FOREST OF BOWLAND
Area of Outstanding Natural Beauty

Analysis of the Economic Profile of the Forest of Bowland AONB

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Report written by Rural Futures and Rural Solutions

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Introduction

This paper seeks to shed some light on economic activity within the Forest of Bowland Area of Outstanding Natural Beauty. It is based on analysis of a range of data sources including Defra's Farm Census, Natural England's agri-environmental schemes database, Valuation Office data and information from Companies House and the Office of National Statistics.

Access to data and statistics that accurately reflects the boundaries of designated areas such as Areas of Outstanding Natural Beauty is complicated. The AONB is made up of parts of several local authority areas and extends across the county boundary between Lancashire and Yorkshire. It is not a recognised statistical entity within the Office of National Statistics. It has therefore been necessary to compile evidence using a range of techniques including the aggregation of smaller areas of "data geography" such as postcodes, Lower Super Output areas and wards. Inevitably more often than not the boundary of the AONB and of the ward of lower super output area do not match.

In order to address this as accurately as possible we have included a proportion of the data that reflects the proportion of the area that is included within the AONB. In these circumstances the data provided is the average for that "data unit" rather than the specific data relating to the households or businesses within the boundary of the AONB. Where the area of a data unit included within the AONB is de minimis, or where the diversity of characteristics of the data unit is such that the data is skewed and not representative of the area within the AONB we have excluded the data.

Much of the data analysis is driven by postcodes. The postcodes used are shown on Figure One below.

The Forest of Bowland AONB

The Forest of Bowland AONB extends 803 km^2. Of this, 730 km^2 lies within Lancashire with the remainder in North Yorkshire. The total residential population is approximately 16,000 with the majority of the residents being located within the villages of the Ribble and Lune valleys. Around 20% of the AONB is designated as a European Special Protection Area (SPA) with a further 13% designated as Sites of Special Scientific Interest (SSSI).

Area of Study

The area included in the analysis is shown in Figure One below. It includes 920 postcodes, each of which represents around 15 residential properties or up to 100 business addresses. In the Forest of Bowland area businesses are rarely clustered together (apart from on rural business parks such as Backridge Farm near Bashall Eaves) so the majority of addresses within these postcodes will be residential.

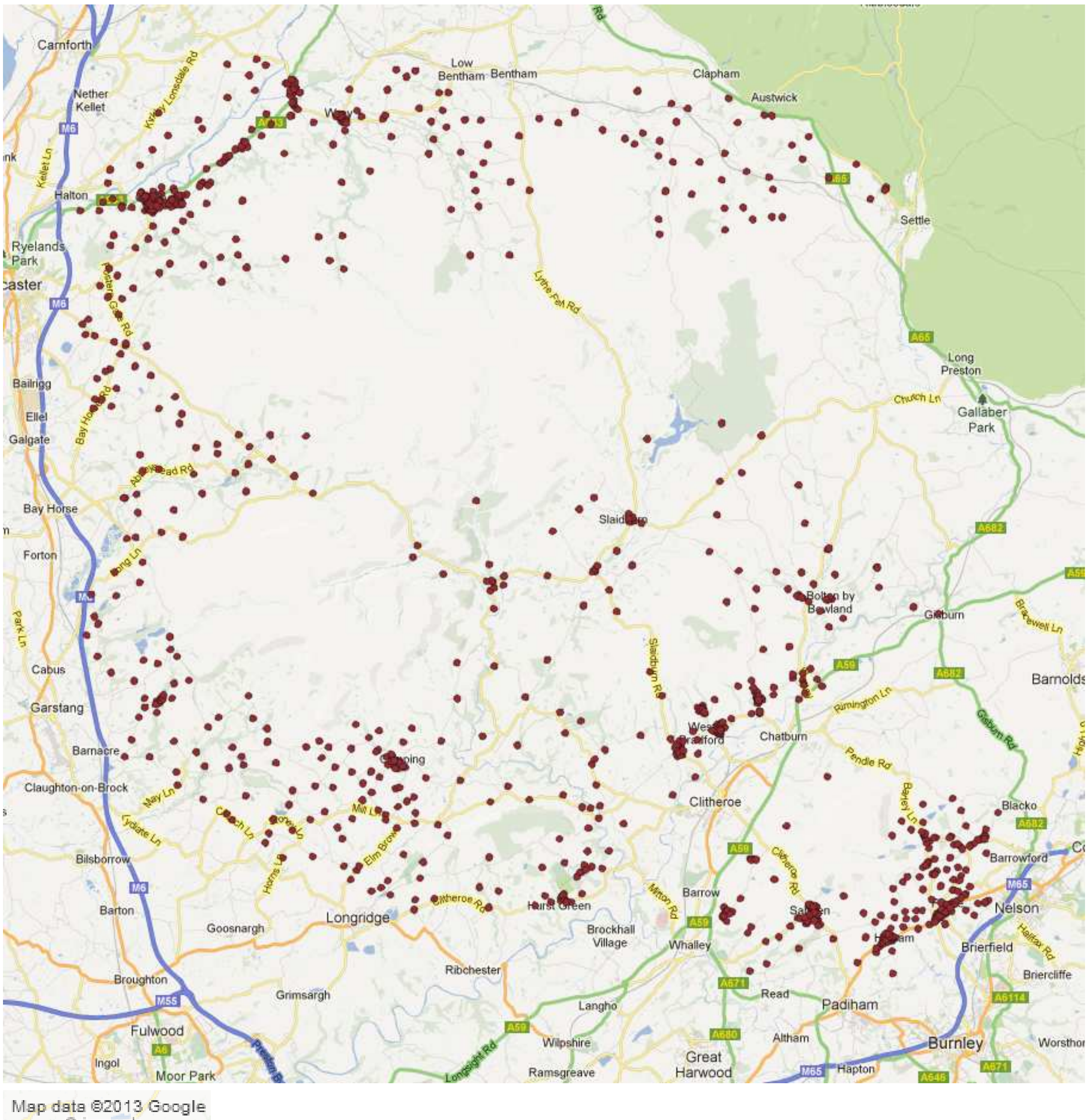
The map of postcodes clearly shows the distribution of population and businesses along the southern and northern perimeters of the AONB. The cluster of activity to the south of Pendle Hill is also evident as is the focal point of local service centres such as Dunsop Bridge, Waddington, Slaidburn and Bolton by Bowland.

The influence of the road network can clearly be seen by the incidence of households and businesses along the east / west route (the "Trough Road") although the gaps created by the topography and influences of major estates such as Abbeystead Estate (in the space between Dolphinholme and Dunsop Bridge) are clearly apparent.

The empty spaces on the map clearly align to the areas of high moorland, much of which is managed for grouse shooting (for example at Abbeystead and Bleasdale) or for water quality (United Utilities Bowland Estate).

The cluster of activity to the south of Pendle Hill concentrated on Sabden and Higham is different in character to the more remote moorland valleys in the Forest of Bowland to the north of Chipping and Clitheroe. This area is more urban/rural fringe and industrial in character and has a much closer geographical and economic relationship with the East Lancashire mill towns of Burnley, Colne and Nelson.

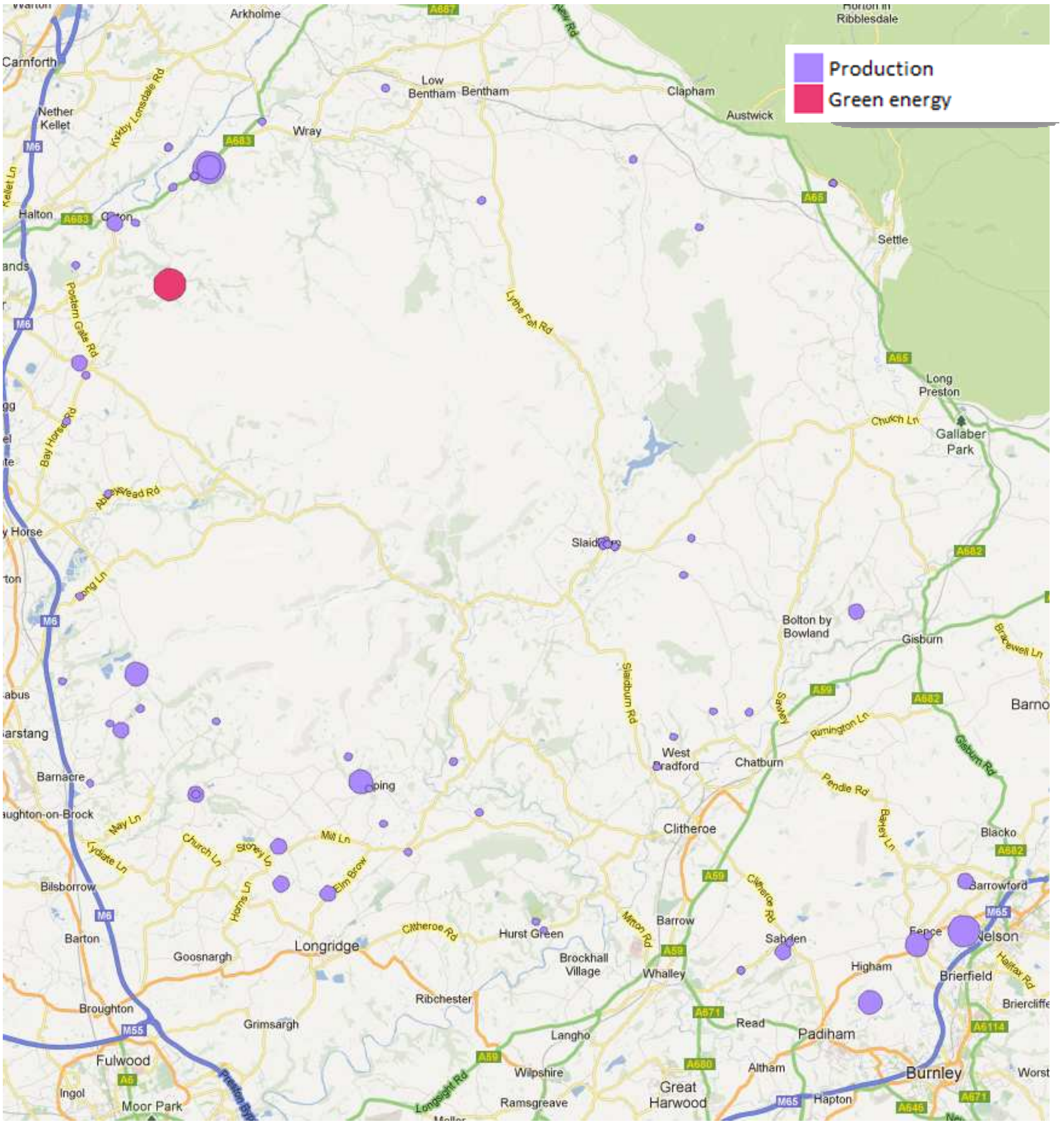
Figure One: Postcodes in Forest of Bowland AONB



Economic Characteristics

The economy of the Forest of Bowland is diverse. The major land uses, in terms of area, are agriculture and forestry, although the AONB also hosts quarries (e.g. Dry Rigg Quarry), production facilities (e.g. Caughton Manor Brickworks), energy production (e.g. Caton Moor Wind Farm), food production (e.g. Leagram Organic Dairy) and transport and distribution businesses (e.g. SJ Bargh Ltd, Caughton). In all there are 66 sites where businesses engaged in production are paying business rates within the AONB, representing around 13% of the total and generating business rates in the region of £1.6 million a year. The distribution of these businesses around the AONB is shown in Figure Two below.

Figure Two: Production Businesses



The map shows that the penetration of production businesses into the heart of the AONB is very limited indeed. Each dot represents a site where production businesses are based (identified from business rates); the size of the dot gives an indication of the size of the premises. It is important to note also that Kirk Mill at Chipping (formerly the HJ Berry Furniture works) is no longer operating as a production business[1].

Tourism and Leisure

The natural beauty of the area provides a driver for tourism and leisure businesses; of the 500 or so entries in the register of non-domestic (business) rates, 46 are pubs or hotels and 81 self-catering holiday cottages (collectively around 500 units), caravan or camp sites. These include some well-established and hugely successful businesses including the Inn at Whitewell, Gibbon Bridge Hotel, The Waddington Arms, The Freemasons Arms, and the New Drop Inn that act as major attractors to the area. The AONB also hosts a number of conference and training venues, such as Waddow

[1]The site is currently subject to a proposal for the development of a new pub and hotel business

Hall at Waddington, and popular day visitor attractions such as the Wild Boar Park near Chipping, Bashall Barn Farm Shop and Backridge Farm near Bashall Eaves and Wyreside Fisheries near Dolphinholme.

The success and enduring popularity of many of the hospitality businesses in the area has led to significant investment in this sector in recent years, despite the tough economic climate. The Warburton bread making family has acquired and refurbished pubs in Waddington, Hurst Green and the hotel at Eaves Hall, whilst Manchester based Living Ventures is currently bringing forward proposals for a new 60 bedroom hotel in Kirk Mill (the former Berry Furniture works) at Chipping.

The distribution of hospitality businesses across the AONB is shown in Figure Three below. It is interesting to see that despite a perceived expectation that the geographical dispersal of this kind of business across the AONB is likely to be greater than that of production businesses the influence of topography is apparent on this sector also. It is also interesting to note that the majority of hospitality businesses, and the largest, are in the south of the AONB with very little penetration in the west (related to Garstang and Lancaster) or in the north. This is indicative of the greater accessibility of the southern edge of the AONB to urban populations of Preston, Blackburn, Accrington and Burnley but also perhaps to a different approach taken to planning and development in the Ribble Valley and Pendle districts (to the south) compared with Lancaster City and Wyre, to the north and west.

It is also interesting to note the cluster of self-catering holiday cottages in the north east of the Forest of Bowland AONB, from Wray across towards Settle. This area is in the environs and influence of the Yorkshire Dales National Park to the north and it appears likely that the additional attraction of proximity to the National Park and the mature market place for holiday cottages that it generates has been a factor here.

The incidence of leisure and visitor attraction type sites is shown in Figure Four. This map shows that this kind of offer is relatively limited within the AONB. There is only one Historic House & Garden open to the public in the area (Browsholme Hall) and a small range of day visitor attractions or retail destinations such as the Bowland Wild Boar Farm, Bashall Barn, Backridge Farm, Roaming Rooster (Higham) and the Little Town Dairy Farm Shop. Stoneyhurst College is open in holiday times and hosts some events. These businesses compete with some substantial attractors on the edge of the AONB such as Shackelton's Garden Centre at Chatburn, Barton Grange Garden Centre at Brock, Holly Tree Farm at Forton, and in the north, The Courtyard at Settle and Country Harvest on the A66 near Cowan Bridge.

In addition to formal day visitor attractions, the AONB attracts large numbers of cyclists, walkers, bird watchers and other day visitors that patronize the smaller cafes, pubs and shops. It seems clear that The Forest of Bowland therefore represents a substantial tourism and leisure resource for the wider Lancashire area.

Figure Three: Hospitality Businesses

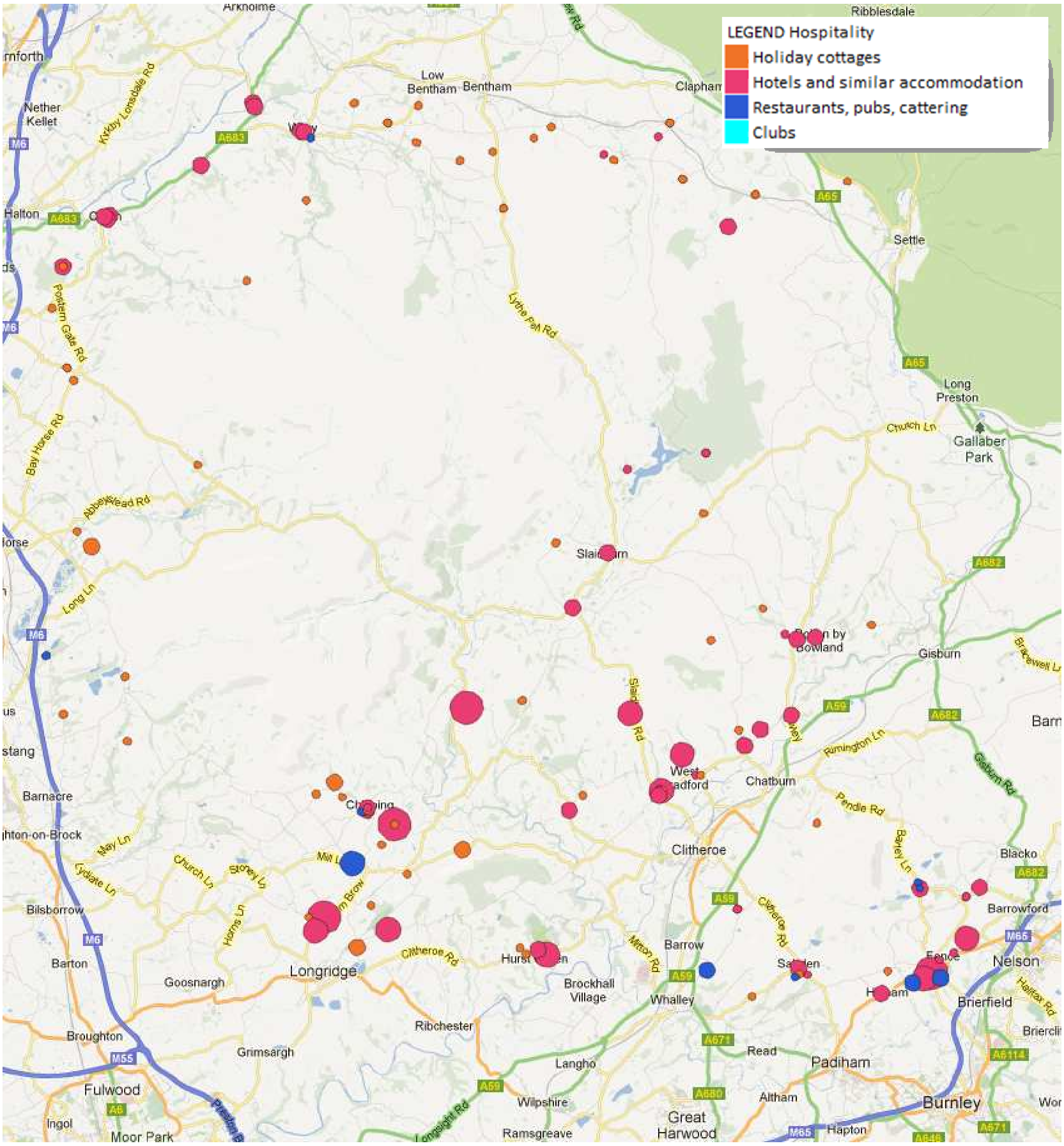
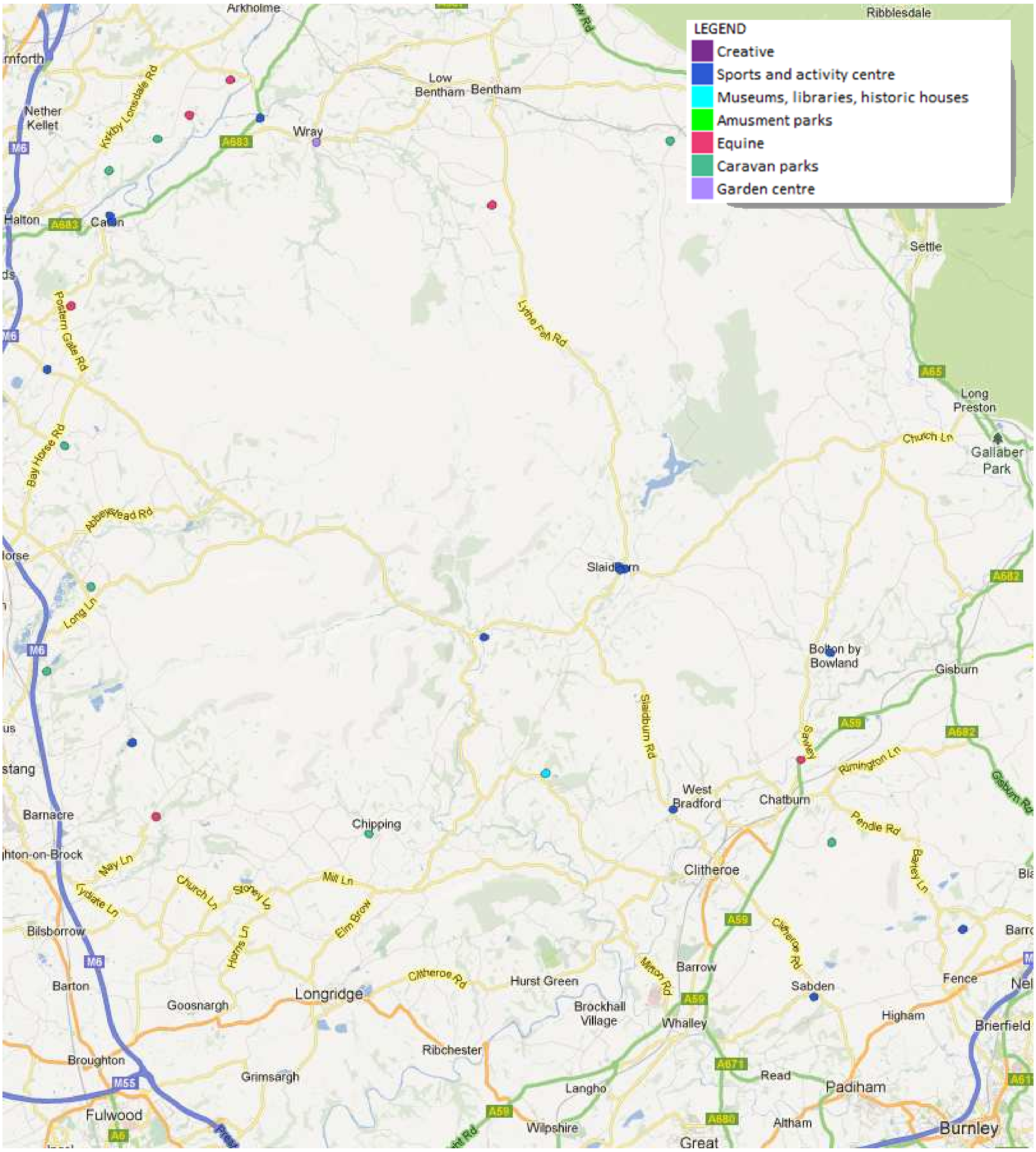


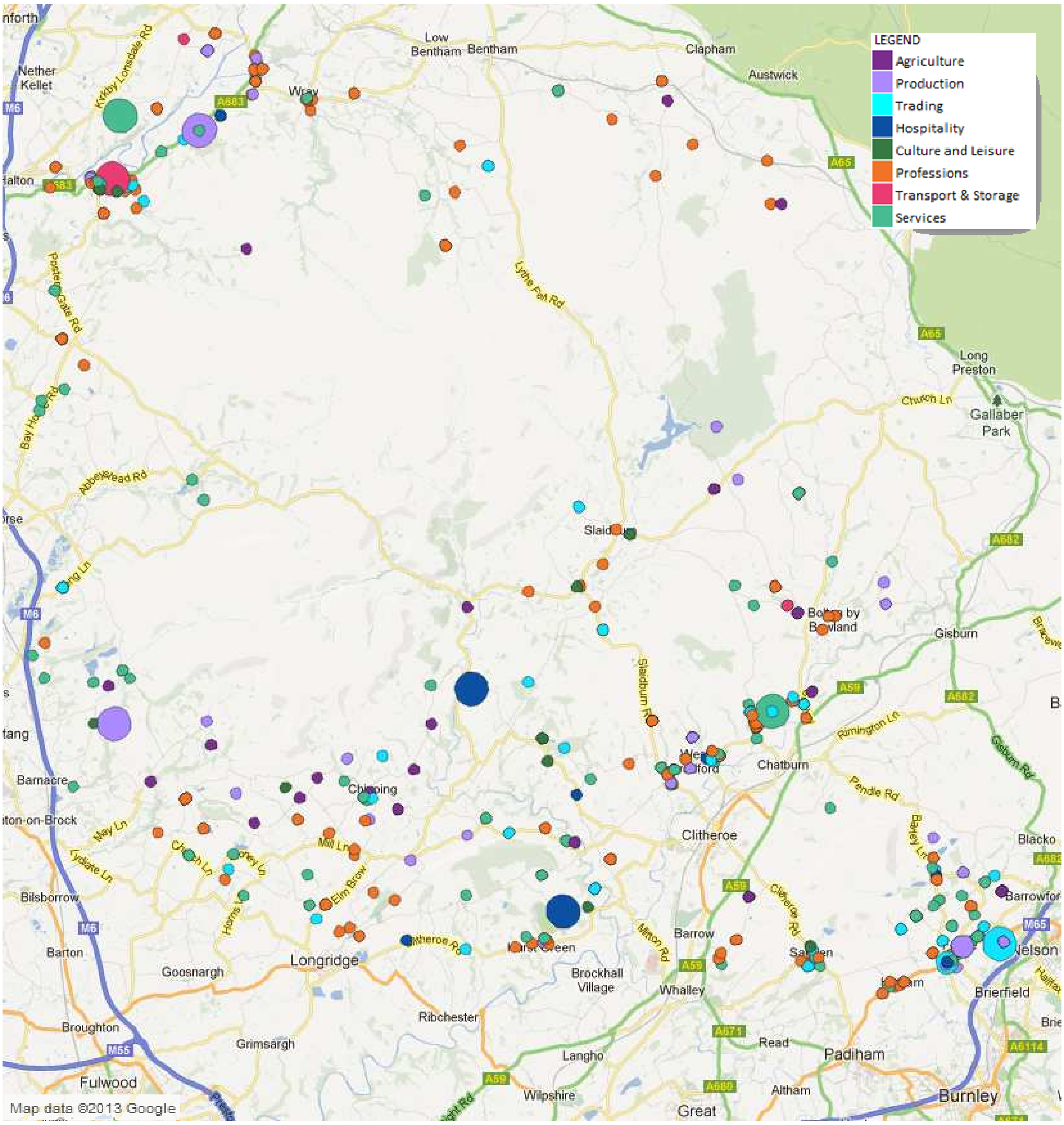
Figure Four: Leisure & Cultural Attractions



Service Businesses

The Forest of Bowland AONB is an attractive destination for owner managers and operators of smaller businesses in the professional, construction and personal services sectors. Many of these businesses operate from small premises or are based at home. Figure Five below presents information from Companies House that shows business addresses registered in the Forest of Bowland AONB area. The sectoral analysis shown on the map is based on the Standard Industrial Classification (SIC) code. Each dot represents a company; the size of the dot relates to the size of the company measured in turnover by three bands, small – up to £6.5 million, medium to £25.9 million and large greater than £25.9 million.

Figure Five: Companies Registered with Companies House by Sector



The data from Companies House shows that there are 316 companies registered in the professional and services sector, representing 65% of the total stock. These businesses include 168 categorised as Professional Services, 73 as Construction and 46 as Administrative and Support Service Activities. These businesses are likely to be small and will operate beyond the boundaries of the AONB. The attraction of the AONB as a location for SMEs and owner managers is clear however considering that the 492 businesses registered with Companies House represent a ratio of 1 business for every 32 residents compared to the figure for Lancashire of 1 business for every 35 residents. It is important to remember when considering these figures that the data from Companies House does not include all those businesses that trade as partnerships, as charities (such as Stonyhurst College) or as sole traders.

Table One: Companies in Forest of Bowland AONB Registered with Companies House

Main Sector	Industry	Total
Agriculture	A Agriculture, Forestry and Fishing	27
Production	B Mining and Quarrying	10
Production	C Manufacturing	45
Production	T Activities of households as employers; undifferentiated goods- and servi	9
Trading	Wholesale	19
Trading	Retail	31
Hospitality	Holiday cottages	0
Hospitality	Hotels and similar accommodation	10
Hospitality	Restaurants, pubs, cattering	13
	Clubs	0
Culture and Leasure	Creative	1
Culture and Leasure	Sports and activity centre	8
Culture and Leasure	Museums, libraries	0
Culture and Leasure	Amusment parks	3
Professions	J Information and communication	27
Professions	K Financial and insurance activities	9
Professions	L Real estate activities	26
Professions	M Professional, scientific and technical activities	94
Professions	O Public administration and defence; compulsory social security	0
Professions	Q Human health and social work activities	12
Transport & storage	H Transportation and storage	4
Services	D Electricity, gas, steam and air conditioning supply	2
Services	E Water supply, sewerage, waste management and remediation activities	3
Services	F Construction	73
Services	N Administrative and support service activities	46
Services	P Education	6
Services	S Other service activities	6
Services	V None supplied	8
	Total	**492**

Figure Six below shows the location of the businesses in the Professionals classification in more detail. It demonstrates the attraction of the area to owner managers and is apparent that there is some penetration into the heart of the AONB from owner managers involved in professional, scientific and technical activities. It is also clear that the penetration of ICT businesses into the AONB is limited. This is likely to be a direct consequence of limited broadband connectivity. This situation is being addressed with the construction of the super fast B4RN network (which has now reached Abbeystead) and the build out of the BT network as part of the Lancashire Broadband Plan. The provision of high speed broadband into areas of the AONB, and perhaps critically on its fringes, will provide a powerful catalyst for additional economic activity.

Figure Six: Location of Companies Classified as Professions

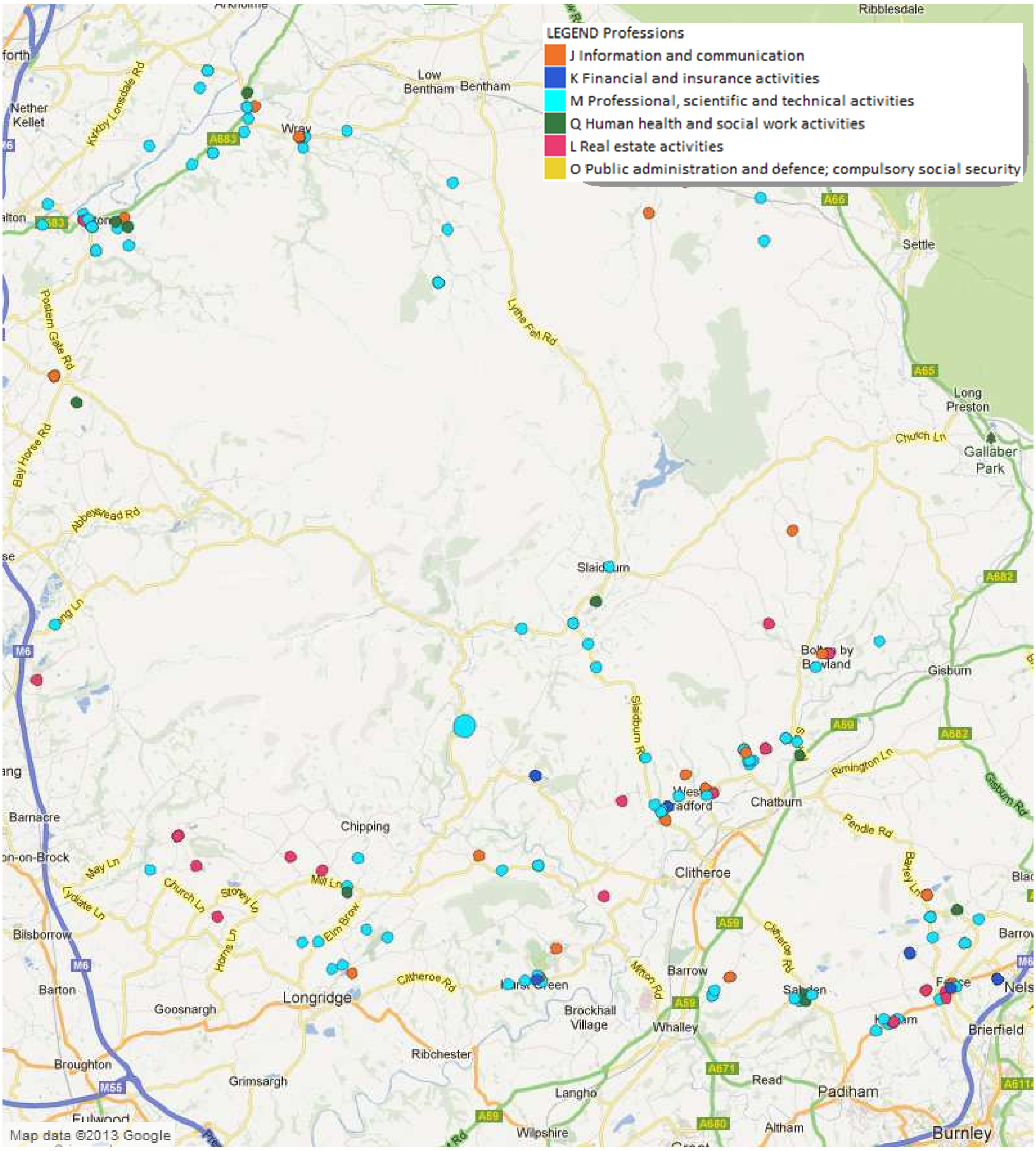
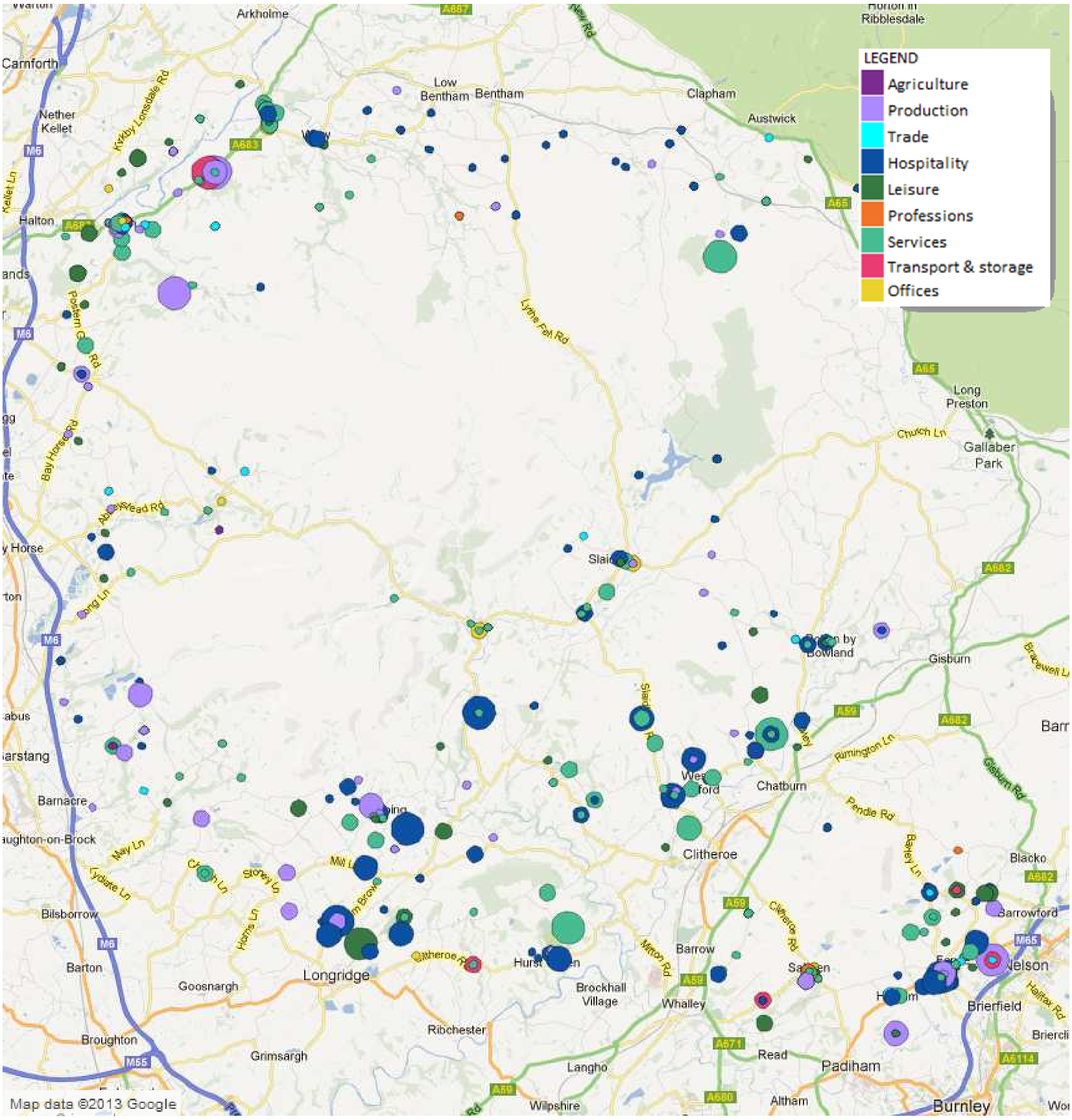


Figure Seven shows the full dataset of business premises registered for business rates on a single map, colour coded by sector. In this instance the sectoral classifications are based on the Valuation Office property code. The size of the dots is based on bands of rateable value.

Figure Seven: Premises Assessed for Business Rates



Map data ©2013 Google

Note: dots sizes are based on rateable value of the entire unit. Same sizing is used across all maps.
<£10,000 - 50pt
£10,000 – 50,000 – 100pt
£50,000 – 100,000 – 200 pt
£100,000 – £1m – 300pt

Analysis of the two maps side by side clearly shows the incidence of local businesses operating from premises that are not registered for business rates.

Major Employers and Economic Influences

In addition to the production, service and hospitality businesses identified above the Forest of Bowland AONB hosts several major employers and economic influencers.

Stonyhurst College is based at Hurst Green in the southern part of the AONB. It is a major independent school with provision from 2 to 18 and hosts in the region of 800 pupils at any one time. It employs hundreds of people in teaching, administrative, property maintenance and service roles and is also a major attractor of visits to the area. Many of its boarders are from the south of England and Scotland and the college has a substantial number of international students in its older year groups. The building at Stonyhurst is Grade One listed and is the largest listed single structure in the country. In addition to direct employment the College is a major buyer of services and supplies and has undertaken a major programme of repairs and new development in recent years including a £5 million Refectory (completed in 2012) and a £8 million Boarding House.

United Utilities Plc is a major landowner in the Forest of Bowland AONB and using its land for water gathering and catchment management. They employ a team of water catchment managers and rangers from their Estate Office at Stocks Reservoir and engage in a constant maintenance and refurbishment programme. They have been responsible, in partnership with the Forestry Commission, for the development of Stocks and Gisburn Forest as visitor destination with creation of mountain bike trails, café, and improved car parking in Gisburn Forest and are actively considering further opportunities for sustainable leisure and tourism development on their Estate.

Abbeystead Estate is a major employer of foresters, land managers and game keepers in the north west of the AONB. The Estate extends to over 27000 acres and is managed for shooting, farming and forestry. The Estate employs over 20 people directly and provides farming infrastructure for more than fifteen farm businesses. The Estate is currently investigating the potential for renewable energy (hydro and bio mass) and plans to meet its own energy needs in the foreseeable future.

Bashall Barn and Restaurant is a major attraction in the south of the AONB. The Farm Shop, Brewery and Restaurant attracts in the region of 350,000 people each year and employs nearly 50 people. Together with Backridge Farm it provides a focal point for visitor activity and is a major attractor for people based in Blackburn, Burnley and Colne and visitors from further afield as well as serving the leisure needs of local people.

Businesses like the Inn at Whitewell, Eaves Hall, Waddington Arms, Shireburn Arms and Browsholme Hall are major players in the weddings market. This market is worth millions to the UK economy each year (the average wedding creates spending of well over £20000) and attract visitors and repeat business for the area as well as generating direct revenues for local businesses and significant local employment.

Agriculture & Land Based Industries

Farming is a major enterprise in the Forest of Bowland AONB. It shapes the landscape and provides significant funding towards conservation and sustainable land management that conserves and enhances the landscape character of the area. Farming and agricultural businesses do not show up on the data from Companies House and the Valuation Office as very few farm businesses are incorporated and by definition agriculture is excluded from Business Rates.

This analysis of the value of agriculture in the AONB offered below is therefore derived from DEFRA's annual census. The most recent available data is for June 2010. The census data provides details for farm holdings within the Forest of Bowland. This data has then been extrapolated based average farm types.

There are 678 registered farm holdings in the AONB. The table below provides the breakdown of farm type.

Farm Type	Number of Holdings
General Cropping	39
Horticulture	6
Specialist Pigs	5
Specialist Poultry	7
Dairy	99
Grazing and Livestock (50% or more in LFA)	462
Grazing and Livestock (50% or less in LFA)	43
Mixed (eg mixed pigs and grazing)	7
Non Classified (eg fallow ground or buildings only)	10

Not surprisingly the majority of farms are grazing livestock units with the majority of land lies within the Less Favoured Area.

Average farm sizes are provided below.

Farm Size	Number of Holdings
<5 ha	54
5-20ha	127
20-50ha	157
50-100ha	158
100ha>	182

Due to the extensive nature of hill farming in the area it is no surprise that the largest holding size is the dominant type. In terms of land use the dominant crop is permanent pasture with over 43,217 ha. Permanent pasture, rough grazing and temporary grass combined accounts for 97% of the total farmed area.

The total farmed area extends to 64,428 ha. Of this 36,744 ha is rented and 26,393 owner occupied. The AONB is dominated by a number of large estate holdings. This includes United Utilities Bowland Estate, Abbeystead and The Duchy of Lancaster. There are several more significant private estates.

The table below provides a breakdown of livestock types and numbers.

Livestock Type	Numbers
Cattle	
Dairy (2yrs +)	12,375
Sucklers (2yrs +)	5,697
Calves	8,900
Other (beef fattening etc)	21,599
Total Cattle	48,572
Sheep	
Breeding Ewes	139,322
Lambs under 1yr	169,937
Other	7884
Total	317,142
Pigs	3,107
Poultry	261,676
Other (Horses, goats etc)	563

Sheep grazing and beef production dominate the farming output.

In terms of employment the following table summarises the types of jobs within the areas farming businesses. The DEFRA data is based on a coefficient applied to each farm type expressed as a Standard Labour Requirement (SLR). This estimate provides full time equivalent data for each employment type.

Employment Type	Number (fte)
Full Time Farmers	697
Part Time Farmers	512
Full Time Employees	138
Part Time Employees	161
Casual	99
Total	1,631

The following analysis seeks to quantify the income generated through agriculture by farm type. The income figures are based on national averages.

Farm Type	Number	Total Income 2011/12	Total income by Farm type
General Cropping	39	£ 100,900.00	£ 3,935,100.00
Horticulture	6	£ 55,300.00	£ 331,800.00
Specialist Pigs	5	£ 38,000.00	£ 190,000.00
Specialist Poultry	7	£ 41,100.00	£ 287,700.00
Dairy	99	£ 86,700.00	£ 8,583,300.00

Grazing and Livestock (50% or more in LFA)	462	£ 29,200.00	£ 13,490,400.00
Grazing and Livestock (50% or less in LFA)	43	£ 32,200.00	£ 1,384,600.00
Mixed (eg mixed pigs and grazing)	7	£ 66,000.00	£ 462,000.00
Total	**668**		**£ 28,664,900.00**

Net farm income data is provided below. The net income is based on total income less director's remuneration, unpaid labour of principal farmer and ownership charges. It therefore provides a more realistic indication of total income.

Farm Type	Number	Net Income 2011/12	Total Net income by Farm type
General Cropping	39	£ 80,700.00	£ 3,147,300.00
Horticulture	6	£ 54,800.00	£ 328,800.00
Specialist Pigs	5	£ 34,800.00	£ 174,000.00
Specialist Poultry	7	£ 44,600.00	£ 312,200.00
Dairy	99	£ 69,800.00	£ 6,910,200.00
Grazing and Livestock (50% or more in LFA)	462	£ 21,300.00	£ 9,840,600.00
Grazing and Livestock (50% or less in LFA)	43	£ 21,900.00	£ 941,700.00
Mixed (eg mixed pigs and grazing)	7	£ 50,600.00	£ 354,200.00
Total	668		£ 22,009,000.00

The available data for the Forest of Bowland does provide details of ownership however this is not broken down by farm type. Based on national averages it is clear that net income from the tenanted sector is significantly different from that of the owner occupied farms. As Bowland has an especially high level of tenanted farms an estimate needs to be made of the impact of this variation. The table below provides this estimate based on the principle livestock types in the area. Based on tenure, 58% is tenanted and 42% owner occupied. The table below provides an estimate of the impact on income for the main farm types based on total number of each.

Farm Type	Number based on tenure %	Total Income 2011/12	Total income by Farm type
General Cropping Tenanted	22.62	£ 58,724.00	£ 1,328,336.88
General Cropping Owner Occupied	16.38	£ 59,705.00	£ 977,967.90
Horticulture Tenanted	3.48	£ 67,159.00	£ 233,713.32
Horticulture Owner Occupied	2.52	£ 26,954.00	£ 67,924.08
Specialist Pigs Tenanted	2.9	£ 37,119.00	£ 107,645.10
Specialist Pigs Owner Occupied	2.1	£ 37,119.00	£ 77,949.90
Specialist Poultry Tenanted	4.05	£ 36,048.00	£ 145,994.40
Specialist Poultry Owner Occupied	2.94	£ 36,048.00	£ 105,981.12
Dairy Tenanted	57.42	£ 68,339.00	£ 3,924,025.38
Dairy Owner Occupied	41.58	£ 82,879.00	£ 3,446,108.82
Grazing and Livestock (50% or more in LFA) Tenanted	267.96	£ 31,516.00	£ 8,445,027.36
Grazing and Livestock (50% or more in LFA) Owner Occupied	194.04	£ 23,837.00	£ 4,625,331.48
Grazing and Livestock (50% or less in LFA) Tenanted	24.94	£ 12,887.00	£ 321,401.78

Grazing and Livestock (50% or less in LFA) Owner Occupied	18.06	£ 31,624.00	£ 571,129.44
Mixed (eg mixed pigs and grazing) Tenanted	4.06	£ 44,936.00	£ 182,440.16
Mixed (eg mixed pigs and grazing) Owner Occupied	2.94	£ 36,695.00	£ 107,883.30
Total	667.99		£ 24,560,977.12

The effect of this analysis is to reduce the estimated total farm income from £ 28,664,900 to £24,560,977. Based on a proportionate reduction net farm income will be approximately **£18,861,713**. This figure provides the most realistic figure for net farm income within the Forest Of Bowland AONB.

Agri Environmental Spend within the AONB

Within the income data will be funding provided through the various agri environmental options within Rural Development Plan England (RDPE). These include schemes such as Entry Level Stewardship (ELS), Organic Entry Level (OELS), Upland Entry Level (UELS), Higher Level (HLS) and the various Woodland Grant Schemes (WGS).

As this funding specifically relates to environmental expenditure on landscape and biodiversity it is worth highlighting these schemes contribution to overall farm income and the level of coverage of the various schemes within the AONB.

The data has been provided by DEFRA based on the 2011 scheme year. There will be some variation in annual spend within the schemes. ELS and OELS will remain relatively constant. HLS revenue payments should also be relatively consistent but the capital components of HLS will result in some annual variation. The only data not available is for UELS and WGS. As much of the area is within the SDA it can be assumed that UELS will be a significant additional income stream. An estimate has been made of likely UELS spend within the income data below. Of the total area of 80,573 ha 43,193 ha is above the moorland line. Based on the UELS moorland payment rate of £23/ha this equates to an additional £993,439. This is likely to be a conservative estimate as it excludes in bye land within the SDA. No spend for WGS has been provided.

Scheme	Annual Spend
HLS/ELS	£1,804,028
HLS/OELS	£61,410
OELS	£13,979
ELS	£417,142
UELS (estimate)	£993,439
Total	£3,289,998

The total estimated level of spend is likely to be a conservative estimate for the reasons previously highlighted. Despite this direct payments for agri environmental spend form a significant component of overall farm income. Approximately 17% of overall income is derived from environmental schemes. There will however be significant variation between farms. Large, extensive upland farms with HLS and UELS agreements will be significantly more reliant on these schemes compared to smaller more intensive lowland units. Many of these larger, high value agreements will correspond with the high fell SPA and SSSI areas; landscapes which are a key element in the area's unique sense of place and that are particularly enjoyed by visitors to the AONB. In terms of coverage the DEFRA data estimates coverage as follows.

Scheme	Area of Coverage
HLS/ELS	22,347 ha
HLS/OELS	488 ha
OELS	381 ha
ELS	24,208 ha
Total	47,424 ha

This represents some 59% of the AONB. As this excludes UELS it can be expected that the actual area of coverage will be much higher. Assuming a 60% uptake on UELS above the moorland line this would increase coverage to over 90% of the AONB.

Within the DEFRA data there are a number of statistics associated with individual management prescriptions including data relating to both existing public access and funded permissive access through agri environmental schemes. Although not significant in itself as an income generator the data does provide interesting comparisons with other AONB's on the amount of public access available. Although direct links are hard to quantify the level and quality of access will have a direct connection to tourism spend as much of the visitor economy is linked to outdoor recreation. Further details on the value of the visitor economy are provided elsewhere in the report. Data for access within the AONB are provided below.

Forest of Bowland Areas of Open Access – 27,370 ha (34% of FoB AONB)

National Av. For all AONB's is just 13% of the total area.

Forest of Bowland Linear Access – 1,269km within 80,573 ha providing an average of 63km of linear access per ha.

Nationally AONB's total 1,927,050 ha with a total linear access of 31,051km. This represents 62km of linear access per ha.

In summary it can be seen that Bowland has roughly the national average for linear access but a much higher proportion of open access than many other AONB's. This data may well influence both the type and level of tourism spend within the AONB.

Sporting Contribution the AONB's Rural Economy

The Forest of Bowland is well known as a destination for field sports such as shooting and fishing. Although rarely analysed the combination of field sports to the area has a significant economic impact. This will include direct job creation for game keepers, estate workers, and fishing guides as well as indirect benefits through local accommodation, food sales and other shooting and fishing suppliers.

The diverse landscape of the AONB provides for a variety of sporting activities including grouse on the moors, driven pheasant in the valleys, salmon and trout in the rivers and stocked fisheries such as Stocks Reservoir.

The sporting businesses range from commercial pay day shoots and fisheries, through large private estate shoots down to the more informal syndicate shoots and fishing clubs. The vast majority of participants come from outside the AONB creating a significant income stream into the local economy.

Hard data for shooting in the area is almost non-existent. As a result the research has used local knowledge combined with interviews of local keepers to gain a flavour of the value of sporting activity to the AONB.

Shooting

The main economic generators are the larger commercial and estate shoots within the AONB. The more commercial pheasant shoots tend to be located within the central valleys and woodland fringes of the AONB. A number are large businesses employing two or more keepers as well as a much larger pool of part time assistants and beaters. The large estates often combine moorland grouse shooting with low ground pheasant. Some are run on a strictly private basis, others let guns to individuals or syndicates. The scale of these estate shoots varies. The larger operations such as Abbeystead employ significant numbers of full time staff while others operate more informally with local part time keepers covering a number of shoots.

The final level of shooting, and possibly the most extensive, is the smaller syndicate and club shoots. These rarely employ full time staff but instead use part time keepers or even operate on a DIY keepering basis. Although more numerous, these shoots will have less impact through direct employment than the larger estate and commercial shoots.

In terms of visiting shooters, the larger estates and commercial operators will be a combination of day visiting guns as well as overnight shooters that stop in local accommodation. The small club and syndicate shoots will tend to be day visitors only.

A survey was undertaken of the AONB in an attempt to ascertain the number and scale of shooting within the area. The table below provides an estimate only of the type, number and employment characteristics of shoots in the area.

Shoot type	Numbers	Average Numbers employed (fte)	Employment value @£ 16,500 pa
Large Estate/Commercial Shoot	12	1.8	£356,400
Medium-Small Estate/Commercial shoot	9	1.3	£193,050
Club/Syndicate Shoot	21	.04	£13,860
Total			£563,310 pa

The survey indicates that there are approximately 34 fte keepering positions within the AONB. The PACEC report on shooting from 2004 (The Economic and Environmental Impact of Sporting Shooting – PACEC on behalf of BASC, CA, and CLA and in association with GCT) estimated that for every keepering position there will be an additional 1.9 fte additional posts. These will include shoot managers, beaters, loaders, caterers, dog men etc. If this figure is extrapolated for Bowland this equates to an additional 64 fte posts. In total it is therefore estimated that within the AONB there are approximately 98 fte posts associated directly with shooting.

In addition to the direct employment income to the area shooting provides substantial income through fees paid from guns to shoots for commercial shoots or costs incurred by private individuals through private shoots. This is based on both the numbers of birds shot as well as the number of shooting days a year. Some estates and commercial shoots let on a per day basis, others on a seasonal basis to either individuals or syndicates. Many do not let guns at all; spend is direct from individuals. Whether the shoot is let or not the cost per bird shot is very similar. Larger, more commercial shoots tend to generate economies of scale compared to smaller shoots which keeps the cost per bird roughly equivalent.

The table below provides estimated income figures for pheasant/partridge shooting. What is not available are figures for grouse. Very few estates are willing to publish grouse shooting numbers. This would significantly increase total income as grouse shot values are over £50 per bird. An estimate has been made but this figure is purely based on a local knowledge. It is also important to note that the Abbeystead Estate, which is the major grouse shooting estate in the AONB, is managed for private rather than commercial purposes.

Shoot type	Numbers of shoots	Av. numbers of birds shot	Av. Number of days shooting	Average value per bird £28
Large Estate/Commercial Shoot	12	220	16	£1,182,720
Medium-Small Estate/Commercial shoot	9	80	8	£161,280
Club/Syndicate Shoot	21	30	8	£141,120
Grouse	12	150	8	£720,000
Total				£2,205,120 pa

Fishing

Fishing will inevitably have less impact than shooting as the numbers employed are much lower. Estimates have been provided following discussions with local water bailiffs and fishermen. The main fishing areas within the AONB are associated with the upper tributaries of the Ribble, primarily the Hodder, the headwaters of the Wyre and a number of the larger Lune tributaries. Most of the river fishing is for trout and salmon although grayling is also popular through the winter.

There are a number of stocked lakes within the AONB; the largest and most popular being Stocks Reservoir. Most of the stocked lakes are trout fishing lakes with a small number of course fisheries. Many of these are located in the Scorton area.

A telephone and internet search identified the following results.

Number of fishing clubs that own waters – 36 (varies from small trout lakes to main rivers. Examples include Lancashire Fly Fishermen and Whitewell Angling Association. Membership can be from 4 to 200 members per club. Fees also vary from a few hundred pounds a year to over £1500)

Day ticket waters including rivers and lakes – 26 (varies from large commercial fisheries such as Stocks Reservoir to lengths of river owned by estates such as Slaidburn Estate's upper Hodder stretch)

Employment – Estimated at 14fte posts. A number of fisheries employ full time staff that increase during the summer periods. Others employ part time bailiffs

Anglers – no data available for numbers but it would appear that the vast majority are day visitors only with only a limited number stopping overnight in the area.

A sample was taken of a variety of club and day ticket waters to gain at least an indication of income generated. This data was then extrapolated to the wider area. The larger commercial fisheries such as Stocks were specifically excluded as this would have skewed the data. For this reason it can be assumed that the value is likely to be an under estimate of the total income generated from fishing.

Type of Fishery	Average membership	Number	Annual fees	Total
Clubs/syndicate waters	63	36	£240	£544,320
Type of Fishery	**Average annual income**	**Number**		**Total**
Day ticket waters	£18,340	26		£476,840
Total				£1,021,160

Economic Characteristics and Activity of People Living within the AONB

The analysis above has focused on economic activity and enterprises hosted within the AONB. A further element of its economic profile is the economic characteristics of the people that live within the AONB.

This analysis is based on data taken from the 2011 Census and from the Mosaic dataset produced by Experian and is has been produced using the same approach to data geography as was outlined above. We have assessed both data sets in order to provide a wider base for our assumptions.

The analysis suggests that the population of the AONB is in the region of 15000 to 17000 people. Of these around 10000 are of working age and 7000, or 70% economically active. This ratio of economic activity is higher than the NW average of 63% and it is interesting to note that at 18% the levels of self-employment in the Forest of Bowland AONB are significantly higher than the average for the North West (8%). This points to a active local economy and is commensurate with the level of farming activity but also the incidence of own account workers and owner managers of SME's as demonstrated by the business premises and registrations data.

Figure Eight: Household Income by % of Population

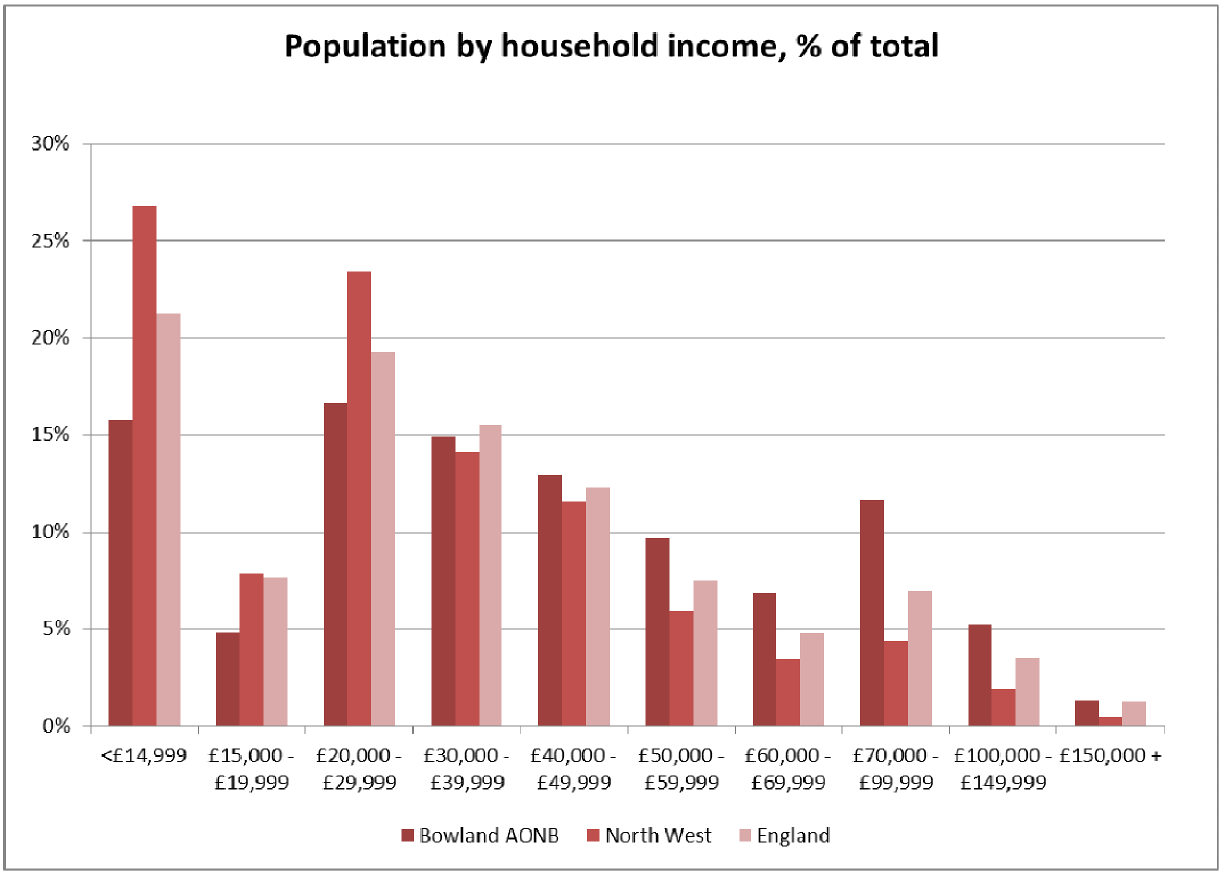


Figure Eight shows that household income in the AONB is concentrated in the middle income brackets indicating a reasonably affluent and self-sufficient population. It is important to note however that despite the incidence being lower than the regional or English averages around 20% of the Forest of Bowland population are living on a household income of less than £20,000 per annum.

Figure Nine: Sector of Employment of AONB Population by % of Total

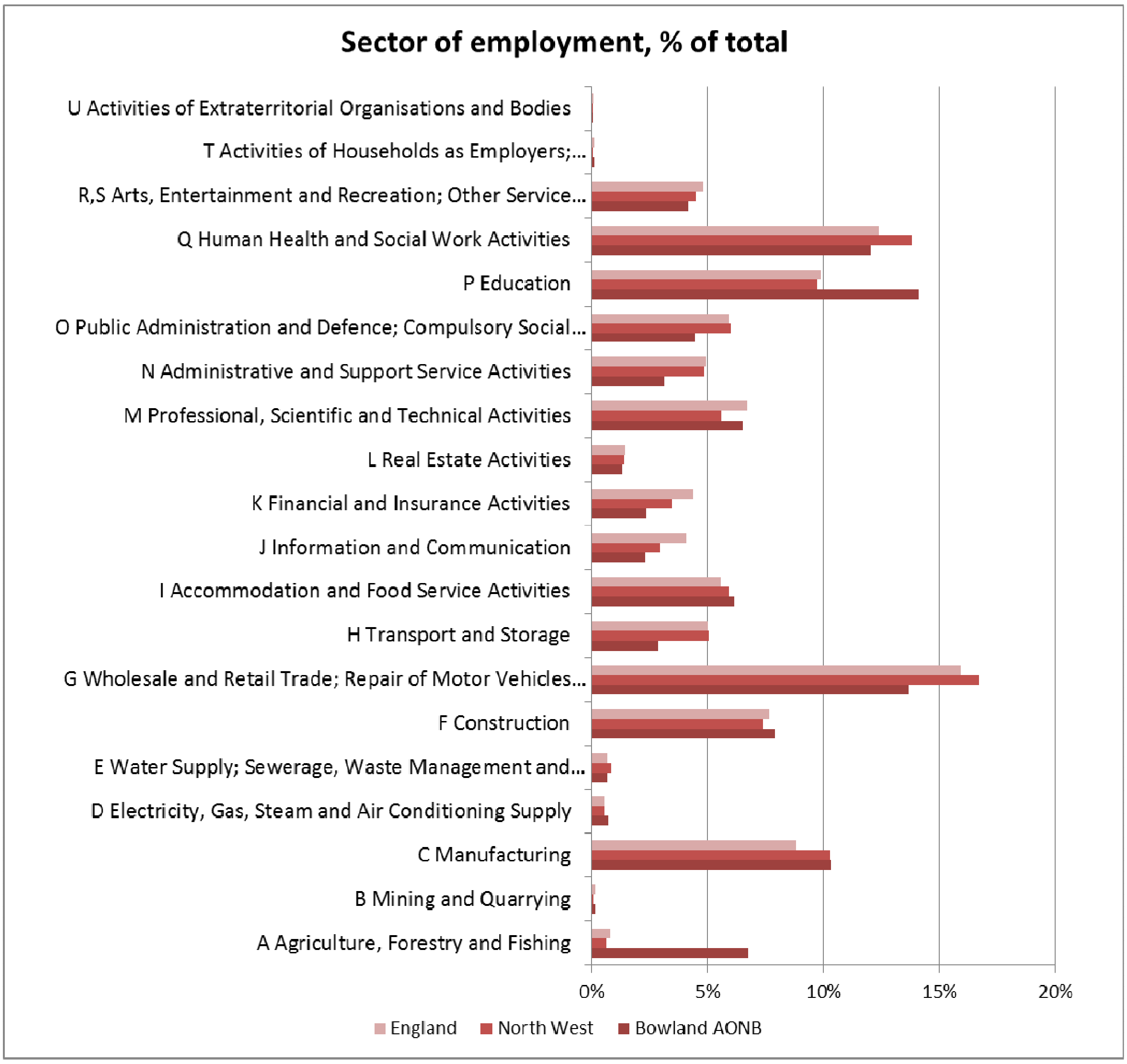


Figure Nine shows the distribution of employment of AONB residents across industry sectors. This demonstrates that the area has a diverse economy that is not dominated by any one sector. An analysis of the sector of employment against the data for business premises and companies registered in the AONB suggests that some of the economically active population are likely to commute from the AONB to work in professional services, wholesale and retail trades and manufacturing whilst people may commute into the AONB from other areas to work in education and accommodation and food service activities.

The chart highlights the importance of Education as an employer, pointing to the influence of Stonyhurst College, and of the public sector, construction, manufacturing and agriculture and forestry sectors.

Conclusions

This analysis shows that the economic profile of the Forest of Bowland AONB is diverse. It hosts a range of enterprises across all sectors of the economy including some major employers.

The analysis suggests that much of the economic activity associated with the AONB is linked to its environment and character and is based both on natural resources, and the opportunity to harness these for economic opportunity, through production (e.g. farming, forestry, quarrying and energy production) and from service offerings leveraging the areas natural beauty and opportunities for leisure and recreation.

The attractiveness and relative accessibility of the AONB, especially from the south, also attracts entrepreneurs and business owners to live and work locally.

It has not been possible to accurately quantify the economic contribution of the AONB due to limitations in data and the scale and scope of this work. It seems apparent however that the agricultural sector generates in the region of £20 million a year, the sporting sector in the region of £3 million to £4 million and the tourism sector up to £16 million.

This total economic contribution of the AONB is likely to be far greater than this however. These figures do not include the value generated from trading of the 50 odd pubs and restaurants and 80 odd holiday accommodation venues. They do not include the value generated to businesses on the fringe of the AONB in Wyre, Lancaster, Pendle and Ribble Valley that benefit from its ability to attract people to travel to the area from their homes elsewhere, or the value added to products which use the Bowland brand such as Bowland Brewery. The "Bowland" brand has not been widely used commercially to date and it offers a valuable link to the AONB where effectively applied and where the marketing of the AONB is strong enough to compete with other uses of the word "Bowland" such as are increasingly associated with shale gas deposits[2].

The interest in the Bowland area from high net worth individuals and established businesses investing in the tourism and leisure sector is an exciting opportunity to leverage further economic opportunity and enhance the sustainable economic contribution of the Forest of Bowland AONB area, and its influence and contribution to areas on the fringe of the AONB.

The increased availability of high speed broadband in the Bowland area should also provide an additional catalyst for small scale but "footloose" and inherently sustainable economic development within the designated landscape area.

Hindle R and Welbank J, 2013.

[2] The Carboniferous Bowland Shale Gas Study, DECC and BGS, 2013

Annex

Value of Tourism within the AONB

Hard data for the value of tourism within the Forest of Bowland is difficult to find. The data provided below has been extracted from various sources. Firstly dealing with the published DEFRA data the following information is provided for 2010.

Tourism Sector	Number Employed
Accommodation	335
Food and Beverage	250
Culture and leisure	55
Total	640

According to the Office for National Statistics the average weekly wage for the tourism sector was £312 (2011). Based on 640 full time jobs within the AONB this would equate to around £10mill of annual earnings from the sector.

There is little data on the actual number of tourism businesses however the DEFRA data does provide information on the number of tourism businesses as a percentage of overall business numbers. Details are provided below.

Tourism Sector	% of Overall Business Numbers
Accommodation	4.1%
Food and Beverage	3.0%
Culture and leisure	1.6%
Total	8.7%

Nationally, across all AONB's the average percentage is 14%. This indicates that the AONB has a low level of tourism business activity compared to other AONBs. Based on the overall area a similar picture emerges. Within Bowland there are on average 0.0014 tourism businesses per ha. Nationally for AONBs the average is 0.0039.

The most recent data available for tourism numbers and spend within the Forest of Bowland dates back to two sources. Firstly is the county wide STEAM data produced by Lancashire and Blackpool Tourist Board (LBTB) for tourism numbers. Although this is provided at District level it does not provide a breakdown for the AONB. The second source is the 2008 Arkenford report produced by commissioned by NWDA (England's Northwest Staying Visitor Survey 2007-8 Arkenford Ltd & Locum Consulting)

Based on LBTB STEAM data the tourism industry is worth £3billion to the Lancashire economy. Over 60 million visitors came to the county in 2009 and the sector employs 56,000 people.

More specific to the AONB the Research undertaken by Arkenford in 2008 on visitors to the north west showed that rural break characteristics are as follows:

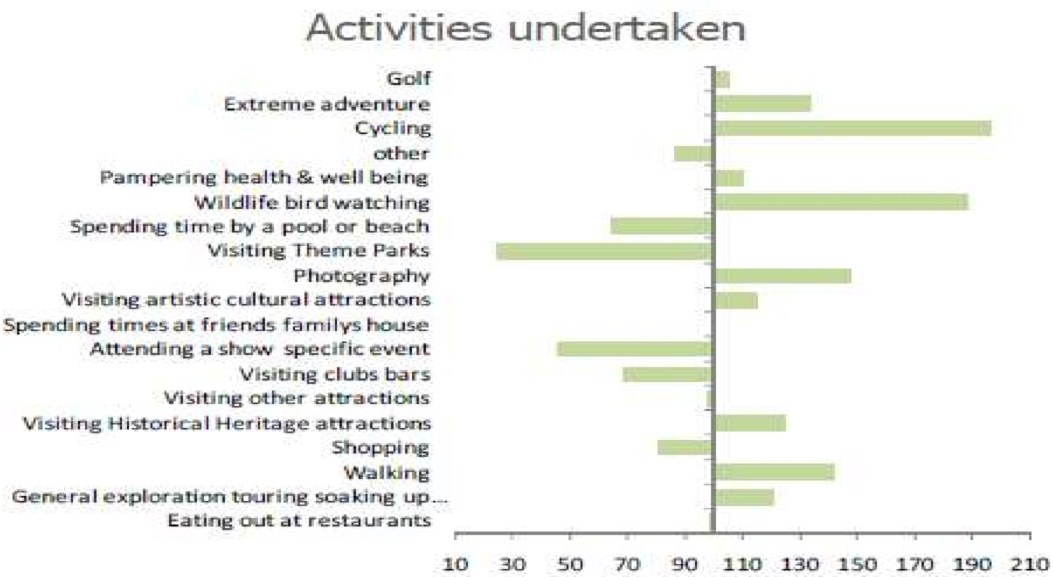
- Couples or tour groups
- Independent minded person
- Older age profile (45+)
- Longer durations than other destinations in the Northwest (week or longer)
- Driven by the scenery or specific accommodation
- More likely to be staying in self catering or camping
- Undertaking activities in the great outdoors (walking, cycling, nature watching) but

also visiting heritage attractions

• Most likely origins: South East, Greater London, the North East and Eastern regions.

The figure below shows NW '*rural*' staying visitors indexed against all NW staying visitors. Of the visitors surveyed on 'rural breaks' it shows the high incidence of those visiting stayed in non serviced accommodation such as camping sites and holiday cottages while.

Of those visiting rural tourism destination the activities undertaken as a proportion of total north west staying visitors is shown below.



Not surprisingly cycling, bird watching, walking and photography were the most common activities.

Forest of Bowland AONB

The 2009 Arkenford visitor survey of the AONB showed that the area has a growing visitor identity. For staying visitors 48% of those surveyed said they were on their first visit to the area with 11% staying overnight following a previous day visit. Only 22% of overnight visitors described themselves as regular visitors. Comparing the survey results from 2004 showed the following trends

8+ night visits – 5%

5-7 night visits – 24%

2-4 night visits – 66%

1 night visits – 5%

This shows that the area is developing as a destination for short breaks.

The profile of visitors to the AONB mirrored those for the regions rural visitors:

- average group size of 2.5 suggesting it is dominated by couples rather than families.
- 45+ age group which increased to 55+ for staying visitors.

Of those surveyed the areas satisfaction rating was particularly high for food (79%), visitor information (71%) and way marked paths and trails (74%).

Tourism Value to the Rural Economy

The total value of Northwest visitors spending, based on an estimate of 17m trips per year is just over £3.8bn. (An average day spend of £16.88 per day and £20.51 for accommodation per night). This level of spend varies significantly across the region. In general rural destinations provide more income for the region than the coastal destinations due to the longer durations of rural holidays compared to coastal breaks.

For Lancashire the average visitor spend is provided below. For rural visitors this is £13.82 per day. Of note is the lower duration of visits to the Forest of Bowland AONB (1.7 days) compared to the rest of Rural Lancashire (6.5 days). This is not surprising as it is recognised that within the AONB that there is a distinct lack of overnight accommodation within the AONB itself.

	Volume (000's)	At destination spend pppd	Accom spend pppn	Journey spend pppd	Avg Duration	Avg Party Size	Avg no of days involving an excursion/ activity	Value (£000's) excl accom	Value Accom (£000's)	Total Value (£000s)
.										
Blackpool	2,536	£12.57	£16.95	£1.61	2.7	3.9	1.01	139,850	450,199	590,049
Lytham St-Annes	174	£12.57	£16.95	£1.61	1.8	2.3	0.85	4,705	12,175	16,881
Morecambe	327	£12.57	£16.95	£1.61	2.2	3.0	0.48	6,740	36,087	42,827
Forest of Bowland	86	£13.82	£19.56	£2.72	1.7	2.8	1.43	5,736	8,064	13,800
Ribble Valley	139	£13.82	£19.56	£2.72	3.0	1.8	0.85	3,528	14,725	18,252
Rural Lancashire	754	£13.82	£19.56	£2.72	6.5	3.4	1.27	53,385	322,127	375,512
Clitheroe	148	£18.73	£22.00	£2.61	1.9	1.8	0.60	3,463	11,305	14,768
Lancaster	367	£16.52	£20.69	£2.10	2.4	2.8	1.20	23,093	50,680	73,773
Preston	264	£16.52	£20.69	£2.10	3.6	2.3	0.66	7,439	45,212	52,651
Lancashire	**4,794**	**£13.53**	**£18.13**	**£1.93**	**3.2**	**3.4**	**0.99**	**247,481**	**941,549**	**1,189,030**

In terms of overall value the 2009 report states that there were 86,000 visitors to the AONB with an average spend of £13.82 per day within the AONB in additions to the accommodation costs of £19.56. Combined this creates a total spend of £13.8 million annually. Based on a simple increase by RPI this would create an annual 2013 spend of £16,063,200 pa (16.4% 2008-2012).