions to this challenge.

²⁹ For example: <https://www.crowdfunder.co.uk/mendourmountains>



6.4.4 Panorama

Increase engagement with local stakeholders

- Work with activity companies who derive economic benefit from use of the site for rock climbing and therefore have responsibility for it. Explore the feasibility of user permits and a code of conduct. Stakeholder buy-in will be essential to making this work effectively.
- Set up a group of activity providers and work with Dee Valley Active to get people involved in helping out in practical ways at the site – for example with ‘balsam bash’ days, cutting back the gorse on the crags and so on.

Support business opportunities and product development

- The Prospect Garden Tea Rooms is a strong attractor for older visitors to Panorama as well for as passing cyclists and walkers. It has always been well-signposted, both from the Panorama and the main road below. Explore whether there is scope to replace it when the owner retires with another ‘tea room with a view’, or a mobile or ‘pop up’ tea outlet with parking space and disabled access, when it is closed.

Infrastructure

- Explore options for addressing the parking issues, including the ‘natural’ marking out of parking ‘spaces’ in existing areas and the identification of other available spaces in less fragile areas.
- Promote the idea of walking up from Llangollen instead of driving – making the walk part of the experience, with informative signage.

Reducing environmental impacts

- Promote the area’s conservation status, by getting people involved in understanding importance of protecting the landscape. (Examples from other areas include Chiltern Rangers in Chilterns AONB: <https://chilternrangers.co.uk/> and Lincolnshire Wolds AONB Meadow network: <http://www.landscapesforlife.org.uk/resource/life-on-the-verge-meadow-network/>.)
- Work with local schools, youth and community groups to provide volunteers for environmental work, to increase the perceived value of the site to local people as a place to cherish and protect. Explore ideas for activity days and education about anti-social behaviour and litter.



- Work on promoting behaviour change, for example by encouraging mountain bikers and walkers to stay on the footpaths³⁰.

6.4.5 Pontcysyllte Aqueduct and Trevor Basin

Formal details of the Masterplan are not currently publicly available, but we would suggest that spreading the economic benefits from any development must include provision for the activities outlined below:

Management and communication

- Continue to promote the whole length of the WHS, including places to stop off along the way.

Increase engagement with local stakeholders

- Work on ensuring effective community participation and focus on generating benefits for local residents, such as events space, skills development, employment and entrepreneurial opportunities.

Support and coordination of local groups

- Provide support for businesses and the variety of community groups in Trevor, Acrefair and Cefn Mawr, ensuring that these businesses are serving the local community as well as the visitor economy (Wrexham council/AONB).

Support business opportunities and product development

- Work with businesses to help them to identify and capitalise on the opportunities afforded by WHS inscription. Facilitate collaboration between businesses, as well as opportunities for businesses to meet the individuals and organisations involved in developing the site.
- Encourage businesses at the site to work together more, to produce a community feel and coherent identity for the Basin, and to identify new business opportunities to sell local products in high season.
- Improve the offering at the site, to appeal to a wider variety of markets, including families. Encourage those who can visit mid-week or out of season to do so, through reduced pricing, events and so on. Work with coach companies to identify the factors that inhibit them spending more time in the Basin and with local businesses.

³⁰ For example: http://www.dartmoor.gov.uk/__data/assets/pdf_file/0009/814482/lab-erosion.pdf



- Produce maps with suggested circular walks, starting in the car park, that enable visitors to see the aqueduct from a different perspective. Develop attractive trails – for example by improving the paths either side of the aqueduct and making them easy to identify. Provide signage, to point out routes to local communities such as Cefn Mawr and Froncysyllte, with an estimate of walking distances. Create paths that avoid visitors needing to walk along the road.
- Liaise with Wrexham CBC in terms of rural planning strategy, to encourage the development of better accommodation that will encourage people to stay in the area and spend money.

Infrastructure

- The aqueduct site has something that is in short supply in the Dee Valley – parking space (and scope for more). There are a number of options for better use of the large new car park (or its replacement if the current one is temporary), including developing better linkages with the rest of the WHS, Chirk and Llangollen. For example:
 - A shuttle bus to Llangollen and other parts of the WHS would encourage a day trip to the whole site rather than just a flying visit to the aqueduct. (In St Ives, Cornwall for example, an out-of-town station is used as major visitor car park. Shropshire has the Shropshire Hills Shuttle, with services that support and promote it: <http://www.shropshirehillsaonb.co.uk/enjoying-the-shropshire-hills/shuttles/long-mynd-stiperstones/>.)
 - Explore whether a shuttle bus scheme could tie in with the Llangollen 2020 project (it is also mentioned as an OPL project).
 - Cycle docking for bike hire.
 - Starting point for walks (advertised widely on different user group websites, such as exists for the one starting at Llantysilio).
 - Enhanced toilet facilities.
 - Address the issues of parking signage and work with the relevant authority to explore the possibility of residents-only parking in the surrounding streets.
 - Ensure that the Masterplan builds in ‘future-proofed’ infrastructure for increasing numbers of visitors and users of canal itself.

Reducing environmental impacts

- Work with or set up an activity providers group, to develop ways of working together to enhance the site and resolve any issues of user conflict; for example, through a code of conduct.



6.4.6 Horseshoe Falls and Llantysilio Green

Support business opportunities and product development

- Investigate the feasibility of a mobile refreshment outlet in the car park or field with revenue from the pitch rental going towards services such as litter management or increased ranger presence, to manage negative visitor behaviour.

Infrastructure

- Pursue landscaping and redesign of the car park to best suit all user groups, including consideration of a filter lane for vans and trailers to drop off customers and rafts, as well as a separate entrance and exit.
- Consider having short-stay parking only at Llantysilio in summer months, with an alternative long-stay car park for walkers or all-day water sports users.
- Investigate the possibility of parking at Llangollen Pavilion as well as enabling access to the canal at that point, together with signage, and walking and paddling times for Llangollen and Horseshoe Falls.
- Investigate the feasibility of an alternative ingress point to the river for individuals and groups of water sports users, with separate parking or drop off point, and basic changing facilities. This would involve careful consultation with user groups, including others potentially affected, such as anglers.
- Re-trial a circular bus route if funding is available, charging a modest fare from the outset, to ensure longer-term sustainability and the possibility of a private business taking it on.

Reducing environmental impacts

- Set up and work with activity providers' groups to work together to enhance and care for the site, possibly backed by a code of conduct. Explore options for a joint fund to benefit the site: for example, funding for a warden.
- Work on signage at the site, to include positive messaging to promote responsible behaviour by visitors.



7. Action Plan

	Recommendations	Actions	Timeframe	Key stakeholders
			<i>Short – end 2019</i> <i>Medium – mid 2021</i> <i>Long – mid 2024</i>	<i>In addition to AONB lead</i>
AONB-wide	Management and communication	Update AONB websites to encourage public understanding of its work	Medium	AONB communications
		Focus on customer communications and messaging through the AONB website and other channels, including social media, encouraging visitors to explore beyond the honey pot sites: - Inclusion of gateway towns - Support and input into iBeacon app - Re-think marketing approach to emphasise experiences rather than iconic / honeypot sites	Short to medium	AONB staff dealing with communications; Cadwyn Clwyd; town managers; those involved with iBeacon for relevant locations; marketing staff
		Ensure consistency of approach across all AONB and associated staff, including understanding of management challenges: - Customer messaging - Training content for AONB and associated staff	Short	AONB training staff
	Increase engagement with local stakeholders	Establish stakeholder groups for (at least) Loggerheads, Moel Famau, Llantysilio and Panorama	Short	Key stakeholders for each site, representing: Residents; site managers; community council(s); user groups
Explore links with educational institutions		Medium	AONB managers, educational institution contacts; Local Education Authorities	



	Support and coordination of local groups	Work with Clwydian Range Tourism Group and others; build on ‘Stay, Eat, Do’ outcomes	Short to medium	Tourism group representatives; local authority business support
		Continue to support and publicise Clwydian Range Food Group and Dee Valley Good Grub Club and their initiatives	Short to medium	Food groups representatives
		Support and encourage specific efforts at collaboration through local authority Tourism Fora. In particular explore the collection of business data from members on a regular basis.	Short to medium	Local authority tourism officers and Forum group members
	Support business opportunities and product development	Explore opportunities for support and training for more mobile ‘pop up’ food offerings	Medium to long	AONB staff; individual catering businesses and food suppliers
		Encourage local engagement and support for businesses, e.g. through #LoveLiveLocal.	Medium to long	Local business groups; local authority business support
		Explore opportunities to support (including through training, mentoring, publicity and sharing information) non-food business initiatives, such as cycle hire business or walking tours; guides; tourism support businesses; local crafts; local markets; cultural initiatives or other events.	Medium to long	Local business groups; Denbighshire and Flintshire business support
		Consider a branded loyalty or discount scheme to encourage repeat visits and discovery of new places	Medium	Local authority tourism groups
		Continue to build on Community Miles scheme by developing a wider range of walking opportunities and suggested routes, starting in village centres and / or making use of parking in quieter car parks or pub car parks, as in e.g. Fancy Free walks (www.fancyfreewalks.org)	Medium	AONB staff and individuals involved in organising walking festivals in the area.
		Explore new marketing ‘themes’ designed to encourage ‘passing trade’ visitors to stay longer in the area, spend money and visit different parts of the AONB and surrounding area on a return visit (see examples above)	Medium to long	Regional and local tourism groups; AONB marketing staff
		Develop greater focus on an events strategy, to spread the benefits of existing events and promote events and other attractors away from the honeypots	Medium to long	Local authority tourism officers involved in events strategies; event organisers; local business groups



	Infrastructure	Produce an audit of car parking spaces in the area and explore whether and how some of this could be developed into usable (seasonal) parking space for visitors	Short to medium	AONB managers; local authorities; local businesses with parking facilities
		Car park messaging to inform and engage visitors and motivate payment	Short to medium	Site managers; AONB marketing and communications
		Explore ways to encourage reduced car use: - Cycle hire options - Customer pickup by activity providers - Park and Ride options - Sustainable models for shuttle or circular bus routes	Medium to long	Local authorities; cycle hire businesses; potential funders; OPL
	Reducing environmental impacts	Focus on behavioural approaches to environmental problems, such as litter messaging	Short to medium	Site managers; AONB marketing and communications
		Dog control initiatives: - Off-lead areas - Continue / replicate dog-owner engagement project	Short to medium	Site managers; AONB marketing and communications
		Dog waste: explore environmentally friendly disposal and use options	Medium	Site managers; local authorities
Chirk Aqueduct and Viaduct	Management and communication	Work for the increased promotion of the town of Chirk in visitor communications and information	Medium	WHS; Canal and River Trust; Chirk councillors; local authority; businesses / groups; Chirk and Ceiriog Valley Partnership; iBeacon team
	Support and coordination of local groups	Set up a local business group, building on the work of the Chirk and Ceiriog Valley Partnership	Short to medium	Local businesses; Wrexham CBC business support
	Infrastructure	Explore options for a shuttle bus service through OPL project	Medium	Local authority; potential funders
		Develop a parking and traffic management strategy, planning to avoid congestion, spread traffic around and encourage visitors to explore site and town	Medium to long	Local authority and councillors; businesses with potential parking availability; WHS; Canal and River Trust



	Support business opportunities and product development	Explore ways to develop this part of the WHS in a distinctive way. For example: - Creative promotion of the tunnel as an attraction - Trails for children and families - Develop and promote industrial heritage story - Develop guided tours - Encourage use of Glyn Wylfa - Create circular walks incorporating the town and Aqueduct site	Medium to long	Canal and River Trust; WHS planners and managers; local business groups; tourism groups and bodies
		Promote Chirk at Trevor Basin	Short to medium	WHS, Canal and River Trust
		Investigate feasibility of bike hire scheme along the WHS	Medium	Canal and River Trust; WHS, local businesses; local authority
		Work with local businesses to understand what appeals to their visitors and what could be developed to attract them to the town	Medium to long	Local businesses and local business group
Loggerheads Country Park	Management and communication	Emphasise the proximity of, and amenities in, the local towns, especially Ruthin, on the Loggerheads and AONB web pages, as well as other local websites	Medium	AONB marketing and communications
		Promote other walking routes e.g. increase the profile of Community Miles	Medium	AONB marketing and communications
	Increase engagement with local stakeholders	Use the Country Park more, for education; build on existing links with local schools	Medium	Site managers; school and community group contacts
	Support business opportunities and product development	Work with local business groups to identify suitable products and services to promote	Medium to long	Business groups
		Emphasise the special and fragile character of the site – focus on the tone of customer messaging	Short to medium	AONB marketing and communications; NRW
		Work with Natural Resources Wales to identify the most important areas to protect; devise visitor management strategy accordingly	Medium	NRW



	Reducing environmental impacts	Promote 'dogs on leads' message more strongly as well as the available 'off leads' walks	Short to medium	Site managers; AONB marketing and communications
Moel Famau Country Park	Support business opportunities and product development	Explore ways to spread the benefit of events by linking 'challenge' events on the hill with local businesses. Promote places to stay, eat, celebrate and buy	Medium to long	Event organisers; Denbighshire tourism officers involved in Events strategy; local businesses and groups; AONB marketing and communications
		Enhance interpretation at the viewpoint at the foot of the path to feature the Vale of Clwyd as a whole and highlight Ruthin, Denbigh and other places	Medium	AONB marketing and communications
		Continue to explore the possibility of a 'joint' car park ticket with Ruthin	Medium	Local authority, local businesses
		Develop a business network of suppliers and customers with the aim of supporting year-round sustainability	Medium to long	Local business groups; Denbighshire Business Support
	Infrastructure	Promote annual parking passes among local people and regular visitors	Medium	AONB; local authority
	Reducing environmental impacts	Focus on behaviour-change strategies to engage and educate visitors	Medium to long	NRW; AONB marketing and communications
Continue to work on creating a dog-friendly route		Short to medium	Site managers	
Panorama	Increase engagement with local stakeholders	Work with activity companies to explore the feasibility of user permits and a code of conduct	Medium	Activity companies and groups; landowner(s); rangers
		Set up a group of activity providers and work with Dee Valley Active, to get people involved in helping out with environmental issues in practical ways	Medium	WHS (Buffer Zone); management; activity companies and groups; landowner(s); rangers
	Support business opportunities and product development	Explore potential alternatives to the Prospect Garden Tea Rooms for refreshments, including mobile or pop-up options	Medium	Local authority; local businesses and groups



	Infrastructure	Explore options for addressing parking issues, including the 'natural' marking out of 'spaces' in existing areas and the identification of spaces in less fragile areas	Short to medium	Landowner(s); rangers; local authority; owners of other parking facilities; WHS Management; OPL
		Promote the idea of walking up from Llangollen instead of driving, including informative signage	Medium	Local authority; OPL; WHS
	Reducing environmental impacts	Promote the area's conservation status, by getting people involved in understanding the importance of protecting the landscape	Medium to long	NRW; WHS management; rangers
		Work with local schools, youth and community groups on volunteer environmental work to increase the perceived value of the site	Medium to long	NRW; rangers; school, youth and community groups
		Work on promoting behaviour change among different user groups	Medium to long	NRW; rangers; WHS management; AONB communications
Pontcysyllte Aqueduct and Trevor Basin	Management and communication	Continue to promote the whole length of the WHS, including places to stop off at, along the way	Medium	WHS; OPL
	Increase engagement with local stakeholders	Work on ensuring effective community participation and focus on generating benefits for local residents	Medium	WHS Masterplan team; local authorities
	Support and coordination of local groups	Provide support for businesses and the variety of community groups in Trevor, Acrefair and Cefn Mawr, ensuring they serve local community as well as the visitor economy, to encourage sustainability	Medium	Local businesses; community groups; WHS Masterplan team
	Support business opportunities and	Work with businesses to help them identify and capitalise on opportunities of WHS inscription. Facilitate collaboration between businesses, and opportunities to meet site managers and developers	Medium to long	WHS Masterplan team; local authority; local businesses
		Encourage businesses at the site to work together more, to produce a community feel and coherent identity, and identify new business opportunities	Medium to long	WHS Masterplan team; local businesses
		Improve the offering at the site to appeal to a wider variety of markets, including families and coach companies	Medium to long	WHS Masterplan team; local businesses



	product development	Produce maps with suggested circular walks that starting in the car park, with signage to point out routes to local communities, and to include walking distances	Medium	WHS Masterplan team; OPL; local business group
		Encourage Wrexham CBC to support improved accommodation in the immediate area	Medium to long	Wrexham CBC; accommodation providers
	Infrastructure	Identify ways to optimise use of the large car park, for example: - Shuttle bus service to Llangollen and other parts of the WHS - Cycle docking for bike hire - Starting point for walks - Enhanced toilet facilities	Medium to long	WHS Masterplan team; local authorities; potential funders
		Address the issues of parking signage and explore the possibility of residents-only parking in surrounding streets	Short to medium	WHS Masterplan team; local authorities
		Ensure Masterplan builds in 'future-proofed' infrastructure for increasing the numbers of visitors and canal users	Medium	WHS Masterplan team
	Reducing environmental impacts	Work with activity providers to develop ways of working together to enhance site and resolve any user conflict issues through a code of conduct, for example	Medium	Activity companies and groups; WHS Masterplan team
Horseshoe Falls and Llantysilio Green	Support business opportunities and product development	Investigate the feasibility of a mobile refreshment outlet, with future revenue going towards e.g. litter management or an increased ranger presence	Medium	Local authority, local businesses; Llantysilio Community Council
		Pursue landscaping and redesign of car park, to best suit all user groups	Short to medium	National Trust; local authority; funders; rangers; user groups
		Consider having short-stay parking only at Llantysilio in the summer, with an alternative long-stay car park for walkers and all-day water sports users	Medium	National Trust; local authority; funders; Llantysilio Community Council; rangers; user groups



	Infrastructure	Investigate the possibility of parking at Llangollen Pavilion with access to the canal, with signage; to include walking and paddling times to Llangollen and Horseshoe Falls	Medium to long	Local authority; Llangollen Town Council; user groups
		Investigate the feasibility of an alternative ingress point to the river for water sports users, with separate parking or a drop off point, and basic changing facilities. Ensure consultation with affected user groups	Medium to long	Local authority; Llangollen Town Council; landowner(s); user groups
		Re-trial circular bus route if funding is available, charging a modest fare to ensure longer-term sustainability.	Medium	Local authorities; potential funders; OPL
		Consider a paid-for parking pass for residents	Medium	Local authority; Llangollen Town Council; Llantysilio Community Council
	Reducing environmental impacts	Set up or work with an activity providers' group, to enhance and care for the site. Establish a code of conduct. Explore options for a joint fund to benefit the site	Medium to long	Activity providers and groups; OPL
		Work on signage with positive messaging at the site, to promote responsible behaviour by visitors	Short to medium	Rangers; AONB communications; OPL



8. Appendices

A.1 List of abbreviations used in the study

AONB	Area of Outstanding Natural Beauty
CAV	Chirk Aqueduct and Viaduct
CRT	Canal and River Trust
DCC	Denbighshire County Council
EU	European Union
HFLG	Horseshoe Falls and Llantysilio Green
HLF	Heritage Lottery Fund
LCP	Loggerheads Country Park
MFCP	Moel Famau Country Park
NRW	Natural Resources Wales
OPL	Our Picturesque Landscape
P	Panorama
PATB	Pontcysyllte Aqueduct and Trevor Basin
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest
TBM	Trevor Basin Masterplan
WAG	Welsh Assembly Government
WCBC	Wrexham County Borough Council
WHS	World Heritage Site

A.2 Websites that mention Horseshoe Falls and Llantysilio Green as a place to park

The following websites mention HFLG as a place to park for various activities.

- <https://www.pontcysyllte-aqueduct.co.uk/attraction/horseshoe-falls/>
- <https://canalrivertrust.org.uk/places-to-visit/llangollen-and-the-horseshoe-falls>
- https://www.theaa.com/motoring_advice/hotspots/snow-walk-22.pdf
- <https://www.dailypost.co.uk/whats-on/picnic-spots-north-wales-beach-13192089>
- <https://www.qualitycottages.co.uk/aroundwales/horseshoe-pass-horseshoe-falls-velvet-hill>
- <https://www.geograph.org.uk/photo/2731665>

- <https://www.llangollen-maelor-angling.com/middle-section.html>
- http://www.welshdeepartnershipltd.co.uk/files/bb8d32b9_WDP_Handout_Canoe_Access_Horseshoe_Falls_20140901.pdf
- <https://www.proadventure.co.uk/wordpress/horseshoe-falls-and-velvet-hill/>
- http://powysramblers.org.uk/wp-content/uploads/2016/10/Report_24_Jul_2016.htm
- <https://www.ramblers.org.uk/go-walking/find-a-walk-or-route/walk-detail.aspx?walkID=3897837>

A.3 Estimating and monetising the health benefits for visitors to the AONB

- A large majority of visitors to the AONB stated that they went walking during their visit. Out of 237 survey respondents (in person and online), 80 reported walking less than 2 miles on their most recent visit and 136 reported walking further than 2 miles, with 12 respondents reporting having done both. This means that 86% of respondents (204 people) stated that they had done some walking on their visit to the AONB.
- In 2018, the estimated total number of visitors to the six key AONB sites covered in this study was 1,133,913 (see Section 5.1.4). Applying the percentage of visitors who said they spent time walking during their visit, this suggests that the six key sites received 976,026 walking visitors in 2018.
- In estimating these visitor numbers, it was not possible to measure accurately the overlap between visitors to the six sites: namely, how many visitors to the AONB visited more than one of the six sites at one time. For this reason, the visitor numbers reported above are likely to be an overestimate of the true figure.
- Like other forms of exercise, walking has a number of important health benefits, including reducing the risk of cardiovascular disease and type-2 diabetes. By estimating the extent to which these two categories of risk are reduced and using the typical cost of treating such health conditions, it is possible to put an approximate monetary value on the health benefits associated with walking, while visiting the AONB.
- The correlation between walking and reducing the risks of cardiovascular disease (CVD) and type-2 diabetes can be monetised in the following ways:
 - The British Heart Foundation³¹ publishes data on the current occurrence of cardiovascular incidents for UK adults, by age range. It is assumed that the prevalence (a priori) of CVD among visitors to the AONB is the same as for the UK population as a whole: 1.4% of individuals. Additionally, secondary medical

³¹ Townsend, N. et al. (2014). *Cardiovascular Disease Statistics 2014*. British Heart Foundation Centre on Population Approaches for Non-Communicable Disease Prevention, p. 61, Table 2.4.

research indicates that, ‘for heart attack patients who participated in a formal exercise program[me], the death rate is reduced by 20% to 25%.’³² Taking all of this information in combination, it is estimated that 20% of the 1.4% of visitors who would have experienced CVD in the counterfactual scenario, did not – due to improved physical health from walking in the AONB. This meant that 0.29% of those visitors who went walking when in the AONB, avoided a cardiovascular incident, as a consequence of the improvement in their physical health.

- A similar approach is applied for type-2 diabetes. Diabetes UK³³ provides data on the current prevalence of type-2 diabetes for Welsh citizens – 6.0% in 2013 – which is assumed to be representative of the proportion of visitors to the AONB who would have had type-2 diabetes a priori. International evidence³⁴ states that regular moderate exercise can reduce the risk of type-2 diabetes by 46%. Taking all of this information in combination, it is estimated that 46% of the 6.0% of visitors who would have experienced type-2 diabetes in the counterfactual scenario, did not do so, due to improved physical health from walking in the AONB. This meant that 2.77% of those visitors who went walking when in the AONB, avoided type-2 diabetes, as a consequence of the improvement in their physical health.
- The unit costs of treating the two aforementioned conditions, and sources for these costs, are shown in the table below. The percentage of visitors for whom each of the two conditions is assumed to be avoided, is combined with the respective unit costs that would otherwise have been incurred in treating those conditions. This gives an average assume cost saving per walking visitor for each of the two conditions: £1.24 for CVD and £37.75 for type-2 diabetes. The final step is to apply these average cost savings per walking visitor to the estimated total number of walking visitors to the six sites.
- This analysis suggests that the health benefits of a year’s worth of walking visitors to the six key AONB sites equate to an estimated £38.1 million in health spending foregone. Of this, an estimated £1.2 million relates to the assumed reduction in CVD and a further £36.8 million relates to the assumed reduction in type-2 diabetes.
- The final step of the calculation is therefore to reduce the value, based on the assumption that a visit to walk in the AONB constitutes one part of a full year programme of regular walking exercise. UK guidelines on physical activity for adults aged 19-64 state that: ‘Adults should aim to be active daily. Over a week, activity should add up to at least 150

³² Myers, J. (2003). ‘Exercise and Cardiovascular Health’, *Circulation*, 107, e2-e5.

³³ Diabetes UK (2014). Diabetes: Facts and Stats.

³⁴ Colberg, S. R. et al. (2010). ‘Exercise and type 2 diabetes: the American College of Sports Medicine and the American Diabetes Association: joint position statement’. *Diabetes care*, 33(12), e147-67.

minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week. ... Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or combinations of moderate and vigorous intensity activity.³⁵ We can reasonably assume that physical activity during time spent in the AONB amounts, for most people, to be the equivalent of one week of exercise, according to these guidelines. Therefore, dividing the calculated annual financial benefits by 52 weeks we arrive at a figure of £733,000 of reduced health expenditure, made up of approximately £23,000 from reduced incidence of CVD and £708,000 from reduced type-2 diabetes.

Health condition	Cost per annum	Source for unit cost	Assumed proportion of walking visitors for whom health condition is avoided	Assumed cost saved per walking visitor to the AONB (on average)	Estimated annual number of visitors to six key sites in the AONB who went walking	Estimated annual health cost saving due to health benefits of walking for visitors to the AONB
Cardiovascular disease: average annual cost of ongoing NHS care and rehabilitation programmes following a heart attack (myocardial infarction)	£426.72	NICE. (2010). <i>Prevention of Cardiovascular Disease: Costing Report</i> , p.24	0.29%	£1.24	976,026	£1,207,814
Average annual cost per person of medication and healthcare for type-2 diabetes	£1,362.94	BHF National Centre. (2014). <i>Economic Costs of physical inactivity - Evidence briefing</i> , University of Loughborough	2.77%	£37.75		£36,848,351

³⁵ Guidance from the Chief Medical Office on how much physical activity people should be doing, with supporting documents. 'Factsheet 4: Physical activity guidelines for adults (19-64)'. Crown copyright (2011). Available online:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213740/dh_128145.pdf (Accessed: 26-03-2019).