

8.0 HABITATS AND WILDLIFE

Key Facts

There are three Special Areas of Conservation (SAC) in the AONB, 6.6% of the land area.
There are two Special Protection Areas (SPA) in the AONB, 4.4% of the land area.
There are 22 Sites of Special Scientific Interest (SSSI), over 2000 hectares (11% of land area) in the AONB.
There is one National Nature Reserve in the AONB, on Bardsey Island and one nearby namely Cors Geirch (also a RAMSAR site).

8.1 Introduction

- 8.1.1 Llŷn, including the Llŷn Area of Outstanding Natural Beauty sustains a wide variety of different species and habitats; some are rare at both a national and European level. Although the wealth of wildlife continues, research has shown that there has been a major decline in natural and semi-natural habitats in Llŷn between the beginning and the end of the last century. See 'Vegetation change in Llŷn between 1920/2 and 1987/8' – J. P Stevens (1992) for full details.
- 8.1.2 There are many opportunities to see and study wildlife in the area including animals, land birds, sea birds and marine life. The wealth of wildlife on our door step is also an effective educational resource that primary and secondary schools can take advantage of. Some visitors come to Llŷn especially to see and enjoy wildlife whilst many other visitors also enjoy some element of the area's wildlife when they stay here. Therefore, wildlife is a resource which contributes to the area's appeal to visitors and in turn to the area's economy.
- 8.1.3 A great deal of information was collected on local species when preparing Natur Gwynedd in 2003, and this information has been updated periodically. Information has also been available on the status number of species on a Wales level and a Gwynedd level, however, recently (September 2016) the State of Natural Resources Report - SoNaRR was published by Natural Resources Wales. For more information see : www.naturalresources.wales/sonarr?lang=cy .
- 8.1.4 The Report assesses the condition of natural resources in Wales and how sustainably they are managed, as well as recommending ways of creating future improvements. In addition, the Report creates a link between the condition of natural resources in Wales and the population's well-being - it looks specifically at how natural resources support the seven well-being aims in the Well-being of Future Generations Act (Wales) 2015. Based on the information in the State of Natural Resources Report, the Welsh Government will set priorities and policies to manage natural resources in the future. Natural Resources Wales, by working with partners, will then prepare Area Statements in order to implement the policies at a local level.

- 8.1.5 The Report generally indicates that the resilience of ecosystems in Wales is declining - there is less variety of habitats and species, habitats' size have been reduced, their condition varies and connectivity has significantly been reduced. This has an impact on the services that these ecosystems can provide.
- 8.1.6 Specific responsibility to protect Biodiversity was given to Local Authorities as a result of the Natural Environment and Rural Communities Act (NERC) 2006. As a follow-on to this, the Environment Act 2016 gave every Public Authority a new duty to try and protect and improve biodiversity. Under the requirements of the Act, Gwynedd Council is required to prepare a Biodiversity Duty Delivery Plan by May 2017 and this will be reviewed every following two years.
- 8.1.7 As there are a number of rare habitats and species in the area, a series of European, National and local designations are in force. The main European designations in terms of sustaining and protecting habitats and species are the Special Areas of Conservation (SAC) and Special Protection Areas (SPA).
- 8.1.8 **Special Areas of Conservation** - This is a designation under the 1992 Habitats Directive to safeguard habitats, plants and animals that are under threat. These are the best examples of habitats and species. These sites have also been designated as Sites of Special Scientific Interest or Special Protection Areas. There are three Special Areas of Conservation in Llŷn, namely Pen Llŷn Sea cliffs, Llŷn Marshes and Pen Llŷn a'r Sarnau.
- 8.1.9 The Sea Cliffs of Llŷn SAC: This designation is fairly extensive (877 ha) and has the Irish sea as its boundary. It's open to winds and weather from the west and the area represents the best examples of coastal and marine heathland and heath grasslands on the Peninsula. The area has been designated as it is of international importance for its sea cliffs and associated habitats. The area comprises sections of several Sites of Special Scientific Interest. Heathland in the SAC is in a satisfactory condition, however, the condition of the sea cliffs is unsatisfactory but is improving. Under-grazing and over-grazing were the main factors affecting the condition of these habitats and therefore, for the future, correct/suitable grazing is essential in order to maintain and improve the condition. The condition in terms of the Choughs and the Manx Shearwater is satisfactory.
- 8.1.10 Llŷn Marshes SAC: There are four specific sites in the centre of Penrhyn Llŷn that are partly located within the AONB, these are Cors Hirdre, Cors Geirch, Rhyllech Uchaf and Abergeirch. The total surface area of the designated site is 282.28 ha. This SAC also includes the Cors Geirch Ramsar Site, however, this site is outside the Llŷn AONB area. Their condition in terms of the marsh habitat and snails is unsatisfactory - due to under-grazing, the spread of trees and scrub, and water management issues. However, recently there has been an improvement as a result of the Llŷn and Môn Marshes LIFE + project.
- 8.1.11 Pen Llŷn a'r Sarnau marine SAC: A vast marine area (14,604 ha) which extends from Penrhyn Nefyn to the River Clarach to the north of Aberystwyth and therefore only a part of this area links with the AONB. Further information

regarding the designation, management etc. can be seen at:
www.penllynarsarnau.co.uk

- 8.1.12 **Special Protection Areas (SPA)**- These areas are designated under the European Commission Directive on protecting wildlife (The Birds Directive) in order to sustain the habitats of two particular categories namely rare species or those under threat and migratory birds that travel thousands of miles to reach various locations – and need safe locations for rest. There are two Special Protection Areas in the AONB, namely The Aberdaron Coast and Bardsey Island SPA and the Mynydd Cilan, Trwyn yr Wylfa and St.Tudwal's Islands SPA.
- 8.1.13 Aberdaron Coast and Bardsey Island SPA - This area comprises a vast area of the coast from Porthor to Aberdaron and includes the Bardsey and Gwylanod islands. This varied coast comprises of heathland and grassland which is habitat to a variety of plants and a Chough population. Bardsey is home to the largest population of Manx Shearwater in the UK, which is the reason for the island's international importance.
- 8.1.14 Mynydd Cilan, Trwyn yr Wylfa and St.Tudwal's Islands / Mynydd Cilan SPA. This coastline is open to south-westerly winds and the sea-cliffs that shelter the beaches are continuously being eroded and offer a patchwork of bare sediment and maritime habitats and sand-dunes that are rich in flowers. There are also substantial areas of dry and wet heathland and rocky inter-tidal habitats of maritime interest, because of the network of rare species. These include one of only two populations of the Mason Bee (*OSMIA XANTHOMELENA*) which is under threat. This area is also very important specifically because of the Chough population. This site is used by 3% of the British population of this bird during breeding and non-breeding periods. The sea-cliffs and caves offer breeding and nesting sites, whilst the cliffs, heathland, sea-grass and pasture on the nearby fields offer feeding sites throughout the year. See the State of the AONB Report 2014 for further information about these sites.
- 8.1.15 **Wetlands of International Importance (RAMSAR)**- These are wetland habitats that sustain various species of international importance. Four of the Llŷn marshes have been designated as a RAMSAR site (Llŷn Marshes).
- 8.1.16 **National Nature Reserves (NNR)** - These reserves include important habitats and geological features, each one is special in its own way. Every reserve is also a Site of Special Scientific Interest. There is one National Nature Reserve in the AONB, on Bardsey Island and its surface area is 180 ha. The National Nature Reserve was designated because of the marine and inter-tidal habitats, the Choughs and the Manx Shearwater.
- 8.1.17 **Sites of Special Scientific Interest (SSSI)** - These are designated on the grounds of special habitat, species or geology. The sites in Llŷn vary from marshes and meadows to sand dunes and forests. There are a total of 22 Sites of Special Scientific Interest that are partly, or totally, within the AONB and these include 2,188 ha (11%) of the protected landscape. No new SSSI

has been designated since 2008. An assessment of all SSSIs can be seen in the Appendix which includes the sites' features, condition, their trends and management factors. See the Report on the Condition of the AONB 2014 for further information about these sites.

8.1.18 Where information was available from Natural Resources Wales about SSSI the grassland, heathland, surface water, semi-natural broadleaved woodlands and dunes were in an unsatisfactory condition and were declining. There was no information regarding the fens and marshes. The wet grassland features were satisfactory as well as the rocky, marine and inter-tidal areas. The main issues that affected these habitats were:-

- Grassland and heathland:- under-grazing, invasive species and fires (dry heathland)
- Fen, marsh and surface water:- Grazing and invasive species, pollution, water quality, water management
- Broadleaved woodlands:- grazing and invasive species
- Coastline (including rocky sea-cliffs, gravel, and boulders, inter-tidal areas, sand dunes and rock pools):- pressure from leisure and pollution.

8.1.19 **Potential Wildlife Sites** -These sites are of significant local conservation importance, however, they currently have no statutory status. There is a reference to them in the Unitary Development Plan and they have been noted on the Gwynedd Council Geographic Information system.

8.1.20 The Main Aim of the Management Plan in terms of Habitats and Wildlife is as follows:

Main Aim

MAINTAIN, ENHANCE AND ENCOURAGE HABITATS AND ENCOURAGE KEY SPECIES AND DESIGNATED NATURE SITES WITHIN THE LLŶN AONB TO ENSURE THE CONTINUATION OF THE RICH VARIETY OF ANIMALS, BIRDS, INSECTS AND PLANTS.

Special Features

8.2 Diverse Habitats

8.2.1 By today natural or semi-natural vegetation, namely unimproved and uncultivated land is rare in England and Wales. The most prominent examples of such lands are heath lands, wetlands and woodlands and they are all present in Llŷn.

8.2.2 Natural broadleaved woodlands are not a prominent feature within the Llŷn AONB, however, they contribute towards the appearance of the landscape and biodiversity and are a scarce resource. Evergreen conifer forests have been planted on many hills and hillsides in the area. They are not a natural feature, but to an extensive degree, they have won their place now and the impact on the landscape is evident when they are felled and cleared.

8.2.3 A detailed analysis of all the relevant habitats in Llŷn can be seen in Natur Gwynedd. Further details are given by noting the surface area of the most important habitats (the priority for Wales / the UK). The table in the Appendix contains information regarding the important habitats that exist in the Llŷn AONB, including their surface area.

8.2.4 The majority of the habitats in Llŷn have been included as habitats that are a priority in terms of protecting a biological variety in Wales in Section 42 of the Natural Environment and Rural Communities Act (2006). Details of the area's most important habitats are noted below:

8.3 Coastal Habitats

8.3.1 There are many types of coastal habitats in Llŷn including sea-cliffs, slopes, coastal land, beaches and sand dunes. The sea-cliffs and slopes sustain a variety of vegetation and are important habitats for sea birds such as the Guillemot, Razorbill, Cormorant and the Shag. Carreg y Llam near Llithfaen and Trwyn Cilan are notable areas to view some of these birds whilst the Puffin is very prominent on the Gwylan islands and the Manx Shearwater which resides on Bardsey.

8.3.2 More inland, the vegetation slowly turns into coastal pastures and heathland and they are again home to a variety of birds including the Sand Martin and the Chough. These lands are also habitats for wasps and some rare invertebrate creatures.

8.3.3 Beaches and sand dunes are prominent habitats in Llŷn and there are many sand dune systems across the southern coast of the peninsula. Sand dunes are one of the most natural habitats to be seen in Britain and are home to a wealth of rare species. Sand dune systems are acknowledged to be of international importance to wildlife; they include plants such as sea-grass, a variety of fungi, lizards such as the sand lizard and a large number of invertebrate animals such as the carder bee.

8.3.4 Today, sand dunes are under threat and the numbers of species are declining as the scrub wood spreads and also due to sand dune over-stabilisation. One reason for this is the lack of grazing. The dunes system near Abersoch is the most prominent in the AONB ("The Warren"). This system is suffering substantially due to pressure from tourists during the summer months and a variety of developments such as caravan parks, parking facilities and improved or semi-improved grassland in order to create pastures or golf links.

8.4 Heathland

8.4.1 Heathlands are a prominent and important feature in Llŷn and wet, dry, low and coastal heaths are found here. They contribute not only as a habitat and a landscape feature, but also on a historical and cultural level and as a leisure resource (many of the heaths in the area are common land which explains why they have not been improved for cultivation). The heaths sustain a wide variety of interesting pastures and plants such as the common rock-rose in

addition to native heather and gorse that are so colourful during August and September.

- 8.4.2 The coastal heaths are important in the European context as they are typical of western heaths that have become drastically scarcer since the Second World War. By now, only 0.3% of the UK's surface area is made up of low heaths. A great deal of work to maintain, manage, restore and improve access to local heaths has been undertaken under the "Cadw'r Lliw yn Llŷn" project. The project was developed by partners including CYMAD, the Countryside Council for Wales, the RSPB and Gwynedd Council.

8.5 Grasslands and Meadows

- 8.5.1 The main land use in this area is agricultural pasture. Many of the natural grasslands have been lost following the agricultural revolution which was responsible for clearing, draining and improving land. Recently, there has been a new threat to natural grassland with the spread of scrub, bracken and coarse grasses as a result of a lack of grazing. Nowadays, there are only a few small areas of grassland left, namely, land that is difficult to cultivate such as wet land or steep land and road verges. These natural lands are home to a wealth of wildlife; plants such as knapweed, ox-eye daisy, cowslip and sweet vernal grass, birds such as the skylark and the curlew, butterflies and many reptiles and insects.

- 8.5.2 The most important grasslands have been designated as Sites of Special Scientific Interest and there are management agreements in place for some of them. Also, due to their scarcity, untreated grassland and grass meadows are subject to substantial payments under agri-environmental schemes such as Glastir.

8.6 Woodland and Trees

- 8.6.1 Broad-leaved forests are very rare in the AONB and the most important ones, and those under threat, are protected by Tree Preservation Orders. The main threat to these trees are new developments that would require the felling of trees, lack of correct management leading to a decline and diseases such as sudden oak death and Dutch elm disease.
- 8.6.2 Indigenous deciduous woodlands are rare. These include trees such as oak, ash, hazel, birch and mountain ash in the AONB. By now, there are only small, much dispersed places of semi-natural deciduous woodlands with many on steep slopes, valley sides, river corridors and on estate lands. These woodlands contribute to the landscape and are habitats which sustain a wealth of species including rare mosses and lichen. One of the most important natural woodlands is the ancient forest near Plas yn Rhiw. Mixed woodlands – of broadleaved and conifer trees are also rare, however there is an increase as efforts are made to control and reduce the number of conifer trees.
- 8.6.3 Areas of conifer trees are very prominent on some hillsides in the area, such as Garn Fadryn, Garn Boduan, Mynydd Rhiw, Nant Gwrtheyrn and Moel

Penllechog. These make little contribution as a habitat and the landscape will be left bare when they are felled. There are opportunities for re-planting these areas with native trees.

8.6.4 The correct protection and management of trees is essential for their long term welfare. One threat to some woodland is the rhododendron ponticum that can spread quickly and prevent natural growth in the forest. Another threat is intense grazing which deteriorates the woodland into poor grass as the trees die of old age and there are no young trees to replace them.

8.6.5 There are several bodies who work to protect, support, manage and promote trees and woodland in Wales, including Pen Llŷn namely:

- **Coed Cadw** (Woodland Trust) - A charity that aims to protect and promote native trees and inspire all to appreciate and enjoy trees and woodlands. Their aim is to protect ancient trees, restore woodland and create new woodlands.
- **Coed Cymru** This is an enterprise for the whole of Wales to promote broadleaved woodland and the use of hardwood. Free, unbiased advice is given to farmers, woodland owners and managers, community groups and wood businesses.

8.7 Peat and Fenland

8.7.1 There are few peat lands and marshes in the AONB itself. They are important habitats to a wide variety of plants and animals, and also an important environmental resource by aspirating greenhouse gasses and purifying water by extracting excess amounts of nutrients and sediment. Many wetlands have been lost through intensive agriculture and activities such as drying land and water pollution from fertilisers.

8.7.2 Cors Geirch, which extends from Rhydyclafdy down towards the direction of Ederon on the northern coast, is a peat land of international importance and this peat land has been designated a National Nature Reserve. The sedge, moss and tall flowers such as the greater spearwort grow on the site, and it is a rare habitat for invertebrate animals including whorl snails, dragonflies, snakes and amphibians such as frogs. Cors Geirch and other Llŷn marshes (Cors Hirdre, Rhyllech Uchaf and Aber Geirch) were designated as a RAMSAR site and a Special Area of Conservation and by now an ambitious project sponsored by LIFE+ is being undertaken to restore and maintain these marshes.

8.8 Wetlands

8.8.1 According to the Habitats Survey 1990 (Countryside Council for Wales) Llŷn is of special interest due to a series of rich muddy land in the central areas of Llŷn, including the River Geirch and also around the River Penrhos. The 1995 survey of the proposed Local Nature Reserve (GNR) at Lôn Cob Bach, Pwllheli declares a "high interest" in extending the GNR to include the area which surrounds the River Penrhos as the area appears to contain a wealth of wildlife.

8.9 Field Boundaries

8.9.1 Stone walls, hedges and especially 'cloddiau' are prominent features of the Llŷn landscape and they are also important habitats as well. A wide variety of wildlife is dependent upon these boundaries, and the older the boundary, the richer the wildlife. Regulations exist to protect hedgerows (Hedgerows Regulations) whilst agri-environmental schemes assist to maintain and restore other traditional boundaries. However, some sections of cloddiau, walls and hedgerows are still lost annually and proper maintenance is a problem due to costs and skills shortage.

8.10 Road Verges

8.10.1 This is a semi-natural habitat which is important in terms of nature conservation for many reasons. They are a food source and a shelter which sustain wildlife corridors without much intervention. However, there is a problem regarding invasive foreign plants such as the Japanese Knotweed in some areas. Gwynedd Council keeps a register of road verges and nature conservation interests, including a number in the Llŷn AONB area. This habitat is also included in the Natur Gwynedd Action Plan.

8.11 Marine Habitats

8.11.1 Due to the importance of a number of marine habitats and species seen in the Llŷn a'r Sarnau area, for example the reefs and the estuaries, the area has been designated a Special Area of Conservation (SAC) under the European Habitats and Species Directive. The reefs support a wide variety of flora and fauna communities including a variety of seaweed forests, sponges and styela clava. Further information is available in the Pen Llŷn a'r Sarnau SAC Plan and on the website: www.penllynarsarnau.co.uk.

8.11.2 The Neptune Campaign by the National Trust has been important in safeguarding and maintaining coastal habitats throughout Wales including parts of Llŷn's coast.

8.12 Key Species

8.12.1 The still and unpolluted nature of Llŷn has certainly contributed to the continuation of many species which are now considered rare species in the British Isles. Natur Gwynedd (2004) defines the species that are important in Gwynedd and those that are specifically important to the AONB were identified in each category mammals, fish, birds, reptiles, invertebrate animals and plants - see the Appendix for the full table.

8.12.2 There was no information regarding the numbers of the abovementioned species for the Llŷn AONB when reviewing the Management Plan.

8.13 Mammals

8.13.1 There is a variety of rare mammals here in Llŷn and in the AONB and these have been identified as priority -

- The Otter – there has been an increase in numbers in the area, has been spotted in the River Soch and recent surveys showed that it uses coastal habitats in Llŷn.
- The polecat – is present but there is a lack of information regarding location and numbers.
- Hare – present but there is a lack of information regarding location and numbers.
- Water Vole – recent surveys suggest that Llŷn is a stronghold but there is a lack of sufficient information.
- Lesser horseshoe bat – there are roosts in Llŷn but no definite information.

8.14 Marine Species

8.14.1 The coastal waters of Llŷn are rich in marine life. The grey seal is common to the area (on the shores of Bardsey in particular) along with otters, harbour porpoises and bottlenose dolphins. The location and special feature of the bay, such as good access to deep feeding waters off Bardsey, is a suitable habitat for the Risso dolphin.

8.14.2 The grey seal and the bottlenose dolphin are species that are acknowledged in the UK Biodiversity Action Plan and are also protected under the European Union Habitats and Species Directive. The Ceredigion Bay SAC Group has also prepared a Management Plan for these species in particular and they work closely with the groups and organisations through forums such as the Welsh Cetacean Group to share information. The Pen Llŷn a'r Sarnau SAC Management Plan has concentrated on the SAC habitats as well as species.

8.15 Birds

8.15.1 Due to its rural landscape and varying coastline Llŷn is a habitat for a vast variety of land birds and sea birds, some of them are rare species. Some of these have been mentioned already, but amongst the most important is the Chough, used as the AONB logo. In 2002, there were 67 sites and pairs in Gwynedd, but there is no information regarding exactly how many there are in the AONB. There are other species of birds of European importance also, including the Puffin, Guillemot, Cormorant and the Manx Shearwater.

8.15.2 The Barn Owl is amongst the important land birds of the area – it is estimated that there are on average, 20 pairs nesting in Gwynedd and Pen Llŷn is one of the strongholds. Also, although they have significantly become scarcer, the lapwing is present here - however, there is a lack of information regarding location and numbers.

8.16 Invertebrates

8.16.1 Again notable invertebrates live in the Llŷn area, although there is no certainty that there are some within the AONB boundary itself. There is detailed information in the appendix, but amongst the rare species are:

- Marsh Fritillary, an orange, gold and black butterfly which is under threat and is becoming more scarce – present in Cors y Wlad and Cors Gyfelog near the AONB boundary.
- Hornett Rubber Fly – present in Cors Geirch near the AONB boundary and according to reports, in Cilan and Nefyn at one time. Its natural habitat of untreated land and heathland has diminished.

8.17 Plants

8.17.1 There is a great variety of wild flowers and plants in Llŷn. In spring the verges of the area's rural roads are full of colourful wild-flowers such as foxgloves, red campion, wild carrots and primroses. Along the 'cloddiau', gorse is very prominent and also hawthorn and blackthorn. Along the sea cliffs, spring squill and sea thrift can be seen early in the summer months.

8.17.2 On heathland such as Mynydd Tir y Cwmwd and the Eifl, native gorse and heather are colourful and very striking at the end of the summer months. Amongst the other important plants in the area are bluebells which are present on some of the slopes such as in the Llanaelhaearn area and some types of orchids can be seen on the area's marshes.

Key Issues

8.18 Climate Change

8.18.1 By now, there is fairly strong evidence that there is a gradual change in the world's climate as a result of an increase in temperature. According to scientists, emissions of CO₂ contribute to this but solar energy also plays a part. CO₂ is discharged into the air through burning fossil fuels, factories and industries and pollution from cars, lorries, ships and aeroplanes etc. Although there is no local evidence regarding climate change, it is true to say that minor changes can be seen in the seasons that appear to confirm the impact of climate change.

8.18.2 Scientific evidence predicts that the impact of global warming will mean a gradual increase in air temperature and sea levels. This in turn will lead to changes in seasons - and the view in Britain is that summers will be warmer but wetter, winters will be less cold but again wetter with more frequent periods of unusual weather - more heavy rain, winds and warm days.

8.18.3 Certainly climate change will influence biodiversity by impairing some species and habitats. These changes will entail that some native species will be under threat while others will thrive and some new species will appear. Thus far, there is not much information or evidence of what changes are likely in terms

of biodiversity in this area.

8.18.4 There is a role for the AONB to play in terms of climate change by encouraging and promoting measures to reduce CO2 emissions by saving energy, generating domestic renewable energy, sustainable travel etc. In addition, there is a need to raise awareness about climate change and the likely impact on the area.

8.19 Agriculture

8.19.1 In the past, agriculture has had a fairly significant impact on wildlife throughout Britain. The industry was driven by pressure to produce more for a fair price and grants were available to drain wetlands, plough and cultivate the land, remove hedgerows etc. Also, there was extensive use of pesticides, herbicides and fertilisers in the second half of the last century. Studies have shown that this has had a significant impact on wildlife including birds.

8.19.2 Things started to change around the end of the last century. With research, factual information and expertise, it was realised that there was over-production and over-dependency on chemicals and the impact of this. Since then, various agri-environmental schemes have been introduced which gave grants towards environmental work such as creating and cleaning lakes, erecting 'cloddiau', restoring walls and planting hedgerows. These schemes and the current Glastir scheme (and the Single Payment that sets the conditions for cross-compliance) certainly benefit habitats and wildlife throughout Wales.

8.19.3 However, there are some agricultural activities that continue to have an impact on habitats and species. The main agricultural activities that may have an impact on habitats, water and wildlife during the Management Plan period are:

- Grazing and stocking levels (under-grazing and/or over-grazing can be harmful)
- Slurry entering water courses, streams and rivers
- Artificial fertilizers out-flowing into streams and rivers (nitrogen)
- Pesticides and herbicides
- More specialising in one type of farming in a more intensive way.

8.20 Grants and Environmental Projects

8.20.1 Projects can assist to maintain, restore and improve the management of habitats and by so doing provide for specific species.

8.20.2 In the past, projects such as Natur Gwynedd, Llŷn Landscape and the Nature Fund project in Llŷn did a great deal to improve some habitats in Llŷn, particularly the traditional boundaries, pools and lakes and heathland. Also, the Sustainable Development Fund that is associated to the AONB designation has supported projects that are beneficial to wildlife at a smaller scale such as Tan y Bwlch fields and Porthdinllaen Sea-grass. It is hoped that

other similar projects can be developed in the future for the benefit of local biodiversity.

8.20.3 In addition to the Glastir agricultural grants, grants have been provided by Coed Cadw and Coed Cymru to improve existing woodlands by introducing more native trees and better management.

8.21 Invasive Plants

8.21. Recently, invasive plants and alien invasive plants have become more of a problem in the area. Although there is no specific information to confirm it seems that bracken has spread as a result of lower stocking levels on certain lands - e.g. hillsides and also small areas of land that are not farmed now. Also, the use of the herbicide Asulam is restricted and there is a threat that it will be banned completely. Therefore it seems that bracken will spread further and will impair on habitat such as heathland and rough grazing and the species that live there.

8.21.2 Examples of sites with Japanese Knotweed are fairly rare at the moment, however, there has been an increase in the last decade. Because of the resilience of this invasive plant, its ability to spread and the fact that there is no specific scheme or project to destroy it, it is likely that it will increase and will impair native plants.

8.21.3 Himalayan Balsam is increasing at a rapid scale. The plant spreads by throwing its seed far and wide and it thrives in wet areas such as river banks - therefore its seeds can travel in the water. By now Himalayan Balsam has spread significantly in some valleys and wet areas of Llŷn and has the potential to spread much further.

8.21.4 Landowners and land managers, Gwynedd Council, Natural Resources Wales and the AONB Service have a role to play in monitoring and controlling invasive species in the area.

8.22 Environmental Regulations

8.22.1 There are a number of European statutory designations that are relevant to several sites in Llŷn and these include Special Areas of Conservation, Special Protection Areas and Ramsar sites. Brexit is causing great uncertainty regarding the future of these designations that offer support and protection to the sites in question.

8.22.2 In addition, European regulations regarding pesticides and herbicides are relevant to Britain and have been formulated to protect species and habitats.

8.22.3 Therefore, there is great uncertainty about the future and it will be important to review the situation and get the latest information. Perhaps national or local conservation designations may be considered instead of European ones if these are not relevant to Britain in the future.

8.23 Financial Squeeze

- 8.23.1 There have been cuts in public expenditure since 2008/9 following the banking crisis. This has had a significant impact on different public bodies and departments including Local Authorities and conservation bodies such as Natural Resources Wales (and its predecessors the Countryside Council for Wales, the Forestry Commission and the Environment Agency).
- 8.23.2 There have been substantial financial cuts in Gwynedd Council over the years and the largest was following the Gwynedd Challenge exercise in 2015. These cuts have affected many services including the Countryside and Access Unit and the Biodiversity Unit and this has meant a reduction in staff and budgets. This means that staff numbers have been reduced, work has had to be prioritised and it is necessary to focus on statutory work only at the expense of implementing projects, promotion etc.

8.24 New Developments

- 8.24.1 New developments can impair habitats and species and these developments include housing, sheds, agricultural developments, road improvements etc. Of course all these developments need planning permission via a formal process and are therefore assessed by different Council departments (including the Biodiversity Unit and the AONB Service where relevant) and Natural Resources Wales. Therefore developments that may be harmful to wildlife can be opposed or conditions may be recommended to be imposed on the planning consent.
- 8.24.2 No substantial sites have been allocated for development in the Llŷn area in the Gwynedd Development Plan. Therefore, on the whole, there are no major concerns regarding the impact of new developments on the area's wildlife.

Policies

BP 1. PROMOTE THE PROTECTION AND APPROPRIATE MANAGEMENT OF LLŷN'S KEY HABITATS.

A wide variety of habitats exist within the Llŷn AONB which is a reflection of the area's varied landscape and coast. Nowadays, natural or semi-natural vegetation, namely unimproved and uncultivated land is rare in England and Wales. The most prominent examples of lands such as these are heathlands, wetlands and woodlands and they are all present, to some degree, in Llŷn. There is a detailed breakdown of all the relevant habitats in Natur Gwynedd but generally these include various coastal habitats (beaches, cliffs, sand dunes etc., heathlands, grasslands and hay meadows, trees and woodlands, marsh and fenland, field boundaries and road verges and marine habitats.

BP 2. PROTECT, MANAGE AND PROMOTE APPROPRIATE USES OF LLŷN'S COMMON LANDS.

Common lands are an important feature of Llŷn and they form an important habitat since they are mainly uncultivated land, they also provide public access opportunities (but they are not publicly owned). There are a total of 30 over a

considerable area of land and there are different rights associated with individual sites (e.g. grazing, collecting firewood). Most of the land is heathland or rough grazing and due to lack of management some sites have become overgrown and bracken infested. Some of the common lands are in the ownership of the National Trust – and have benefited as such by being included in various management schemes to clear scrub and re-introduce grazing – e.g. through the Llŷn Landscape Partnership.

BP 3. PROTECT, SUSTAIN AND IMPROVE LLŷN’S WILDLIFE SPECIES ESPECIALLY THOSE WHICH HAVE BEEN DESIGNATED UNDER EUROPEAN LAW AND THOSE WHICH ARE CLASSIFIED AS PRIORITY IN THE 2006 NERC ACT, AND RESIST ANY HARMFUL DEVELOPMENTS.

The Llŷn AONB boasts an abundance of wildlife species. The tranquillity and the unpolluted nature of the area have certainly contributed to the continuation of many species which are now considered rare in the British Isles. Some species have been designated for protection under European law and other denoted as priority species in the 2006 NERC Act. These have been classified as mammals, birds, fish, reptiles and amphibians, invertebrates, vascular plants, lichen, mosses and liverworts, fungi, stonewort and marine species.

BP 4. CREATE AND IMPROVE CONNECTIVITY BETWEEN IMPORTANT HABITAT AND WILDLIFE SITES.

Ecological connectivity between habitats and the movement of species through the landscape is all important for the long term state of biodiversity. The AONB Service, Gwynedd Council and other bodies will give priority to support and develop plans and projects to improve connectivity and create new connections. This will follow on various projects that have been implemented recently by the Llŷn Landscape Partnership. Guidance on local priorities is provided in documents such as Natur Gwynedd, Llŷn Coastal Connectivity Strategy (2013) and Llŷn Wildlife Audit (2013).

BP 5. ASSESS THE POSSIBLE EFFECTS OF CLIMATE CHANGE ON INDIGENOUS HABITATS AND WILDLIFE SPECIES AND POSSIBLE MEASURES TO MANAGE THE SITUATION.

Climate change has been proven to take place and will have an effect on habitat and species. It’s believed important to take steps to try and predict what effect climate change will have on the Llŷn AONB so that steps can be taken to address the issue. Details specialised information will be needed from bodies such as NRW (The State of Natural Resources Report – SoNNaRR), Wales Biodiversity Partnership, RSPB etc.

BP 6. TARGET INDIGENOUS AND NON-INDIGENOUS INVASIVE SPECIES AND RAISE AWARENESS AND METHODS OF TREATMENT AND ERADICATION.

Historically, bracken was a problem in this area – it grows strongly on hillsides and dominates other plants. From the 1960s onwards a combination of chemical spray and dense stocking rates meant it was curtailed. Recently however there has been resurgence due to lower stocking and constraints on spraying (there may be a total ban on the most effective chemical spray soon). The aim is to support schemes to raise awareness and trial new methods to control bracken.

Japanese Knotweed and Himalayan Balsam are the most common non-native invasive in the area with some small areas of rhododendron. To date these species have not spread widely although there has been an increase in sites and area especially of balsam. The aim is to work in partnership to target known sites, raise awareness among landowners and arrange training.

BP 7. RAISE AWARENESS AND IMPROVE UNDERSTANDING OF LLŶN'S IMPORTANT HABITATS AND WILDLIFE SPECIES AND PROMOTE VOLUNTEERS TO TAKE PART IN RECORDING AND CONSERVATION PROJECTS.

Most local people and tourists have only a basic knowledge of Llŷn's important habitats and the wealth of wildlife here. Without knowledge and understanding it is difficult to appreciate the resource and take beneficial action. There is a need to work with conservation bodies such as NRW, National trust and the RSPB, Pen Llŷn a'r Sarnau SAC etc to raise awareness and improve people's understanding, including schoolchildren.

BP 8. IMPROVE AWARENESS OF THE CONTRIBUTION MADE BY HABITATS AND WILDLIFE SPECIES IN PROVIDING ENVIRONMENTAL SERVICES AND THE BENEFITS CONFERRED IN REGARD TO HEALTH AND WELLBEING.

The natural environment, including habitats and wildlife provide a range of ecosystem services for the benefit of people and communities. Biodiversity contributes to these services by processes such as water purification, CO2 uptake, soil quality and pollination etc. Although there have been improvements of late there is still a lot to do as regards to raising awareness among the general public and those working in social and healthcare services. The AONB Service and other partners can play a role in this and possibly develop and work together on projects.