

***The
Newport
Local
Biodiversity
Action Plan***



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Newport's Local Biodiversity Action Plan

What is biodiversity?

During the past few years biodiversity has become quite a commonplace word in our language, but what does it really mean? It is actually a shortened form of 'biological diversity' and is a simple concept – referring to the variety and abundance of all life on earth.

Biodiversity includes the whole spectrum of species found on earth, from the common and widespread to the rare and exotic. It includes insects and mammals, fungi and trees, fish and birds as well as microscopic organisms such as bacteria. It also includes the habitats in which the species live - whether they are woodlands, grasslands, rivers, farmland or towns.

A more technical definition of biodiversity can be found in Article II of the 'Biodiversity Convention':

'The variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems'

Across the world, biodiversity is under threat from many kinds of human activity, including development, industry and recreation. If we want to conserve and protect our biodiversity for future generations, a more coordinated approach to action is needed.

This Local Biodiversity Action Plan (LBAP) shows how we can protect and enhance the biodiversity of our local area, whilst at the same time contributing to the bigger picture on a regional, national and even global scale.

The Importance of Biodiversity

Biodiversity enriches our lives in many ways, although we may not always be aware of it. It is an important factor in our own quality of life as well as to the health of our planet, and can provide us with a wide range of goods and products. It is our responsibility to conserve and where possible to enhance biodiversity for the present and for future generations through sustainable natural resource management.

Maintaining the environment

Biodiversity helps to maintain the balance of a healthy environment. Natural wetland processes can help to prevent flooding or to filter or treat pollutants; woodlands can help to reduce air pollution and global warming; whilst trees and hedgerows can help to prevent soil erosion and can be used to help make our urban environment more visually attractive.

Improving your quality of life

Many people enjoy spending time out of doors, in the countryside or in urban nature areas, in sport or other leisure activities, for relaxation or for spiritual reasons. Research has shown that people are healthier and happier if they have contact with the natural environment, and also recover quicker from medical conditions. Wildlife

and landscapes provide inspiration for many artists, writers and poets both past and present.

Economic Benefits

Biodiversity also provides many of our essential goods and products. The wide range of things we make use of in our everyday lives, such as clothes made out of cotton or wool; central heating powered by gas, oil or coal; petrol for our cars; newspapers and books; paper to write on and many of the raw materials for our industries and businesses all have natural origins. Even the food and plants that we grow in our gardens originally came from wild species and the majority of our foods need to be pollinated by insects such as bumble bees, honey bees and solitary bees. Tourism and recreation are important industries contributing to the rural economy in Wales.

Medicinal Benefits

There are also many less obvious products of our natural world. Many of our medicines have their origins in wild plants - such as aspirin, which is derived from the willow tree. With the overall decline in species in habitats across the globe, we could be losing species with valuable medicinal properties without even knowing about them.

Biodiversity Now

Our planet is home to an enormous number of individual species, each one superbly adapted to its environment and all contributing to the balance of nature, helping us to survive on Earth. However, the impact of human activity is increasingly changing this equilibrium.

During the last hundred years, over 100 species are known to have become extinct in the UK, including dragonflies, butterflies, plants, fish and even mammals. It is likely that this estimate could actually be too low, as even today we are still discovering new species, such as insects and marine species, so it is possible that in the UK we have lost species we never even knew we had!

A recent publication by a coalition of 25 conservation and research organisations – The State of Nature Report (May 2013) – concluded that the UK is in trouble. The report reveals that 60% of the species studied have declined over the last 50 years, and that more than one in ten of all the species assessed are under threat of disappearing from our shores altogether.

Action for Biodiversity

In 1992, the United Nations Conference on Environment and Development (normally referred to as the 'Earth Summit') was held in Rio de Janeiro. Over 150 countries, including our own, signed the Convention on Biological Diversity, pledging to develop national strategies for the conservation and sustainable use of biological diversity. The emergence of this Convention confirmed the strength of global concern for the losses of habitats and species that were occurring.

Each country that signed the Biodiversity Convention recognised that it had a responsibility to halt the decline of biodiversity within its own boundaries and so all agreed to develop national strategies and action plans for the conservation and sustainable use of biodiversity.

In 1994, as a direct response to the Earth Summit, the UK Government produced the first part of the UK biodiversity strategy - 'Biodiversity: The UK Action Plan'. The overall goal of the Plan was to conserve and enhance biodiversity within the UK and to contribute to the conservation of global biodiversity.

A UK Biodiversity Steering Group was set up to deliver the UK Biodiversity Action Plan (UKBAP), and action plans were developed for the habitats and species considered to be conservation priorities in the UK. The group recognised that for the successful implementation of the UKBAP it would be necessary for the national strategy to be translated into effective action at the local level. This meant the production of Local Biodiversity Action Plans (LBAPs), with the aim for LBAP coverage across the whole of the UK.

Biodiversity Action in Wales

Following the creation of the UK BAP, devolution, in 1998, led the four countries of the UK (England, Northern Ireland, Scotland and Wales) to develop their own country strategies for biodiversity and the environment, allowing conservation approaches to differ according to the different environments and priorities within the countries.

In 2007, the UK Biodiversity Partnership published an updated list of priority UK species and habitats covering terrestrial, freshwater and marine biodiversity to focus conservation action for rarer species and habitats in the UK. The UK priority list contains 1150 species and 65 habitats requiring special protection. The UK list was used as a reference to draw up the species and habitats of principal importance in Wales under S42 of the NERC Act (Natural Environment and Rural Communities Act 2006). 504 of the UK priority species occur in Wales and a further 53 species recognised as Welsh priorities go to make up a list of 557 species of principal importance in Wales with an additional 4 groups/assemblages of species.

Of the UK's 65 priority habitats, 51 occur in Wales. An additional 3 marine habitats not on the UK list but identified as a priority in Wales are included on the Section 42 list, making a total of 54 priority habitats in Wales.

The combined list of species and habitats is referred to as the Section 42 list for Wales, and forms the basis of the Welsh LBAP system.

Since 2012, the UK BAP no longer exists; instead, the UK government's Biodiversity Framework now forms the basis of their biodiversity action. Most work which was previously carried out under the UK Biodiversity Action Plan (UK BAP) is now focussed in the individual countries. Welsh local authorities still work to a LBAP, but there has been a move towards a more 'ecosystem' or grouped habitat approach for ease of use and understanding.

Here in Newport the LBAP has been through many incarnations, but it is hoped that this revision will make it more accessible and easier to understand, thus making it easier to act on. After all, it is the *actions* which are the important part of this *plan*.

Newport Biodiversity Partnership

The Newport Biodiversity Partnership is a partnership of more than 15 organisations and individuals who are involved with, either professionally or personally, conserving and enhancing Newport's biodiversity. Through working together as a partnership, more can be understood, more can be planned and more can be achieved. The

Partnership's members include organisations such as Natural Resources Wales, Gwent Wildlife Trust and RSPB, as well as Butterfly Conservation, Gwent Fungus Group and the Internal Drainage Board. Local residents are also part of the partnership, along with housing associations such as Newport City Homes and Charter Housing. Together, we meet about 4 times a year, as well as sharing knowledge and advice throughout the year.

Woodland Habitat Action Plan

Newport has around 1% of Welsh woodlands within its boundary, totalling a little more than 1200ha.

This grouped action plan covers the broad habitat type of Broadleaved, Mixed and Yew Woodland. This includes upland mixed ash woodland, wet woodland, wood pasture and parkland (including veteran trees), lowland mixed deciduous woodland, lowland beech and yew woodland and traditional orchards.



Upland mixed ashwoods

Upland mixed ashwoods have ash as the major species but with oak, birch, elm, small-leaved lime and hazel as locally dominant species.

Despite the name, upland mixed ashwoods can occur at lower altitudes. The term 'upland' reflects the prevalence of this woodland type on base-rich soils in upland Britain rather than the altitude at which individual sites occur.

Upland mixed ashwoods can support a wide range of flora and fauna including invertebrates and lichens. Associated bird species include spotted flycatcher, dunnock, wood warbler, marsh tit, pied flycatcher and song thrush. They also provide ideal habitat for mammals such as dormice, badgers and bat species. Invertebrates associated with this habitat include the white-letter hairstreak butterfly, which breeds on elm trees, the September Thorn moth and Pretty Chalk Carpet moth.

It is estimated that Newport contains roughly 45ha of upland mixed ashwood. The woodlands are dispersed throughout Newport, but known sites include Coldra Woods, Lodge Wood and Mescoed Mawr. There is also a small section of limestone on the east of Newport on which Hartridge Woods can be found.

Wet woodland

Wet woodland occurs on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species. They sometimes include ash, oak, and beech in drier areas. It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hillside flushes, and in peaty hollows. Wet woods frequently occur in mosaic with other woodland key habitat types (e.g. with upland mixed ash or oakwoods) and with open key habitats such as fens. Wet woodlands are found on a variety of soil types including nutrient-rich mineral and acidic-nutrient poor organic types.

The high humidity of some wet woodlands favours bryophyte growth. The number of invertebrates associated with alder, birch and willows, is very large, and can include

priority species such as white line snout moth (currently only recorded in Monmouthshire) and The Sallow moth. Wet woodland provides cover and breeding sites for mammals such as otter, and birds such as the willow tit will nest in holes in rotten wood.

Scattered areas of wet woodland are found in Newport, typically dominated by alder and various willows. It is estimated that there are only around 16ha of wet woodland in the county, at sites such as Plas Machen Wood SSSI, Coldra Wood and Mescoed Mawr.

Wood pasture and parkland

Wood pastures and parklands are mosaic habitats typically consisting of large, open-grown trees – many of which are of veteran age – over a grassland habitat which is grazed by cattle, deer or sometimes, sheep.

The range of invertebrates, lichens and fungi associated with decaying timber which can be found in wood pasture and parkland can be very diverse and often of exceptional value for conservation. Furthermore, wood-pastures and parklands are often highly valued for their historic, cultural and landscape interests, with individual trees being a key element of the habitat. Birds such as the lesser spotted woodpecker are often associated with parkland.

Veteran trees are also included in this action plan. These trees are normally more than 250 years old with a girth of over 3m. They often have a high ecological importance, but may also have cultural or aesthetic appeal because of their age, size, condition or location.

Newport has around 23ha of scattered wood pasture and parkland.

Lowland mixed deciduous woodland

Lowland mixed deciduous woodland can be found on all soil conditions and many are ancient woodlands. There is a great variety in the species composition of the canopy layer, but it is usually dominated by pedunculate oak but sessile oak can be locally abundant. In these woods you may come across a wide range of trees – wild cherry, ash, sweet chestnut, small-leaved lime and field maple to name a few. The more acid soils often have a less varied ground flora – bluebell, wood anemone, honeysuckle, bramble and bracken are the commonest species. Dog's mercury is a characteristic plant on lime-rich soils, along with enchanter's nightshade, wood avens and Lord's and ladies.

Following centuries of management for timber, coppice products, and firewood many of these woods are now neglected.

Lowland mixed deciduous woodlands support a wide range of flora and fauna including invertebrates and lichens. Associated bird species include spotted flycatcher, hawfinch, bullfinch, lesser spotted woodpecker, wood warbler and song thrush. They also provide ideal habitat for mammals such as dormice, badgers and bat species. Invertebrates associated with this habitat include the Sprawler moth, the centre-barred Sallow (moth) and the Brindled Beauty moth.

The majority of woodlands in Newport are this habitat type, and good examples can be seen at Allt-yr-Yn Local Nature Reserve, Penhow Woodland SSSI/NNR and Parc Seymour Wood SSSI.

Traditional orchards

Traditional orchards are managed in a low-intensity manner, using little pesticides and inorganic fertilisers. The trees are relatively long lived and the grassland under the trees is usually grazed by cattle, sheep or cut for hay. Orchards are generally considered to have five or more trees and to have the crown edge of the trees spaced within 20 m of each other.

Orchard trees can be very good as a habitat for rare lichens and invertebrates and are an important part of our heritage and landscape. They have often occupied the same piece of land for centuries.

Gwent was responsible for the bulk of fruit production in Wales and had a reputation on a par with Herefordshire and Worcestershire for fruit production. Over half Welsh orchards were found in Gwent in the mid 1900s and there are a number of Welsh fruit varieties which are unique to this region. From Newport we have Cissy and St Cecilia (dessert apples) and Little Cross Huffcap (pear).

Some of our remaining orchards are in poor condition, but more information is needed on the extent, type and condition of traditional orchards in the county.

Birds associated with traditional orchards include field fare, redwing, bullfinch and lesser spotted woodpeckers, along with invertebrates such as the noble chafer beetle and mistletoe marble moth (a BAP Priority Species in England but not in Wales).

Vision Statement and objectives

The overall vision for this plan is to maintain, restore and extend these habitats in Newport. This is especially important within the context of habitat connectivity. Any action would seek to meet one or more of the following objectives:

- To positively manage and protect these woodland habitats in Newport, and connect and expand the habitats where possible
- To maintain and expand the range and/or population of species associated with these habitat types
- To identify and record priority areas of woodland habitats within Newport, outside SSSIs
- To raise awareness of woodland habitats and the benefits they bring us.

Freshwater Habitat Action Plan

This grouped habitat action plan includes rivers, streams, ponds, canals, mesotrophic, oligotrophic and dystrophic lakes and eutrophic standing waters. It is closely linked to the Wetlands habitat action plan, which covers reedbeds and grazing marsh.



Rivers & streams

There are four rivers within Newport's boundary, with the two major ones being the Usk and the Ebbw. The River Usk, is both a Special Area of Conservation (SAC) and a Site of Special Scientific Interest (SSSI). It is one of the largest rivers in Wales being over 120km long from its source to its mouth. The Usk is an excellent example of a river running over sandstones and for its associated plant and animal communities. Its character spans a wide range of types from an upland, base-poor stream to a large lowland river with extensive tidal reaches and supports many migratory species and rare fish species such as sea lamprey, European eel, allis shad and twaite shad, as well as a good population of otter. It discharges into the Severn Estuary which is an internationally protected area, being a Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar site and SSSI.

The Ebbw River, is in the western part of Newport and converges with the Usk just before entering the Severn Estuary. The Ebbw is a designated Site of Importance for Nature Conservation (SINC).

The Rhymney River skirts Newport's western boundary, and the Afon Llwyd just enters the north of the county, making up the full compliment of rivers. These rivers along with their tributaries such as the Malpas and Bettws Brooks form the river and stream resource of Newport, an important network of freshwater habitats.

Other species associated with rivers and streams include the white-clawed crayfish and tubular water dropwort (a plant of the damp stream edge).

Ponds

Newport has a number of ponds, creating a rich network across the county. Many are man-made and some are stocked for angling - e.g Morgans Pond in Bettws and Lliswerry Ponds. Allt-yr-Yn Local Nature Reserve also has a couple of ponds as does Pilton Vale and a number of Golf Courses. Some of these are suitable habitat for the European protected great crested newt, as well as other amphibians such as smooth and palmate newts, frogs and toads.

Garden ponds, which also have biodiversity value, are dealt with under the Brownfield and Urban action plan.

Canal

The Monmouthshire-Brecon Canal travels south through Newport until it reaches the M4. After passing under here it splits, travelling east towards Crindau where it joins the River Usk, and to the west it skirts Allt yr Yn Nature Reserve and the M4, before leaving Newport at Mount Pleasant, to the west of the county. It is not navigable by boat, however provides a good habitat for many water fowl, amphibians and reptiles such as grass snake, as well as being known to support otter in some places as well as providing foraging habitat for bat species such as Daubenton's bat and common pipistrelle. There are also recent reports of water vole using some sections of the canal. Prickly sedge has been noted along the canal, along with a nationally notable moth, *Calamotropha paludella* (a pyralid moth), along the Bettws section.

Lakes

There are a few lakes scattered across the county, most notably the Ynysfro Reservoirs SINC which are important for nesting and overwintering wildfowl.

Vision statement and objectives

The overall vision of for this plan is to maintain, restore and enhance these freshwater habitats in the county and the BAP species associated with them. The ability of all our watercourses to function as effective wildlife corridors is a principal objective, creating networks wherever possible to ensure habitat connectivity. We would also like to increase the number of wildlife ponds where the site is suitable.

Any action would seek to meet one or more of the following objectives:

Any action would seek to meet one or more of the following objectives:

- To positively manage and protect these freshwater habitats in Newport, and connect the habitats where possible.
- To maintain and expand the range and/or population of species associated with these habitat types, through creation or expansion of freshwater habitats e.g ponds.
- To identify and record priority areas of freshwater habitats within Newport, outside SSSIs.
- To raise awareness of freshwater habitats and the benefits they bring us.

Wetland Habitat Action Plan

This grouped Wetland habitat action plan includes lowland fens, reedbeds and coastal and floodplain grazing marsh habitats.

Wetlands are one of our most important natural resources. They support many native wildlife species including important wetland plants, invertebrates, birds, otter and water vole. They form part of a healthy and functional landscape.



Wetlands are also important for people. They provide us with fresh water by filtering out pollution and can act as water storage areas that reduce flood risk. They provide livelihoods for people. However, wetland habitats have declined greatly: fens have been drained, grazing marshes ploughed and reseeded, reedbeds polluted, and lowland bogs damaged through peat extraction.

Today wetland habitats are recognised for the benefits that they can provide us, including helping buffer the extremes associated with climate change. Managing our wetland habitats appropriately and recreating them in the right places could bring great benefits within the county.

Reedbeds

Reedbed is wetland which is dominated by stands of the common reed. It occurs at locations where the water table is at or above ground level for most of the year, such as riverine and estuarine water courses. Reedbeds can include a fairly wide range of other plant species, however if other tall herbs dominate then the habitat would not be classified as reedbed.

Reedbed is a common feature around many lakes and ponds in Wales, as well as being associated with the lower reaches of tidal rivers. This habitat may also often incorporate areas of open water and ditches, as well as small areas of wet grassland, carr woodland and reedmace swamp.

Reedbed is amongst the most important habitat for birds within the UK. It can support a distinctive breeding bird assemblage, including nationally rare Red Data Book (RDB) species such as the bittern and Cetti's warbler, as well as reed bunting and willow tit. It also provides important roosting and feeding sites for migratory species as well as for species such as wagtails and starlings, and can be used as roost sites for several major raptor species during the winter. Harvest mice also use reedbeds, although there are no recent records of this species in Newport.

Newport has over 60ha of reedbed, with the largest and most important site at the Newport Wetlands National Nature Reserve, which is actually an artificial reedbed. Further, smaller sites are found at Ynysfro Reservoir (lakeside reedbed), the Moorings in St Julians (estuarine reedbed), on the Wentlooge Levels (coastal reedbed) and Tredegar House (lakeside reedbed).

Coastal and Floodplain Grazing Marsh

Grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water. The ditches are especially rich in plants and invertebrates. Almost all areas are grazed and some are cut for hay or silage. Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities, but not extensive areas of tall fen species like reeds.

Significant areas of coastal and floodplain grazing marsh occur in Newport, 4200ha, making up 8% of this habitat in Wales.

Most of this habitat can be found on the Gwent Levels SSSI, along with stretches along the River Usk SAC. Associated with the coastal and floodplain grazing marsh are the reens and drainage ditch habitats, as well as the pollarded willows and hedgerows typical of the Gwent Levels.

Bird species associated with this sort of habitat include the curlew and lapwing (ground nesters), tree sparrow (pollarded willows), grasshopper warbler and yellow wagtail. Water vole and otter are known to use the reens, and amphibians and reptiles use the terrestrial and aquatic habitats on offer.

The reens also support rare plants, such as the rootless duckweed, the world's smallest flowering plant, which occurs nowhere else in Wales, and also some rare invertebrates. For example, a water beetle, 'Hydraticus transversalis' and a soldierfly, 'Brachytron pratense' are both Red Data list species, and the shrill carder bee, flourishing on the meadows of the Levels, is only found in a few sites across Britain.

Vision Statement and Objectives

The overall vision for this plan is to maintain, extend and improve the condition of wetland habitats within Newport and the BAP species associated with them. The LBAP would also seek to promote the creation and maintenance of wetlands of biodiversity value as part of large developments such as road schemes and business parks, particularly where water attenuation facilities are required. Any action would seek to meet one or more of the following objectives:

- To positively manage and protect these wetland habitats in Newport and connect and expand the habitats where possible.
- To maintain and where possible expand the range/and or population of species associated with these habitat types.
- To identify and record priority areas of wetland habitats within Newport, outside SSSIs
- To raise awareness of wetland habitats and the benefits they bring us.

Farmland Habitat Action Plan

The farmland action plan includes hedgerows and arable field margins.

Although Newport is a City, over 70% of the authority's area is countryside. The majority of farmland can be found across the Gwent Levels SSSI, around Llanvaches and Llandevaud to the east and in Rhiwderin and Machen to the west.

Hedgerows

A hedgerow is defined as any boundary line of trees or shrubs which is over 20m in length and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow. Hedgerows which have more than 80% cover of at least one woody UK native species are covered by this priority habitat



Species-rich hedgerows with mature hedgerow trees are a significant landscape and historic feature. They can be important habitats for butterflies, moths, birds and small mammals as well as acting as wildlife corridors. Bullfinch, cuckoo, dunnock and song thrush readily make use of hedgerows, as do bat species, harvest mice, dormice and hedgehog.

The traditional agricultural practice of having many small fields enclosed with hedgerows has been replaced by intensive farming methods of removing hedgerows to create large fields suitable for large farm machinery.

The current condition of hedgerows in the county is very variable. Many have been restored in recent years through the various agri-environment schemes, others continue to decline through lack of management – this has caused increased gappiness, decreased height, a loss of the ground flora associated with the hedge and an increase in the presence of exotic species.

Field Margins

Modern arable agriculture is largely a monoculture with very little to offer wildlife. In the past, before the intensive use of chemicals and increased mechanisation, wild flowers grew amongst the crops and offered more potential for other species as food and cover. Field margins were especially important as these less productive areas

were an important refuge for small mammals, particularly when the field crop was harvested. These more natural edges can have benefits to the farm as well, encouraging insects like ladybirds, which prey on some crop pests.

At present, there is very little arable habitat of note remaining in Newport – in contrast to the past when every local farming community had its share of grain or root crops. This decline of arable along with the disappearance of many associated weed species and a decline of insect food have contributed to the massive decline of the tree sparrow and other seed-eating birds such as yellowhammer and linnet. Grey partridge and lapwing are also associated with field margins, as are raptor species such as kestrel and barn owl. Brown hare also favour farmland habitat, as do skylarks.



Vision statement and objectives

These farmland habitats support a range of species, some now rare and uncommon, and contribute to the landscape character of the county. The overall vision for this plan is to maintain, restore and extend these habitats in the county and the BAP species associated with them. The cultural importance of hedgerows and orchards also provides an opportunity to work with communities to look at the historical significance of these habitats within a community setting. Any action would seek to meet one or more of the following objectives:

- To positively manage and protect farmland habitats in Newport and connect and expand the habitat where possible
- To maintain and expand the range and/or population of species associated with these habitat types, through creation or expansion of farmland habitats.
- To identify and record priority areas of these farmland habitats within Newport
- To raise awareness of the biodiversity, landscape and cultural importance of our farmland habitats and their appropriate management

Lowland Grassland and Heathland Action Plan

The Lowland Grassland and Heathland action plan includes lowland meadows, lowland calcareous grassland, lowland dry acid grassland, purple moorgrass and rush pastures, and lowland heathland.



All these habitats were much more widespread in the past and have suffered significant

declines over the last 50+ years. They all provide breeding habitat or food resources for a range of bird species such as skylark, linnet, curlew, starling, kestrel and barn owl. They also offer refuge and food for amphibians and reptiles, and offering foraging opportunities for invertebrates such as the shrill carder bee, brown banded carder bee and butterflies.

Lowland meadows

Lowland meadows generally refer to unimproved and semi-improved grasslands on neutral soils. These are grasslands that are subject to low intensity management and have not been significantly altered by recent intensive agricultural activities such as ploughing and reseeded or the use of high nutrient fertilisers or herbicides. Unimproved neutral grasslands are often very species-rich, supporting a wide diversity of plant species as well as a rich associated fauna. Such unimproved grasslands often have a long history of management as hay meadows or pastures with little modification for agricultural purposes. In addition this plan also covers semi-improved grasslands – those which have undergone some agricultural improvement, but which retain good species-diversity. Such semi-improved grasslands assume greater importance in areas where unimproved meadows are rare as well as offering the potential for management to enhance biodiversity.

There are relatively few unimproved neutral grasslands still existing in Newport and therefore this is an extremely rare, vulnerable and important habitat type. Newport has a much greater proportion of semi-improved neutral grasslands, although these are not in great numbers - the total area for lowland meadows (unimproved and semi-improved) is estimated at only 5ha. These meadows are fragmented, occurring largely as isolated fields within areas of agriculturally improved grassland or around urban fringes. High quality sites are scarce within the authority, with key grasslands at Allt-yr-Yn Local Nature Reserve (ST305887), Llandevaud Common SINC (ST404900), and Delbury Grasslands SINC (ST378878). There are also fragments of semi-improved grassland at Oaktree Cottage Fields (ST 261894), Ty-Coch

Grasslands (ST 250877) and Ty'n-y-Pwll Fields (ST 285918), all SINC's (Site of Importance for Nature Conservation).

Calcareous grassland

Newport's geology means that calcareous grassland is a rare habitat. There is a small strip of carboniferous limestone in the east of Newport around Hartridge, therefore the calcareous grassland is generally confined to this area. It is believed that there are 2ha of lowland calcareous grassland in the authority.

Lowland dry acid grassland

Lowland dry acid grassland typically occurs on nutrient-poor, generally free-draining soils with pH ranging from 4 to 5.5 overlying acid rocks or superficial deposits such as sands and gravels.

Dry acid grassland is also scarce in Newport, but habitat maps indicate that there are 30ha in the authority.

Purple moor-grass and rush pasture

Purple moor grass and rush pastures occur on poorly drained, usually acidic soils in lowland areas of high rainfall. This habitat is a priority for nature conservation because they are highly susceptible to agricultural modification and reclamation. Their vegetation, which has a distinct character, consists of various species-rich types of fen meadow and rush pasture. Purple moor grass, and rushes, especially sharp-flowered rush, are usually abundant.

Newport does not have much purple moor-grass and rush pasture within its boundary, but it has been estimated at around 40ha.

Lowland heath

Lowland heathland is described as a broadly open landscape on impoverished, acidic mineral and shallow peat soil, which is characterised by the presence of plants such as heathers and dwarf gorses. It is generally found below 300 metres in altitude in the UK

Lowland heathland is rare in Newport (less than 1ha), and the majority of that can be found on Gaer Fort.



Vision statement and objectives

The overall vision for this plan is to maintain, restore and extend these habitats in the county and the BAP species associated with them. This is especially important within

the context of habitat connectivity within the Newport landscape. Any action would seek to meet one or more of the following objectives:

- To positively manage these grassland and heathland habitats in Newport and connect and expand them where possible.
- To maintain and expand the range and/or population of species associated with these habitat types.
- To identify and record priority areas of grassland and heathland habitats within Newport.
- To raise awareness of grassland and heathland habitats and the benefits they bring us

Brownfield and Urban Action Plan

This grouped habitat includes open mosaic habitats on previously developed land, inland rock and scree, urban open space, garden and allotment habitats, and churchyards.

The range of habitats in this action plan offers excellent refuge and foraging opportunities for many animals, and the plants found on these sites can be



varied and unusual. Much of the developed area of Newport has brownfield sites which are particularly interesting for biodiversity.

Open mosaic habitats on previously developed land

This habitat, also known as brownfield habitat, is land that is or was once occupied by industrial or other human uses. It has now become disused, derelict or is currently unoccupied (or in some cases they may still be in use). Such sites might include former colliery sites, disused quarries, spoil tips, restored opencast sites, pulverised fuel-ash (pfa) and metaliferous slag substrates, demolished or derelict factory sites, industrial lagoons, derelict railway land, redundant dockland, contaminated land, former refuse tips, etc. This land may occur in both built-up and rural settings.

Brownfield sites can often remain unused for many years and recolonisation by plants and animals on these undisturbed areas can lead to the development of a diverse flora and fauna with a complex succession of habitats forming a mosaic (patchwork), from bare ground to grassland, scrub and woodland. These areas often provide alternative habitats for many species that have declined due to loss of their native habitats in the wider countryside. Often the biodiversity value of these areas is underestimated and can be important for many species, in particular a range of invertebrates such as the Chalk Carpet moth and the Wormwood moths are associated, to some extent, with brownfield sites, as is the Small Ranunculus Moth (which has it's own action plan). The small blue butterfly has also recently been recorded on a brownfield site in Newport, a first for the county.

There are many brownfield sites in Newport, particularly around the docks where a lot of industry is based alongside the River Usk SAC/SSSI.

Gardens and allotments

Over recent years, gardens and allotments have become increasingly important habitats for wildlife, including many species now rare in the wider countryside.

Gardens and allotments can also be important wildlife corridors. In our towns, a large proportion of available wildlife habitat is provided by gardens, which are the 'green lungs' of our urban environment.

Gardens also play an important role in allowing people to have close contact with nature. However many gardening practices are detrimental from a biodiversity perspective and more work is needed to encourage wildlife-friendly gardening. For example, the use of peat has a detrimental effect on our peatland habitats.

As the wider environment loses species, gardens provide a refuge for a huge variety of birds and insects. Other species such as hedgehogs, reptiles and amphibians may now have significant strongholds in urban back gardens, as well as bat species who may roost in houses.

Allotments can also cover a significant area of land in towns and can therefore make a valuable contribution to the wildlife potential of urban areas. The diversity of habitats found in allotments – cultivated and fallow ground, grassy areas, empty overgrown plots, compost heaps, sheds etc – make them important for a wide range of plants and animals. Allotments offer benefits for the whole community and contribute to the sustainable regeneration of towns and cities, providing green areas in urban environments.

In Newport there are around 47,000 households (excluding flats), and 22 allotment sites.

Urban open space

Urban Open Space is a term used to describe parks, green spaces, and other open areas such as playing fields. They can be highly managed environments or relatively natural areas. They are commonly open to public access and form a network of Accessible Natural Green Spaces across the authority.

These areas are important because they offer good recreational opportunities for people. They can be islands of nature, supporting biodiversity and providing a habitat for natural species in environments that are otherwise uninhabitable due to urban development. Appropriately managed urban open spaces can be places where local communities can enjoy nature in an urban setting.

Newport has some good examples of parks and open spaces, with the two main parks being Belle Vue and Beechwood. Belle Vue Park opened in 1894 and is a classic example of a Victorian Public Park including conservatory, pavillion, rockeries and bandstand and with examples of rare and unusual tree and shrub species. Beechwood Park consists of the 30 acre grounds to Beechwood House which was built in 1878. The Park is again a classic Victorian park, with rockeries, waterfalls and unusual plant specimens. Across the rest of Newport there are areas of open space and small urban woodlands which are used by the local residents, including Woodland Park, 19 Hills and Tredegar Park.

Churchyards

Churchyards and cemeteries are becoming increasingly valuable for their grassland resource and are potential havens for biodiversity. In general these sites have had limited applications of chemicals, fertilisers and herbicides and are very rarely drained. Many such grasslands are 'semi-natural', i.e. species rich with a high

diversity of plant species. The churchyard habitat resource is not fully understood in Newport, so further work is needed in this area. The municipal cemeteries however, provide some excellent habitat for a range of plant species, in particular fungi.



St Woolos Cemetery is an important site for fungi as it supports a large range of interesting fungi species (nearly 100 species have been recorded), including 18 species of wax cap and the nationally important olive earth tongue. Olive earth tongue is on the European red data list and is a UK BAP species. Other cemeteries such as Christchurch and Caerleon have also been, or will be, surveyed. Further information can be found on the Grassland Fungi Species Action Plan.

Vision statement and objectives

The overall vision for this plan is to maintain and enhance the wildlife value and potential of brownfield habitats, gardens and other urban open spaces in Newport. Any action will seek to meet the following objectives:

- To ensure there is the right amount of appropriate quality open space in the right places in Newport to provide for biodiversity and people's need to have contact with it (the accessible natural green space project)
- To maintain the extent of brownfield habitats in Newport that support BAP/S42 habitats and species
- To secure appropriate management for biodiversity of significant areas of public open space/brownfield sites within the county
- To raise awareness of brownfield sites and the benefits they bring us.
- To raise awareness of the benefits of wildlife friendly gardening and allotments, and ultimately to increase the number of wildlife-friendly features in gardens and allotments in the county

Marine and Coastal Action Plan

This grouped habitat includes a range of coastal and marine habitats: the coastal habitats of maritime cliff and slope and coastal saltmarsh, along with with the important marine habitats of intertidal mudflats.

Newport does not have a significant length of coastline, however being on the Severn Estuary means that it's whole length is designated as a RAMSAR site. The saltmarshes and mudflats of the estuary regularly support internationally important numbers of overwintering wildfowl and waders. The Severn Estuary is also a Special Area of Conservation (SAC) and a Special Protection Area (SPA). Both of these are international designations which recognise the importance of the Severn Estuary for its wildfowl and fish assemblages.

Maritime Cliff and Slope

This habitat also includes maritime grassland at the top of cliffs and slopes. Newport only has a small proportion of the maritime cliff resource of Wales, less that 1%

Maritime cliffs and slopes comprise sloping to vertical faces on the coastline where a break in slope is formed by slippage and/or coastal erosion. There is no minimum height or angle of slope which constitutes a cliff, but the zone defined as cliff-top should extend landward to at least the limit of maritime influence (i.e. limit of salt spray deposition).

Coastal Saltmarsh

Coastal saltmarsh is described as being the upper vegetated portions of intertidal mudflats. They are positioned between mean high water neap tides and mean high water spring tides. Saltmarshes develop along sheltered locations with soft, shallow shores such as estuaries and saline lagoons. Their development depends upon the presence of intertidal mudflats. Saltmarsh needs continuous net accretion of sediment for its continued existence.

In Newport it has been estimated that we have about 130ha which makes up 2% of the Welsh resource of this important habitat. The Severn Estuary has been recognised as a Priority Area for saltmarsh in Wales making the Newport stretch of coastline very important.

Intertidal mudflats

The UK BAP defines mudflats as 'sedimentary intertidal habitats created by deposition in low energy coastal environments, particularly estuaries and other sheltered areas'. The sediments generally consist of fine silts and clays with a high organic content which are carried into the estuary from the sea and from rivers which then accumulate to form mudflats.

Mudflats in Newport extend for approximately 20 km along the Bristol Channel, and up into the Usk Estuary. The Severn estuary is one of the largest in Britain and Europe and possesses the second largest tidal range in the world. The spring tidal

range is over 12m resulting in a highly dynamic and unique ecosystem. The River Usk is tidal for almost 30 km while its tributary, the River Ebbw, is tidal for only 3 km. The Usk estuary is dominated by fine muddy sediments, which are influenced by low salinities, high turbidity and strong tidal currents. Steep sided mud banks on the low water of spring tides flank the sides of the narrow channel in the Usk inlet. Mudflats in areas of high salinity generally support a relatively greater diversity of infaunal species than those of low salinity. Upper areas of mudflats in the Usk estuary support the estuary ragworm in low numbers, and also oligochaete worms. Towards the opening of the Usk estuary and along the Severn Estuary either side of the opening to the Usk inlet numbers of ragworm increase, along with the occurrence of polychaetes and bivalve Baltic telling (*Macoma balthica*).

Mudflats support large numbers of predatory birds and fish. They offer important feeding and resting sites for over-wintering birds, whilst also being crucial breeding sites for waders, gulls and waterfowl (e.g. wigeon, dunlin, redshank). Such locations are often prime nursery sites for juvenile flatfish (e.g. flounder), and crustaceans. The Severn estuary is an outstanding locality for rare fish species including the twaite shad and allis shad.

The presence of intertidal mudflats permits the development of coastal saltmarsh vegetation (see above).



Vision statement and objectives

The overall vision for this plan is to maintain and enhance these habitats in our coastal environment and the BAP species associated with them. Any action should seek to meet one or more of the following objectives:

- To ensure that there is no loss in extent and quality of marine and coastal habitats and so that increases in habitat extent and quality are possible.
- To maintain and expand the range and/or population of species associated with these habitat types.
- To identify and record priority areas of marine and coastal habitats and associated species.
- To raise awareness of marine/coastal species and the benefits they bring us

Education Action Plan

One of the main objectives of the Newport LBAP is to raise awareness of the importance of conserving and enhancing the county's biodiversity. It is important to increase local understanding and support for biodiversity conservation and the reasons for doing so. This involves landowners and land managers, all levels of government, business and industry, schools and local communities.

We must raise awareness of what biodiversity is; why it is important and what are the threats to it. Any action will seek to meet the following objectives:

- To raise the profile of biodiversity issues and action to all who live, work or visit Newport
- To continue to produce relevant educational and raising awareness resources and training
- To ensure that schools within Newport are engaged in biodiversity through the Biodiversity in Schools Project.
- To raise awareness of the species/habitats within LBAP and key issues pertaining to them
- To promote and encourage volunteering in the county

Dormouse Action Plan

The dormouse (Muscardinus avellanarius) is one of our most attractive and distinctive native mammals, though it is rarely seen owing to its nocturnal habits and low population density. Dormice are easily distinguished from other mice, by their thick bushy tails, golden brown-orange colour fur and large dark eyes. They also have hair on the inside of their ears, which sets them aside from other mouse-sized rodents. Dormice are a strictly nocturnal species, found in deciduous



woodland, and large, species-rich, managed hedgerows. They are also found in mixed/coniferous woodland.

They are present in Wales in low numbers, where they occur at the western extremes of their geographical range. In Newport, an important area for dormice is the river valley of the Usk, with its associated woodlands and species-rich hedgerows. They have also been recorded along the M4 and A449 corridor, as well as around Wentwood in the north eastern part of the county, and also in the far west of the county.

Vision statement and objectives

Within Newport our vision for dormice is to have a good understanding of their population size and distribution and to expand their range and increase their numbers. This would be by providing the range of interconnected habitats that they need to survive and to work with landowners/organisations to encourage appropriate management. Actions will aim to meet one or more of the following objectives:

- To maintain and increase the population of dormice in Newport through positive habitat management
- To gather data on the distribution and status of dormice in Newport
- To raise awareness of the importance of dormice in Newport and provide advice on habitat management to landowners
- To ensure that surveys are undertaken to inform decision making/planning of any project that has the potential to affect dormice

Bat Action Plan

There are more native species of bats in Britain than any other group of mammals. Fifteen bat species breed in Britain whilst several other species are classed as vagrant visitors.

Of the 15 species in Britain, the following nine have been recorded in Newport:

1. Common pipistrelle (*Pipistrellus pipistrellus*)
2. Soprano pipistrelle (*P. pygmaeus*)
3. Lesser Horseshoe bat (*Rhinolophus hipposideros*)
4. Greater Horseshoe bat (*Rhinolophus ferrumequinum*)
5. Brown Long Eared bat (*Plecotus auritus*)
6. Noctule (*Nyctalus noctula*)
7. Daubenton's bat (*Myotis daubentonii*)
8. Natterer's bat (*Myotis nattereri*)
9. Whiskered bat (*Myotis mystacinus*).

Of these nine, although all bat species are European protected species, the first six are listed under section 42 of the NERC Act (2006) indicating they are of principal biodiversity concern in Wales. There are a further two species listed on S42 - Barbastelle (*Barbastella barbastellus*) and Bechstein's bat (*Myotis bechsteinii*). Currently there are no known records in Newport of these species, however they are known to be present in South Wales and so survey work may be required to determine presence or absence.

Within Newport this action plan will aim to help maintain the range and population of our bat species, ensure adequate protection through the development process, management of foraging areas and retention and creation of flight lines. Continued raising awareness is an important part of this action plan. Action will aim to meet one or more of the following objectives;

- To maintain and enhance the population of all bat species in Newport through appropriate habitat management and creation. For pipistrelle species, this involves the creation and protection of riparian habitats and associated water quality; for brown long-eared bats and noctules, woodland, parkland and amenity trees and hedgerows are more important; and for lesser horseshoe bats, they need a network of habitats to provide connectivity between roosts, surrounding habitat and foraging areas.
- To gather data on the distribution and status of bat species in Newport through national and local survey projects
- To raise awareness of the importance of bats in Newport and provide advice on habitat/roost management and protected status.
- To ensure that surveys are undertaken to inform the decision making/planning of any application/project that has the potential to affect bats.

Otter Action Plan

The European otter (*Lutra lutra*) is one of Britain's largest carnivores. Otters are largely nocturnal and live along rivers but will also utilise canals, ditches, marshes, lakes and adjacent scrub and wetland areas. They will also use estuaries and coastal areas but they require access to fresh water to maintain their fur in good condition. Their home range is dependent on habitat quality and food supply, and can be up to 40 km on rivers.

Otters favour rivers with good bankside cover - scrub such as hawthorn, blackthorn and bramble provide lying-up sites during the day. Reed and sedge beds are also important for lying-up, and as feeding and breeding sites. The root systems of mature riverside trees such as ash, oak and sycamore provide cavities suitable for use as holts. Deciduous woodland is often also used by otters, even when located some distance from the river, but accessible via small streams and ditches. Alder and willow carr wet woodlands are particularly important. Lakes, ponds, ox-bows and other wetland areas are also extremely important for breeding otters, as they support amphibian populations, which are an important food source during breeding.

Their diet is varied, and includes fish, amphibians, crustaceans, birds and small mammals.

Otters were considered widespread throughout the UK up until the 1950s when they underwent a rapid decline through to the 1970s. This has been mainly attributed to the use of organochlorine pesticides, exacerbated by hunting and habitat fragmentation. Recent surveys have shown a significant recovery in the number and range of otters in England and Wales. In some parts of Wales and south-western England otter numbers along rivers may now be close to their breeding capacity. Today road traffic accidents are one of the principal causes of death, and populations may be limited by a lack of suitable isolated breeding sites and a lack of prey species, especially freshwater eel.

Otter numbers are on the up in Newport, with populations known to be present on all the rivers in Newport - the Usk, Ebbw and Rhymney as well as in the reens of the Gwent Levels SSSI and the Monmouthshire-Brecon Canal.

Conservation of otters in the long-term requires a landscape-scale approach involving many different partners. The vision for otters is a county that has enough suitable habitat to ensure free movement throughout its range, with adequate breeding sites and reduction in the number of road deaths in the county. Any action will seek to meet the following objectives:

- Undertake action, including riparian habitat management and creation of otter bridges/shelves where safe bank side access is not available, in order to help increase the population and range of otters
- To gather data on the distribution and status of otters in Newport
- To raise awareness of the importance of otters in Newport and provide advice on habitat management.

- To ensure that surveys are undertaken to inform decision making/planning of any plan or project that has the potential to affect otters

Water Vole Action Plan

The water vole (*Arvicola terrestris*) is a small semi-aquatic rodent that inhabits a range of freshwater habitats, including rivers, streams, ditches, canals, lakes and ponds. It favours sites with fairly steep banks into which it can dig its characteristic network of burrows. It also prefer sites with rich bankside vegetation, which provide food and shelter from predation. Once common the water vole has suffered a catastrophic decline in recent times, chiefly through habitat loss and degradation and predation by the introduced American mink.

There is limited knowledge of Newport's water vole population, however evidence of water vole has been identified on the Gwent Levels around Nash and Goldcliff. Recent live sightings have also been reported on sections of the Mon-Brec Canal.

Conservation of water voles in the long-term requires a landscape scale approach involving many different partners. Gwent Wildlife Trust has a successful water vole reintroduction programme at their Magor Marsh reserve, which may encourage individuals to expand out of the reserve into the wider Gwent Levels.

A major objective for water voles is to enhance and create suitable habitat to re-establish links within its range along the coastal floodplains and restore water vole populations to these areas. Survey effort is required to establish if there are other populations within the county that have yet to be recorded. Any action will seek to meet the following objectives:

- To maintain and increase the range and population of water voles in Newport
- To gather data on the distribution and status of water voles in Newport
- To raise awareness of the importance of water voles in Newport and provide advice on habitat management.
- To ensure that water vole conservation issues are recognised and incorporated in all relevant plans and policies that affect the coastal floodplain area and other potential water vole habitat

Fungi Action Plan

Fungi are a very important feature of our ecosystem, and can be found in a wide range of habitats, including woodlands and grasslands.

Surveys in recent years of the municipal cemeteries in Newport have revealed them to support an excellent range of grassland fungi species.

St Woolos Cemetery is an important site for fungi as it supports a large range of interesting fungi species (nearly 100 species have been recorded), including 18 species of wax cap and the nationally important olive earth tongue. Olive earth tongue is on the European red data list and is a UK BAP species. Furthermore, such a large selection of waxcaps (with a large variety recorded on a single visit), makes the site of 'National Importance' for grassland fungi, based on a standard devised by E. Rald based on Boertmann's book "The Genus *Hygrocybe*".



Christchurch Cemetery is also a good site for fungi, supporting around 150 different species, and in particular 17 wax cap species. This number again, would classify it as 'Nationally Important' for grassland fungi. Some additional species of note for the county of Gwent found here were;

Pointed Club - found twice before in 1998 and 2005, both times near Abergavenny.

Moor Club - found in 1995 near Abergavenny and in 2007 in Upper Cwmbran.

Wrinkled Club - found at St Woolos cemetery in 2008 and at 3 other sites near Abergavenny since 1977.

Meadow Coral - 9 records for 6 sites, mostly near Abergavenny but also at St Woolos Cemetery.

The third municipal Cemetery in Newport is in Caerleon, and it is hoped that this can be surveyed in the future, as well as repeating the surveys of St Woolos and Christchurch.

This action plan is closely linked to the Brownfield & Urban Action Plan.

Any action will seek to meet one or more of the following objectives:

- To maintain and increase the fungi population of Newport through positive habitat management
- To gather data on the distribution and status of fungi in Newport through survey work

- To raise awareness about fungi in Newport and the benefits which they bring us. Also raise awareness amongst grounds staff in the cemeteries to ensure appropriate management of the sites.
- To ensure that surveys are undertaken to inform decision making/planning of any plan or project that has the potential to affect fungi

Small Ranunculus Action Plan

The Small Ranunculus moth (*Hecatera dysodea*) was once widespread in southern Britain, but declined dramatically in the late 19th century and was declared extinct in 1930's. However, in recent years it has returned and is beginning to recolonize its old distribution areas, particularly in Kent and South East England. Its first Welsh record was in 1999 by R. James in Newport (an adult to light in a garden). Larvae were found in the city in 2003 on a brownfield site near the docks, and have subsequently been found on many brownfield sites in the area.

The Small Ranunculus is strongly associated with brownfield sites as its main larval hostplant, Prickly Lettuce, is a ruderal species requiring disturbed ground and is often found at such sites.

Brownfield sites are important for the recovery of this species and very important habitats for many other moths and wildlife more generally. Threatened species such as the Bright Wave, Chalk Carpet, Wormwood and Four-spotted are all associated, to some extent, with brownfield sites.

This action plan is closely linked to the Brownfield & Urban Action Plan.

Any action will seek to meet one or more of the following objectives:

- To maintain and increase the small ranunculus population of Newport through appropriate management and advice
- To gather data on the distribution and status of small ranunculus in Newport through larvae searches and light traps
- To raise awareness about the small ranunculus in Newport.

Shrill Carder Bee Action Plan

Once widespread and common, the shrill carder bee (*Bombus sylvarum*) has undergone a serious decline in recent years, mainly due to habitat loss and fragmentation. It is the rarest bumblebee species in the UK and is considered as Endangered. It is also a UK Biodiversity Action Plan priority species.



In the 1900s, the Shrill carder bee was seen throughout most of England and Wales. Since then, the populations have declined quickly, and nowadays there are only about 7 separate populations left. One of these populations is on the flower rich grasslands of the Gwent Levels SSSI. Having such isolated populations is not ideal because it can cause inbreeding amongst closely related bees, so work is needed with landowners to try to create more habitat that will protect existing populations and link them up.

This action plan is associated with the grassland and heathland action plan, as well as the wetlands action plan.

The aim of the Shrill Carder Bee Action Plan is to;

- Work with landowners to maintain and extend the areas of flower-rich grassland available to shrill carder bees, particularly focussing on linking suitable habitat together
- Work in partnership with Gwent Wildlife Trust, Bumblebee Conservation Trust and neighbouring local authorities for the benefit of the species
- Gather survey data of the distribution of the species
- Ensure that planning pressures on known shrill carder bee habitat are reduced as far as possible.
- Raise awareness and understanding of the species