SNOWDONIA STATE OF THE PARK REPORT

Introduction

The purpose of the initial State of the Park Report (SoPR) was to publish information on a number of selected environmental, recreation and tourism indicators within Snowdonia to help inform the production of both the National Park Management Plan (NPMP) and Local Development Plan (LDP). The forthcoming review of these two plans necessitates the review and revision of the SoPR with the aim to update information (where available) and publish additional or new data which may not have been available previously. This document should therefore be read in the context of these two documents and the supporting Background Papers which go to make up the evidence base.

This revised edition supersedes the 2009 State of the Park Report. It has been decided to produce a document to reflect the Welsh Government's move towards the adoption of an ecosystem approach - a strategy where the integrated management of land, water and living resources promotes conservation and sustainable use in an equitable way.[1]

To that end some data sets and indicators have been removed as it was considered they would sit better within background papers forming part of the evidence base for revisions to NPMP and LDP. Some data sets from external sources have not been updated since the previous SoPR; there a number of reasons for this such as changes in the type of information collected and the nature of the monitoring undertaken. For example the introduction of the Water Framework Directive and the adoption of new indicators and metrics for the assessment of the quality of the water environment rather than the narrow parameters of biological, chemical and nutrient status under the previous General Quality Assessment (GQA). In other cases research studies and monitoring have been discontinued.

Although the document does not seek to be comprehensive, it does contain sufficient data to provide a reasonable "health check" of the Snowdonia National Park.

A Snapshot of the State of Wales' Natural Resources

In a recently published document entitled *"A Snapshot of the State of Wales' Natural Resources"* Natural Resources Wales (NRW) sets out current evidence on the state of natural resources in Wales.

It was prepared to inform the passage of the Environment Bill through the National Assembly, highlighting the main challenges that need to be addressed if Wales is to meet the challenging goals of managing natural resources in a sustainable manner and

[1] Definition of an ecosystem approach Convention on Biological Diversity

reversing the observed decline in biodiversity by supporting and enhancing healthy and more resilient ecosystems.

The report is based on published information and evidence that is readily available to NRW. It is acknowledged that there will have to be a more collaborative approach to pool the knowledge base in an attempt to gain a more comprehensive picture of the state natural resources in Wales. The report is designed to initiate the process of improving the evidence base to provide context and to inform the preparation of the State of Natural Resources Report (SoNaRR) which NRW intend to publish report in the autumn of 2016 and subsequent reports at five-year intervals thereafter.,

NRW already have a comprehensive collection of environmental data and evidence for some of our natural resources that allows them to understand much about their condition. Most of this data has been captured to meet statutory duties e.g. EU Directives and other legislation introduced since the 1970s.

For the most part this data is aimed at tackling specific, thematic, environmental issues. For example, NRW already has a relatively good understanding of the condition of Wales' freshwaters from the monitoring they are required to undertake for the Water Framework Directive and the water quality directives that preceded this. However it is recognised that for other natural resources data is more variable, both in quality and extent. NRW do not have extensive monitoring programmes for soils, air quality, or many plant and animal species. Consequently, the understanding of the condition, or state, of these natural resources and the structure and functioning of their supporting ecosystems is often less well developed. There is therefore still a significant gap between the established monitoring, data and environmental indicators that we currently employed and the integrated knowledge-base that will be needed to inform the sustainable management of Wales'natural resources.

New knowledge will need to be gathered, for instance:

- *to improve the understanding of ecosystem functioning and environmental limits;*
- *to develop the ability to model and forecast future pressures;*
- *to understand how ecosystem condition translates into social and economic benefits;*
- *and to support the development of effective indicators to provide a comprehensive and informative picture of the state of our natural resources.*

It will take time and new ways of working to gather this knowledge. NRW will work much more closely with their partners to identify new and innovative ways of capturing and exchanging data. We also need to ensure that the data we use is of appropriate quality and that we have the permissions to publish it.

The Snowdonia National Park Authority is looking forward to closer working with the NRW and making use of the data and evidence it holds, and intends to collect, to provide a more comprehensive State of the Park Report. **As such this Review is very**

much and interim document and it is anticipated that following publication of the State of Natural Resources Report (SoNaRR) in 2016 a more complete picture of the state of natural resources in Snowdonia can be presented

CLIMATE CHANGE

Climate Change

Although changes in the climate can occur naturally, there is a broad scientific consensus that human actions are contributing to climate change and also global warming. Activities that involve the emission of greenhouse gases such as carbon dioxide (CO_2) into the atmosphere, predominantly through the burning of fossil fuels for power, are contributing to climate change.

Data from Snowdonia contributes proactively to monitoring the effects of climate change, in order to ensure future adaptability.

The UK Environmental Change Network (ECN), in conjunction with the Countryside Council for Wales (CCW), monitors climate change and its potential impacts upon biodiversity, soils and freshwater at a site on Snowdon.

Annual Average Temperature[2] and Rainfall

Snowdonia has experienced modest changes to the climate evidenced by monitoring on Snowdon. This has become apparent since the 1960s and 1970s. **Spring air temperatures have shown an upward trend** whilst **winters have become less severe**. Soil and grass minimum temperature have also both risen. Accompanying these changes has been **a rise in annual precipitation totals since 1995**. The extent of the overall temperature rise since recording started in 1995 have however been reduced by the effects of recent severe winters and because of the year-to-year variations in climate.

In addition, Snowdonia is one of the areas which contributes to the MONARCH (Modelling Natural Resource Responses to Climate Change) research programme. MONARCH aims to evaluate the impacts of climate change on nature conservation (including wildlife and geomorphological features) in Britain and Ireland. The outcomes of this study will gradually help to build our understanding of the complex interactions between climate change, land cover, species and their habitats.

The MONARCH 3 model was designed to more accurately predict changes at a habitat or community level, by examining a wide range of species and making further improvements to the predictive power of the modelling process. One such species of relevance to Snowdonia was Black Grouse (*Tetrao tetrix*)

Results indicate that there have been recent recoveries in Black Grouse populations in north Wales due intervention and improved management of upland areas by various agencies such as Natural Resources Wales and the RSPB.

[2] For a given location the averages of daily maximum and minimum temperature for a single month for many years give mean daily maximum and minimum temperatures for that month. The average of these values is the mean monthly temperature. Monthly means, averaged through the year, give the mean annual temperature.

Summary of major trends in Snowdon ECN site over the period 1992-2007. Red arrows indicate upward trends and blue arrows downward trends.

Temperature	↑
Precipitation	↑
Soil pH	↑
Vegetation – species richness	↓
Nutrient - Ellenberg N[3]	↓

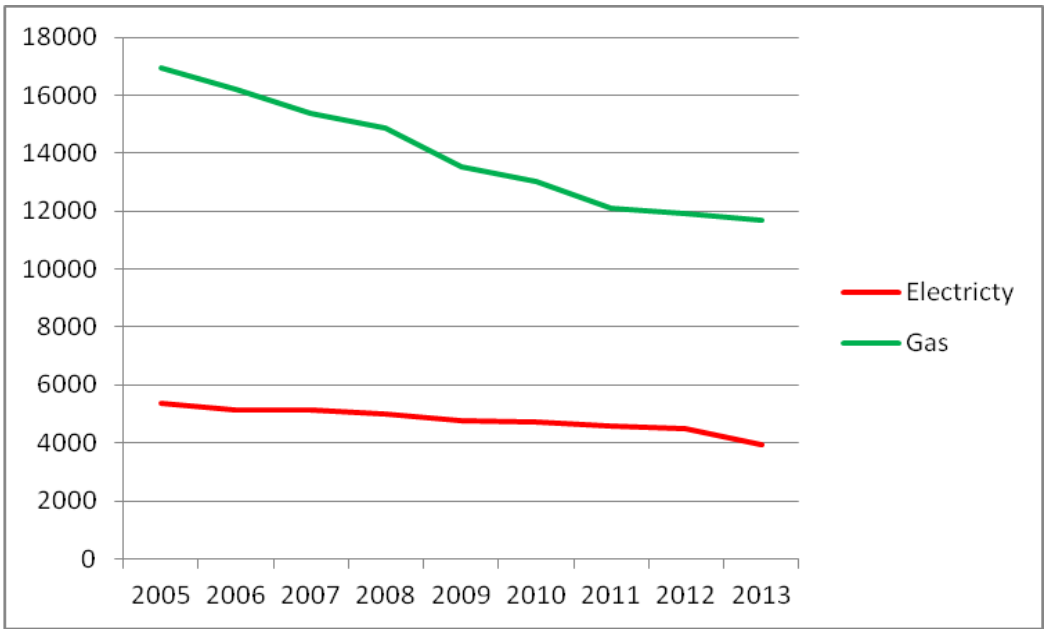
Source: Lloyd, D.S., Turner, A.J., Skates, J. Easter, J. and Bowmaker, V. (2011) Yr Wyddfa Snowdon Environmental Change Network: 15 years of monitoring on Yr Wyddfa/ Snowdon. Countryside Council for Wales, Bangor.
www.ecn.ac.uk/publications/snowdon-15-years/at_download/file

Energy Consumption

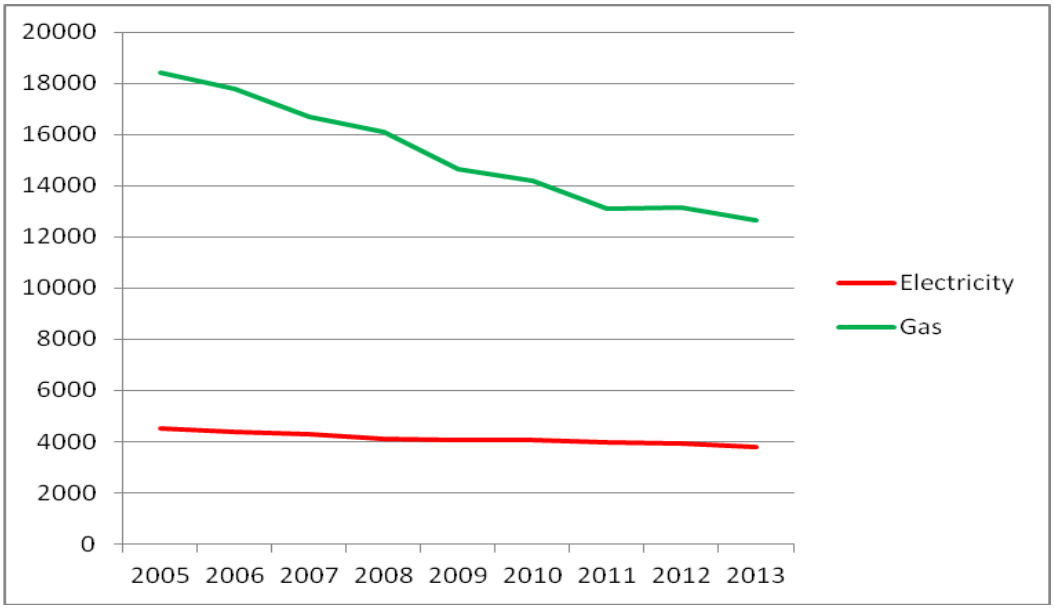
Energy efficiency is one means of combating climate change. By using energy more efficiently and reducing demand for energy in our homes we can, not only save money, but go some way to reducing greenhouse gas emissions from electricity generation.

A detailed breakdown of domestic gas and electricity consumption within the National Park is not available. However figures are available for Conwy and Gwynedd.

[3] Ellenberg N values estimate the position along a productivity/macro-nutient availability gradient at which a species reaches peak abundance. The Ellenberg N Index consists of allocating a N score to each plant species, so that the overall mean score for the community lies on a scale of nutrient poor (1) to nutrient rich (10)Calculating mean values for sampled vegetation allows spatial or temporal changes in productivity to be inferred. Many calibration studies support the reliability of these values in signal detection, but attributing change to a specific cause is difficult because the N values integrate a range of effects.



Domestic Electricity and Gas Consumption (kWh) in Gwynedd



Domestic Electricity and Gas Consumption (kWh) in Conwy

Sources:
http://tools.decc.gov.uk/en/content/cms/statistics/local_auth/interactive/domestic_ge/index.html
https://www.gov.uk/government/statistics/mlsoa-electricity-and-gas-2013

Whilst gas consumption in both Gwynedd and Conwy are close, or below, the national average, domestic electricity consumption in Gwynedd is significantly higher (>5%) than the national average. This is probably due to a number of factors including climate, age of properties and the greater use of electricity for heating properties off the gas grid

Another means of showing domestic energy consumption is the **Housing Eco-Footprint.** The Housing Eco-Footprint measures the impact of fuel emissions from direct household energy use for heat, hot water, lighting and electrical appliances as well as the impact from household maintenance and from household construction.

The Housing Eco-Footprint for Wales in 2008 was predicted to be 1.45 gha/capita[4].

Both Conwy and Gwynedd are predicted to have a Housing Eco-Footprint of 128 – 1.33 gha/capita.

(Source: Wales' Ecological Footprint Scenarios to 2020. Stockholm Environment Institute 2008). http://www.sei-international.org/mediamanager/documents/Publications/Future/wales_ecological_footprint_report_270508_final.pdf

Percentage of Waste Reused/Recycled/Composted

Reducing waste generation and re-using, recycling and recovering energy from waste conserves raw materials, reduces emissions and saves energy. It is an integral component of living sustainably development and contributes to combatting climate change.

Most of the waste generated within the National Park is treated and disposed of outside the Park boundary. With Local Authorities set challenging targets by Welsh Government on waste re-use and recycling rates and reducing landfill to zero, performance shows year on year improvement.

Percentage of Waste Reused/Recycled/Composted 2014/2015

	% HW[5] Reused/Recycled	% HW Composted	% Non-HW Reused/Recycled	% Non-HW Composted	Total
Wales	27.9	18.3	9.2	0.9	56.2
Gwynedd	20.5	17.3	13.1	4.3	55.1
Conwy	24.3	19.1	12.5	3.2	59.1

Source: https://statswales.wales.gov.uk/Catalogue/Environment-and-Countryside/Waste-Management/Local-Authority-Municipal-Waste/Annual

Renewable Energy

In order to combat climate change there needs to be a sustained reduction in the emissions of carbon dioxide and other greenhouse gases. One means of doing this is to reduce the use of fossil fuels in electricity generation and move towards more sustainable, renewable energy sources. The Snowdonia National Park is playing its part in meeting these aspirations

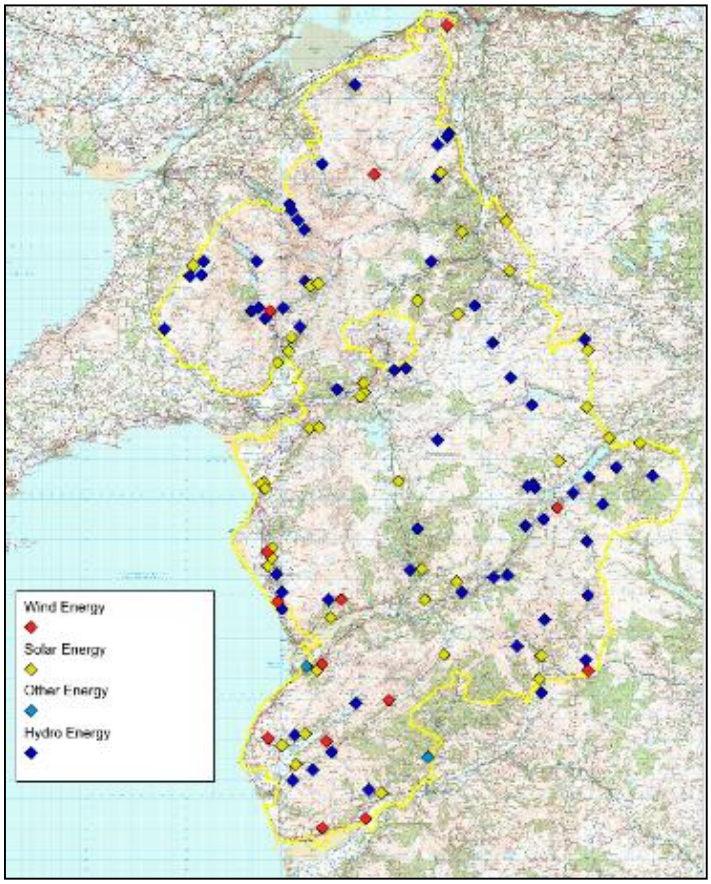
[4] **gha/capita:** Footprint per capita is measured in global hectares. A global hectare is a hectare with world-average ability to produce resources and absorb wastes.

[5] HW Household Waste

Whilst not all types of renewably energy technologies are appropriate in designated landscapes such as Snowdonia, the map below highlights all the renewable energy applications that have been granted planning permission since the adoption of the Eryri Local Development Plan (*July 2011 until June 2015*). 136 applications for renewable energy production were granted planning permission during this time period.

Renewable Energy type	**Planning Applications Received (*including withdrawn application*)**	**Planning Applications Granted**
Hydro	86	73 (84.8%)
Wind	20	16 (80.0%)
Solar	48	45 (93.8%)
Other	3	2 (66.6%)

73 hydro applications have been granted planning permission since July 2011. 34 of these were in 2013 whilst 26 were granted during 2014. The two renewable energy applications which were granted permission were for a biomass boiler cabin and a chip storage unit with a combined heat and power system



AIR

Air Quality

Due to its geographical location on the north-western fringes of Europe and the prevailing south-westerly winds experienced for most of the year the air quality in Snowdonia is generally very good. Occasionally however in settled weather conditions, with high pressure over the UK, easterly winds can bring pollutants from more industrialised areas and as a result the levels of some pollutants can be elevated.

Air quality in Wales can be illustrated using modelled maps of background concentrations of a suite of airborne pollutants. Using dispersion modelling, concentrations from the National Atmospheric Emissions Inventory (NAEI) data are calculated. Model output is calibrated using results obtained from the monitoring networks across Wales with the maps being verified against local authority monitoring data.

The UK's Air Quality Strategy sets out Air Quality Standard Objectives as minimum or zero risk levels. They are set in relation to scientific and medical evidence on the effects of the particular pollutant on health, or, in the appropriate context, on the wider environment.

Since 1990 there has been a decline in emissions of the seven priority air quality pollutants. The rate of decline particulates ($Pm_{2.5}$, Pm_{10}) Nitrogen oxides (NOx), non-methane volatile organic compounds (VOCs), sulphur dioxide (SO_2) and carbon monoxide (CO) is similar. There has been a much steeper decline in lead (Pb) emissions between 1990 and 2000 due to removal from sale of leaded petrol. Emissions of ammonia (NH_3), mainly from agricultural sources, have not declined as quickly as other pollutants.

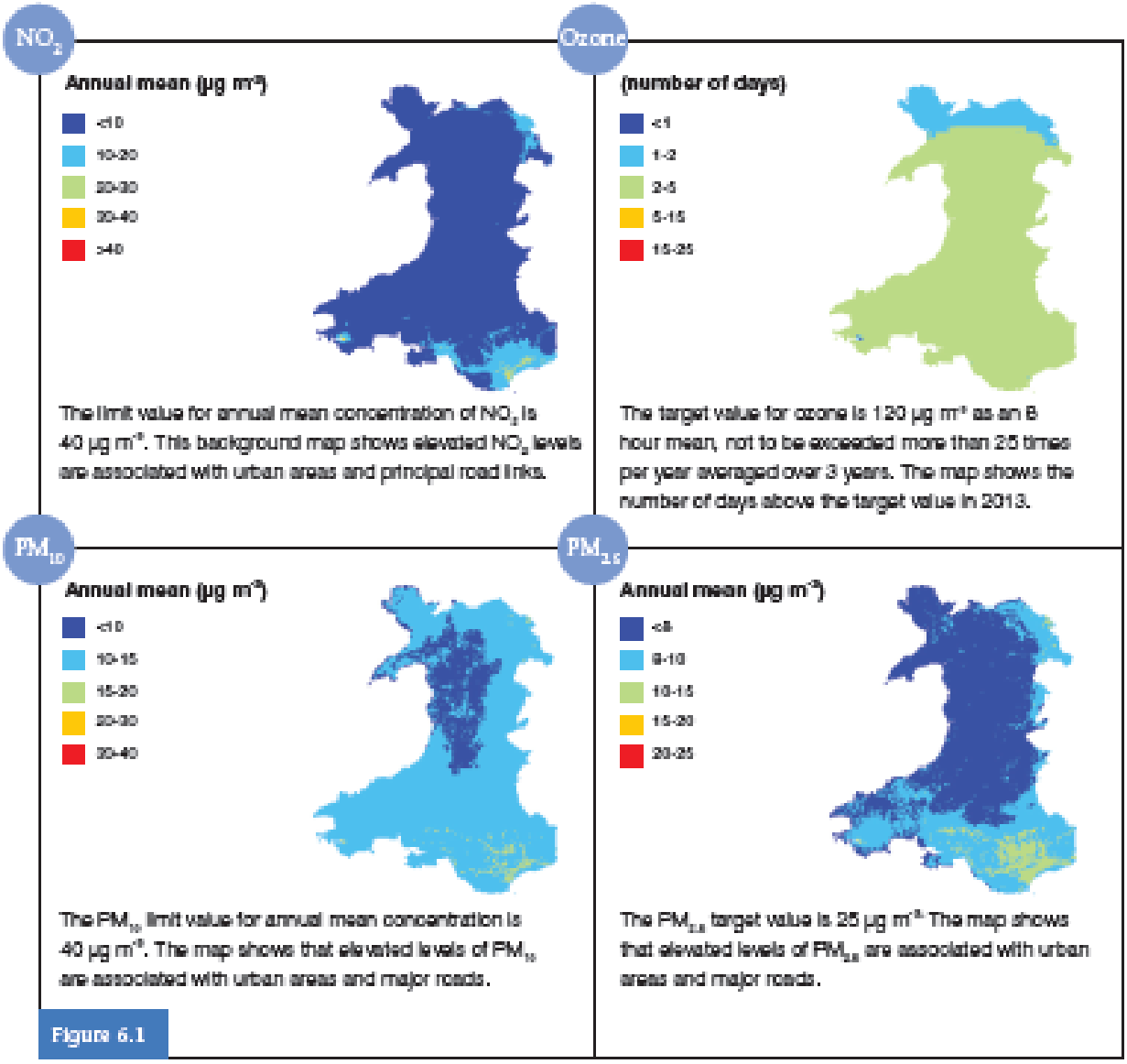


Figure 6.1

Source:
http://www.welshairquality.co.uk/documents/reports/471141002_AQ_wales_2013_Final_in_English.pdf

WATER

Water Quality

WFD Classification

The way that waterbodies are assessed has changed significantly as a result of the introduction of the WFD. Previously, the General Quality Assessment (GQA) scheme was used to assess river water quality in terms of chemistry, biology and nutrients. The WFD classification looks at over 30 different measures, grouped under two main headings:-

- *ecological status (this includes biology as well as other factors such as phosphorus and pH) and*
- *chemical status ('priority substances' e.g. mercury).*

In addition to rivers the WFD also covers estuaries, coastal waters, groundwater and lakes. As a consequence NRW have had to update existing assessment techniques and develop new ones for those indicators not previously assessed

River Basin Management Plans

Under the Water Framework Directive, Natural Resources Wales is required to produce River Basin Management Plans (RBMP) that describe the pressures facing the water environment in each of Wales's three river basin districts[6] on a series of six-year planning cycles. The second tranche of RBMPs is to be published in December 2015

Each plan outlines the actions needed to improve the water environment. They also list the benefits that can be achieved and those best placed to deliver them. The Snowdonia National Park lies partly in the Western Wales RBD and partly in the Dee RBD

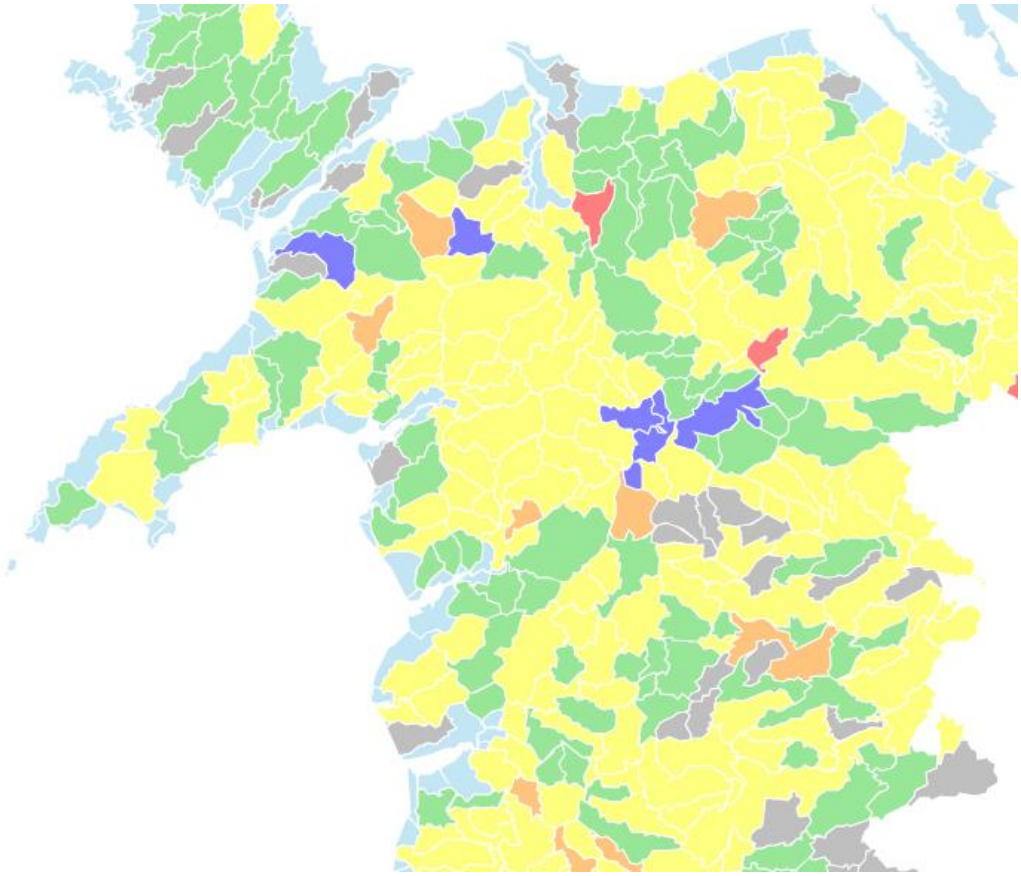
http://waterwatchwales.naturalresourceswales.gov.uk/en/map.html?webmap=93a281f965424ef4bddc2c006dc4f99c

Status of catchments in Snowdonia

The status of water bodies in Snowdonia can be viewed at:-

http://waterwatchwales.naturalresourceswales.gov.uk/en/

[6] A 'river basin district' is a group of catchments that contains a collection of rivers, lakes, groundwater reserves and coastal waters.



Key

Bad	
Good	
High	
Moderate	
Not yet assessed	
Poor	
Removed coastal water body	

Reasons for Failure for Water Bodies in Snowdonia

NRW use reasons for failure (RFF) information to identify the main factors and issues impacting on Wales' water environment. Some failures may be caused by upstream issues (e.g. over-abstraction or regulation of flow) or downstream (e.g. obstructions such as weirs and dams can prevent fish migration). These issues occur across catchments and water bodies.

The main reasons for failure that Local Authorities should be able to address have been identified:

- *Artificial barriers to fish migration*
- *Abandoned mines & contaminated land*
- *Sewage discharges*
- *Flood protection & land drainage*
- *Urban & transport development*

The table below shows all of the reasons for failure that NRW have identified for water bodies in the Snowdonia National Park. In many cases water bodies fail for multiple reasons.

Reason for Failure	Number of times RFF identified
Abandoned mines and contaminated land	33
Acidification	27
Agricultural pollution	9
Barriers to fish migration	10
Flood protection and land drainage	5
Forestry	15
Industrial discharges	33
Natural conditions	3
Septic tanks	19
Sewage discharges	1
Surface water abstraction	3
Urban and Transport development	1
Other	1
Unknown	5

In order to achieve ***Good*** status many different co-deliverers need to take action utilising, where possible, existing mechanisms and measures to deliver cost-effective sustainable improvements to the waterbody in question.

Coastal Waters

Water quality at designated bathing water sites in Wales is assessed by Natural Resources Wales. From May to September, weekly assessments measure current water quality, and at a number of sites daily pollution risk forecasts are issued. Annual ratings classify each site as excellent, good, sufficient or poor based on measurements taken over a four year period.

In 2014, all of the bathing waters in Wales were compliant under the Bathing Water Directive. This is the best overall result in the UK (http://environment.data.gov.uk/wales/bathing-waters/profiles/index.html)

Wales has seen an increase in the number of international Blue Flag Awards[7] with 41 beaches and one marina in Wales being awarded a Blue Flag Award - eight more than last year. A further 30 beaches successfully obtained the Green Coast Award and 102 beaches across Wales gained a Seaside Award for their good water quality and facilities.

Quieter beaches in Wales were also recognised with the Green Coast Award .Winners of this award are generally the less popular beaches, often in more scenic locations that qualify with the highest standard of water quality but are better known for their natural, unspoiled environment.

The Seaside Award celebrates beaches that have good public facilities, water quality, safety and management. In Wales these awards are managed by environmental charity Keep Wales Tidy

Blue Flag Awards

No beaches in Snowdonia have been awarded Blue Flag status. Beaches nearby the National Park boundary who were awarded Blue Flag status in 2015 include;

- Barmouth Beach
- Llanfairfechan Beach

[7] The blue flag award is issued by the Foundation for Environmental Education (FEE), which rates beaches on categories including safety, facilities, and environmental management, as well as water quality and runs in 48 countries around the world.

Green Coast Awards

2012	2013	2014	2015
Harlech	Harlech	Harlech	Harlech
Bennar / Llanenddwyn	Bennar / Llanenddwyn		
Llandanwg	Llandanwg		

The United Kingdom Acid Waters Monitoring Network

The United Kingdom Acid Waters Monitoring Network (UKAWMN) was established in 1988 to monitor the ecological impact of acid deposition in those areas that are believed to be sensitive to acidification. Its data-base provides a long-term record of water chemistry and biology which is unique for upland freshwater systems in the UK. Two lakes in Snowdonia (Llyn Llagi near Cnicht and Llyn Cwm Mynach in the Rhinogydd) are monitored under this scheme. Biological and chemical monitoring takes place on a quarterly basis, and epithilic diatoms and benthic invertebrates are sampled annually. The results are published annually by the Network.

The United Kingdom Acid Waters Monitoring Network 10 year Report 1988 – 1998 (March 2000) reported the following *(Source: UKAWMN www.ukawmn.ucl.ac.uk):*

- **There is strong evidence from Llyn Llagi that there is long term chemical and biological recovery from acidification.** The UK Acid Waters Monitoring Network 20 Years Interpretive Report noted **that there was continuing significant recovery from acidification at this site.**
- **Llyn Cwm Mynach sediment cores indicate that acidification was occurring until relatively recently, exacerbated by forestry within the catchment**. Few clear changes in lake chemistry occurred in the10 year period running up to 1998. **The more recent The UK Acid Waters Monitoring Network 20 Years Interpretive Report found slight evidence of recovery from acidification**

Although pollutant concentrations have decreased in response to emission controls the recovery of Snowdonia's ecosystems from acidification is taking longer and on-going levels of pollutants (such as nitrate and ozone) are still likely to be having a negative impact on semi-natural habitats. Avoiding such impacts is the key driver behind the UK Air Quality Strategy which set air quality objectives for a number of major pollutants to be achieved by 2020.

LAND

Geology and Soils

The National Park has a unique and visible geological character that is a fundamental part of its outstanding landscape and scenery which has been formed and re-shaped by complex processes such as plate tectonics, glaciations, weathering and erosion. Snowdonia has played an important role in the development of earth sciences, with many notable geologists visiting to undertake fieldwork. It contains a wealth of nationally and locally important geological and geomorphological features, and has a wide-range of soil types that are influenced by the underlying geology and rock types and also the land management practice/activity upon it.

Human action has, over a considerable period of time, impacted in various ways on geological and soil resources through activities such as quarrying; the clearance of native woodlands for agriculture; the draining of upland bogs; commercial afforestation and erosion due to recreational activities and overgrazing.

Regionally Important Geodiversity Sites

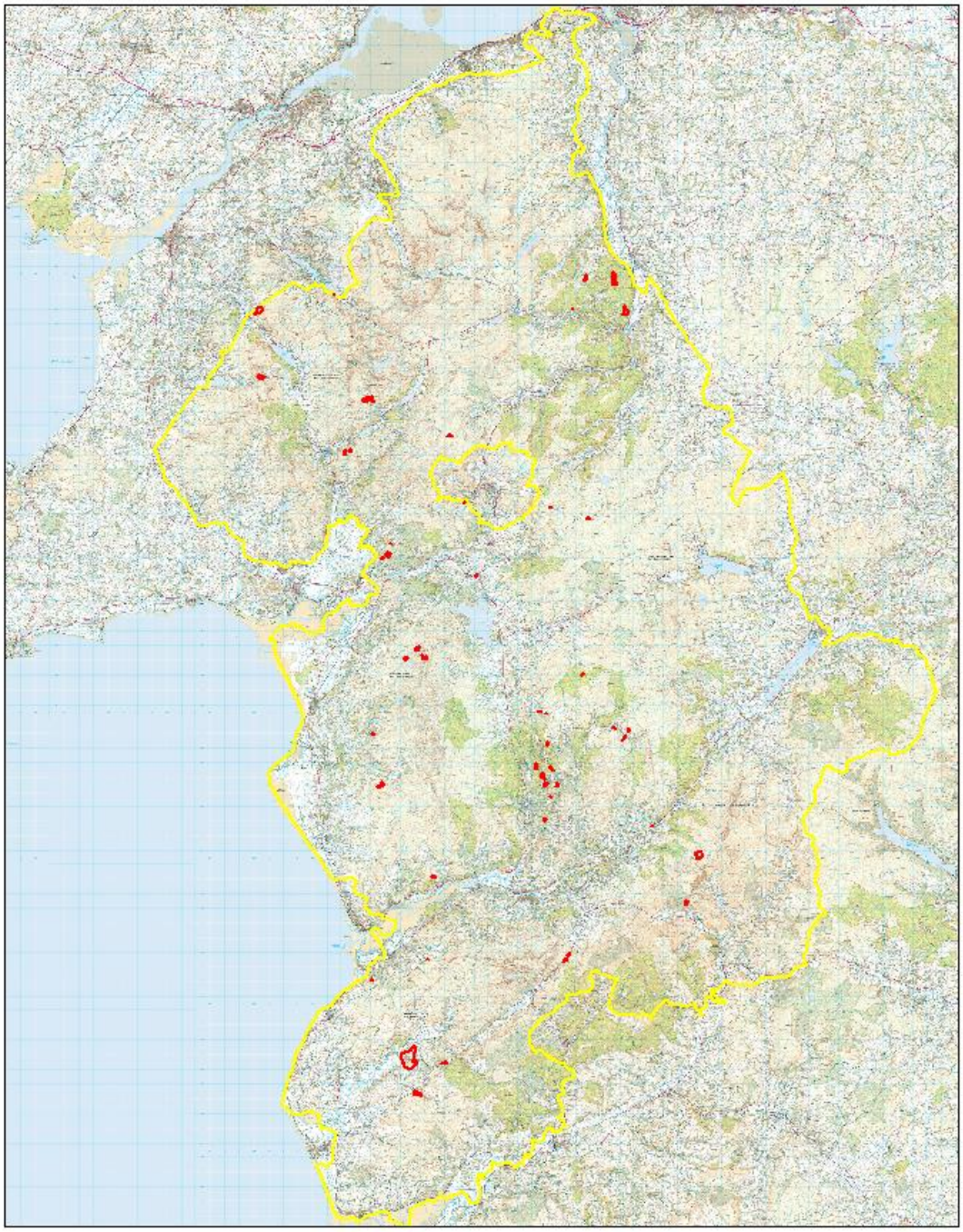
RIGS were designated as Regionally Important Geological/Geomorphological Sites in the UK Nature Conservancy *"Earth Science Conservation in Great Britain: A Strategy"* (1990), being of a standard worthy of recognition and protection as non-statutory sites, to complement the SSSIs and NNRs under statutory protection. RIGS sites in Wales are now known as Regional Geodiversity Sites

Natural Resources Wales have contributed to the all Wales audit of RIGS through financial and technical support. The audit which began in 2003, is the first comprehensive national assessment of second-tier sites in Wales. It was undertaken largely by the local RIGS groups and NRW Earth Scientists with the majority of the funding coming from the Aggregates Levy Sustainability Fund, but with a financial contribution by NRW to the project in North Wales. The audit led to the standardisation of the site documentation, digitisation of site boundaries to a common format and ensured that the landowners and planning authorities were informed of the RIGS.

A major input from NRW was the development of the GIS database for the project where all of the 600 or so sites registered so far were digitised by NRW. NRW currently hosts these GIS data.

There are 47 RIGS in the National Park

RIGS Sites within SNPA



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Dyddiad / Date:
5 November 2015

Awdurdod Parc Cenedlaethol Eryri ~ Snowdonia National Park Authority
Swyddfa'r Parc Cenedlaethol ~ National Park Office
Penrhyndeudraeth
Gwynedd
LL48 6LF

☎ 01766 770274

Location of Working Mineral Sites in Snowdonia

Table 9 presents details of the current working mineral sites in Snowdonia.

Name of Site	Commodity	Other Mineral Type	National Grid Easting	National Grid Northing
Braich Ddu	Slate Waste	Building Stone	271970	338440
Craig y Tan	Igneous and Metamorphic rock	Building Stone	271349	336224
Ty'n-y-Coed	Slate Waste	Secondary Aggregate	265030	315275

Working Mineral Sites (Source: Snowdonia National Park Authority)

Peat Soils and Carbon Sequestration

Carbon sequestration is where atmospheric carbon dioxide is removed by natural or artificial processes and stored. Peat soils in Wales provide a signifcant carbon store The current estimate[8] of the extent of deep peat soils (depth ≥0.5m) in Wales is 90,995ha, some 4% of the' total land area. **They provide Wales' largest terrestrial ecosystem store of carbon, estimated at around 157mt**

It is estimated that if they were returned to near-natural condition, their climate change mitigation potential is 300,000 tonnes of carbon dioxide per year. This is roughly the equivalent of 5% of all Welsh transport related emissions.

Approximately 30% of Wales' peak bog is found within the boundaries of Snowdonia National Park. In order to get a more accurate assessment the National Park Authority has commissioned the mapping and evaluation of peat, peatland habitats, associated ecosystem services and restoration priorities within Snowdonia. The outputs of this work will include:-

- *a GIS based inventory of deep peat (>0.5m) deposits in and within a variable buffer of the National Park boundary;*
- *an estimate peat carbon stocks based on peat depth and peatland morphology to identify priority carbon storage sites within the project area;*
- *a map and evaluation of the habitat cover and condition of peatlands within and adjacent to the National Park at a plant community level such as NVC and/or Phase I. Habitat cover to be grouped into a series of classes which reflect the broad habitat condition; Maps and habitat cover extent tables will be produced showing the extent of overlap of these broad habitat cover classes on peat;*

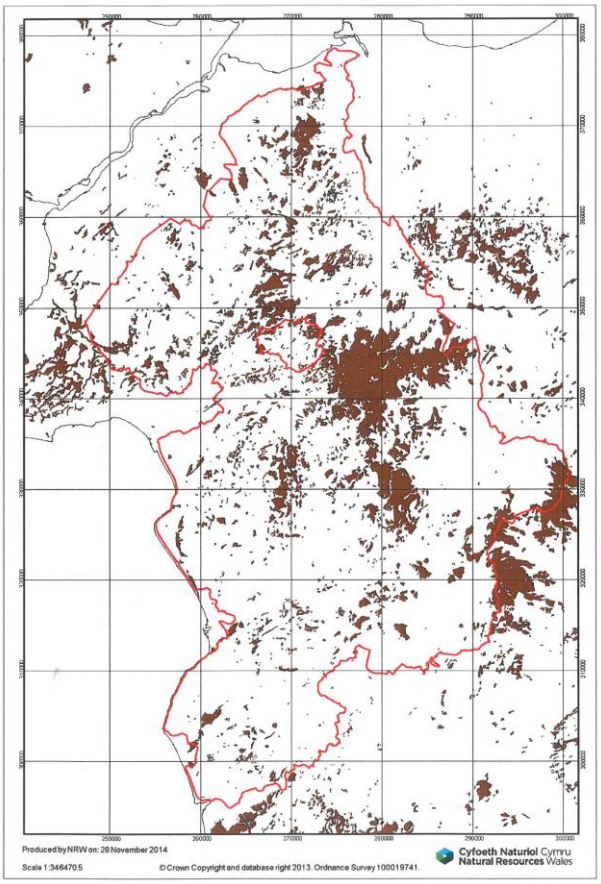
[8] A Snapshot of the State of Wales' Natural Resources 2015

- *a map showing drainage features (grips) on deep peat within the study area following methodology developed by BGS;*

- *a map of emission "hotspots" and restoration priorities by cross mapping emission factors to defined habitat cover categories to yield mapped outputs of emissions according to pre-agreed classes;*

- *the identification of key opportunities where restoration could be focussed to reduce emissions. This will require collation of evidence relating to habitat character and condition, topography (primarily slope) and proximity to rivers and lakes to identify priority sites for restoration. A third GIS layer to be developed reflecting 'restoration urgency' based on the vulnerability of peatland sites to further damage and carbon loss (e.g. severely eroded sites);*

The outputs of this work, some of which will be incorporated into this document when they become available, will enable the Authority to develop a peatland strategy to help guide future restoration works as an element of sustainable land management and to help quantify some of the principal ecosystem service benefits associated with restoration. The map below shows the extent of peat soils in Snowdonia



Woodlands

Extent of Woodland Coverage

Wales is one of the least wooded countries in Europe with the area of woodland at 31 March 2010 estimated to be 303,500ha. This is 14.3% of the total land area compared to an EU average of 37%per cent. Natural Resources Wales (NRW), on behalf of the Welsh Government, manages 37% of the Welsh woodland which equates to 114,000 hectares. A further 190,000ha are in private ownership

Timber from Welsh conifer woodlands is used mainly in construction, fencing and packaging.

Snowdonia National Park has a woodland cover of approximately 18%, which equates to some 38,000ha (12.5% of Welsh woodland cover). Whilst large areas of Snowdonia would once have been afforested with native broadleaf forests, human actions have reduced this over several millennia such that **native woodlands now equate to approximately 5% of the National Park's woodland cover (11,000ha)**.

The Ancient Woodland Inventory (AWI) identifies woodlands that have had continuous woodland cover for some centuries. Studies show that these woodlands are typically more biodiverse and of a higher nature conservation value than those developed recently or those where woodland cover on the site has been intermittent. These woodlands may also be culturally important. The new updated inventory (AWI 2011) indicates that there are around 95,000ha of ancient woodland in Wales.

- **Ancient Semi-Natural Woodland** (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years
- **Plantation on Ancient Woodland Sites** (PAWS) – sites which are believed to have been continuously wooded for over 400 years and currently have a canopy cover of more than 50% non-native conifer tree species
- **Restored Ancient Woodland Sites** (RAWS) – woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50% broadleaf[9]
- **Ancient Woodland Site of Unknown Category** (AWSU) – woodlands which may be ASNW, RAWS or PAWS. These areas are predominantly in transition and

[9] Information sources do not identify whether broadleaf trees are native to a specific site, therefore an assumption has been made that they are native. The phrase 'restored ancient woodland' describes woodland which appears, with the use of remote sensing techniques, to have returned to a more natural condition. The inventory designation does not mean that the woodland is fully restored or that it is in good ecological condition. Active restoration work may well be essential to consolidate improvements in condition.

existing tree cover is described as 'shrubs', 'young trees', 'felled' or 'ground prepared for planting'.

Category	Wales (ha)	Snowdonia (ha)
Ancient woodland and site of unknown category	5444.1	713.4
Ancient semi natural woodland	41,786.53	3854.37
Plantation on ancient woodland site	25,748.89	3033.07
Restored Ancient woodland	21,961.58	1986.66
Total	94,941.10	9,578.50

It is estimated that current carbon sequestration by trees in Wales amounts to some 1.42 Mt annually (approx. 3.8% of total carbon dioxide emissions) and the Woodland Carbon Code is helping to improve this. Wales' status as a net sink for carbon is a result of a low incidence of land use change and a relatively young forest resource.

	Conifer			Broadleaved			Total
	Stems	Other	Total	Stems	Other	Total	
GB	189	51	340	109	136	245	534
Wales	23	18	41	14	17	31	72

Data from McKay *et al*, (2003) calculated assuming 50% of biomass is C; excludes fine roots and broadleaf foliage (assumed deciduous); excludes privately owned woods <2ha

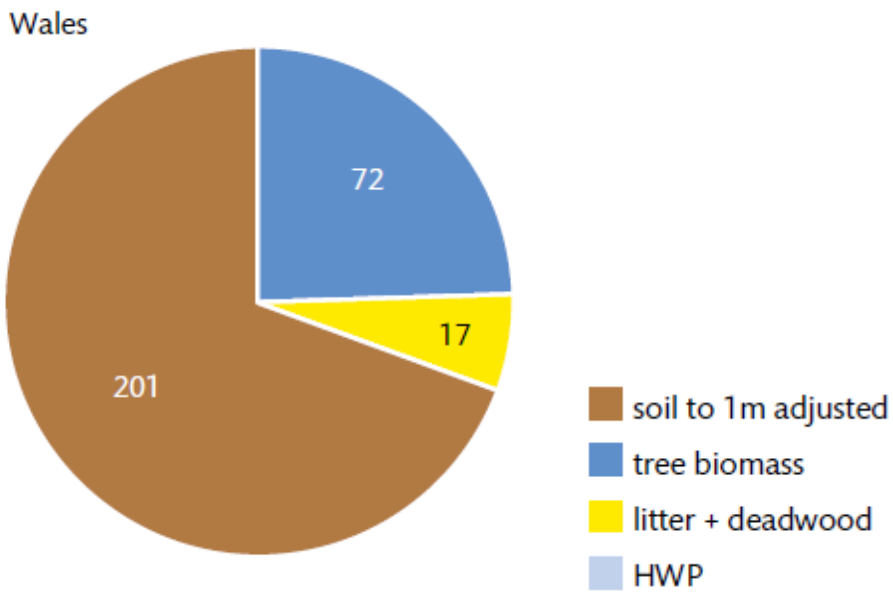
Summary of carbon stocks ($MtCO_2$) in standing tree biomass of GB and Welsh woodlands

Separate figures for the carbon stock in trees in the National Park have not been published however as a starting point a very rough approximation can be made based on two calculations, firstly the apportionment (12.5%) of the Wales total of 72 $MtCO_2$ to Snowdonia and secondly applying the estimated figures of 300 and 500 tCO_2ha^{-1} respectively for Sitka spruce and oak stands to the c27,000 ha of Sitka spruce plantations and c11,000 ha oak woodlands in the National Park [10]

Estimated Carbon stocks in the standing biomass of Snowdonia's woodlands would be in the range of 9 – 13.6 $MtCO_2$

Estimated components and proportions of in-forest stocks of Wales' Forestry ($MtCO_2$)

[10] Figures derived from "Understanding the carbon and greenhouse gas balance of forests in Britain." Forestry Commission 2012



The diagram shows that soils, particularly the peaty gleys on which most of Snowdonia's forests are planted account for a large majority of carbon stocks in woodlands.

This would amount to some 25.13 $MtCO_2$ in woodland soils in Snowdonia.

The Snowdonia National Park Authority/Forestry Commission Native Woodland Accord aims to increase the area of native woodland within the National Park by 50% by 2050 and to ensure that all existing woodland is appropriately managed within the same period (Source: Snowdonia Biodiversity Action Plan).

Source: http://naturalresources.wales/media/3133/peat-executive-summary.pdf

The Snowdonia National Park Authority/Forestry Commission Native Woodland Accord aims to increase the area of native woodland within the National Park by 50% by 2050 and to ensure that all existing woodland is appropriately managed within the same period (Source: Snowdonia Biodiversity Action Plan).

Agriculture

The predominantly moist temperate maritime climate combined with topography of Wales means that agriculture is primarily focused on raising livestock for meat and milk production. Red meat production (sheep, cattle, pigs) contributes the largest share, some 43% of total the Welsh Agricultural Output. The growing of arable or horticultural crops and raising poultry or pigs are smaller sectors.

Upland sheep or cattle farms comprise 31% of the total with 4% dairy. Currently there are about 9.7 million sheep in Wales (about a quarter of the total number of sheep in the UK). and around 1.1 million cattle.

The Less Favoured Areas (LFAs) designation covers 76% of the agricultural land area in Wales. These areas are defined as land where agricultural productivity is limited by topographical and climatic constraints such as steep slopes, poor soils and high rainfall. The Welsh Agricultural Statistics 2012-2013 showed there was 63,366 ha of woodland (20% of all woodland in Wales) on agricultural holdings in 2013, primarily located in Less Favoured Areas.

The Authority recognises the importance of agriculture to Snowdonia by having dedicated staff to work alongside farmers in the delivery of National Park Purposes. In recent years, the Agriculture Liaison Section has been instrumental in drawing down European funding to enable farmers to undertake a number of land management projects.

Additional to the delivery of grants for land management the section also provides technical and policy advice/ support and determines permitted developing (planning) applications for agriculture within the National Park.

Agricultural Land Classification

The Agricultural Land Classification system provides a mechanism for assessing the quality of agricultural land to make informed decisions about its future use. The classification is based on the long-term physical limitations of land for agricultural use. Factors affecting the grade are: climate, site and soil characteristics and the important interactions between them. Figure 6 presents a map showing the classifications for land within the National Park. The land is graded 3 (good/moderate) and below.

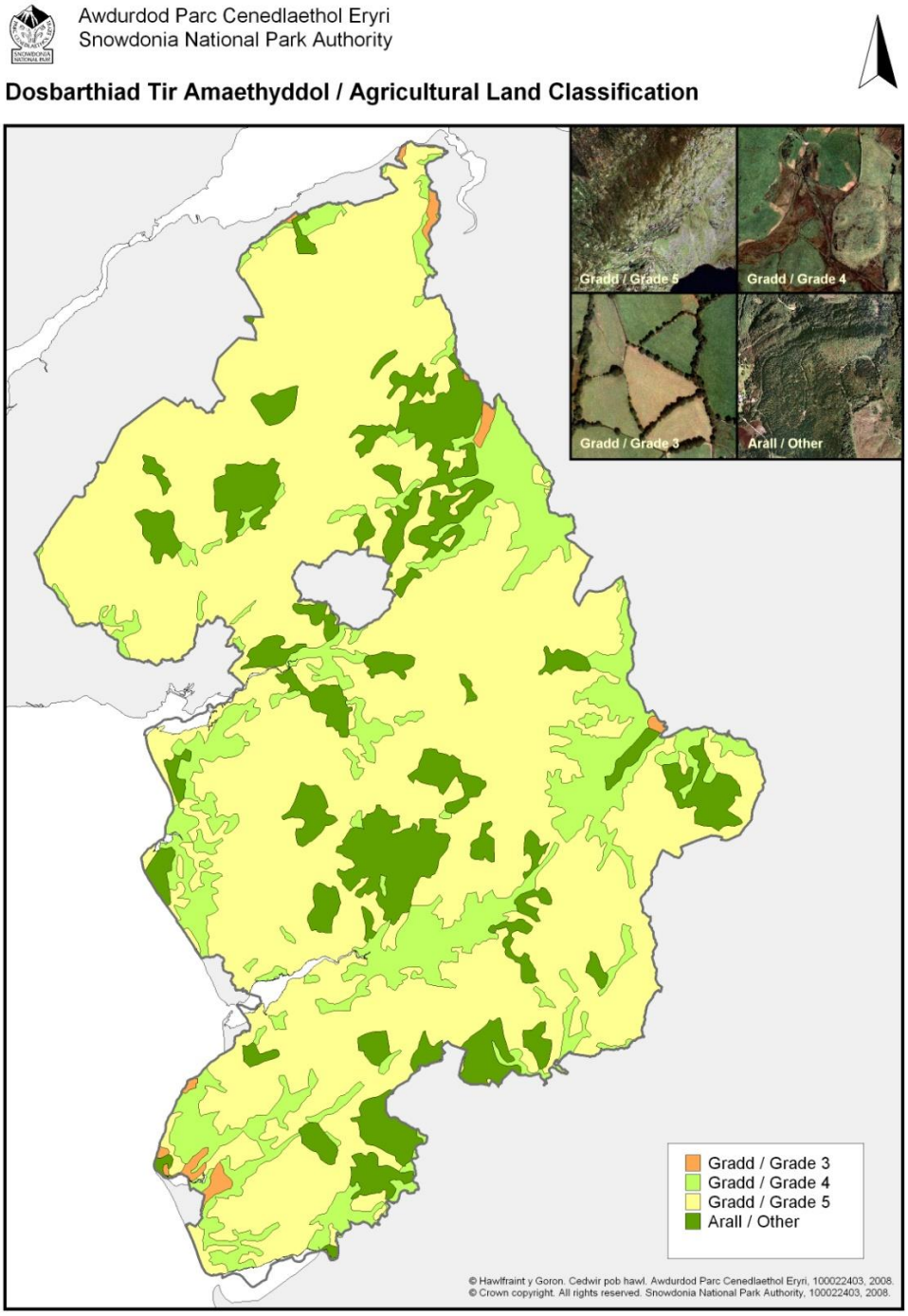


Figure 6: Agricultural Land Classification for the National Park (Source: Snowdonia National Park Authority, 2008)

LANDSCAPE

Landscape and Land Management

Introduction

Snowdonia National Park covers an area of 213,400 hectares, has a boundary of 362.29km and a coastline that extends for 60km. It incorporates large areas of woodland (both deciduous and non-deciduous), and over 96,000 ha of moorland.

The unique and varied landscape of Snowdonia is of exceptional quality and as such is one of its greatest assets forming a primary reason for its designation as a national park. Snowdonia National Park is recognised by the character and quality of the landscape, which is valued for its natural beauty, distinctive biodiversity, diverse geological resources, cultural heritage, rural character and unspoilt tranquillity.

The landscape within the National Park has been shaped by millions of years of natural evolution through mountain building and the erosive effects of glaciation, wind and rain. But human activity is also a significant influence through thousands of years of land management practices which have resulted in close socio-cultural associations being created between man and the landscape. The traditional rural character of settlements is distinct to the National Park and forms part of its historic landscape character. Both the landscape and townscape therefore play a fundamental role in the tourism industry, and therefore the local economy.

The Eryri Landscape Character Assessment

Since the last State of the Park Review the SNPA commissioned consultants to undertake an assessment of Snowdonia's landscape and to identify coherent Character Areas. The resulting Landscape Character Assessment drew on LANDMAP[11] as part of its evidence base, along with a wide range of other information that described the natural, cultural and aesthetic/perceptual qualities of the National Park.

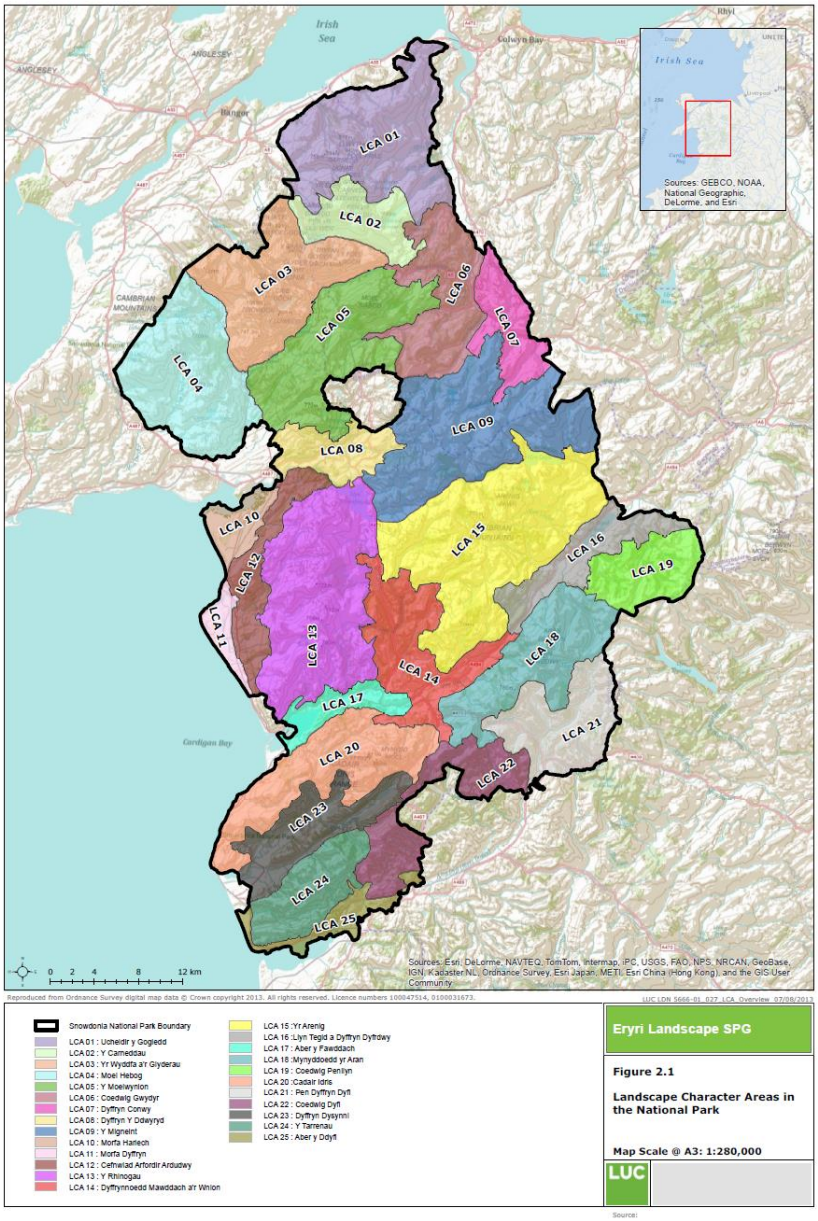
Following a desk-based assessment – which included a review of the LANDMAP information and other spatial data –a field verification exercise was undertaken to confirm the boundaries and information provided for the 25 Landscape Character Areas (LCAs) identified. The LCAs are designed to represent geographically discrete areas of the National Park's landscape that are recognised for their local distinctiveness and sense of place. They will form a useful spatial framework to describe the landscape and to ultimately assist in making decisions on how it should be planned and managed to maintain or enhance its special qualities.

[11] LANDMAP is an all Wales geographic information system based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent dataset. It is comprised of five 'Evaluated Aspects'; Geological Landscape, Landscape Habitats, Visual and Sensory, Historic Landscape and the Cultural Landscape.

The layout of the Assessment is structured with each LCA described separately, as follows:-

- Summary of LCA location and boundaries, including a map and representative photographs;
- Key characteristics;
- Forces for change affecting landscape character;
- A landscape strategy for the future;
- Guidelines for managing future landscape change.

A map of the National Park's LCAs is shown in Figure? Below



In the future the framework provided by the LCAs could serve as the basis for monitoring landscape change in more detail. A further refinement of this work is the Landscape Sensitivity and Capacity Assessment which will be developed in a further SPG. Eventually, in a review of the ELDP, planning policies can be refined to deal with changing circumstances arising from more detailed monitoring of landscape change and sensitivity.

Snowdonia National Park Seascape Assessment
In parallel with the development of the Landscape Character Assessment the SNPA also collaborated in a joint project with Anglesey County Council and Natural Resources Wales to produce a Seascape Character Assessment. Seascape Character Assessment is a development of the well-established process of landscape character assessment. It divides the study area into Seascape Character Areas (SCAs); geographically-distinct areas with a unique sense of place, and comprised of different combinations of Seascape Character Types (SCT), which define types of environment through uniform or predominant character as opposed to geographical coverage

The Seascape Character Assessment is structured somewhat differently to the Landscape Character assessment. Profiles are provided for each of the SCAs (which are named by their geographical position) describing the following:-

- Location and context;
- Summary description;
- Constituent SCTs;
- Key characteristics;
- Cultural benefits and services;
- Natural influences and sites; cultural influences and sites;
- Perceptual qualities;
- Forces for change and
- Inherent sensitivity.

Landscape Sensitivity and Capacity Assessment
This study was commissioned by Gwynedd Council, the Isle of Anglesey County Council and the Snowdonia National Park Authority It was intended to provide a robust evidence base for determining planning applications, informing the development of Supplementary Planning Guidance, helping to protect sensitive and distinctive landscapes from inappropriate development and encouraging a positive approach to development in the right location and at an appropriate scale. The study specifically considered the following five development types as well as also briefly touching on hydro energy developments.

- *Wind Energy (focussing on smaller scale developments)*
- *Field-Scale Solar PV Energy (not considered in SNPA)*
- *A 400 kV Overhead Line (Electricity Transmission Infrastructure)(not considered in SNPA)*
- *Mobile Masts (Telecommunications Infrastructure)*

- *Static Caravan/Chalet Parks and Extensions (Tourism)*

The acceptability of large scale development in the rural landscape is an emotive subject and one where compromise is often needed. Whilst it is generally acknowledged that the most valued landscapes should be protected, there are some areas where development can be accommodated, albeit in a controlled way to minimise adverse effects. This study aimed to understand where and how best to accommodate the different types of development identified in the brief.

It is important to note that this is a strategic study and is not prescriptive at an individual site level. It does not replace the need for assessment of individual planning applications or for specific local landscape and visual impact assessment as part of formal Environmental Impact Assessment (EIA). The assessment does not take account of other natural and cultural heritage considerations (except where they relate to landscape character and visual considerations), technical factors or the perceived need for the development.

Tranquil Areas and Dark Skies

Within the National Park tranquil areas are determined using a multi-criteria approach, having to lie at least:

- 4km from the largest power stations
- 2km from major trunk roads and the edge of towns
- 1km from medium disturbance roads and some mainline railways, areas of active quarrying, military and civil airfields, low disturbance roads, 400kv and 275kv power lines

The Tranquil Areas Map (see Figure 7) has been generated taking into consideration the general impact of noise on the environment and the impact of noise and light pollution from built up areas.

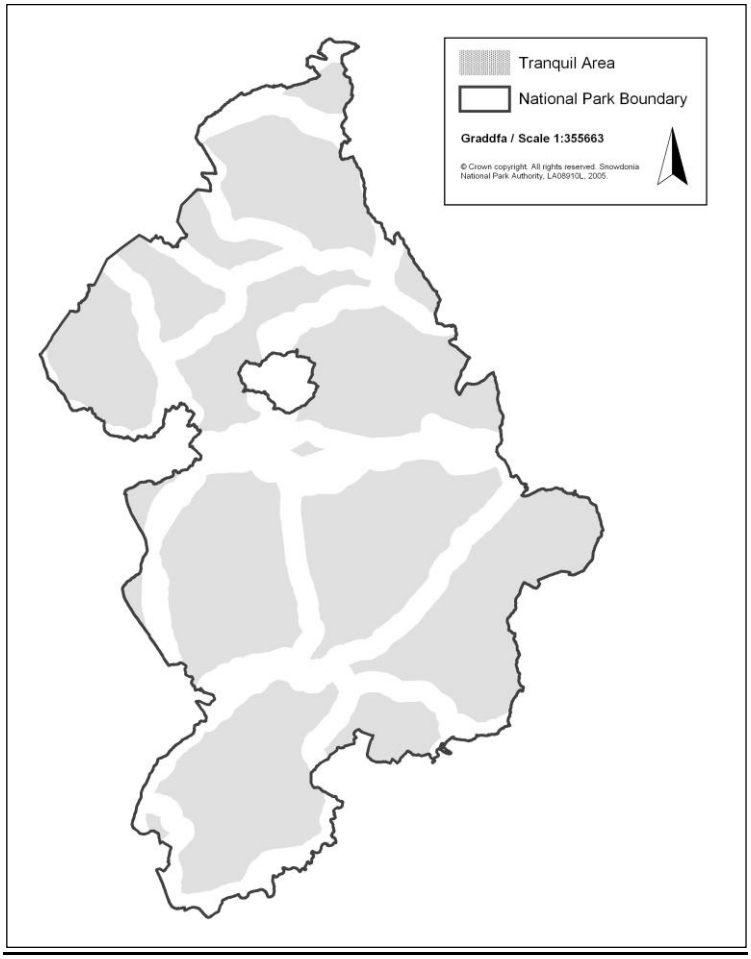


Figure 7: Tranquil Areas in Snowdonia (Source: Snowdonia National Park Authority, 2005)

Extent of tranquil areas in the national park	*143,692ha*
Percentage of the national park categorised as tranquil	*67%*

Snowdonia Dark Skies Reserve

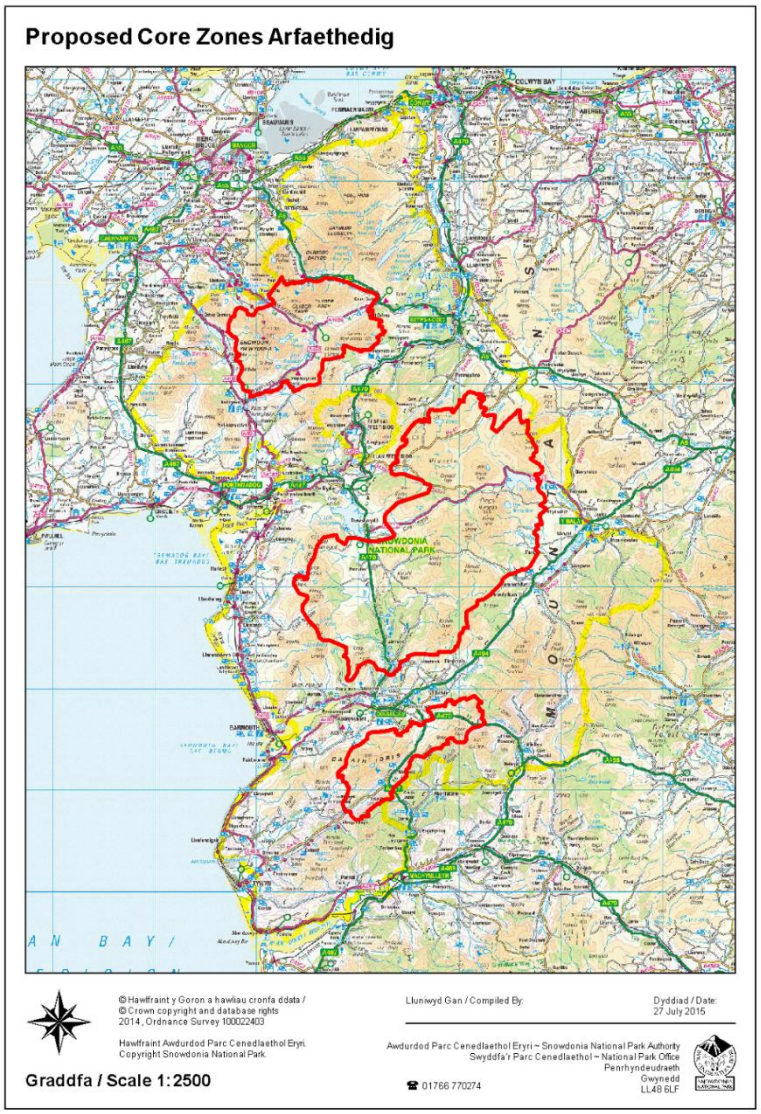
A Dark Skies Reserve designation is a prestigious award given by the International Dark Sky Association (IDA) to select destinations that have proven that the quality of their night sky is outstanding and real efforts are being made to reduce light pollution. The Snowdonia National Park Authority applied to the IDA for Dark Skies Reserve status in the summer of 2015. This followed months of survey work by volunteers who went out to measure the quality of the night skies of Snowdonia.

By gaining Reserve status in October 2015 Snowdonia will be able to take advantage of other benefits resulting from the designation. In other areas that have been designated,

such as the Brecon Beacons and Galloway in Scotland, the environment, economy, welfare, tourism and wildlife have benefited, which in turn, has contributed to reducing the carbon footprint as less electricity and fossil fuels are used.

As result of Dark Sky Reserve designation it is envisaged that;

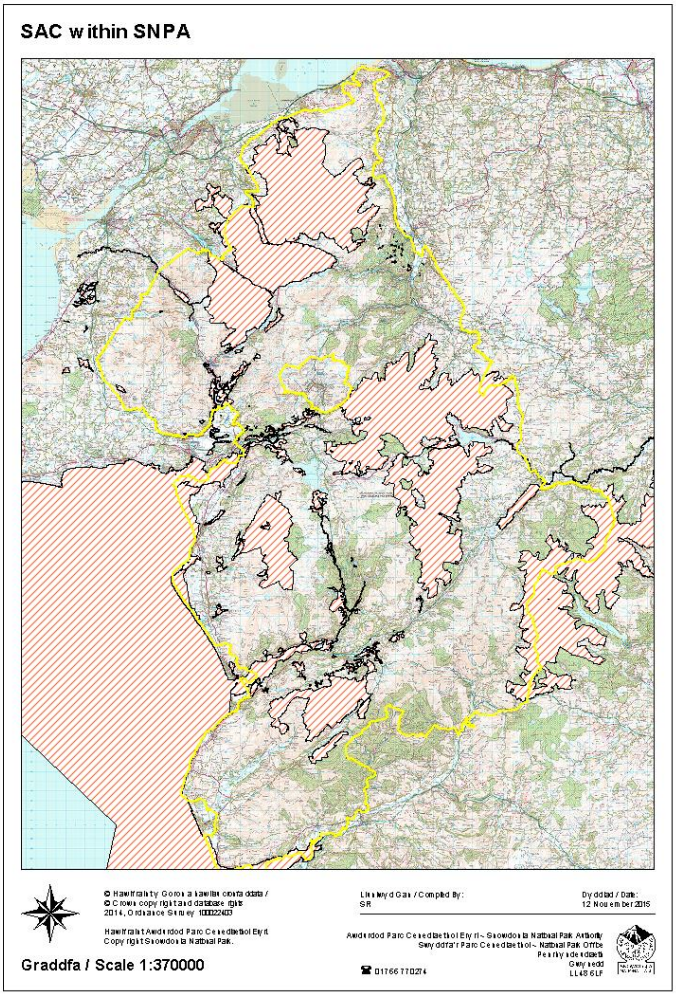
- *the area's wildlife will benefit;*
- *the quality of the area's environment will be enhanced;*
- *Snowdonia will have an additional natural feature to attract new visitors to the area at quieter periods of the year;*
- *it will provide a boost to the local economy and*
- *Snowdonia's dark skies of will be protected for future generations.*



NATURE CONSERVATION

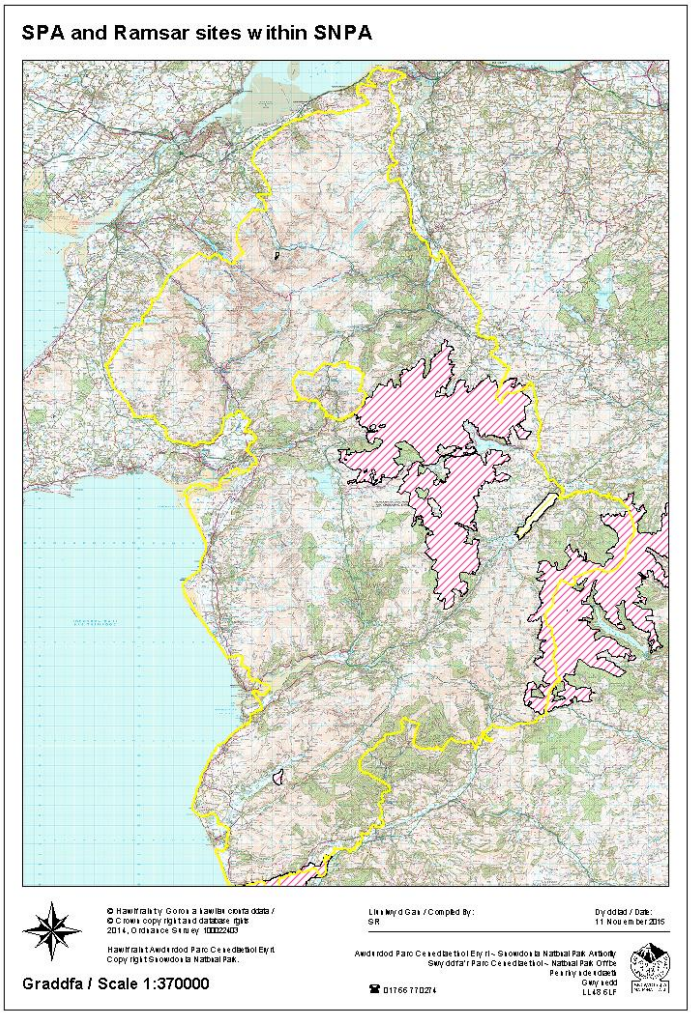
Areas of nature conservation importance in the United Kingdom are protected under various pieces of national and international legislation.
Natura 2000 is the name of the European Union wide network of nature conservation sites. The network was established under Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (the 'Habitats Directive). This network comprises of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

SACs are areas which have been identified as best representing the range and variety of European habitats and species (other than birds) listed in Annexes I and II to the Directive. SPAs are areas designated under the Birds Directive as the most important habitats for rare (listed on Annex I to the Directive) and migratory birds within the European Union. Both SACs and SPAs can extend into territorial waters**. At July 2013 there were 85 Special Areas of Conservation wholly in Wales (covering 590,864 ha). Of these, 5 are located within Snowdonia totalling *56,665.5ha.***



Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds, also known as the Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds, listed in Annex I to the Birds Directive, and for regularly occurring migratory species.

In 2013 there were 17 classified Special Protection Areas wholly within Wales (covering 123,058 ha). Of these, 4 are located within Snowdonia totalling 24,301.5ha.



Ramsar

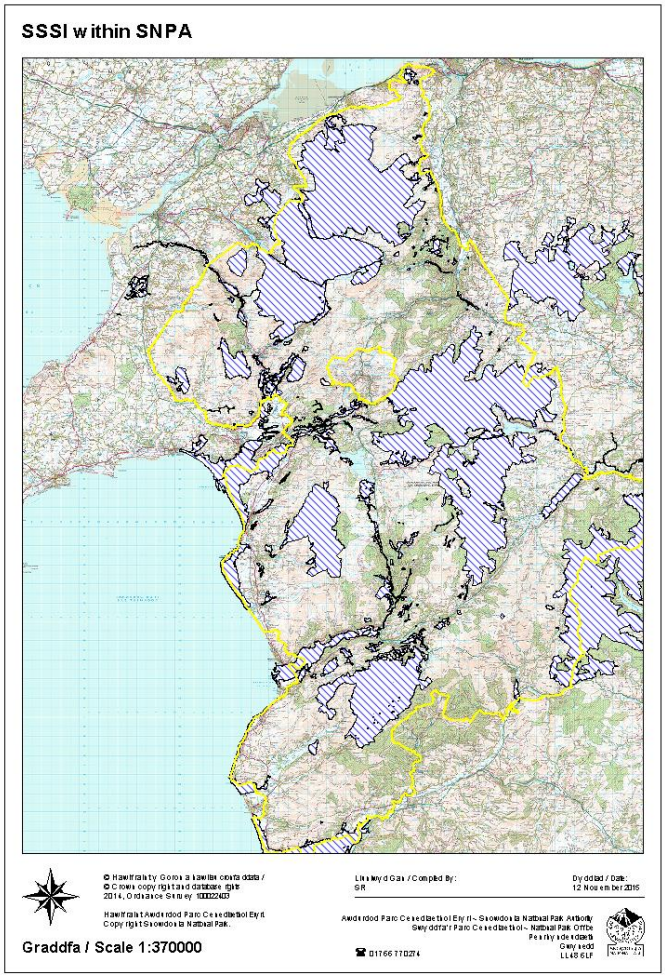
The Welsh Government has indicated that in planning terms sites designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran in 1971, are to be treated the same as Natura 2000 sites. Originally intended to protect sites of importance especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognising

wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.

In 2014 there were 7 Ramsar sites in Wales (covering 11,366 ha). Of these, 3 are located within Snowdonia totalling 882.5ha .

Sites of Special Scientific Interest (SSSI) have, since 1949, been evolved into a suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. These sites are also used to underpin other national and international nature conservation designations. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).

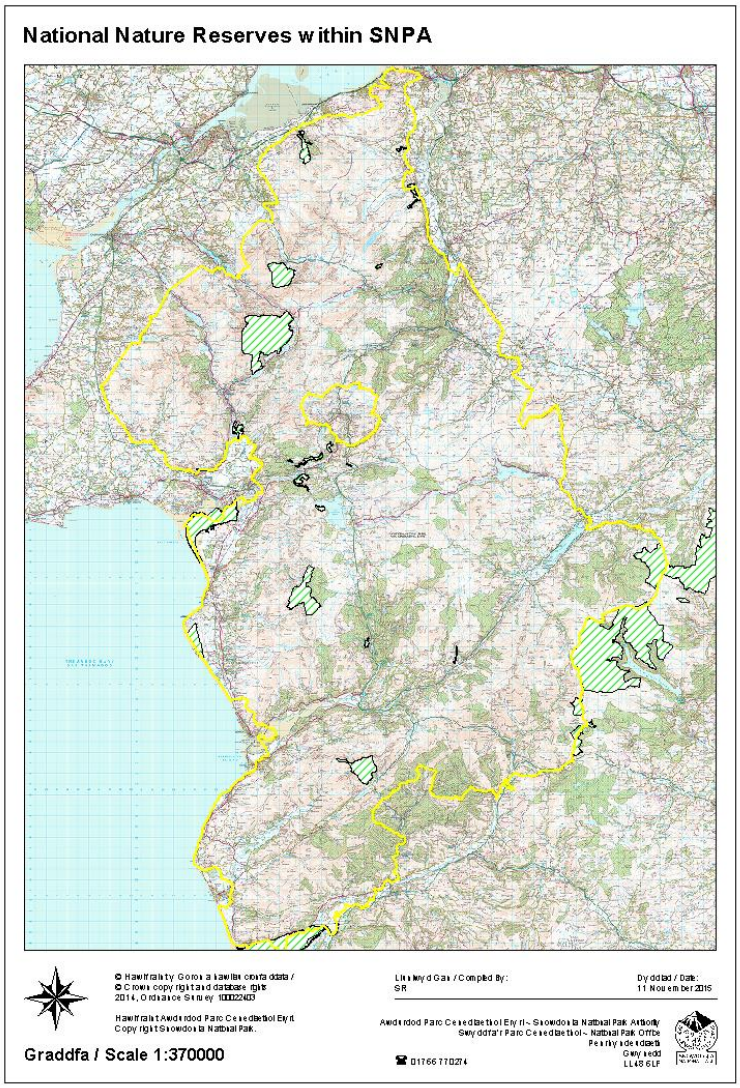
In 2014 there were 1,019 such Sites of Special Scientific Interest in Wales, covering over 235,000 ha or just over 12% of the country's land surface. Of these, 107 are located in Snowdonia totalling 62,446.2ha.



National Nature Reserves (NNRs) contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them.

NNRs are declared by the statutory country conservation agencies under and the Wildlife and Countryside Act 1981. All the above designations are found in the National Park.

In 2007, there were 68 National Nature Reserves in Wales, of which 21 are located in Snowdonia totalling 5,654.07ha .



Designation*	Area (ha)
Ramsar	882.5
Terrestrial SAC	56,665.5
SPA	24,301.5
SSSI	62,446.2
NNR	5,654.07

Land Managed in Line with Conservation Objectives

126,303.87ha of land in the National Park is managed in line with conservation objectives *(Source: Snowdonia National Park Authority, 2008).*

PUBLIC ENJOYMENT

Public Rights of Way and Access Land

Access to the countryside is an important factor in maintaining the health and well-being of people. The National Park provides accessibility through its mountain, woodland, water and coastal landscapes to the public, via an extensive network of Public Rights of Way (PRoW), CROW 'Access Land' and other routes. These features facilitate access to other recreational activities within the Park, for example cycling, horse riding, water sports, climbing and picnicking etc, and also between settlements. Use of this network of footpaths etc varies with locality and season.

Length of Public Rights of Way in the National Park	***2,742.6km***
Length of wheelchair accessible paths	***22.3km***

The Countryside and Rights of Way Act (2000) introduced a new right for people to walk freely over 'Access Land' (i.e. areas of open country and registered common land) in England and Wales, including mapped areas of mountain, moor, heath and down (collectively defined as 'open country') and registered common land, much of which was previously off-limits. Section 16 of the Act provides for a voluntary dedication scheme, allowing landowners to dedicate statutory access to any other categories of land in perpetuity. Through this mechanism, since 1999, proposals have been made by the Forestry Commission to dedicate public rights of access to the majority of freehold National Assembly owned woodland.

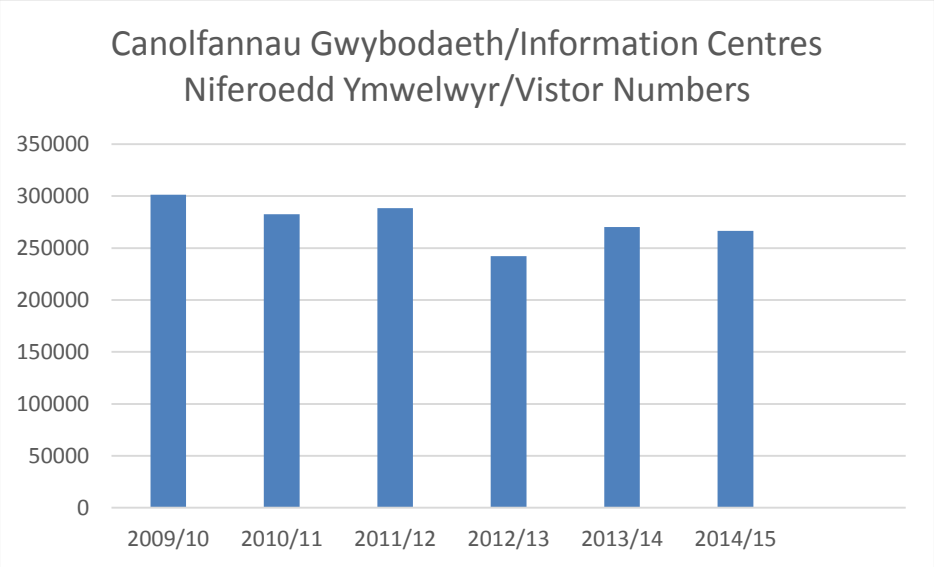
In Snowdonia, large areas of land were traditionally accessible to the public through access agreements between landowners and the Snowdonia National Park Authority. The CROW Act extended public access significantly across the national park, with the designation of 'Open Country', 'Registered Common Land' and also forests. This data is presented below

Area of National Park defined as Open Country	***84,697ha***
Area of Registered Common Land with access	***21,958ha***
Area of Forestry Commission Land with access	***20,987ha***
Total access secured under the CROW Act	***127,642ha***
Percentage of National Park area with CROW access	***59.86%***

Tourism Information Centres
SNPA has previously operated Tourist Information Centres (TICs) at Aberdyfi, Beddgelert, Betws y Coed Dolgellau and Harlech. They provided a range of services for visitors to Snowdonia. As part of cost cutting the Authority permanently closed Harlech TIC and the year-round opening of others has been curtailed. The changes involve

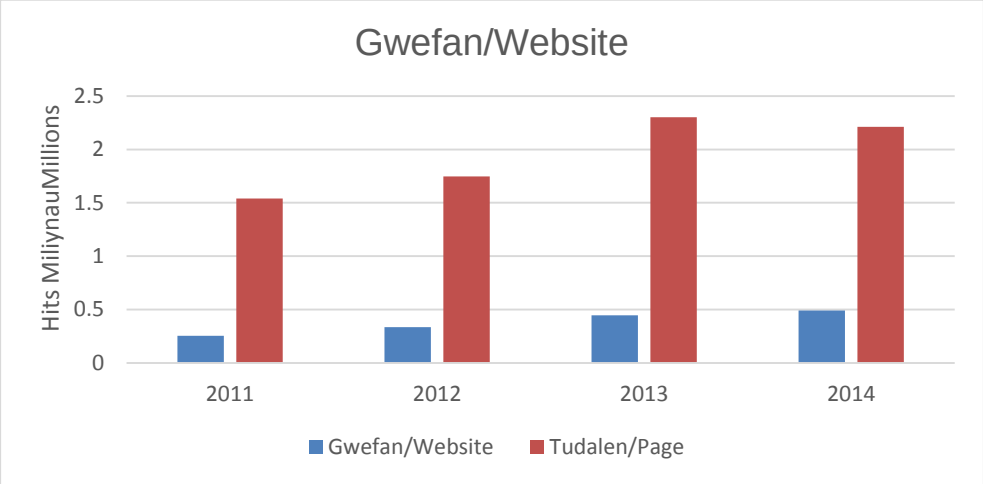
- *operate a seasonal opening pattern for Aberdyfi TIC*
- *opening hours of 10-4pm.Betws y Coed TIC in winter*
- *opening the TICs at Beddgelert and Dolgellau seasonally, which entails opening from Easter weekend to the last weekend of the autumn term.*

Blwyddyn	Niferoedd Ymwelwyr/Visitor Numbers
2009/10	301,392
2010/11	282,553
2011/12	288,357
2012/13	242,247
2013/14	270,226
2014/15	266,400



Visitors to the area will also use other means of accessing information such as the National Park's website. The number of unique "hits" on the website are shown below along with hits on different web pages within the site.

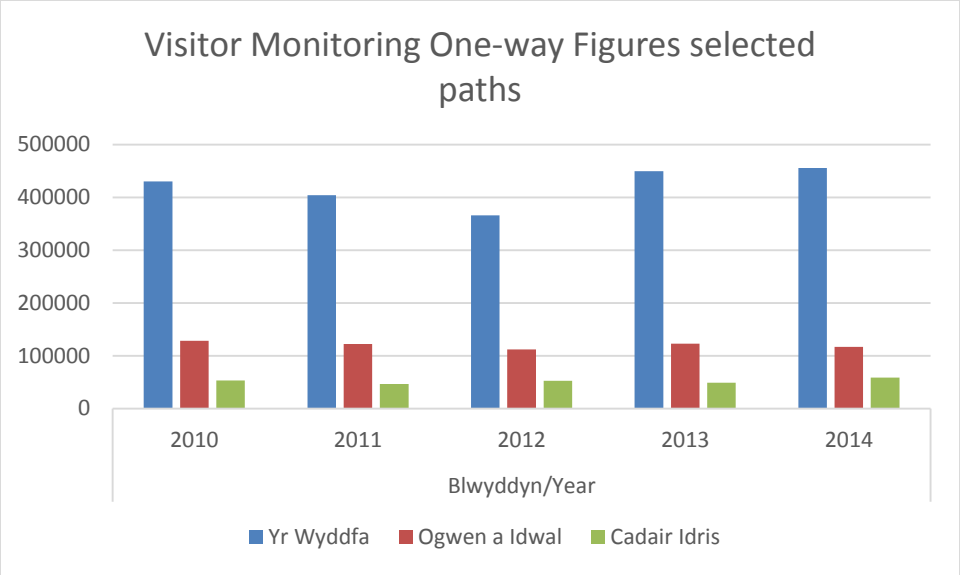
Blwyddyn	Gwefan/Website	Tudalen/Page
2011	253,021	1,539,435
2012	336,276	1,746,791
2013	445,121	2,301,844
2014	490,247	2,211,841



Hill Walking

The SNPA monitors a number of popular routes up Snowdon and other mountains in the National Park. Figures are shown below

	2010	2011	2012	2013	2014
Yr Wyddfa	430,258	404,188	365,944	449,312	455,241
Ogwen a Idwal	128,148	122,481	111,834	123,181	116,655
Cadair Idris	53,396	46,626	52,598	49,235	58,540



Mountain Biking

Snowdonia provides opportunities for mountain biking, particularly within Gwydyr, Penmachno and Coed y Brenin Forests. The numbers of people mountain biking within Gwydyr, Penmachno and Coed y Brenin Forests nearly trebled between 2002 and 2003, before remaining fairly constant from 2003 to 2008 This is illustrated on Figure 43. Since 2009 numbers biking in the Betws y Coed area show a declining trend whilst in Coed y Brenin numbers increased from 2010. The centre at Coed y Brenin along with the subsequent development and improvement of facilities has boosted visitor numbers significantly, especially among non-biking visitors. Coed y Brenin has been designated as a centre of excellence. See Box below:

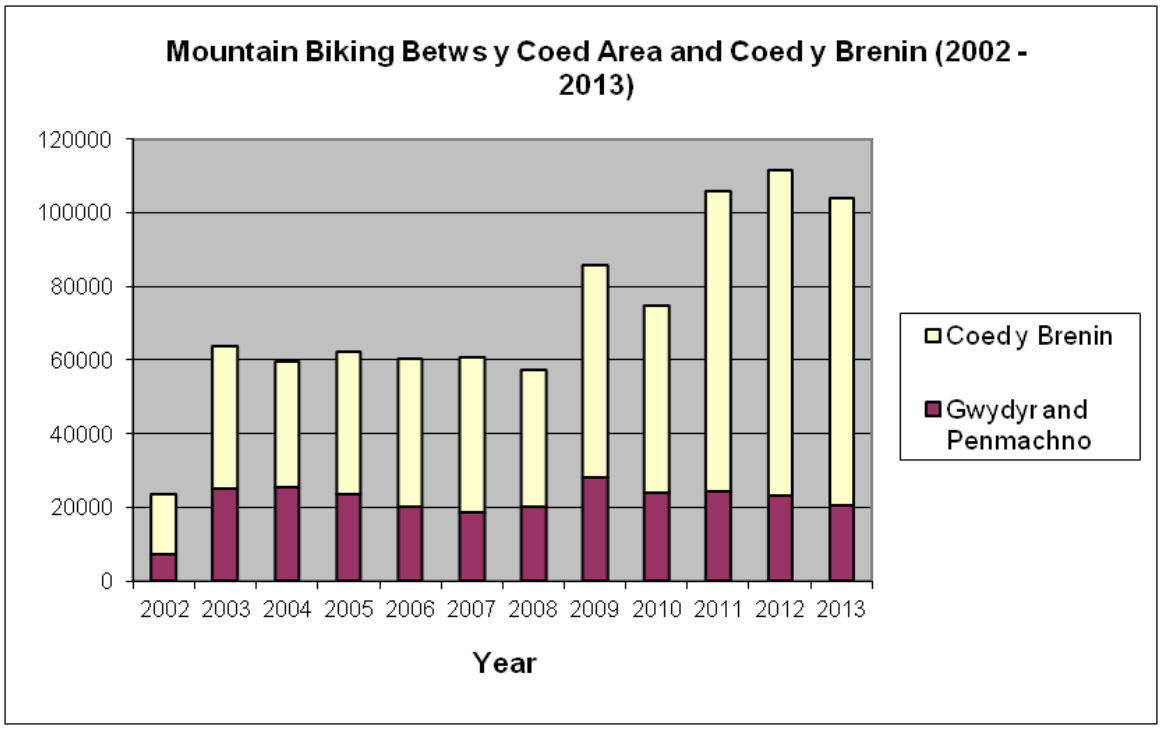


Figure 43: Number of Mountain Bikers Visiting Betws y Coed Area and Coed Y Brenin Forests (Source: Forestry Commission, 2015)

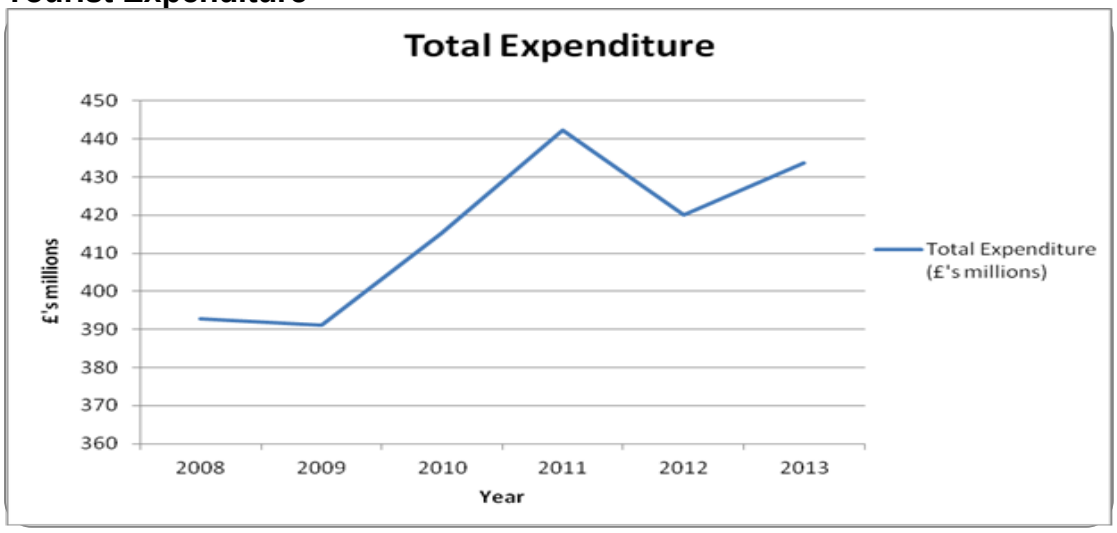
TOURISM

HEADLINE STEAM FIGURES 2012/2013

Introduction

The Snowdonia National Park prides itself on being a special part of the country where people come to relax and enjoy a wide range of leisure activities in spectacular surroundings. Tourism and recreation have become a major contributor to the economy and employment within Snowdonia National Park. Both are vital aspects of the future for the Park's economy and wellbeing.

Tourist Expenditure

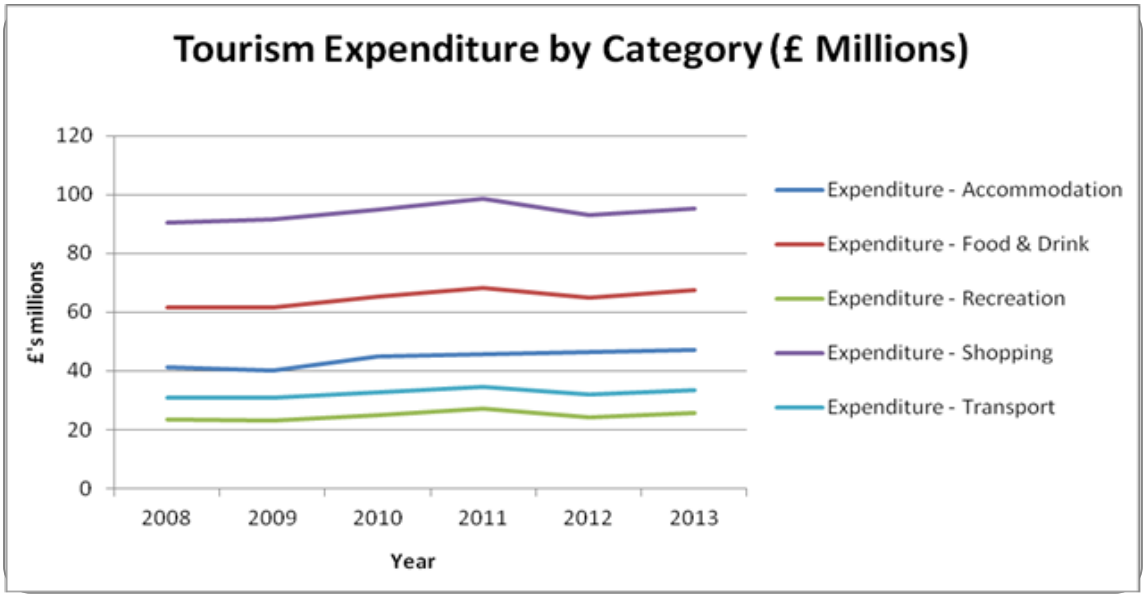


Tourist Expenditure in the National Park (Source: STEAM 2013)

According to the 2013 STEAM figures *(produced for the Snowdonia National Park Authority),* the total tourist expenditure was £433.6 million.

This figure has increased significantly since 2009, although the 2013 figure is below the peak level of £442m seen in 2011. There was a decrease seen in 2012; a trend also seen in other tourism specific datasets within this section. Possible reasons for this sudden dip could include the fact that April and June 2012 were the wettest they had been since records began, with flooding throughout Wales during June. Additionally, July had below average levels of sunshine and above average levels of rainfall. There was a slight increase (3.2%) in visitor expenditure between 2012 and 2013.

Tourist Expenditure by Category



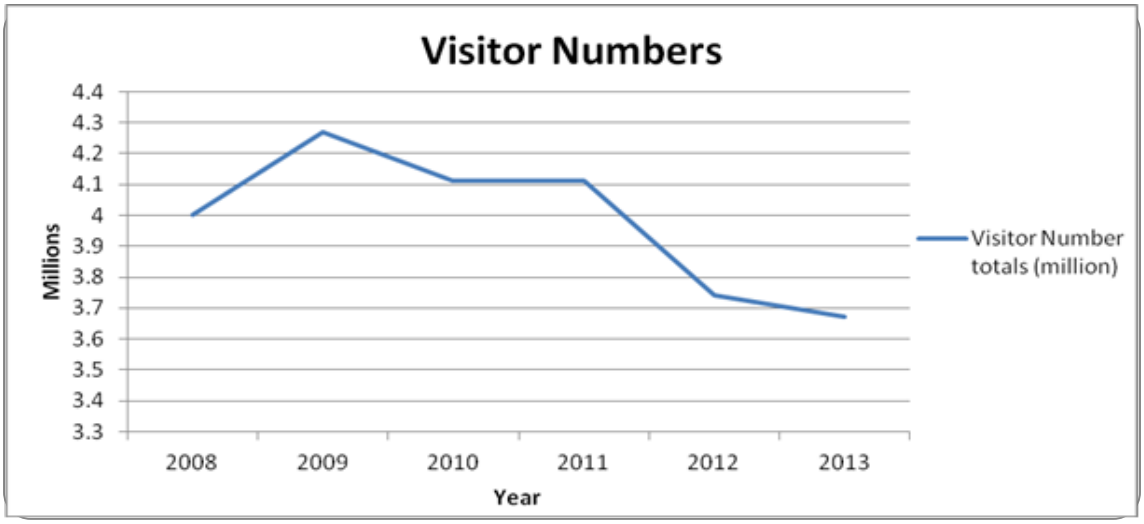
Tourist Expenditure in the National Park (Source: STEAM 2013)

Figure gives a breakdown of tourist expenditure in Snowdonia National Park and shows that the most valuable tourist sector is the shopping sector. This resulted in expenditure of around £95 million in 2013, which was an increase of 2.7% from 2012 figures.
The breakdown of expenditure categories within the National Park, for 2013 is shown below.

Category	Percentage of total expenditure	Actual total (£ million)	Increase/Decrease from 2012
Indirect expenditure	25.5%	£110.8 million	+3.1%
Shopping	22.0%	£95.4 million	+2.7%
Food & Drink	15.6%	£67.5 million	+4.0%
VAT	12.4%	£53.8 million	+3.3%
Accommodation	10.9%	£47.1 million	+1.4%
Transport	7.7%	£33.5 million	+4.3%
Recreation	5.9%	£25.6 million	+5.7%

Although it was not the highest grossing sector in terms of expenditure, the 'recreation' sector saw the highest percentage growth between its respective 2012 and 2013 levels with an increase of 5.7%. Possible reasons for this could be due to the increasing levels of recreational activities available to tourist in and around the Park (for example Bounce Below, Zip World, Tree Top Adventures, new mountain biking paths etc)

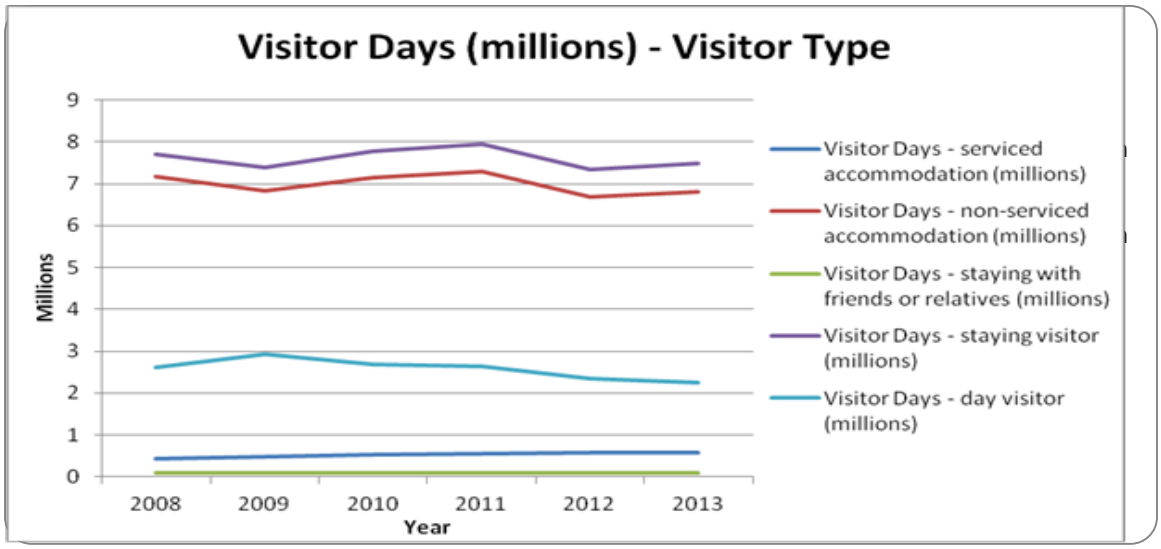
Visitor Numbers



Visitor Numbers in the National Park (Source: STEAM 2013)

STEAM figures indicate that there were 3.67 million visitors to Snowdonia National Park in 2013.This number has been declining since 2009, which saw 4.27 million visitors to the Park. This means that there has been a 14.1% reduction in visitor numbers between 2009 and 2013 figures.

Visitor numbers by visitor type



Visitor Numbers in the National Park (Source: STEAM 2013)

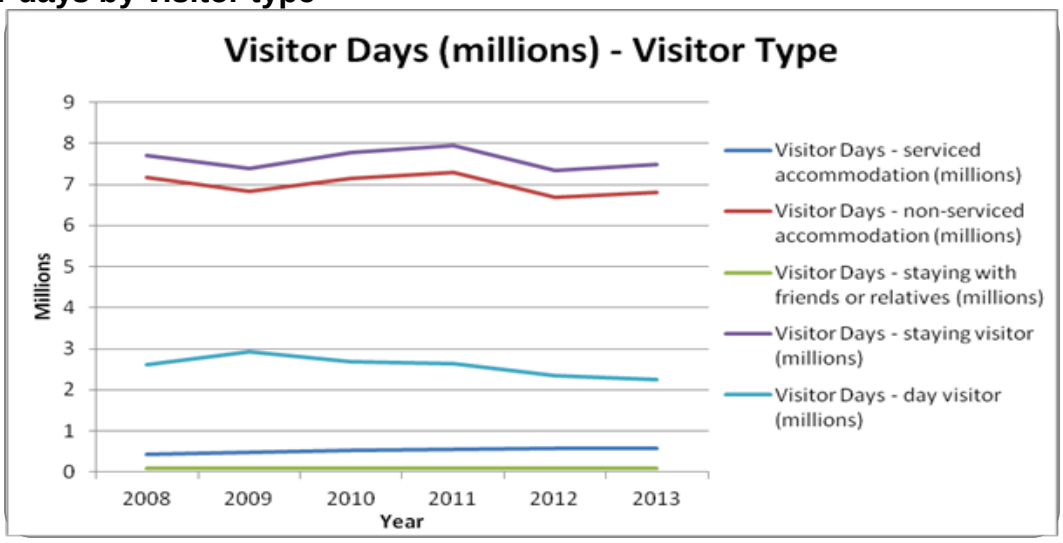
Figures indicate that visitor numbers, who are staying visitors or visitors staying in serviced or non-serviced accommodation, have slightly increased since 2012. However there has been a reduction in visitor numbers classed as day visitors since 2009.

Number of visitor days spent in Snowdonia National Park

Figure illustrates that there were approximately 9.74 million tourist days spent in the National Park in 2013. Between 2008 and 2013 it is estimated that around 92.2 million tourist days had been spent in Snowdonia.

Following the trend seen with visitor numbers, visitor days have also decreased since 2011. In this instance however visitor days increased between 2009 and 2011, before a substantial decrease between 2011 and 2012. As mentioned previously, this dip could be attributed to many reasons. April and June 2012 were the wettest they had been since records began, with flooding throughout Wales during June. Additionally, July had below average levels of sunshine and above average levels of rainfall.
There was a slight increase (0.4%) in visitor days between 2012 and 2013.

Visitor days by visitor type



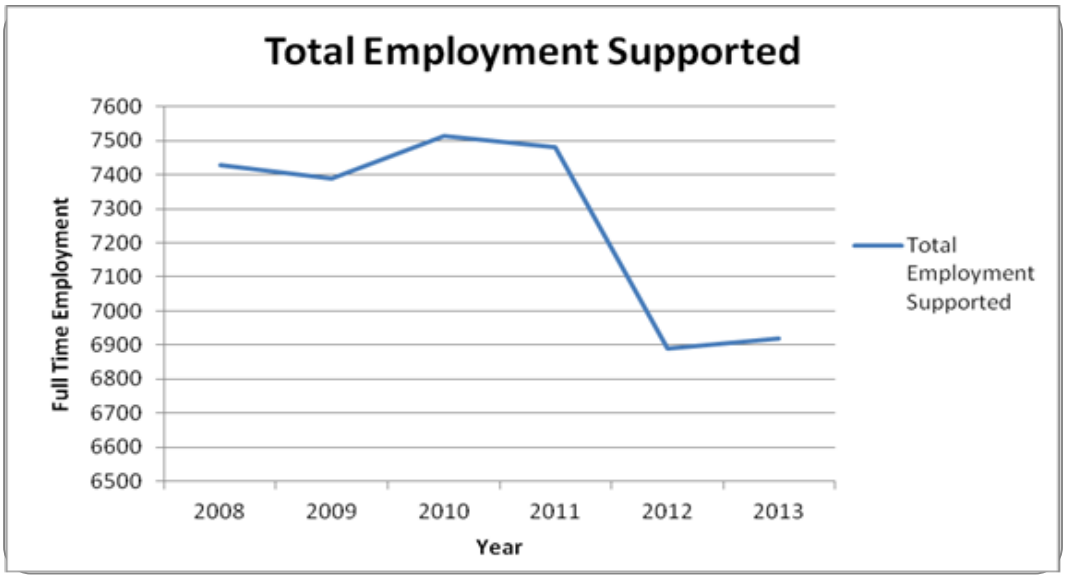
The trends seen in figure (for staying visitors or visitors staying in serviced or non-serviced accommodation) can also be seen for visitor days. However the number of visitor days, in terms of day visitors, decreased by 4% between 2012 and 2013
The breakdown of visitor days by visitor type within the National Park, for 2013 is shown below.

Category	Actual total (millions)	Increase/Decrease from 2012
Serviced Accommodation	0.586	+ 1.0%
Non- serviced accommodation	6.804	+ 1.9%
Staying with friends or relatives	0.095	0.0%
Staying visitor	7.485	+1.8%
Day visitor	2.255	-4.0%

Employment in Tourism and recreation

Employment in the National Park today is characterised by a strong reliance on a limited range of activities, in particular the service sector, agriculture and tourism.

The STEAM Surveys carried out annually in North Wales provide a range of information on tourism in the National Park including Employment in Tourism and Visitor Expenditure. Figure 44 shows a boom in tourism employment between 2001 and 2003, with a steady decline since to 2006, following the trend in visitor numbers and highlighting the reliance of the employment sector on visitors to the Park.



Tourism Employment in Snowdonia (Source: STEAM, 2013)

since 2012. Accommodation, Food & Drink, Recreation and Transport all experienced slight increases in employment levels between 2012 and 2013.

CULTURAL IDENTITY

Cultural heritage broadly consists of physical features of historic importance (both statutory and non-statutory), their settings and also their historic character and landscape of an area. Key features include Scheduled Monuments, Listed Buildings, Conservation Areas, Historic Parks and Gardens, and sites listed on the Sites and Monuments Record and archaeological deposits.

Number and Condition of Scheduled Monuments

Scheduling is the process through which nationally important sites and monuments are given legal protection by being placed on a schedule. Scheduled Monuments cover the whole range of archaeological sites and are not always visible or above ground sites. Table 17 indicates the number of Scheduled Monuments in Wales and in Snowdonia with the distribution of Scheduled Monuments in the National Park shown on Figure 14.

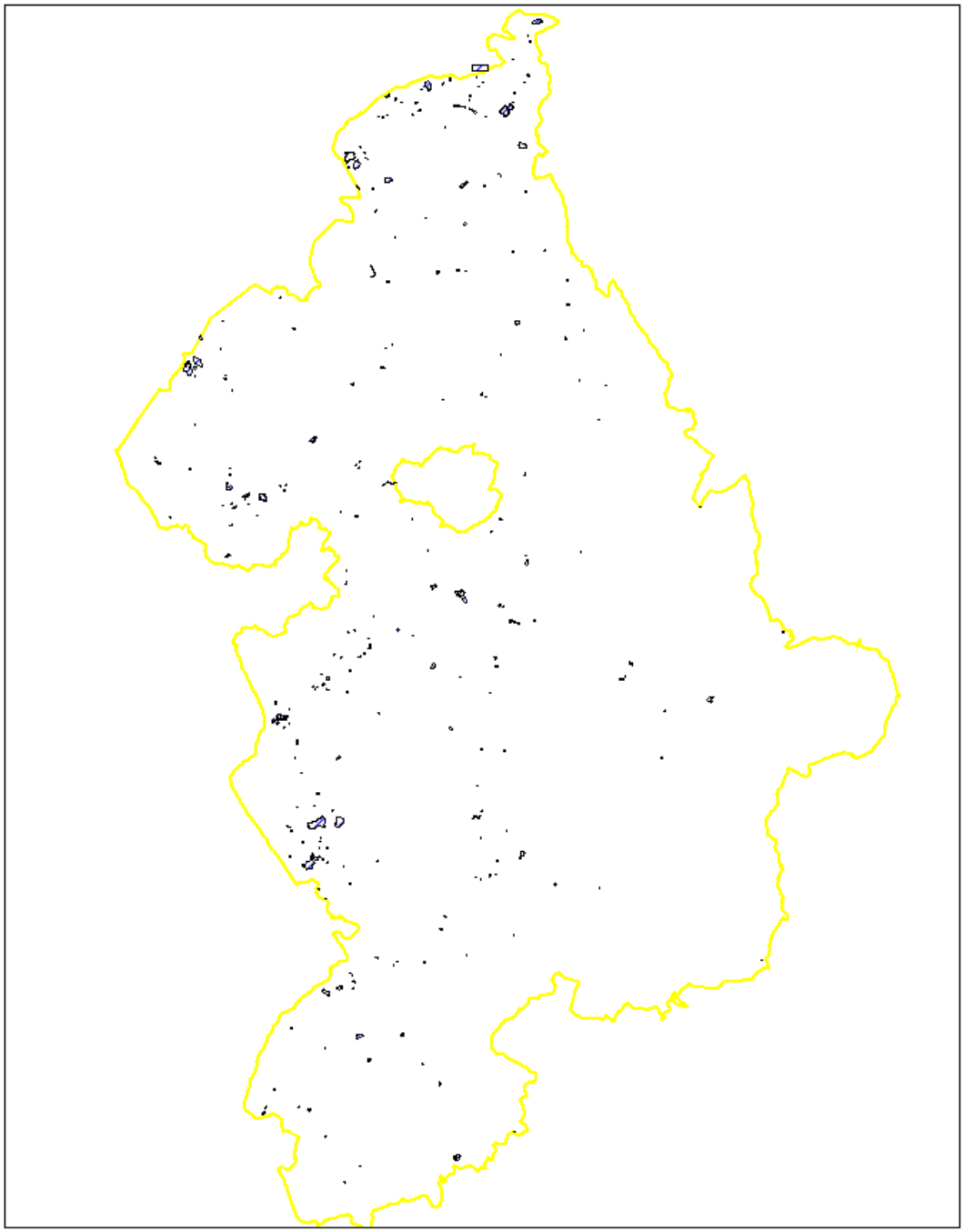
	Wales	**Snowdonia**
Number of Scheduled Monuments	4,183	374

The table below provides details of the condition of the Scheduled Monuments in the National Park. Whilst not all Scheduled Monuments in the National Park have had their condition assessed, over 97% were considered to be in a 'stable' condition. The deterioration of other sites is largely attributed to the natural decay, erosion by livestock, agricultural operations, visitors and overgrowth by vegetation.

Condition of Scheduled Monuments 1996 – 2003	**Snowdonia**
Percentage in "Improved" condition	1.55
Percentage in "Stable" condition	97.20
Percentage in "Worsened" condition	1.25

Condition of Scheduled Monuments 1996 - 2003 (Source: Cadw)

SAM sites within SNPA



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Dyddiad / Date:
12 November 2015

Awdurdod Parc Cenedlaethol Eryri ~ Snowdonia National Park Authority
Swyddfa'r Parc Cenedlaethol ~ National Park Office
Penrhyndeudraeth
Gwynedd
LL48 6LF

☎ 01766 770274

Listed Buildings

The listing process ensures that buildings of 'special architectural or historic interest' are placed on a list and afforded statutory protection. The number and grade of Listed Buildings in Snowdonia is shown below. Cadw are currently re-surveying Community Council areas within the National Park. Six areas remain to be surveyed and the number of Listed Building is expected to rise to approximately 1900.

Listed Building Grade	Number
Grade 1	13
Grade 2*	119
Grade 2	1,799
Total	**1,911**

Listed Buildings in Snowdonia

Buildings 'At Risk'

Buildings 'At Risk' are defined as those Listed, or traditional buildings of important architectural merit, which are under threat. The number of buildings on the register maintained by the Authority varies as buildings are repaired and are removed from the register and as surveys reveal further buildings to be at risk.

Number of Buildings "At Risk" in Snowdonia	2015
Category 1 Extreme risk	48
Category 2 Grave risk	60
Category 3 At risk	217
Total	338

Buildings 'At Risk' in Snowdonia (Source: Snowdonia National Park Authority)

Conservation Areas

Conservation Areas are areas of special architectural or historic interest, the character or appearance of which is desirable to preserve. They are a statutory designation and they help to ensure the positive management of buildings within them and their character.

There are fourteen Conservation Areas in Snowdonia. These are ***Betws y Coed, Beddgelert, Nantmor, Dolbenmaen, Maentwrog, Bala, Harlech, Dolgellau, Cymmer Abbey, Pant y Rodyn, Aberdyfi, Abergwyngregyn, Llanllechid and Nant Peris.*** *(Source: Snowdonia National Park Authority, 2005).*

Historic Battlefields

There are no historic battlefields in the National Park.

Welsh Language Skills and Profile

The most recent census data show that the numbers of Welsh speakers in Wales declined between 2001 and 2011. In 1911 the figure for the number of people who could speak Welsh was close to a million. The figure fell during the twentieth century until reaching a low of 504,000 in 1981. There was a slight increase in the number of Welsh speakers between 1981 and 2001 before falling again, although the 2011 figure is larger than that of 1991.

Welsh Language Skills					
	Actual number	**SNPA - 2011 Census%**	**SNPA - 2001 Census%**	**Wales - 2011 Census %**	**Wales - 2001 Census %**
All usual residents aged 3 and over	24,959				
No skills in Welsh	8,104	32.5%	30.2%	73.3%	71.6%
Can understand spoken Welsh only	1,861	7.5%	6.1%	5.3%	4.9%
Can speak Welsh	14,626	58.6%	62.1%	19.0%	20.5%
Can speak but cannot read or write Welsh	1,334	5.3%	5.3%	2.7%	2.8%
Can speak and read but cannot write Welsh	834	3.3%	2.3%	1.5%	1.4%
Can speak, read and write Welsh	12,413	49.7%	54.5%	14.6%	16.3%
Other combination of skills in Welsh	413	1.7%	1.6%	12.5%	3.0%

The change in Welsh speakers in the National Park is consistent with the trend seen at the national level. There was a 3.5% decrease in the number of people who could speak the language between 2001 and 2011. This percentage of reduction is larger the national average of 2%. There was a significant change in the percentage of people who could speak, read and write in Welsh, with a decrease of 4.8%. There was a 2.3% increase in the percentage of people with no Welsh language skills within Snowdonia.

Between 2001 and 2011although there was an increase in the number of children (3-4) and adults (20-44) who could speak Welsh there at the national level, there was a decline in every other age group. There was a decrease in the number of people aged over 3 years old who could speak Welsh in almost every local authority, with the largest decreases in occurring in areas with a tradition of a high level of Welsh speakers.

There are many possible reasons for this reduction. At the national level there have been a number of demographic changes over the years; changes which also apply to Snowdonia National Park level. The reasons for these changes include:-

- *fewer young children*
- *increase in inward migration among older, non-Welsh speaking adults*
- *loss of older Welsh speakers*
- *migration to other parts of the UK and*
- *some losing their Welsh language skills between the two censuses(e.g. some identified with Welsh language skills in 2001, not identified in 2011)*

Source: Welsh Government Statistical Bulletin

SOCIETY AND ECONOMY

Population

Data from the 2011 Census indicates that in the past 10 years, the population of Wales has increased by 5.5%. In the same time period the population of Snowdonia National Park has increased by 0.86%.

Snowdonia has a small population relative to its area, reflecting the rural characteristics. The population has lower levels of young people and higher proportions of both older residents and of non-Welsh residents than for Wales as a whole. Some key indicators for the National Park's population are sourced from the 2011 National Census and 2013 mid-year estimates.

2011 Census - Population Statistics

2011 Population		
	SNPA	**WALES**
Total	25,702	3,063,456
Males	49.8%	49.1%
Females	50.2%	50.9%

2001 Census - Population Statistics

2001 Population		
	SNPA	**WALES**
Total	25,482	2,903,085
Males	49.0%	48.4%
Females	51.0%	51.6%

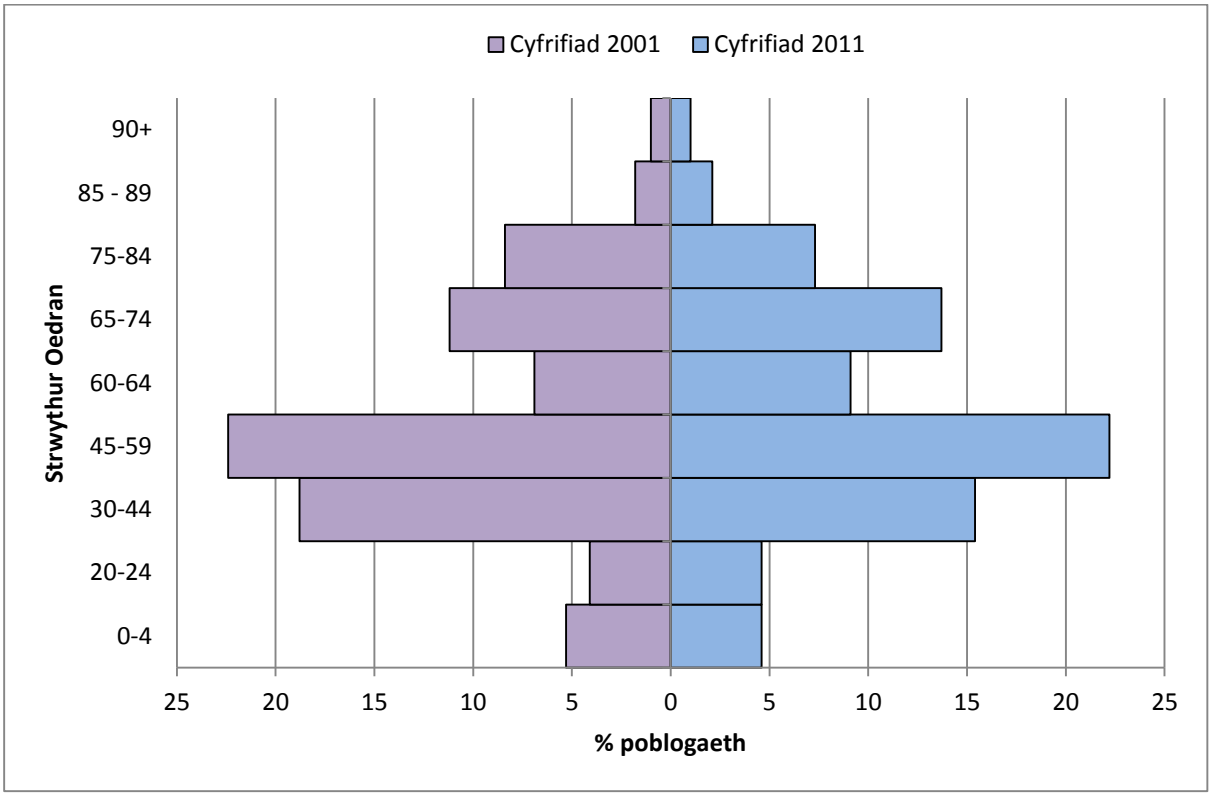
Mid year estimates

The 2013 mid-year estimates saw experimental figures compiled for the National Park area. The table below shows the results for the National Park as well as to an UK, Wales, Gwynedd and Conwy level.

	All Ages	**Children 0 - 15**	**Working Age 16-64**	**Over 65**
UK	64,105,700	12,058,700	40,915,200	11,131,800
Wales	3,082,400	555,200	1,926,600	600,600
Gwynedd	121,900	20,900	74,300	26,700
Conwy	115,800	19,000	67,100	29,800
SNPA	25,502	3,733	14,804	6,965

Age Structure

The diagram below shows the age structure of the National Park's population according to the 2001 and 2011 census. There are numerous changes to be seen between the 2001 census age structure and the results from the 2011 survey.



By 2011, there was an increase in the number of older people living within the National Park.

The percentage of children aged between 0-4 (4.6%) was less than in 2001, and also less than the Welsh percentage of 5.8%. There was also a decrease in the percentage of people aged 30-44 by the 2011 census.

Taken as a whole the percentage of people aged over 60, is higher in the 2011 census than in 2001.

Economic Activity

The percentage of economically active people in the National Park who are self-employed is 10.2% higher than the national average. This trend is also true for the percentage of people who are retired within the Park. This is 4.4% higher than the national average and also 2.3% higher than the 2001 census. The National Park also has a lower percentage of people with full time jobs in comparison with the national percentage.

Economic Activity					
	Actual number	**SNPA - 2011 Census%**	**SNPA - 2001 Census%**	**Wales - 2011 Census %**	**Wales - 2001 Census %**
All categories: Economic activity	18,887				
Economically active: Employee: Part-time	2,547	13.5%	11.6%	13.9%	11.3%
Economically active: Employee: Full-time	5,660	30.0%	29.0%	35.6%	36.2%
Economically active: Self-employed	3,557	18.8%	17.7%	8.6%	7.7%
Economically active: Unemployed	583	3.1%	3.5%	4.3%	3.5%
Economically active: Full-time student	356	1.9%	1.4%	3.3%	2.3%
Economically inactive: Retired	3,881	20.5%	18.2%	16.1%	14.8%
Economically inactive: Student (including full-time students)	674	3.6%	3.8%	6.0%	6.4%
Economically inactive: Looking after home or family	573	3.0%	5.8%	3.8%	9.2%
Economically inactive: Other	369	2.0%	3.1%	2.0%	3.5%
Unemployed: Age 16 to 24	166	0.9%	0.7%	1.4%	1.0%
Unemployed: Age 50 to 74	146	0.8%	1.0%	0.7%	0.6%
Unemployed: Never worked	59	0.3%	0.2%	0.7%	0.3%
Long-term unemployed	220	1.2%	1.3%	1.7%	1.1%

Industry

Due to category changes in the industry question asked within the 2011 census (in comparison with the 2001 census) only 2011 figures are shown here.

Industry			
	Actual number	**SNPA - 2011 Census%**	**Wales - 2011 Census %**
All categories: Industry	12,074		
A Agriculture, forestry and fishing	870	7.2%	1.7%
B Mining and quarrying	36	0.3%	0.2%
C Manufacturing	689	5.7%	10.5%
D Electricity, gas, steam and air conditioning supply	111	0.9%	0.8%
E Water supply; sewerage, waste management and remediation activities	146	1.2%	0.9%
F Construction	1,199	9.9%	8.2%
G Wholesale and retail trade; repair of motor vehicles and motor cycles	1,532	12.7%	15.6%
H Transport and storage	352	2.9%	3.9%
I Accommodation and food service activities	1,399	11.6%	6.2%
J Information and communication	176	1.5%	2.3%
K Financial and insurance activities	146	1.2%	3.1%
L Real estate activities	154	1.3%	1.2%
M Professional, scientific and technical activities	473	3.9%	4.3%
N Administrative and support service activities	447	3.7%	4.0%
O Public administration and defence; compulsory social security	624	5.2%	7.9%
P Education	1,448	12.0%	10.1%
Q Human health and social work activities	1,546	12.8%	14.5%
R, S, T, U Other	726	6.0%	4.5%

It can be seen from figure that the most important industries of work, for the population of Snowdonia National Park are:

- Human health and social work (12.8%)
- Wholesale and retail and trade (12.7%)
- Education (12.0%)
- Accommodation and food service activities (11.6%)

Some of the percentages seen within Snowdonia National Park correspond with the national percentages, although there are far less people employed within 'manufacturing' in the Park than the national average.

Some industries more important to Snowdonia National Park, when compared with national averages, are 'Agriculture, forestry and fishing' and 'Accommodation and food service activities'. This highlights the importance of the agricultural and tourism related industries to the area and its role in supporting local employment.

Health

The table below shows the health of the residents of Snowdonia National Park at the time of the 2011 Census. Snowdonia National Park had a slightly higher percentage of residents with very good health in comparison with Wales (+1.1%), and also had less residents with 'bad' or 'very bad' health (-2.0% and -0.7% respectively)

Health and Provision of Unpaid Care			
	Actual number	**SNPA %**	**Wales %**
All categories: Long-term health problem or disability	25,702		
Day-to-day activities limited a lot	2,410	9.4%	11.9%
Day-to-day activities limited a little	3,086	12.0%	10.8%
Day-to-day activities not limited	20,206	78.6%	77.3%
Day-to-day activities limited a lot: Age 16 to 64	913	3.6%	5.3%
Day-to-day activities limited a little: Age 16 to 64	1,257	4.9%	5.5%
Day-to-day activities not limited: Age 16 to 64	13,192	51.3%	52.7%
Very good health	12,255	47.7%	46.6%
Good health	8,419	32.8%	31.1%
Fair health	3,752	14.6%	14.6%
Bad health	983	3.8%	5.8%
Very bad health	293	1.1%	1.8%

However the Park had a slightly higher percentage of residents who had their day to day activities limited a little, when compared with national percentages (+1.2%)
Due to categorising changes between the 2001 and 2011 censuses, a reliable comparison cannot be made.

Life Expectancy
The table below shows the lifetime expectancy for newborn males and females within Gwynedd and Conwy. The survey was undertaken between 2011 and 2013.

Authority	Males	Females
Gwynedd	79.6 years	83.7 years
Conwy	79.1 years	82.9 years

Unfortunately the data is only available to a County Council level, but it does give some indication of what the life expectancy of the National Park residents would be. In terms of male life expectancy Gwynedd ranks as the 5th highest in Wales with Conwy the 7th highest. The female life expectancy ranks Gwynedd as the 4th in Wales with Conwy the 7th highest.

Superfast Broadband

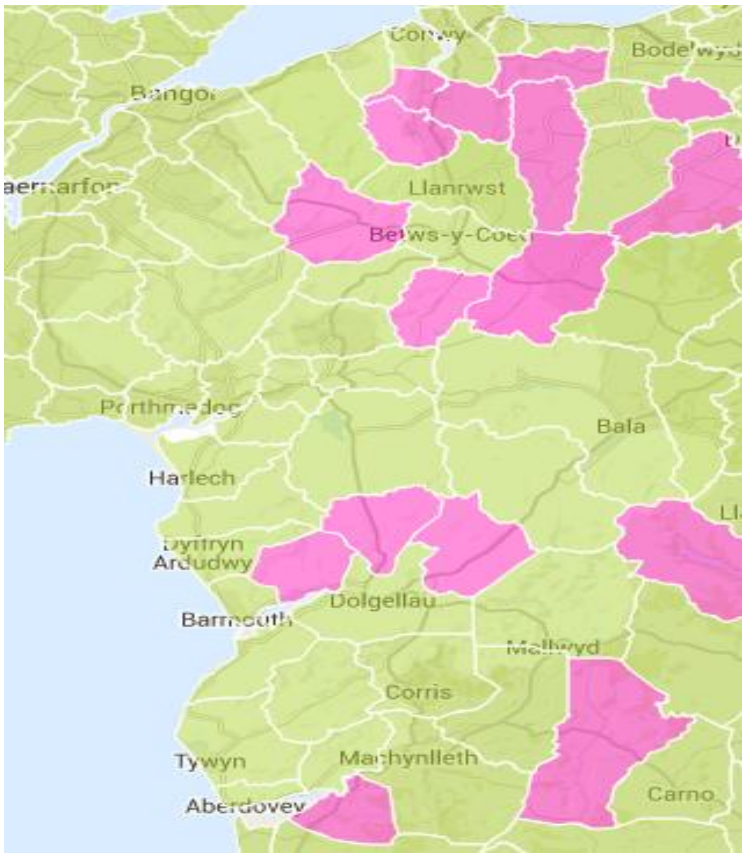
The Welsh Government's Superfast Cymru programme aims to deliver access to superfast broadband to the majority of homes and businesses in Wales.

With the assistance of European funding together with public and the private sector has ensured a significant level of investment in the programme which is reckoned to be the largest partnership of its kind currently in the UK and a major infrastructure investment.

The introduction of a high speed broadband to rural areas on a large scale is a large and complex engineering task. The programme requires around 3,000 new fibre broadband cabinets and some 17,500km of fibre optic cable to bring superfast broadband to Wales.

The Welsh Government considers that Superfast Cymru is set to transform the broadband landscape in Wales and will promote economic growth and sustainable jobs in Wales. It has estimated that up to 2,500 further full times jobs could be created over time and it will ensure that Wales is at the forefront of the global digital economy and as a great place to live, work, invest and visit.

Most exchanges in Snowdonia, apart from a handful (shaded pink in the map below), have by now been upgraded to superfast broadband with the remaining handful of exchanges scheduled for upgrading in 2016.



Details can be seen at- http://www.superfast-cymru.com/where-and-when