Monmouthshire Local Biodiversity Action Plan

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sir fynwy

BIOAMRYWIAETH
HOLL GYFOETH BYWYD
BIODIVERSITY
THE VARIETY OF LIFE

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

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Cover Images

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Summary

1.1 The Biodiversity Action Planning process in the UK was the response to the UK signing of The Convention on Biological Diversity at the Rio Earth Summit.

1.2 At a local level 'Local Biodiversity Action Plans' are composed to reflect local Biodiversity issues.

1.3 The Monmouthshire Local Biodiversity Action Plan allows a coordinated approach to the implementation of National Action Plan targets.

1.4 Feedback from the local level allows determination of progress of the habitat and species conservation in the UK.

1.5 The Monmouthshire Local Biodiversity Action Plan is based on a partnership approach with partners from a range of organisations as well as independent naturalists. These partners have, and will continue to contribute to the Biodiversity work of Monmouthshire.

1.6 The Monmouthshire Local Biodiversity Action Plan is composed of three parts;

Part A Introduction to Biodiversity; its importance and conservation. Common interest action plans including; Public Awareness and Biological Information and Data Recording;

Part B Habitat and Species Action Plans

Part C Supplementary Planning Guidance

1.7 The main objectives for the plan are set out in Part A (Section 7, Page 30) and aims and objectives are detailed for individual action plans.

1.8 The National Assembly for Wales states that Local Authorities should adopt LBAPs as Supplementary Planning Guidance to the Unitary Development Plan. Therefore guidance for use of the LBAP as such is included in Part C.

1.9 **This is a working document and at the time of publishing the first edition, other Species and Habitat Action Plans are being produced. The Monmouthshire Local Biodiversity Partnership is also constantly updating existing and writing additional policies and guidance to aid Biodiversity conservation in the county. The plan will be reviewed as targets are met and priorities change.**

Part A Framework Document

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1. Biodiversity – The Variety of Life

1.1 What is Biodiversity?

Biodiversity is a word that we are coming across more and more every day, but what does it mean?

Biodiversity is short for biological diversity and simply means the variety of life. The variety of life is all the living things that occur in the natural world and the variation between them, from algae to oak trees, bacteria to blue whales.

Biodiversity is not just about the number of species that occur in a place, it also includes the interactions within and between species and their genetic variation. Therefore, Biodiversity also includes communities of species, habitats and ecosystems. We must not forget that Biodiversity also includes us, and how we interact with other species and our environment.

Biodiversity is not just restricted to rare or threatened species, although Monmouthshire has plenty of both, it encompasses all living things in the natural world, from those that are common to those that are critically endangered.

Biological Diversity is:

'The variability among living organisms from all sources including among other things 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'.

Taken from Article II of The Convention on Biological Diversity
(Earth Summit, Rio 1992)

1.2 Reasons to Conserve Biodiversity

Biodiversity is important for the **functioning of the planet** and maintenance of the environment in which we live. There are massive **economic benefits** of Biodiversity both direct e.g. providing resources and indirect e.g. maintaining the environment, the health and well being of people and providing solutions to technical problems. It is important to remember that the benefits to the environment and economy of conserving Biodiversity are not mutually exclusive.

Summary of Economic Benefits of Biodiversity

Direct Benefits

- Raw materials
- Biological solutions to technical problems
- Tourism

Indirect Benefits

- Flood prevention – farmland and other valuable land
- Pollution capture
- Disease control
- Recharging of groundwater
- Creation and maintenance of conditions for growing crops and other raw materials

1.2.1 Biodiversity supports life itself

No organism lives in isolation from other living things and the well being of each individual is interconnected to all that lives around it. If we continue to pollute the atmosphere, contaminate land and water and degrade our ecosystems by destroying forests, wetlands and marine environments, then the planet will suffer accordingly. Therefore, the successful functioning of the planet depends on the conservation of Biodiversity, which will help to sustain the 'balance of nature' and the healthiness of the planet as a whole.

1.2.2 Biodiversity allows ecosystems to adapt to environmental change

Genetic diversity provides the variability within which a species can adapt to changing conditions. The less genetically diverse populations of species are, the less likely they can adapt to a change in environmental conditions and the more likely that species is to die out. Even without a change in conditions, if the effective population size of a species falls below a certain level it is more likely that species will die out.

Diverse ecosystems, both in terms of genetic diversity and population numbers, normally enhance the resilience to cope with ecological stresses and disturbances, such as climate change.

1.2.3 Biodiversity maintains the environment in which we live

Natural processes regulate a number of 'life support systems' that are essential to our survival. In many cases there are massive economic benefits. Among other things, Biodiversity helps to:

- **Recycle oxygen from carbon dioxide** – as part of this cycle, green plants take in carbon dioxide and convert it to oxygen, which is released into the atmosphere. So, most habitats, especially woodlands, are helping to reduce global warming.

- **Protect us from harmful ultraviolet radiation** – oxygen in the upper atmosphere is converted naturally to ozone, which creates a layer protecting us from the sun's ultra-violet rays.

- **Clean pollutants from the air** – many plants and bacteria absorb pollutants from the atmosphere and the soil and convert them into non-toxic compounds that are no longer harmful.

- **Filter wastewater** – huge sums of money are often invested to find technical solutions but wetland habitats act as natural water filters, removing pollutants and sediments from water making it cleaner and safer. We have many wetlands across Monmouthshire, the more extensive of which are situated in the floodplain of the river Usk or on the Gwent Levels.

- **Assist with flood control**, floodplains, saltmarshes, sand dunes, mudflats and cliffs are just a few of the natural habitats that defend us against flooding from rivers and the sea. The floodplains of the Wye, Usk, Monnow and the Gwent Levels are all important natural defences against flooding in Monmouthshire.

- **Create soil and prevent soil erosion** – broken down plant and animal material mixed with rock particles, water and air makes up the main components of soil. Living plants hold the soil in place, reducing the amount that is washed away by the rain. In our agricultural landscape, patchworks of hedgerows and woodlands hold the soil in place and this helps prevent soil erosion.

- **Recycle nutrients to soil** – as part of this cycle, fungi and bacteria living in the soil break down dead plant and animal material releasing the nutrients locked inside and making them available for something else to grow.

- **Biological pest control**. The control of pests on crops by natural predators and parasites is vital to reduce the amount of chemical pesticides that would

otherwise need to be used. Many animals (especially predatory insects), fungi, bacteria and viruses are lethal to crop pests.

- **Provide the genetic basis for our crops** – the genetic basis of all our food crops comes from wild ancestors of cultivated species. The continued development and stability of agriculture, especially in the long term, depends on our capacity to find genes from these ancestral species and old cultivated varieties to fulfil our needs. This means maintaining ancestral plants habitats and old cultivated varieties of crops.

1.2.4 Biodiversity provides essential resources – Plants, animals, bacteria and fungi all provide us with:

- **Food** e.g. cereals, vegetables, meat, cheese. In Monmouthshire we have a wealth of different foods that are **grown** and **produced locally**, including organic welsh lamb and beef, honey, apple juice, organic vegetables and dairy products, including cheese and ice-cream, organic fruits and traditional herbs, wine, cider, perry and Black Mountain liqueur (made from blackcurrants and apples).

- **Medicines** (e.g. antibiotics, aspirin, cancer drugs). Many of the compounds used in drug production are derived from plants and fungi. According to Traffic International, the world's largest wildlife trade monitoring programme, there are at least 150 medicinal plants native to Europe that are at risk in the wild.

- **Clothing** e.g. cotton, wool, leather. In the past, wool and leather have been important industries contributing to the Monmouthshire economy.

- **Fuel** (e.g. oil, gas, coal, charcoal). Coal has obviously been a very important industry in Wales, although the Welsh coalfields are west of Monmouthshire. However, charcoal has been and still is produced (although in much smaller quantities) in woodlands along the Wye valley.

- **Raw materials** for building and industry e.g. wood, plastic, sand. In Monmouthshire, we are committed to producing sustainable wood. Coed Cymru is an initiative that offers free advice to woodland owners and allied timber trades on sustainable woodland production, management and marketing.

1.2.5 Biodiversity offers solutions to technical problems

It would not be unfair to say that we spend an enormous amount of time, effort and money on trying to resolve technical problems with mechanical solutions, when a biological solution is more cost-effective in the long-term and more in tune with the environment. A good example is the creation of reedbeds and other types of wetland as a solution for drainage problems on urban development sites (these are called Sustainable Urban Drainage Systems or SUDs).

1.2.6 Biodiversity contributes to our health

As well as being a source of medicine, Biodiversity helps us to relax and get away from the stresses and strains of modern life. This may be by taking a walk in the woodland of the Wye Valley or on the heather covered hills of the Sugar Loaf or the Blorenge, perhaps taking in a view of the patchwork of fields and hedgerows of the Usk valley. In Monmouthshire we are extremely lucky, we have a county with an abundance of beautiful countryside and wildlife that can be enjoyed by everyone. Essentially, this and Biodiversity everywhere is fundamental to our well being.

1.2.7 Biodiversity as a cultural and aesthetic resource

Many people thrive on being out in the countryside, for recreation and sport, leisure and even as inspiration for prose and literature. In Monmouthshire, we can hike in the Black Mountains or take the dog for a leisurely stroll along the Usk or Wye, we can go canoeing, paragliding and fishing; watch the birds on the Gwent Levels and the Severn Estuary; go boating on Llandegfedd reservoir or cycling in the rolling countryside. All these activities rely on the quality and quantity of our habitats and countryside.

Our attractive landscapes and wildlife are not only enjoyed by Monmouthshire's residents, but are a focus for tourists. One of our more famous visitors was William Wordsworth who, well known for his love of nature, was inspired by the countryside around Tintern to write his famous poem, 'Lines composed a few miles above Tintern Abbey, on revisiting the banks of the Wye' (13 July, 1798).

Tourism and related industries are also extremely important for the local economy. Many visit us because of the stunning landscape in which we live. Whilst they are here, they shop in our picturesque towns and eat in our restaurants, all of which boosts our local economy. Many local restaurants cook using local produce, which is an excellent example of sustainable development in Monmouthshire (Monmouthshire Food Initiative).

> Monmouthshire attracted over 1.74 million tourists in 2000, which contributed £47 million to the local economy. The industry itself accounts for 9% of the employed local population.

1.3 What impact are we having on Biodiversity?

1.3.1 Biodiversity loss

Species extinction is a process that occurs naturally. However, the natural rate of extinction has rapidly accelerated as a direct result of the expansion and development of human society.

In the UK alone, it is thought that 100 species were lost last century, that is an average of one species a year and those were just the species we knew about! (HMSO 1995a). In the former county of Gwent (Vice County 35) seventy plant species have been lost since 1900 and the majority of those losses have been since the last world war (1945, BSBI).

The main causes for Biodiversity Loss in Monmouthshire have been:

- Intensification of agriculture
- Aforestation of grassland and heathland habitats with coniferous plantation and conversion of broadleaved to conifer woodland.
- Industrial, commercial, residential developments and roads
- Habitat neglect

1.3.2 Habitat destruction and fragmentation

The primary cause of species extinction globally is habitat loss. In the UK, all the habitats we have, such as woodlands, wetlands, fens, bogs and heathland have declined in quantity over the last 50 years through factors such as: development, changes in land use, agricultural intensification, pollution, the introduction of non-native species, disturbance, neglect and over-exploitation.

It is not just the destruction of large areas of habitat that causes a reduction in Biodiversity. The loss of small pockets, such as filling in a pond or felling small pieces of woodland, all adds to the total amount of habitat lost to human activities each year. This loss of habitat from habitat corridors also has another devastating effect on Biodiversity, by causing habitat fragmentation.

Habitat fragmentation involves the breaking up of large areas of habitat into small, unconnected 'islands'. These habitat fragments are often too small to support viable populations of many plant and animal species, leaving them vulnerable to extinction. As a result, species that have taken tens or hundreds of thousands of years to evolve naturally can be lost very quickly and cannot be recreated.

1.3.3 The possible effects of Biodiversity loss

Many ecosystems are relatively resilient to stress and disturbance such as low levels of pollution or fire. In a healthy habitat following small-scale disturbance, the

animals and plants from undisturbed parts of the habitat can usually re-colonise the disturbed area. Re-colonisation may be possible by individuals from the same area of habitat or through wildlife corridors that connect different areas of the same habitat. However, if the habitat has become degraded or fragmented and the number of species has already been reduced, then following disturbance the ecosystem is less able to recover and becomes vulnerable to extinction.

The loss of too many species from the world may well result in nature no longer being able to recover, which could eventually lead to the collapse of our ecosystems and the life support systems of the planet may well be threatened. We are already getting warning signs that the planet is feeling the burden of over-exploitation; soil erosion, early arrival of spring, increasing rainfall and extensive flooding are all symptoms of a depleting ecosystem.

Did you know?

- After 10,000 years of settled agriculture and the discovery of some 50,000 varieties of edible plants, just 15 food crops provide 90% of the world's food energy intake. Three of them – rice wheat and corn (maize), are the staple foods of 4 billion people worldwide. Without repeated infusions of new genes from wild species, scientists cannot continue to improve these staple crops.
- In the mid-1980s there was a resurgence of a resistant strain of potato blight that devastated crops in the UK. A gene that is resistant to this potato blight was found in an old variety of potato from Peru. Without this wild potato our cultivated potato crops could have been wiped out.
- One of the most effective ant-cancer drugs – Taxol is derived from Yew trees.
- Bog myrtle, one of our rarer wetland plants in the UK, is being screened by the drug industry for potentially useful compounds to be used for clinical depression.
- Antibiotic resistance is widely acknowledged to be one of the most pressing medical problems facing the world today. Bacteria are becoming immune to an increasing number of antibiotics. Antibiotics are derived from plants. It is unlikely that we will be able to manufacture synthetic antibiotics and therefore we have to search for new ones. These are only going to come from the Biodiversity of the planet. Even new research into combating bacterial infection is still looking towards plants for the answers.
- Oil is the raw material for Nylon and plastics and is formed from plant

material that has been compressed by earth on top of it.

- Trees produce rubber and latex as a defence against being eaten by animals and other injuries. Commercial rubber is produced from the latex of the South American tree, *Hevea brasiliensis,* which was discovered by Native American cultures.

2. Sustainability and Biodiversity

2.1 What is sustainable development?

> *The utilisation and development of natural resources in ways, which are compatible with the maintenance of these resources, and with the conservation of the environment, for future generations.*
>
> Oxford English Dictionary

The government strategy on Sustainable Development entitled 'A Better Quality of Life' (1999) states that sustainable development is 'development that ensures a better quality of life for everyone, now and for generations to come'. It also says that in order to live more sustainably we have to meet four objectives at the same time in the UK and worldwide. These objectives are:

- Social progress which recognises the needs of everyone
- Effective protection of the environment
- Prudent use of natural resources
- Maintenance of high and stable levels of economic growth and employment

The Welsh Assembly Government has a duty under Section 121 of the Government of Wales Act to develop a scheme stating how it will promote sustainability in the exercise of its functions. This has lead to the adoption of the Sustainable Development Schemes 'Learning to Live Differently' (2000) and the revised version 'Starting to Live Differently' (2004). In association with the scheme an Action Plan has been published stating how the assembly will deliver commitments set out in the scheme and promotes the idea of joined up thinking to addressing social, economic and environmental issues. One of the recommended headline indicators for measuring progress of the scheme is '**Biodiversity in Wales**'.

The 'Wales Environment Strategy' is currently being produced by the Welsh Assembly Government and will be out for consultation from July to November 2005. It will include a Biodiversity section and an action plan. It is one part of a suite of strategies produced to ensure that work the Assembly does delivers the Sustainable Development Scheme. The other two being the Economic Strategy and Social Strategy.

Biodiversity conservation is a fundamental component of sustainability in that it enhances our quality of life and provides natural assets from which economic benefits can be derived. Therefore decisions made to meet social, economic and environmental needs should do so without undermining the quality of the natural environment.

In terms of conserving natural resources and living a more sustainable existence we must ensure that we use the essential products and processes of nature no more quickly than they can be renewed, and that we discharge wastes no more quickly than they can be absorbed. Even today however, accelerating deforestation and soil erosion, fisheries collapse and species extinction, the accumulation of greenhouse gases and ozone depletion all tell us our current demands on nature are compromising humanity's future well-being.

However, it's not all doom and gloom. The means of avoiding more environmental damage is within our grasp. Biodiversity protection, pollution reduction and increasing recycling of resources are first steps along the path to a healthy sustainable lifestyle for us now and for future generations. The delivery of these measures is dependent upon the actions of all of us.

Globally, these issues have been discussed at the World Summit in Johannesburg (1992). In Wales, the National Assembly has a statutory duty to promote sustainable development and at the local level, these objectives are being progressed in Monmouthshire through the Local Agenda 21 Strategy.

2.2. Community Strategy

The Local Government Act 2000 has placed a new duty on the local authorities to prepare a community strategy for promoting and improving the economic, social and environmental well being of their areas, and to contribute to the achievement of sustainable development in the UK. As well as improving the quality of life for local communities, the strategy must also take account of the ways in which national and global concerns (such as mitigation for climate change and the protection of Biodiversity) can be addressed through local action.

Biodiversity is a key test for sustainable development. Indeed one of the Government's headline indicators, that chart our national progress in relation to sustainable development, relates to the populations of wild birds. In principle, if we are moving in a more sustainable direction, our activities should not lead to a net loss in Biodiversity.

Monmouthshire County Council, in partnership with other local service providers and voluntary groups, has published a Community Strategy. Supporting the strategy are four 'area action plans', one for each area of Monmouthshire. Five 'themes' have been identified in the strategy and include *A Better Environment*. In addition, one of the six issues that cut across all five themes in the strategy is *Sustainability*. The publication and implementation of the LBAP is identified as a key action in achieving the aim of safeguarding and improving the local environment.

2.3. How can we live a more sustainable lifestyle?

Leaving the implementation of sustainability to others is not an option for anyone who is concerned for the future of life on our planet. The reward for positive actions will be a more wholesome, healthier world capable of providing physical and spiritual

benefits for all.

You can do many things to help the environment, such as:

- **Produce less waste**
- **Recycle the waste you produce**
- **Conserve energy**

You can achieve these three things by, for instance;

- car sharing/ using public transport – reduces the amount of carbon dioxide and other 'greenhouse' gases entering the atmosphere.
- creating a compost heap in the garden – this is an easy thing to do at home if you have a garden and it provides valuable habitat for some species and helps reduce the problems with methane production on landfill sites.
- buying products with less packaging – reducing the amount of waste being produced before it goes to landfill sites.
- only using the amount of water that we really need for showers and kettles.
- re-using items such as plastic bags and bottles.
- turning off energy consuming equipment such as lights, televisions, washing machines and stereos when they are not in use.
- Buying recycled/less environmental damaging/energy efficient products

The Local Agenda 21 Team at Monmouthshire County Council has produced a booklet that lists over fifty ways in which we can look after our environment. For a copy of **'Rescue Mission Planet Earth'** contact the Local Agenda 21 Team on 01633 644108

2.4 Recycling in Monmouthshire

Over 90% of households in Monmouthshire are covered by the Green Waste collection service, which collects garden waste. The kerbside collection of dry recyclables currently covers 26,000 houses in the Severnside area, Abergavenny and Monmouth. There are 40 recycling sites within the county.

2.5 Transport in Monmouthshire

Monmouthshire County Council supports sustainable means of travel as an alternative to the private car through policies for Cycling, Travel Plans, Safe Routes to School and Community Transport as covered by the Local Transport Plan, Local Bus Strategy, County Hall Green Travel Plan, Cycling and Walking Strategy and Draft Community Transport Strategy.

3. Conserving Biodiversity and preventing loss

3.1 The Global Commitment – The Earth Summit

Growing concern about the loss and degradation of natural resources led to the Earth Summit in Rio de Janeiro in 1992. At the Summit (officially called the United Nations Conference on Environment and Development), 150 countries expressed their commitment to conserving Biodiversity globally by signing the Convention on Biological Diversity. Each country recognised that it had a responsibility to conserve and enhance Biodiversity within its own jurisdiction and would as far as possible:

> *'Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, among other things through the development and implementation of plans or other management strategies'.*

A number of other International Agreements were signed at the Earth Summit. Among the most important were the **Rio Declaration** that addresses the need to balance the protection of our environment with the need for Sustainable Development **(Agenda 21)** and the **Convention on Climate Change** that commits to reducing greenhouse gas emissions. These commitments together make up a strong remit for the conservation of the environment, through sound ecological, economic and social sustainability principles.

Countdown 2010
The goal of Countdown 2010 is that all European Governments at every level have taken necessary actions to **halt the loss of Biodiversity by 2010**.

European Union Biodiversity stakeholders agreed Biodiversity Targets at the Malahide meeting in 2004.

Several topics have been identified including: Forests and Biodiversity, Agriculture and Biodiversity, Pan European Ecological Networks, Invasive Alien Species, Financing Biodiversity, Biodiversity Monitoring and Indicators, Public Participation and Awareness.

See www.countdown2010.net for more information

3.2 The National Commitment - The Biodiversity Action Planning process (See www.ukbap.org.uk for detailed information)

Following the Earth Summit, the UK government produced '*Biodiversity: The UK Action Plan*', which sets out 59 steps that the government and its agencies aim to achieve to conserve and enhance wild species and habitats (HMSO 1994). At the same time, a consortium of voluntary conservation organisations produced '*Biodiversity Challenge*', a comprehensive look at the key habitats and species in the UK (RSPB 1994). The aim of these plans was to establish a strategic framework for Biodiversity conservation and enhancement in the UK. The Plan recognises that in

order to fulfil our global commitments, Biodiversity action planning has to be strategic and be driven locally as well as nationally. This process is the key to UK's contribution to the conservation of global Biodiversity.

In response to these two documents, a Biodiversity Steering Group was set up to oversee and take forward the recommendations of the UK Action Plan. The tasks taken on by the Steering group were to:

- Develop costed targets for our most threatened and declining species and habitats
- Improve the accessibility and co-ordination of biological datasets and consider future information management requirements which include the monitoring of agreed targets
- Increase public awareness and involvement in conserving Biodiversity by targeting key sectors of the community
- Recognise the importance of local Biodiversity action plans, which complement national action plans – action plans need to be implemented and monitored using both a top down and bottom up approach.

In 1995, the Steering Group, comprising members from many different organisations and agencies produced '*Biodiversity: The UK Steering Group Report volume I'* (HMSO 1995a). Endorsed by the government, this report set out recommendations for the above tasks and sets the framework for the UK-Biodiversity Action Planning process.

One of the most important roles of the Steering group was to publish National Habitat and Species Action Plans. These UK-Habitat Action Plans (HAPs) and UK-Species Action Plans (SAPs) set out targets for maintaining or increasing population range and/or size of the particular habitat or species and a list of actions to be implemented to support these targets. The action plans also set a time-scale for completion of targets and where possible are costed.

These national action plans provide the lead for Biodiversity conservation in the UK. To work, these plans need to be taken forward both nationally **and locally**. Therefore, the objectives and targets of the national Action Plans are translated locally in **Local Biodiversity Action Plans (LBAPs)** (see Section 3.7 Page 25). Local Biodiversity Action Plans are being produced and implemented by local partnerships across the UK and are seen as being the most important mechanism for the delivery of the National Action Plans.

3.3 The selection of Priority Habitats and Species

In order to focus conservation effort on the habitat and species of most concern, the UK Biodiversity steering group recognised the need to identify a set of habitats and species that were 'priorities' for nature conservation. These 'priority' habitats

and species were chosen using selection criteria and are amongst the most rare and threatened in the UK. National Action Plans for these priority habitats and species were written and published in volume II of the Steering Group report and the subsequent Tranche II Action Plans volumes I –VI (HMSO 1995 – 1999).

3.4 Progress in the UK: The Millennium Biodiversity Report and the UK Biodiversity Partnership

In March 2001, the UK Steering Group (renamed the UK Biodiversity Group, UBG) published a report for the UK government, the Northern Ireland Executive and the now devolved Scottish Executive and National Assembly for Wales. *'Sustaining the variety of life' 5 years of the UK Biodiversity Action Plan,* known as the **Millennium Biodiversity Report (MBR)**, accounts progress, draws conclusions and makes future recommendations for the BAP process. By this time 45 national Habitat Action Plans and the 391 national Species Action Plans had been written.

Recommendations by the UBG on a local level included;

- writing a BAP for Wales
- ensuring that LBAPs are complimentary to neighbouring plans and that plans are updated,
- involving local groups in the development and implementation of LBAPs as well as meeting national Biodiversity targets,
- ensuring that there is focus on actions that can be delivered at the scale of the plan,
- extending involvement to other local government departments, business and others, and
- ensuring that there is feedback of local achievements to the national level.

The response to the final recommendation was the development of the online **Biodiversity Action Reporting System (BARS)**. Since 2001 this has been developed and finally became widely available to LBAPs and Lead Partners in 2005.

Following the Government's response to the Millennium Biodiversity Report, the UBG was replaced by the **UK Biodiversity Partnership (UBP)** in 2002 with the aim of bringing together all the partners involved in or with an interest in the UK Biodiversity Action Plan and Biodiversity policy, and to co-ordinate action that should be taken forward at a UK level.

At the end of 2002 the lead partners for the UK BAP and the LBAP officers across the country reported on progress in the Biodiversity Action Plan process **(2002 Reporting Round)**. The response was high with all 24 LBAP partnerships in Wales responding. The findings are summarised in the box below.

In comparison to the 1999 report, five more species show a positive trend (including song thrush, narrow headed ant, fiery clearwing moth) and 13 show a worse trend (including Cotswold pennycress, starfruit, twaite and allis shad). In the 2002 report 72% of Action Plans were making progress on at least one target. This is a significant increase on the 54% reporting progress in 1999.

The report found that the work carried out under LBAPs is an important compliment to the work carried out or coordinated by Lead Partners for Species and Habitat Action Plans. Other findings were obstacles to progress and the importance of Biodiversity in the delivery of sustainable development. The next round of progress reporting will take place during 2005.

A Summary of the 2002 progress report for UK Species and Habitats (for which Biodiversity Action Plans have been prepared):

- 6 habitats (13%) and 25 species (6%) were reported to be increasing
- 6 habitats (13%) and 76 species (20%) were reported to be stable
- 17 habitats (38%) were reported to be in decline but the decline was thought to be slowing for 14 habitats (31%)
- 97 species (25%) were reported to be declining but this was thought to be slowing for 30 species (8%)
- 1 species (starry breck lichen) was reported lost
- The UK trend was not reported or was unknown for 13 habitats (29%) and 110 species (28%), an improvement from the 1999 figures of 55% and 71% respectively.

Examples of Species and Habitats, for which Biodiversity Action Plans have been prepared, that were reported to have shown increases or declines in the 2002 report:

Successes:	Native pine woodlands, cereal field margins, bittern, ladybird spider, field cricket
Declines:	Limestone pavements, maritime cliffs and slopes, dormouse, natterjack toad, sunset cup coral, silver studded blue butterfly

The **Biodiversity Reporting and Information Group (BRIG)** was set up in 2003 to provide technical and scientific advice to the UK Biodiversity Partnership Standing Committee. Advice relates to Biodiversity information processes and standards needed to implement the UK BAP and report Biodiversity information on behalf of

the UK Biodiversity Partnership.

The **Biodiversity Research Advisory Group (BRAG)** was also set up in 2003. The group provides advice to the community of Biodiversity research funding bodies, research users and research institutions about priorities and coordination of work in the UK.

During **2005** there will be another **Reporting Round** to determine Biodiversity of a UK and local level. This will be particularly important, as it will be followed by the **first full review of the UK Biodiversity Action Plan Habitats and Species**. Local Biodiversity Partnerships will have the opportunity to report on the progress of local targets, which can be fed up to a national level to determine the fulfilment of Wales and UK targets.

3.5 The Welsh Commitment

3.5.1 The National Assembly for Wales

Section 74(2) of the Countryside Rights of Way Act 2000 (CROW) requires the National Assembly for Wales to prepare and publish a list of species and habitats that it considers to be of principal importance for conservation of Biological Diversity. 197 species and 40 habitats have been identified and a review is expected in line with that of the UK BAP (*Go Wild in Wales 2003,* Welsh Assembly Government).

Section 74(3) places a responsibility on the National Assembly for Wales to take, or to promote the taking of others of, such steps as appears to the assembly to be reasonably practicable to further the conservation of the species and habitat types included in the published list.

Whilst the duty remains with the assembly, the assembly expects that the focus for action on the listed species and habitats will be through the preparation and implementation of LBAPs in partnerships.

The Assembly has a duty to road maintenance, improvement and development of the trunk road and motorway network in Wales. This is in stark contrast to the above duty for Biodiversity in the CROW Act. In order to address this balance the **Trunk Road Estate Biodiversity Action Plan** was written to guide the Transport Directorate by contributing to an ongoing process of incorporation of Biodiversity in its work. An objective of this Plan is to link with BAP targets for habitats and species.

3.5.2 Wales Biodiversity Partnership

The Wales Biodiversity Group (WBG) was formed in 1996 and later became the Wales Biodiversity Partnership (WBP). The role of the WBP is to promote action to maintain, enhance and monitor biodiversity in Wales and to advise the Welsh Assembly Government on issues affecting biodiversity in Wales. (See http://biodiversitywales.org.uk or http://bioamrywiaethcymru.org.uk for more information).

The Wales Biodiversity Partnership is advised by the **Local Biodiversity Advisory Group (LBAG)**, which provides guidance and support for the development and implementation of Local Biodiversity Action Plans in Wales. It assists partners and groups by developing standards of good practice and training.

Wales Biodiversity Week is an annual event that has run since 2001 to raise awareness for Biodiversity issues across Wales. It is funded by the WBP and support is given for LBAP partnerships by the WBP **Awareness Officer**.

3.5.3 The Countryside Council for Wales

The Countryside Council for Wales (CCW) has contributed over 2.5 Million pounds to supporting Biodiversity action through local authorities between 1999 and 2004. As much as a third of the annual contributions have being directed at Local Biodiversity Action Plans.

The CCW funds the post of **LBAP facilitator** within the WBP. This role supports the 24 LBAP partnerships in Wales and provides the secretariat for LBAG.

3.5.4 The Species Audit for Wales

This initiative led by the Royal Society for the Protection of Birds on behalf of the Wales Biodiversity Partnership, has provided a detailed database of all priority and red data book (RDB) species in Wales, broken down to a county level. It provides information on the distribution and management of over 800 species thought to be important in Wales. The first phase was released in 2000 and the second phase in 2002.

Other support in Wales to assist the LBAP process includes publications by the CCW as well as many research projects and report relating to specific species and habitats.

3.6 The Regional Commitment - The Greater Gwent Biodiversity Action Group (GGBAG)

In 1998, GGBAG was established to provide the link between the national species and habitat action plan targets and the Local Biodiversity Action Plans for the Greater Gwent area. The partnership consists of representatives of the Local Authorities in the former county of Gwent and other statutory and voluntary organisations that had come together to try to reverse the decline of Gwent's wildlife resource.

GGBAG has two main objectives: to provide guidance for the production of LBAPs in the region and to aid LBAP implementation. To fulfil these objectives, GGBAG have published regional habitat action plan guidance and produced a Species Audit for Gwent, which contains information on over 500 rare and threatened species.

The regional habitat guidance **'Biodiversity Guidance for Gwent: 2001 –2005 '** was launched by GGBAG in October 2000 and contains action plans for thirteen priority habitats that occur within the 'Greater Gwent' area. These plans set out regional

guidance for Biodiversity conservation to be taken forward by the individual LBAPs produced for each of the Local Authority areas in the former county of Gwent. The area covered by GGBAG is the whole of Monmouthshire, Blaenau Gwent, Newport and Torfaen, part of Caerphilly and Cardiff and includes the part of the Brecon Beacons National Park that falls into these Unitary Authority areas.

In December 2001, a draft of the **Gwent Species Audit** was sent out for its initial consultation. The audit has been compiled by the members of GGBAG in partnership with the local naturalists and wildlife experts and contains a list of species that are of 'conservation importance' in Gwent. The species identified include national 'priority' and species of conservation concern and species that are considered to be of local conservation importance by the partnership. The second draft of the audit was made available in 2002. This will need to be periodically reviewed to account for changes in our knowledge of species' status and distribution.

The consultation draft of the Gwent Species Audit has identified many species of conservation importance that occur in Gwent. Almost 500 of these rare and threatened species occur in Monmouthshire, which are of national as well as local importance (See Appendix A-2). Those species listed in the Monmouthshire species audit that are not LBAP Priority species are considered to be Species of Conservation Concern (SoCC).

Birds have been well recorded in Monmouthshire and the amount of information available for them makes it possible to obtain a better assessment of their true status. Bird species, which are rare (or not of regular occurrence) in Gwent, have been deleted from the audit. This could not happen with some other species' groups because their "rarity" could be due to an absence of information.

As part of the process of producing the species audit it became clear that much of the knowledge and information on the species is held at a regional level, by Vice County 35 recorders (Watsonian vice county 35 covers most of the former county of Gwent) and organisations.

To avoid duplication of effort, it was decided that the most efficient and effective means of producing Species Action Plans was by developing regional Species sub-groups (Birds/Mammals and Herpetofauna/Plants/Insects). These sub-groups have been set up to identify which rare and threatened species in the Gwent region that require action plans and produce the plans for the Unitary Authorities in the former county of Gwent.

Local naturalists and recorders have formed the **Gwent Recorders Forum** that will increase networking and the transfer of information between naturalists working locally, keep them informed of national and local initiatives affecting them and give them a formal identity.

3.7 The Local Commitment - Local Biodiversity Action Plans

> *"The purpose of Local Biodiversity Action Plans is to focus resources to conserve and enhance biodiversity by means of local partnerships, taking account of both national and local priorities".*
>
> Biodiversity: the UK Steering Group Report - Meeting the Rio Challenge, 1995

The UK Biodiversity Action Plan (UKBAP) cannot be delivered successfully unless national targets and actions are translated into effective **local** action in **Local Biodiversity Action Plans** (LBAPs). The function of an LBAP is not just to reflect national targets, but to also include targets that reflect the values of local people, which are based on the range of local conditions, thereby catering for local distinctiveness. Therefore, Local Biodiversity Action Plans are intended to focus resources to conserve and enhance Biodiversity by taking account of national and local priorities. **LBAPs differ from former approaches of tackling Biodiversity conservation in two important ways:**

1. **They are prepared by a wide partnership of interested individuals and organisations**
2. **They follow a very disciplined approach to auditing and target setting.**

The functions of a Local Biodiversity Action Plan are:

- To ensure that national targets for species and habitats (as specified in the UK BAP) are translated into effective action at the local level
- To identify targets for species and habitats appropriate to the local area and reflect the values of the local people
- To develop effective local partnerships
- To raise awareness of the need for Biodiversity conservation
- To ensure that opportunities for conservation and enhancement of the whole Biodiversity resource are fully considered
- To identify the resources available for implementing the objectives of the plan
- To provide a basis for monitoring progress

(From Guidance for Local Biodiversity Action Plans, UK Local Issues Advisory Group 1999)

4. Monmouthshire LBAP

The Local Biodiversity Action Plan for Monmouthshire is published as a strategic document that identifies the most urgent priorities for wildlife conservation in the county. It also has strategic Action Plans that set objectives and targets for the conservation, protection and enhancement of priorities. The action plans will not only be for habitats and species, but generic plans will identify targets and actions for public awareness raising and the management of information and data. The Local Biodiversity Action Plan will also reflect the habitats and species that are thought to be of local importance in the county, identified through public consultation.

4.1 Monmouthshire Habitat Action Plans (HAPs) and Species Action Plans (SAPs)

Many of the UK Priority Habitats and species are found in Monmouthshire. Locally important habitats have also been identified (See Appendix A-1). Many of the habitats require a local Habitat Action Plan, to identify the extent of the habitat and to detail the conservation action required. The selection of habitats for Action Plans is led by the *Biodiversity Guidance for Gwent*. See Part B of the Monmouthshire Local Biodiversity Action Plan for more details on Habitat Action Plans.

Monmouthshire is important for several UK Priority Species (See Species Audit Appendix A-2) and there are several species considered to be locally important. The Monmouthshire Biodiversity Partnership (see Section 5, Page 27) is responsible for deciding which species to prioritise and writing the plans for these species. See Part B of the Monmouthshire Local Biodiversity Action Plan for more details on Species Action Plans.

5. The Partnership Approach

The Biodiversity Action Planning process is built on partnerships. Its success depends on partners working together to deliver Biodiversity targets and to incorporate this delivery as part of work programmes and life rather than as an extra burden. We all have a stake in the future of Biodiversity and we all have a role in safeguarding this valuable resource.

Monmouthshire Biodiversity Partnership has a shared agenda for local Biodiversity conservation. Monmouthshire County Council have taken the lead, however, to ensure effective and sustained delivery the plan must be built on consensus. Delivery should be built into the work programmes of all partners, ensuring that best available knowledge and skills are utilised. Joint ownership of and investment in the LBAP increase its longevity and breadth of influence. Taking action for Biodiversity can help to address problems in other sectors such as health, education and the community ensuring that the LBAP contributes to Sustainable Development and the Community Strategy.

Monmouthshire LBAP Partners:

Brecon Beacons National Park
Butterfly Conservation Trust
Coed Cymru
Campaign for the Protection of Rural Wales
Countryside Council for Wales
Dwr Cymru Welsh Water
Environment Agency Wales
Forestry Commission Wales
Goldcliff Ringing Group
Gwent Amphibian and Reptile Group
Gwent Ornithological Society
Gwent Badger Group
Gwent Bat Group
Gwent Police
Gwent Wildlife Trust
Monmouthshire County Council
Monmouthshire Meadows Group
Monmouthshire Town and Community Councils
Royal Society for the Protection of Birds
South East Wales Biodiversity Record Centre
Usk Conservation and Environment Group
Wales Biodiversity Partnership
Welsh Assembly Government
Welsh Development Agency
Welsh Owl and Wildlife Sanctuary
Wye Valley AONB

Many independent naturalists are also partners

6. Protected sites for wildlife in Monmouthshire

Monmouthshire has a number of sites of European importance, designated under the Birds Directive 1979 – **Special Protection Areas** (SPAs) or under the Habitats Directive 1992 – **Special Areas of Conservation** (SACs). Both directives have been incorporated into UK law and together they form a pan-European network of protected wildlife sites known as **Natura 2000**.

The Severn Estuary is an SPA and a possible SAC (pSAC).

The Usk and Wye rivers are SACs.

Woodlands in the Wye Valley, Abergavenny area and at Cwm Clydach are SACs.

Bat sites in the Wye and Usk valleys are SACs.

Monmouthshire has some 60 **Sites of Special Scientific Interest** (SSSIs), designated under the Wildlife & Countryside Act 1981, of national importance. Most are woodland or grassland sites, with others designated for their wetland or geological interest, and a few for bat interest (See Appendix A-3).

National Nature Reserves (NNRs) represent the very best examples of our wildlife habitats and geographical features. They are sites that are owned, leased or managed by the Countryside Council for Wales. In Monmouthshire there are six National Nature reserves. Two of these are in the Brecon Beacons National Park, in the north of the County (Cwm Clydach and Coed Y Cerrig). One is partly in England and is managed by English Nature (Lady Park Wood). Fiddler's Elbow (woodland), Coombe Valley Woods and Penhow Woodlands are all designated National Nature Reserves in Monmouthshire.

The Gwent Wildlife Trust acquired (or leased) land to be managed as **nature reserves**. There is one local authority designated **Local Nature Reserve** (LNR) in Monmouthshire at Cleddon Bog, with a second in the process of designation in the Neddern Valley. Some of these nature reserves are also wholly or partly designated as SSSIs.

Sites of Importance for Nature Conservation (SINCs), also known as Wildlife Sites. These are Second Tier Sites that do not have the statutory protection of European or Nationally important sites, but are important in maintaining Biodiversity. These sites are often of a very high quality; sometimes sites are even of SSSI standard.

The criteria for the selection of SINCs in South Wales have been completed by The South Wales Wildlife Sites Partnership. Wildlife Sites officers from the Gwent Wildlife Trust are identifying sites in Monmouthshire and a panel composed of

representatives from the Gwent Wildlife Trust, Monmouthshire County Council, Monmouthshire Meadow Group and the Countryside Council for Wales is confirming the best sites for designation. The designation process will be developed by the Planning Department at Monmouthshire County Council and a set of designated sites will accompany Supplementary Planning Guidance to the Unitary Development Plan. This will be adopted later in 2005. Additional sets of sites will be designated following further surveys.

7. What are the overall objectives of the Monmouthshire Local Biodiversity Action Plan?

The overall objectives of the LBAP are to:

1. Protect, conserve and where possible enhance Biodiversity in Monmouthshire.
2. Protect, conserve and where possible enhance the status of key habitats and species in Monmouthshire (See Generic actions for Species and Habitats and individual Action Plans for more specific objectives (Part B)).
3. Increase public awareness of Biodiversity issues in Monmouthshire.
4. Continue a partnership approach to the production, implementation and reporting of the Monmouthshire LBAP.
5. Make links to other relevant plans and strategies in the UK, Wales, Greater Gwent and Monmouthshire.
6. Safeguard, conserve and enhance sites that are valuable for wildlife including Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs) and Sites of Importance for Nature Conservation (SINCs).
7. Provide Supplementary Planning Guidance to the Unitary Development Plan
8. Ensure reliable, up to date and complete information is available on the biological resources in Monmouthshire.
9. Fulfil the national Biodiversity reporting requirements through BARS.

The Local Biodiversity Action Plan for Monmouthshire contributes to the Biodiversity needs of the county. The adoption of the plan as Supplementary Planning Guidance is of paramount importance in the future conservation and enhancement of Biodiversity in Monmouthshire.

8. Reporting and Review

Reporting is done through the Biodiversity Action Reporting System (BARS). This is an online system that requires detail of each action plan's targets and proposed actions. BARS is designed to be useful to all involved in Biodiversity action planning at every level as data is stored centrally. To be most effective it needs local partners to commit to lead on action plans and be signed up as users with access to enable updating progress on actions and targets.

Progress reports about species and habitat conservation within the county can be included on the system. This allows local progress to be viewed at a national level. The system can be used to produce reports, which for example can compare local achievements to the national targets. The LBAP officer or any of the LBAP partners can carry out the progress input.

In addition to this, during a national Reporting Round there will be a number of specific questions to be answered through BARS. Reporting is due in 2005 and again in 2008.

The Monmouthshire LBAP will be reviewed in line with the UK Biodiversity Reporting rounds. Therefore the next review of the Monmouthshire LBAP is likely to be in 2009. This will mean that the framework section and the Action Plans will need to be updated and where necessary new targets added.

9. Links with other plans

The objectives of the Monmouthshire Local Biodiversity Action Plan should work alongside and link in to plans written by Monmouthshire County Council and other organisations. The links between the plans will require liaison to establish and maintain. This will include liaison with other departments at MCC and external organisations. This liaison can be done via the Monmouthshire Biodiversity Partnership. Linking with other plans is vital for the delivery of the LBAP and the subsequent conservation of Biodiversity.

The **UK Biodiversity Action Plan** has identified (and continues to identify) habitats and species that are nationally important. If present in Monmouthshire, these habitats and species have to be taken account of in the LBAP. At the end of 2005 there will be a review of targets and actions in the UK Biodiversity Action Plans carried out by lead partners.

The **Biodiversity Guidance for Gwent** (produced by the Greater Gwent Biodiversity Action Group – GGBAG) contains regional advice and regional habitat action plans. The Group comprised representatives from the Unitary Authorities, Statutory Agencies and voluntary bodies of Gwent and their cooperation served to "kick-start" the LBAP process. Animals and plants do not respect political boundaries and it is important that adjacent LBAP areas recognise this and coordinate their efforts and recording. Biological recording is generally undertaken at the former vice-county level (the pre-1974 Monmouthshire which more or less equates to the former Gwent area) and GGBAG has recognised the practicality of having species action plans written at this regional level. Whereas most Unitary Authority LBAPS do not have overlapping areas, the Brecon Beacons National Park LBAP covers a portion of northern Monmouthshire and greater cooperation than usual is needed.

Monmouthshire Countryside Strategy contains environmental issues other than Biodiversity, although Biodiversity comprises an essential element. The strategy will be reviewed during 2005 and will need to incorporate the broad principles of the LBAP.

In 2004 the **Wye Valley AONB management plan** was published. It meets the requirement under section 89 of the Countryside and Rights of Way Act for the four local authority partners to formulate their proposals for the management of the AONB and for the carrying out of their functions in relation to it.

Local Contributions/Local Environment Agency Plans. Local Contributions are regional plans for each Environment Agency area (e.g. Wales), which, detail the national visions and themes on a local level. Local Environment Agency Plans (LEAPs) are local management plans based on river catchments. They are produced by the Environment Agency and relate to their statutory functions, they identify Biodiversity issues and solutions and feed directly into the LBAP process. The Environment Agency is a major partner in Biodiversity action at the local and national

level. The Usk and Wye LEAPs cover parts of Monmouthshire.

The **Unitary Development Plan** (UDP) is a statutory requirement for each Local Authority in Wales (Town and Country Act 1990 as amended by the Local Government (Wales) Act 1994). Monmouthshire's UDP guides planning policy on the future use and development of land. The UDP, and its predecessor plans, have an essential role to play in safeguarding important habitats and species. The spatial elements of all other plans and strategies prepared by Local Authorities need to conform to and be compatible with the UDP. This includes the Monmouthshire Local Biodiversity Action Plan. At the time of publishing the UDP is in a Pre-Inquiry Changes state. The inquiry took place in the Autumn of 2004 and an inspectors report is expected in Autumn of 2005.

LANDMAP is the name given to a computer based landscape assessment and decision making process. It has been devised by the Countryside Council for Wales (CCW) and the Wales Landscape Partnership Group (WLPG) to cover the whole of Wales. Unlike other Landscape Assessments *LANDMAP* separates the landscape into five aspects; Biodiversity, Earth Science, Visual and Sensory, Historical, and Cultural Aspects, evaluating them individually and through analysis identifying Landscape Character Areas which are spatially recorded in GIS and Access database systems. The methodology is designed to assist decision making over a range of disciplines, e.g. development planning, environmental enhancement, biodiversity, agri-environment, forestry and rural development. In Monmouthshire *LANDMAP* has led to the development of Supplementary Planning Guidance specifically; Landscape Character Assessment, Design Guidelines and a review of the County's Special Landscape Areas.

Forest Design Plans are prepared by the Forestry Commission Wales / private woodland owners to detail the future management of their woodland blocks. These plans need to take account of the requirements of important habitats and species where they are known to occur, or have occurred in the recent past and there is potential for re-colonisation.

Monmouthshire's **Community Strategy** will be complimented by the publication and implementation of the LBAP which is identified as a key action in achieving the aim of safeguarding and improving the local environment.

The Monmouthshire County Council **Local Transport Plan** has an adopted Environment and Health policy. The council will ensure that transport policies and strategies have a positive impact on the natural environment as well as human health. Such important policies cover cycling, green travel plans, safe routes to school and community transport.

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10. PUBLIC AWARENESS ACTION PLAN

10.1 The need to raise awareness

The more people there are who enjoy, understand and value Monmouthshire's Biodiversity the more chance there is that it will be conserved and even increased for future generations. Education and public awareness are an essential part of any Biodiversity Action Plan.

Many people do care about the environment; they would like to know more about local habitats and species and what can be done to protect them.

- People need to know what species and habitats are present locally
- People need to know how to get involved in Biodiversity conservation
- People need to know what makes these species and habitats vulnerable and how best to protect them
- People need to know how to monitor the health of their local environment in order to safeguard locally important species and habitats.

The provision of clear, consistent advice, Biodiversity awareness materials and events aimed at different sectors of the local population is therefore an important part of the LBAP. There is also a need to encourage and support practical action to improve and monitor Biodiversity. Participation in environmental schemes or projects is one of the most effective methods of raising awareness about Biodiversity, because the results can be seen and enjoyed at first hand by the participants.

10.2 Current Action in Monmouthshire

This section of the Action Plan presents current activity by the various groups involved in raising awareness of Biodiversity in Monmouthshire.

10.2.1 Resources and materials

- The Monmouthshire LBAP Officer is a valuable resource for Biodiversity conservation in Monmouthshire. Based at Monmouthshire County Council the officer can provide information on action plan priorities, training opportunities, events, volunteering opportunities, work with schools and advice on small grants.
- Environment Agency Wales (EAW) has produced a *Rivers for All* leaflet that promotes responsible use of rivers in Wales. It also has an educational CD-ROM based on the agency's River Habitat Survey database called Riverside Explorer.
- The Gwent Ornithological Society (GOS) publishes a *Gwent Atlas of Breeding Birds* (most recently in 1987) and an annual *Gwent Bird Report* that provides comprehensive information on the status of bird populations in Gwent.

- The Gwent Wildlife Trust (GWT) regularly publishes a magazine and events guide for its members.

- The CCW produces the newsletter *Adain-y-ddraig* that is available in Welsh and English. It also produces publications for use by members of the public offering advice on specific habitat and species issues and sites important for wildlife.

- The CCW develops, approves and funds programmes of work to improve understanding and access to the countryside with local delivery partners who include Monmouthshire County Council, Wye Valley AONB and GWT.

- Monmouthshire Meadows Group (MMG) publishes results of its grassland surveys in an annual report and produces a newsletter twice a year. It provides advice to landowners on management for conservation.

- The GWT has an education centre at its Magor Marsh Reserve, and GOS owns Goytre House Wood. Schools are encouraged to visit both sites. GWT also owns and manages a number of nature reserves in Monmouthshire. The National Trust owns and manages a number of sites in the County, as does Monmouthshire County Council.

- The Wales Biodiversity Partnership (WBP) produces a bilingual newsletter three times a year, which includes updates of the work going on in the 24 LBAP partnerships in Wales. There is also a WBP website www.biodiversitywales.org.uk / www.bioamrywiaeth.org.uk which is important for advertising Biodiversity events particularly for Wales Biodiversity Week.

10.2.2 Events and initiatives

- Various organisations, including Monmouthshire Countryside Service (MCS), CCW, EAW, GWT, GOS, MMG and Wye Valley AONB attend local shows and events with displays, publications and personnel to answer enquiries from the public, farmers and others.

- Various organisations and groups, including MCS, GOS, National Trust, Usk Conservation and Environment Group (UCEG) and GWT give regular talks and slide shows to their own members, to groups such as the Women's Institute and to the general public.

- Some groups and organisations, including GWT, GOS, UCEG, Wye Valley AONB and MCS hold their own public events, open days and lead regular guided walks and other activities. Some of these are aimed particularly at children.

- The Campaign for the Protection of Rural Wales (CPRW) organises competitions for schools and communities – *The Rural Wales Award,* aimed at community groups, is made annually by local branches and an annual

competition in writing and artwork on a topic related to the countryside is aimed at Monmouthshire primary schools.

- The National Trust, GWT, MCC, GOS, UCEG and the Wye Valley AONB encourage public participation in habitat and species management work through programmes of volunteering.

- Some Community Councils undertake awareness raising activities such as providing interpretation panels, signs to warn motorists of badgers and general environmental awareness initiatives. Others are involved in practical projects such as controlling invasive plants and management of commons.

- The Farming and Wildlife Advisory Group (FWAG) is a charitable membership organisation that provides a free advisory service for its members, and a consultancy service for others. It provides whole farm assessments on improving Biodiversity. There is one officer covering the whole South Wales region, although a Gloucestershire FWAG Officer occasionally works in parts of Monmouthshire. Sainsbury's plc and the Beef Processors Association fund a scheme to prepare Biodiversity Action Plans for all farms producing traditional beef for Sainsbury's.

10.2.3 Work with schools and other educational/training initiatives

- The EAW supports the Eco-schools scheme, which promotes eco-awareness and action throughout individual school communities.

- The GWT provides a limited advisory service to farmers/landowners and has produced a promotional leaflet.

- The GWT undertakes wildlife surveys, involving its members and interested members of the public. The Trust provides training for its members on the identification of particular species. It also provides training in practical countryside management skills, and this includes awareness raising about the benefits of appropriate management for habitats and species.

- The MCS, GWT and Wye Valley AONB work with schools on school grounds projects.

- The MCS has initiated a Farmlife Awareness Project with workshops for landowners and teachers. This is linked to the Tir Gofal education scheme.

- The MCS has developed a mobile Biodiversity Trail that is used on school visits and at events.

- The MCS works with Dwr Cymru Welsh Water and Torfaen Countryside Service on a Water Habitat Studies event at Llandegfedd reservoir. Twelve schools from the Monmouthshire area attend. MCS and Dwr Cymru run a similar event, which is open to the public on one day of Wales Biodiversity

Week.

- The CCW has produced a statement on environmental education at the national level (March 1999), some of which will be implemented locally.
- The Forest Education Initiative promotes the use of woodlands for education by schools, incorporating both Biodiversity and economic uses. The Forest Schools Project, which promotes this idea locally is a partnership between Forestry Commission, Forest Education Initiative, National Trust, Coed Cymru, MCS and GWT.
- The Usk Conservation and Environment Group are involved in training members of the public and promoting surveys for species such as slow worms. The Great Usk Slow worm Survey (GUSS) will determine a clearer picture of slow worm distribution in the Usk area and promote wildlife friendly gardening.
- MMG undertakes surveys for its members and provides training on plant identification for members and interested persons.

10.2.4 General publicity and websites

- Media opportunities are taken by all groups as they arise.
- Some voluntary groups and organisations, including CCW, EAW, Wye Valley AONB, GWT, NT, CPRW, GOS, MCS and WBP have developed websites.
- Monmouthshire Greenweb is a network of local organisations working to conserve the environment of Monmouthshire. It's website can be found at www.monmouthshiregreenweb.co.uk. This advertises the events organised by local groups as well as a newsletter.
- A web page has been developed which includes information on developing school grounds in Monmouthshire www.mongreenschools.org.uk.

10.2.5 Links to other strategies and plans

- Some groups, in particular GWT and GOS are consulted on relevant planning applications.
- Monmouthshire County Council's Local Agenda 21 strategy includes a chapter on Biodiversity. Its vision includes a statement regarding public understanding of the importance of maintaining and enhancing Biodiversity. It also incorporates an Action Plan for Biodiversity and provides Biodiversity Grants for community groups.
- Monmouthshire County Council's Community Strategy will inevitably raise public awareness for Biodiversity through the theme *A Better Environment* (see section 2.2 Community Strategies).

- The National Trust incorporates Biodiversity into its site and property management plans which are disseminated to interested parties.
- The Wye Valley AONB includes Biodiversity in its Management Plan.
- The Ravine Woodlife project coordinated by WWF-UK is working to ensure the ecological viability of ravine woodlands in the Wye Valley (and Peak District). One of the aims is to raise awareness of the importance of these woodland habitats.

10.3 Aim

- To raise public awareness of, and understanding and support for, Monmouthshire's Biodiversity.

10.4 Objectives

1 To increase public understanding of the importance of Biodiversity, how the natural world works, and why conservation is needed.

2 To promote education and awareness of Biodiversity, particularly in local schools.

3 To explain to all sections of the public what action they can take to contribute to the conservation of Biodiversity (locally and globally) and encourage people to become actively involved in that conservation.

4 To incorporate Biodiversity into the Community Planning and Sustainable Development processes.

5 To ensure that good quality information and advice about Monmouthshire's Biodiversity is readily accessible. This includes advice for use within MCC e.g. in development control.

6 To increase awareness of the value of Biodiversity to business including farming and tourism.

10.5 Proposed and planned Actions for Public Awareness

While there is a great deal of valuable and effective activity underway already, it is clear that staff resources in local authorities and other agencies are often insufficient to meet demand, particularly from schools. The activity would benefit from closer coordination, between the groups involved, in delivering awareness raising and educational initiatives. In addition there is a need to identify the key sectors and groups to target for action in raising awareness, to examine current levels of understanding about Biodiversity and to identify appropriate ways of raising their awareness. The key sectors are likely to include Council Officers involved in the development control process, land managers, farmers, contractors and schools. All of these groups should be high priorities.

One of the most effective methods of raising awareness is through involving people in practical activity where this is appropriate. This can be achieved in numerous, and often simple, ways and should be a central theme of raising awareness wherever possible.

Proposed Action Public Awareness	Potential Deliverers	Timescale	Meets Target
1. Resources and Materials			
1.1. Establish a Biodiversity awareness-raising group to ensure that activities are coordinated, resources are shared wherever possible, opportunities are maximised and partnerships are developed.	MCS, LBAP Partnership, Sustainable Development Team, Environment Partnership.	2005	1 2 3
1.2. Produce a logo to provide a meaningful identity for the Monmouthshire LBAP, preferably by means of a competition involving schools or the general public.	MCS, LBAP Partnership	2006	2
1.3. Improve on-site interpretation as opportunities present themselves to include information about Biodiversity, and ensure that new on-site interpretation provides information about locally valued habitats or species.	Site owners (including MCS, GWT, GOS, NT), LBAP partnership, Monmouthshire Meadows Group	Ongoing Projects	1 2 3 5
1.4. Provide education packs for use on nature reserves	GWT	Ongoing project	1 2 3 5
2. Events and Initiatives			
2.1 Promote gardening for wildlife in Monmouthshire through a coordinated range of activities aimed at the general public and schools.	MCS, Wales in Bloom, CCW (plant for wildlife), GWT and others	Ongoing projects	3
2.2 Launch surveys and promote casual recordings for important species and habitats especially for non-specialists including the adoption of relevant	MCS, GWT, UCEG, SEWBRC, LBAP	Ongoing	3 5

national surveys locally.	Partnership		
2.3 Research the needs of farmers and landowners for information about Biodiversity; by conducting a survey to assess how best to provide relevant information, and who best to deliver it. Produce materials as appropriate to fill gaps revealed by this research.	MCS, LBAP Partnership	2007	1 6
2.4 Provide Town and Community Councils with the means (training, information and support and funding opportunities) to initiate local Biodiversity projects involving the local community, or to get involved in monitoring (e.g. roadside verges).	MCS, LBAP Partnership	Ongoing	3 5
2.5 Work with the County Council's Tourism Officer and Adventa to develop projects and packages that encourage tourism businesses to see Biodiversity as an asset that can assist in the development of environmentally sensitive local tourism initiatives.	MCS, Economic Development section of MCC, Adventa.	2006	6
2.6 Coordinate one or more public events per year, involving partners that aim to publicise and raise awareness of the LBAP. Events for all sectors of the community should focus in Wales Biodiversity Week.	MCS, LBAP Partnership	At one event by the end of 2005	1 2 3
2.7 Produce and distribute clear practical advice to developers about how they can contribute to and minimise the impacts on Biodiversity.	MCS, LBAP Partnership	2005	1 3 4 5 6
2.8 Increase awareness within the business community of Biodiversity as a commercial factor.	MCS, LBAP Partnership	2006	6
2.9 Promote Biodiversity to a range of groups such as Parochial Church Councils to broaden involvement in practical land management for nature conservation particularly in churchyards and burial grounds.	MCS, LBAP Partnership	2005/6	1 3

3. Education and training initiatives			
3.1 Use of the environmental education tool, PULSE.	GWT, local schools	2005	1 2 3
3.2 Offer training and/or information on the LBAP to Monmouthshire County Council Councillors and relevant officers (including development control and those involved in aspects of land management)	MCS, LBAP Partnership	2005/6	5
3.3 Assess the need to provide INSET training for teachers on the local Biodiversity resource.	LBAP Partnership, local schools	2007	1 2 3
3.4 Continue to offer and develop a programme of Biodiversity activities for schools	LBAP partnership, Local schools	Ongoing	1 2 3
3.5 Lifelong learning and training opportunities through schools, children's wildlife club, family orientated activities.	GWT, MCS, LBAP partnership	Ongoing	1 2 3
4. Publicity and Websites			
4.1 Develop an LBAP website with links to Partner websites and opportunities to report wildlife sightings.	MCS, SEWBRC, LBAP Partnership	2005	5
4.2 Encourage Biodiversity related groups to join Monmouthshire's environmental network Monmouthshire Greenweb, provide a combined events diary and a link to the LBAP website.	MCS, LBAP Partnership	Ongoing	5
4.3 Maximise the use of all media to disseminate information on Biodiversity related issues to as wide an audience as possible.	LBAP Partnership	Ongoing	1 3 5
4.4 Encourage membership of and practical involvement in local and national wildlife and nature conservation organisations, including MCS.	LBAP Partnership	Ongoing	3

5. Other Strategies and Plans			
5.1 Ensure that strong and continuing links are made between Local Agenda 21, Community Planning and the LBAP so that Biodiversity protection is set within the context of sustainable development. Encourage the inclusion of Biodiversity as an indicator of local sustainable development.	MCS and other sections within the MCC, LBAP Partnership	Ongoing	4
6. Monitoring and Measuring Success			
6.1 Develop a methodology for monitoring the success of awareness raising initiatives	MCS, LBAP Partnership	2005/6	

11. BIOLOGICAL INFORMATION AND DATA RECORDING ACTION PLAN

11.1 Introduction

11.1.1 The need for up to date baseline information

The LBAP process has highlighted that up-to-date biological information is essential for implementation. Base-line survey data is needed on the location, quality and quantity of habitats and species to tell us 'what we've got' in terms of our Biodiversity resource. This information is fundamental if we are to set good objectives and targets and deliver appropriate actions for management. Without baseline data it is impossible to know whether or not the action taken to maintain and enhance Biodiversity has been successful.

The Millennium Biodiversity Report demonstrated the importance of accurate baseline data. Lead partners found that there was insufficient information to assess the biological status of 71% (17) of priority habitats and 55% (185) of priority species. To address this situation survey programmes of 16 of the 17 habitats and 139 of the 185 species have now started. More positively, LBAP surveys in the 2000 reporting round revealed more populations of five priority species than were first thought to exist. It is now important to concentrate on monitoring these populations to assess whether the populations are stable or in decline.

11.1.2 The need for monitoring and reporting

As well as baseline survey information, long-term monitoring is required to assess and report on the progress towards Biodiversity targets and if necessary adjust the conservation objectives. Long-term accurate data of location, quality and quantity of habitats and species is also fundamental to enable us to detect declines. Rapidly identifying problems allows us to apply appropriate conservation management where it is most urgently required.

11.1.3 The need for general Biodiversity information

Accurate information and data is not only vital to the success of the action plans but also to Biodiversity as a whole. Without a co-ordinated programme of survey work, whole landscapes and ecosystems could be lost without one of the species it contains becoming a priority. However, this adds to the general loss of Biodiversity in the system. There is also a need for such Biodiversity information by decision makers beyond the Biodiversity community such as policy writers, developers and planners (See Part C Biodiversity and Development Draft Supplementary Planning Guidance, 3.1 The Five Point Approach: Information.)

11.1.4 The need for accessible information

The LBAP process has also identified the need for accessible information. Data may be available on habitats and species, but it is held by numerous sources in a myriad of different ways and accessing this resource can be at best time consuming and at worst impossible.

11.2 Current Action

11.2.1 Action in the UK

The UK Biodiversity Steering Report stressed the fundamental importance of good data and a coordinated approach to both national data provision and local data management. The Report recommends a twofold approach:

- Development of a national Biodiversity database and information system
- Development of a network of local record centres, funded locally, to service data needs at the local level, and support and exchange information with the national system

Since the report, the National Biodiversity Network (NBN) has been established, which is a partnership of organisations that are collaborating to create an information network of Biodiversity data that is accessible.

The key objectives of the NBN are to:

- Encourage all the appropriate local and national organisations to prepare their Biodiversity information for access. Local partnerships are finding ways of sharing and managing information through Local Record Centres.
- Develop and agree codes of practice and standards for sharing, integrating and using the information. An early priority has been to establish a common approach to access terms and conditions and technical standards.
- Provide an internet service to deliver access to dispersed information sources. The service www.searchNBN.net provides geographical, species, habitat and thematic ways of accessing integrated information.

The need for more information on species and habitat status and accessible information highlights the importance of developing a network of Local Record Centres around the UK. The national network of LRCs is well underway and there are now forty across the UK at various stages of development or operation. These LRCs act as 'custodians' for biological data and provide services and training for users locally as well as the link to the NBN. It is envisaged that the establishment of an internet database will take ten to fifteen years to fully establish as the information is collected and the technology is developed and tested.

11.2.2 Action in Wales

The Millennium Biodiversity Report highlighted the importance of local record centres, which was realised by the Welsh Assembly Government. This has lead to a formal commitment by WAG to the development of a LRC network in Wales.

The Biological Information Service (BIS) in the Brecon Beacons National Park and Powys was the first Local Record Centre to be set up in Wales and is now fully

operational.

The South Wales LRC partnership was established in September 2001 and a steering group was set up to take the development of an LRC in South Wales forward. The partnership includes representatives from the relevant Unitary Authorities in the former counties of Gwent and Glamorgan, statutory organisations, the National Museum and Galleries of Wales, voluntary conservation organisations and private companies. In January 2001, the Gwent Recorders established a Recorders Forum, which agreed in principle to the establishment of an LRC in South Wales and many recording groups in Glamorgan have also extended their support.

This has taken shape as the South East Wales Biological Record Centre (SEWBReC). This is currently in the establishment phase and is due to enter its operational phase in August 2005. SEWBReC will be key to data recording and provision in Monmouthshire.

Monmouthshire County Council are involved in the funding of the development phase of SEWBReC and will have a service level agreement with SEWBReC when it is fully operational. This will ensure that reliable information regarding Biodiversity will be available. This will be vital in the implementation and review of the LBAP and advising decisions in Development Planning and Development Control sections at Monmouthshire County Council.

11.3 Aim

To ensure reliable, up to date and complete information is available on the biological resources of Monmouthshire.

11.4 Objectives

1. Support the establishment and running of a South Wales Local Record Centre.
2. Establish a co-ordinated programme for survey of priority species and habitats across the county and support the current recorders in Gwent.
3. Commission survey and monitoring of Priority species and habitats across the county.

11.5 Proposed Actions for Biological Information and Data Recording

Proposed Action	Potential Deliverers	Timescale	Meets target
1. Resources and materials			
1.1 Provide funding for SEWBReC in development and operational phase.	CCW, MCC and other local governments in	Ongoing	1

	South Wales		
1.2 Provide appropriate equipment to supplement funding	MCC	When necessary	1
2. Data gathering			
2.1 Develop survey groups / commission surveys where there are gaps in information.	SEWBReC MCC	Ongoing	3
2.2 Utilise funding for setting up survey and monitoring projects e.g. Species Challenge Fund	CCW and local groups	Ongoing	3
3. Agreements			
3.1 Develop service level agreement with SEWBReC	MCC	Ongoing when record centre becomes operational	1
3.2 Support local recorders through the Gwent Recorders Forum	SEWBReC	Ongoing from 2005	2

References

HMSO (1994) Biodiversity The UK Action Plan

RSPB (1994) Biodiversity Challenge – an agenda for conservation in the UK,

HMSO (1995a) Biodiversity: The UK Steering Group Report volume 1: Meeting the Rio challenge.

HMSO (1995b) Biodiversity: The UK Steering Group Report volume 2: Action Plans

HMSO (1996 – 1999) UK Biodiversity Group, Tranche 2 Action Plans volumes I-VI,

Volume I. - Vertebrates and Vascular plants
Volume II. - Terrestrial and freshwater habitats
Volume III. - Plants and fungi
Volume IV. - Invertebrates
Volume V. - Maritime species and habitats
Volume VI. - Terrestrial and freshwater species and habitats

'Sustaining the variety of life': 5 years of the UK Biodiversity Action Plan - Report of the UK Biodiversity Group to the UK Government, the Scottish Executive, the National Assembly of Wales and the Northern Ireland Executive.

Guidance for Local Biodiversity Action Plans, UK Local Issues Advisory Group.

Appendix A-1 Habitats that occur in Monmouthshire

UK Priority Habitats	GGBAG Plan written	Other important broad Habitats in Monmouthshire
Ancient and /or species rich hedgerows	✓	Roadside/railway verges
Upland oak woodland	✓	Coniferous woodland
Lowland beech and yew woodland	✓	
Upland mixed ash woodland	✓	
Wet woodland	✓	
Lowland wood pasture and parkland	✓	
Lowland mixed deciduous woodland *		
Upland heath	✓	Bracken
Lowland heath	✓	
Purple moor-grass and rush pasture	✓	
Lowland neutral grassland	✓	
Lowland calcareous grassland	✓	
Lowland dry acidic grassland	✓	
Coastal and floodplain grazing marsh	✓	
Cereal field margins		
Tillage fields*		
Fens	✓	Canals
Reedbeds	✓	Rivers and streams
Blanket bog	✓	
Mesotrophic standing waters		
Ponds of high ecological quality*		
Active river shingle*		
Seagrass beds	✓	
Mudflats		
Saltmarsh	✓	
Sublittoral sands and gravels	✓	
Maritime cliffs and slopes		
		Inland rock (quarries/caves)
		Buildings, industrial areas and gardens
		Urban areas

* Proposed Tranche 3 UK Habitat Action Plans

Appendix A-2 **MONMOUTHSHIRE SPECIES AUDIT**

KEY

*	Indicates species that are on the National Priority Species list and have been commented on through the consultation process for the GGBAG guidance.
Species name	The species scientific name
Common name	The common British name of the species is provided where possible.
Occurrence Status	The occurrence of the species in each Local Authority in Gwent is recorded according to the key below. The Key is the same as that used for the Species Audit for Wales (2000).
Blank space	Not recorded
+	Post 1970 record (always stated after any other status)
H	pre-1970 record (Historic record, always stated after any other status)
#	Introduced species (post 1500AD)
#?	Native status uncertain
H#	Historically introduced (pre 1500AD)

For animals, where the information is available, one of the following codes has been used in preference to '+'

O	Post 1970 record - for birds that are not of regular occurrence
B	Birds - summer migrant which breeds / fish - spawning population / bats - maternity roost
P	Passage migrant
W	Birds - winter visitor / bats - hibernation roosts
Y	Present all year round and breeds
Y*	Present all year round but not proved to have bred
B*	Single breeding record
B?	Summer migrant/not yet proved to have bred
UK-BAP List **P**	UK - Priority Species; defined as those species that are globally threatened or are declining in the UK (by more than 50% in the last 25 years), and in need of species action plans.
S	UK - Species of Conservation Concern; defined as those species meeting one or more of four criteria (endemic, in rapid decline, internationally significant, and listed in international legislation).
BC – AP	A Butterfly Conservation Action Plan has been written for this species

Status/protection

Globally status categories

IUCN-EX	Globally Extinct: There is no reasonable doubt that the last individual has died, according to the IUCN Red list criteria (1994)
IUCN-CR	Critically Endangered: species considered to be facing an extremely high risk of extinction in the wild according to the IUCN Red list criteria (1994).
IUCN-EN	Endangered: species considered to be facing a very high risk of extinction in the wild according to the IUCN Red list criteria (1994).
IUCN-VU	Vulnerable: species considered to be facing a high risk of extinction in the wild according to the IUCN Red list criteria (1994).
IUCN-LR/nt	Globally Lower risk/near threatened; species that does not qualify for any of the CR,EN or VU threatened categories according to the IUCN Red list categories (1994) but is close to qualifying or is likely to qualify in the near future.
IUCN-LR/lc	Globally Lower risk/least concern; species that does not qualify for any of the CR, EN, VU or Lr/nt categories according to the IUCN Red list criteria (1994). Widespread and abundant taxa are included in this category.

National Status Categories (post 1994)

RDB-CR	Critically Endangered: In Great Britain, this species considered to be facing an extremely high risk of extinction in the wild nationally according to the relevant British Red Data list.
RDB-EN	Endangered: In Great Britain, this species considered to be facing a very high risk of extinction in the wild according to the relevant British Red Data list.
RDB-VU	Vulnerable: In Great Britain, this species considered to be facing a high risk of extinction in the wild according to the relevant British Red Data list.
RDB-DD	In Great Britain it is considered that there is inadequate information to decide whether or not this species should be included in a British Red Data list, but evidence suggests that it is likely to need to be included in the Red Data list.
LR/nt	Near Threatened: defined as a species that is not included in the British Red data list, but is close to qualifying or is likely to qualify in the near future.

National Status Categories (pre-1994)

RDB-EN	From the relevant British Red Data Book this species is classified as Nationally Endangered
RDB-VU	From the relevant British Red Data Book this species is classified as Nationally Vulnerable
RDB-RR	From the relevant British Red Data Book this species is classified as Nationally Rare
RDB-ED	From the relevant British Red Data Book this species is classified as Nationally Endemic
RDB-IK	From the relevant British Red Data Book this species has insufficient known about it nationally.
NS	From the relevant British Red data book this species is classified as Nationally scarce

National status categories (Birds)

RDB 1a	Breeding internationally significant numbers (more than 20% of the north-west Europe population).
RDB 1b	Non-breeding in internationally significant numbers (more than 20% of the north-west Europe population).
RDB 2	Rare breeder (less than 300 pairs).
RDB 3	Declining breeder (more than 50% sustained decline since 1960).
RDB 4a	Localised breeder (more than 50% of the population in the ten most populated areas).
RDB 4b	Localised non-breeder (more than 50% of the population in the ten most populated areas).
RDB 5	Special category shows cause for concern or declining numbers, but inadequate data to quantify the extent of the problem.

Butterfly Conservation categories

H-UK	High priority in the UK (Butterfly Conservation Action Plan)
H-W	High priority in Wales (Butterfly Conservation Action Plan)
M-UK	Medium priority in the UK (Butterfly Conservation Action Plan)
M-W	Medium priority in Wales (Butterfly Conservation Action Plan)

Fungi	Revised Data List of Macro fungi Maurice Prothero (03) CCW Report 616

Protection

Ann. II EU Hab. Dir.	Species is protected under Annex II of the EU-Habitats Directive: Animals & plant species of community interest whose conservation requires the designation of special areas of conservation
Ann. IV EU Hab. Dir.	Species is protected under Annex IV of the EU-Habitats Directive: Animals & plant species of community interst in need to strict protection
Ann. V EU Hab. Dir.	Species is protected under Annex V of the EU-Habitats Directive: Animal and plant species of community interest whose taking in the wild and exploitation may be subject to management measures.
Bern Conv.	Species is protected under the Bern Convention (1979) on the conservation of European wildlife & natural habitats.
Bonn Conv.	Species is protected under the Bonn Convention (1983) on the conservation of migratory species.
Sch.2 Hab. Regs	Species protected under Schedule 2 of the Habitat Regulations: European protected species of animal.
Sch.3 Hab. Regs	Species protected under Schedule 3 of the Habitat Regulations: Animals which may not be taken or killed in certain ways
Sch.4 Hab. Regs	Species protected under Schedule 4 of the Habitat Regulations: European protected species of plants.
Sch.1 WCA	Species protected under Schedule 1 of the Wildlife & Countryside Act (1981): Birds which are protected by special penalties.
Sch.5 WCA	Species protected under schedule 5 Wildlife & Countryside Act (1981): Animals which are protected
Sch.6 WCA	Species protected under Schedule 6 of the Wildlife & Countryside Act (1981): Animals which may not be killed or taken by certain methods.
Sch.8 WCA	Species protected under schedule 8 Wildlife & Countryside Act (1981): Plants which are protected

Habitat/Ecology	A brief summary of the habitats in which the species occur and any relevant ecological information.
Threats	A brief summary of the main threats affecting the species these are generic and in some cases site specific.
Known records	A compilation of contributors comments on specific species records.

Appendix A-2 Monmouthshire Species Audit – Recorders

Recorders Initials	Name	Title
AO	Alan Orange	Curator of lichens at NMGW
BK	Bill Keane	Naturalist – sadly, no longer with us
BP	Bill Purvis	Team Leader – Fisheries Management – Environment Agency
CT	Colin Titcombe	Naturalist
DC	David Clements	Ecological Consultant
EW	Elsa Wood	Naturalist
IK	Ian Killeen	Ecological Consultant
IR	Ian Rabjohns	Bat Recorder
IDS	Ian Smith	Dragonfly Recording Network – Wales Recorder
JK	Janice Kinchington	Naturalist
BG	Bird Group	Richard Clark, Chris Hatch, Chris Jones, Jerry Lewis, Alan Williams, Steve Williams
JS	Dr Jonathan Sleath	BBS Regional Recorder for VC36
MA	Dr Martin Anthoney	VC 35 Butterfly Recorder for Butterfly Conservation
MH	Dr Mike Howe	CCW Bangor – Invertebrate Specialist
MK	Mike Kilner	VC 35 Spider Recorder
MP	Mark Parvett	NMGW
MS	Dr Mary Seddon	NMGW
PS	Peter Smith	VC35 Mammal Recorder
RP	Roy Perry	Former BBS regional recorder for VC 35
SB	Sam Bosanquet	BBS regional recorder for VC 35
SE	Shelley Evans	VC35 Fungus Recorder, British Mycological Society Conservation Officer.
SW	Steve Williams	Naturalist
TE	Trevor Evans	VC 35 BSBI Vascular Plant Recorder

Other Abbreviations	
BBS	British Bryological Society
BC-Wales	Butterfly Conservation Wales
BMS	British Mycological Society
BSBI	Botanical Society of the British Isles
CAWN	Community Action for Wildlife in Newport
CCW	Countryside Council for Wales
CITES	Convention on International Trade in Endangered Species
NMGW	National Museums and Galleries of Wales
MMR	Most Recent Record
RDB	Red Data Book (Relevant to that particular group)
SAW	Species Audit for Wales

Appendix A-2 Species Audit Contents

Monmouthshire Species Audit 2005

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Lichens								
Opegrapha paraxanthodes	A lichen	H	P	RDB-LR/nt, Sect. 74 CROW	Dry, vertical calcareous rock outcrops on well wooded cliffs (UKBG)	No immediate threats. Reason for decline unknown (UKBG). Suggestions air pollution, increased recreational activity. Dense shading from overhanging vegetation.	This species is scarce, but widespread from Devon to Durham, Powys and Tayside (AO). Thought to be endemic (AO). Most recent record is from near Tintern April 1930 (collected by H.H. Knight & D.A. Jones) on limestone, probably not been searched for recently (AO).	None.
Zamenhofia rosei	Francis' blue-green lichen	+	S	RDB-LR/nt	Bases of mature broad-leaved trees (rarely yew) and occasionally adjacent rock in humid or sheltered ancient woodland sites (AO)	No immediate threats. Sensitive to loss of old trees and to changes in woodland management (AO).	Found on old trees of parkland & woodland. No distribution info. as yet. In Wales known from VCs 35,42,43,44,46 & 49. In VC35 locally frequent in woods an West bank of Wye (Wyndcliff wood etc., AO)	
Slime moulds								
Diderma trevelyanii	A slime mould	H	S	RDB-VU	Small woody litter and mosses on the floor of damp woodland (SAW).	Drying out of habitat through thinning, clearing and deforestation (SAW).	Now known from 4 ten km squares (formerly 18) in Britain. The only Welsh record was made in 1914 from the Welsh side of Symonds Yat in the Wye valley NNR, Monmouthshire (SAW).	
Liverworts								
Riccia huebeneriana	Violet crystalwort		P	RDB-VU, Sect. 74 CROW	Damp mud in draw-down zone of reservoirs, lakes, ponds & rivers where substrate is non-basic (BBS).	Loss of seasonal fluctuations in water levels. Perhaps nitrate & phosphate pollution (UKBG).	Apparently absent from Monmouthshire's Reservoirs, where replaced by *R. cavernosa* . Present at Shon Sheffrey's Reservoir in Blaenau Gwent (SB).	
Lejeunea lamacerina	Western Pouncewort	+	S		Moist/wet rocks in humid gullies (BBS).	Reduction in humidity in gorges (SB).	Locally frequent in gullies in Wye Valley and Black Mountains (SB).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Plagiochila spinulosa	Prickly Featherwort	+	S		Steep rocky banks or soil capped rock ledges in sheltered & shaded places & bases of trees. Mild calcicole or calcifuge. Mostly confined to the West of the UK (BBS).	Loss of woodland cover and associated humidity (SB).	Locally frequent on outcrops in Black Mountains; rare in Wye Valley (SB).	
Apometzgeria pubescens	Downy Veilwort	+			Occurs on limestone, widespread in northern Britain (BBS).	Damage to limestone rock faces. Scouring of rock by climbers (SB).	Present in small quantity at Lady Park Wood (SB).	Lowland Beech and yew woodland.
Bazzania trilobata	Greater Whipwort	+			Acid soil, boulders or tree bases. Characteristic of Quercus petraea woodland in West & North of UK (BBS) but largely restricted to block scree in Gwent (SB).	Loss of woodland cover in wooded sites (SB).	Key humidity indicator species in block screes of Blorenge ridge and on Conglomerate boulders on Trellech Ridge (SB).	Upland oak woodland
Cephaloziella turneri	Turner's Threadwort	+		RDB-LR/nt	Lightly shaded, crumbling, dry hedgebanks. Demands warm conditions (BBS).	Physical damage to hedgebanks (SB).	Recorded at Beaulieu Wood in the 1940s-1950s and at Prysg Wood in the 1980s (SB).	
Cladopodiella francisci	Holt Notchwort	+		NS	Damp peaty soil on heaths, occasionally on sandy paths across heathland (BBS).	Afforestation of heathland. Alteration of hydrology of wet heath sites (SB).	Probably now extinct, formerly near Cleddon Bog (BBS)	Lowland heathland
Fossombronia husnotii	Husnot's Frillwort	+		NS	Characteristically coastal in SW Britain (BBS). In Gwent, probably restricted to clay soil on woodland rides (SB).	Lack of knowledge of precise whereabouts of colony precludes assessment of threats (SB).	Locality of historic record is currently unknown (SB).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Jamesoniella autumnalis	Autumn Flapwort	+		NS	Typically occurs on decorticated logs in humid woodland (BBS). Gwent habitat is a conglomerate boulder (SB).	Removal of large logs before they have time to rot. Loss of humidity (SB).	Currently known from one boulder near The Narth (SB).	
Jubula hutchinsiae	Hutchins' Hollywort	+			Very wet shaded rocks in the West of the UK (BBS).	Reduction in humidity in gorges (SB).	Locally abundant in three very humid sites in Wye Valley (SB).	
Jungermannia paroica	Shining Flapwort	+			Shaded rocky stream banks in West & North of UK (BBS).	Reduction in humidity in gorges (SB).	Rare at two sites in Wye Valley (SB).	
Lejeunea patens	Pearl Pouncewort	+			Wet rocks in West & North of UK (BBS).	Reduction in humidity in gorges (SB).	Locally frequent on Tarren yr Esgob and one crag on the Blorenge, rare in the Wye Valley (SB).	
Lepidozia cupressina	Rock Fingerwort	+			Locally abundant in Atlantic woodland in NW Britain (BBS). Restricted to humid block scree in Gwent (SB).	Heather burning spreading to vegetation on scree (SB).	One patch in scree on Blorenge and another further south at Carn y Capel (SB).	Upland heathland
Odontoschisma sphagni	Bog-moss Flapwort	+			Usually associated with Sphagum spp. in raised & valley bogs (rather than blanket bogs) & wet upland moorland (BBS).	Drainage of bogs (SB).	Rare at Cleddon Bog (SB).	
Phaeoceros carolinianus	Carolina Hornwort	+			Arable fields where stubbles are left for long enough for hornworts to produce sporophytes (BBS).	Early ploughing, fertilizer & herbicide application (RDB), permanent set-aside (SB).	Recent records from at least nine fields in north-central Monmouthshire (SB).	Tillage fields
Riccia crozalsii	Ciliate Crystalwort	H		NS	Summer droughted slopes, largely restricted to coastal localities in Britain (BBS).	Lack of knowledge of precise whereabouts of colony precludes assessment of threats (SB).	One historic record from "rocks near Monmouth" (SB).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Riccia cavernosa	Cavernous Crystalwort	+		NS	Base-rich margins of reservoirs and pools where water levels fluctuate (BBS).	Loss of fluctuating water levels on reservoirs (SB).	Restricted to two areas overlying limestone on the northern margins of Llandegfedd Reservoir (SB).	
Ricciocarpos natans	Fringed Heartwort	+		NS	Eutrophic lowland ponds, lakes & canals. Usually free-floating, but may be on mud at water margin (BBS).	Closing over of vascular plant vegetation in reens (SB).	One record from a reen near Magor (SB). Probably elsewhere on Gwent levels (SB).	Mesotrophic standing water.
Scapania cuspiduligera	Untidy Earwort	+		NS	Soil gaps on sloping calcareous grassland. Typically on spoil around limestone quarries in S Wales (SB).	Revegetation and/or landscaping of limestone spoil (SB). Reduction in grazing levels (SB).	Currently known only from one small area of Gilwern Hill, probably in Trefil quarries (SB)	
Mosses								
Didymodon tomaculosus	Sausage Beard-moss	+	P	NS	Ephemeral moss of clayey arable fields with a distribution centred on the south Penines (BBS).	Early ploughing, fertilizer & herbicide application (RDB), permanent set-aside (SB).	One tuft found in a cereal stubble field west of Dingestow in 2004 (SB).	Tillage fields
Orthotrichum sprucei	Spruce's Bristle-moss	+	P	NS	Epiphyte on *Alnus spp.* and *Salix spp.* in flood zone of large, silty rivers (SB).	Removal of bankside trees; Reduction in the bases of trees being inundated with water at times of flood (SB).	Locally abundant by Usk, Monnow, Wye and Trothy (SB). Probably elsewhere on large, silty rivers (SB).	
Weissia multicapsularis	Many fruited beardless moss	+	P	RDB-EN, Sect. 74 CROW	Ephemeral moss that grows on acid soil (unpredictable) also woodland rides (SB).	Lack of habitat management to maintain open conditions (UKBG).	One record from Dingestow in 1980s, not found since (SB). Currently known from only 2 sites in the World (BBS).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Weissia rostellata	Beaked Beardless-moss	+	P	NS	Ephemeral moss found primarily on reservoir margins and occasionally on woodland rides or in damp fields (BBS).	Early ploughing, fertilizer & herbicide application (RDB), permanent set-aside (SB). Loss of water level fluctuation on reservoirs (SB).	Abundant in damp low-lying part of one field west of Dingestow (SB). Also on the margin of Wentwood Reservoir (SB).	Tillage fields
Anomodon longifolius	Long-leaved Tail-moss	H	S	RDB-VU	Limestone rock faces in humid woodland (BBS).	Reduction in humidity. Competition from more vigorous *Anomodon viticulosus* (SB).	Rare at Lady Park Wood & Mounton (SB). Apparently absent from other historic sites near Tintern.	Lowland Beech and yew woodland.
Brachydontium trichodes	Bristle-leaf	+	S	NS	Shaded old red sandstone on upland edge(SB).	Damage to areas of sandstone rock (SB).	Present at several sites in Black Mountains and at least two on east side of Blorenge ridge (SB).	
Bryum turbinatum	Topshape Thread-moss	+	S	RDB-EX	Damp, sandy or gravelly soil. Probably an impermanent weedy species (RDB).	Reasons for catastrophic decline in Britain are unknown (RDB).	Probably now extinct (SB, CCW)	
Ephemerum sessile	Sessile Earth-moss	+	S	RDB-LR/nt	Non-basic margins of reservoirs where water levels fluctuate (BBS).	Loss of fluctuating water levels on reservoirs (SB).	Locally abundant on margin of Llandegfedd Reservoir. Rare on a damp track in the Black Mountains and in at least five fields in the Dingestow area.	Tillage fields
Weissia squarrosa	Spreading-leaved Beardless-moss	+	S	RDB-EN	Arable fields where stubbles are retained through the winter (BBS).	Early ploughing, fertilizer & herbicide application (RDB), permanent set-aside (SB).	A strong colony in a set-aside field near Dingestow and a smaller one in a cereal field nearby (SB).	Tillage fields
Antitrichia curtipendula	Pendulous Wing-moss	H			Boulders & tree bases in west of UK (BBS).	Environmental changes and pollution (SB).	Vanishing all over Britain. Last recorded in Monmouthshire near Cwmyoy in the 19th century (SB).	
Bryum gemmiparum	Welsh Thread-moss	H		RDB-EN	Crevices in rocks by silt-bearing rivers (RDB).	Physical damage to rocks on banks of rivers (SB). Possibly aquatic pollution (SB).	A historic site on the Grwyne Fawr has been searched unsuccessfully (SB). Recorded recently on the Usk near Sennybridge, Brecs (JS).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Drepanocladus sendtneri	Chalk Hook-moss	H		NS	Typical of wet dune slacks in Britain but also encountered occasionally in base-rich lowland pools (BBS).	Drainage or eutrophication of pools (SB).	One historic record from a pool near Cleddon Bog (SB).	
Funaria muhlenbergii	Muhlenberg's Cord-moss	+		NS	Shallow calcareous soil overlying limestone (BBS).	Physical damage to limestone boulder which is immediately adjacent to tram road (SB).	A few plants are known from the top of a single boulder near Pwll-du (SB).	
Grimmia decipiens	Great Grimmia	+		NS	Sunny, exposed walls. Largely restricted to base-rich rock (BBS).	Damage to, or cleaning of, the bridge on which the species occurs (SB).	Colonies are known on a bridge over the Grwyne Fawr (BBS) and on the church roof at Penrhos (SB). Previously recorded from a rock near Chepstow (SB).	
Grimmia laevigata	Hoary Grimmia	+		NS	Sunny, exposed, south-facing sandstone roof tiles (SB), also on exposed natural rock elsewhere in southern Britain (BBS).	Re-roofing of stone tiled roofs with unsuitable materials (eg slate, reconstituted tiles), cleaning of stone tiled roofs (SB). Eutrophication (BBS).	Known on 9 church roofs in Monmouthshire.	
Grimmia longirostris	North Grimmia	+		NS	Exposed rocks on upland edge (BBS).	Removal of sandstone rocks (SB).	Two colonies on sandstone near Cwmyoy (JS & SB).	
Grimmia montana	Sun Grimmia	H		NS	Exposed, hard rocks in western Britain (BBS).	Damage to exposed stone walls on Trellech ridge (SB).	Recorded on stone walls near Trellech in early 20th century (BBS).	
Grimmia ovalis	Flat-rock Grimmia	+		RDB-VU	Sunny, exposed, south-facing sandstone roof tiles in southern Welsh Marches (SB). Also on exposed metamorphic rock in northern Britain (BBS).	Re-roofing of stone tiled roofs with unsuitable materials (eg slate, reconstituted tiles), cleaning of stone tiled roofs (SB). Eutrophication (BBS).	Known on 14 church roofs in Monmouthshire (SB)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Hedwigia ciliata var. ciliata	Fringed Hoar-moss	+		RDB-DD.	Siliceous rocks & walls at moderate altitudes (RDB). In Herefordshire it is found on a few stone tiled roofs (JS).	Re-roofing of stone tiled roofs with unsuitable materials (eg slate, reconstituted tiles), cleaning of stone tiled roofs (SB).	Abundant on Llangua church roof, rarer at Llanwenarth, Llangwm and Llanfair Discoed (SB). A record, from tarmac in RAF Caerwent (RP), is likely to be transitory.	
Microbryum floerkeanum	Floerke's Phascum	+		NS	A winter ephemeral moss of base-rich stubble fields (BBS).	Cessation of arable cultivation on Gwent Levels (SB).	A colony in a cereal stubble field on Rogiet Moor (SB). Otherwise unknown in Wales.	Tillage fields
Myrinia pulvinata	Flood-moss	+		RDB-LR/nt	Rare epiphyte on *Alnus* spp. and *Salix spp.* in flood zone of large, silty rivers (BBS).	Removal of bankside trees; Reduction in the bases of trees being inundated with water at times of flood (SB).	On several trees by River Usk north of Llantrisant and on one tree by River Usk at Govilon (SB).	
Polytrichum strictum	Strict Haircap	+			Wet, boggy moorland in north-western Britain (BBS).	Burning management of blanket bog (SB).	One large tuft in degraded bog on Blorenge (SB).	
Schistostega pennata	Luminous Moss	+			On dry, friable soil in sandstone caves or deep fissures among sandstone rocks, always where light intensity is very low. Occasionally in rabbit holes and dark overhanging hedgebanks (BBS).	Moving of boulders would destroy habitat.	Found in 2000 under two sandstone boulders in Trellech Hill quarry (SB).	
Seligeria campylopoda	Bentfoot Rock-bristle	+		RDB-DD.	The Wye Valley is the British headquarters of this species. It grows on tiny limestone stones embedded in soil in woodland (SB).	One large colony is adjacent to a track leading off the Wye Valley road and is vulnerable to fly tipping (SB). Encroachment by Ivy is also a threat (SB).	Very scattered on small pieces of limestone in Wye Valley near Lady Park Wood, at Black Cliff and Wynd Cliff, Chepstow. Rare near Itton. Very rare on Gilwern Hill and the east side of the Blorenge (SB).	Lowland Beech and yew woodland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Seligeria donniana	Donn's Rock-bristle	+		NS	Shaded rock faces, both base-rich sandstone and limestone (BBS). Also found recently on a limestone pebble in Brecs (SDSB).	Damage to limestone rock faces, renewed quarrying, removal of limestone pebbles (SB).	Historic records exist for the Wye Valley but the species is now known in Gwent from a single rockface on Gilwern Hill (SB).	
Sphagnum quinquefarium	Five-ranked Bog-moss	+			Characteristic of steeply sloping ground in Atlantic woodlands (BBS).	Removal of tree cover in Clydach gorge (SB).	Recently found in the Clydach gorge (SB)	Upland oak woodland
Splachnum ampullaceum	Cruet Collar-moss	H			Grows on decomposed herbivore dung - especially cattle dung - in wet acidic places (BBS).	Loss of grazing on bogland (SB). Drainage of acidic wetlands (SB).	Formerly at Cleddon Bog; now only at two sites in western Gwent (SB).	Blanket Bog
Splachnum sphaericum	Round-fruited Collar-moss	H			Grows on decomposed herbivore dung - especially cattle dung - in wet acidic places. A more upland species than *S. ampulaceum* (BBS).	Loss of grazing on blanket bog (SB).	Known historically from the Blorenge ridge where little suitable habitat remains (SB). Recorded in 1999 on Mynydd Llangynidr, Brecs (GM) and therefore probably present near Trefil (SB).	Blanket Bog
Thuidium recognitum	Lesser Tamarisk-moss	+		NS	Frequent on limestone pavement in N England, also limestone in woodland elsewhere (BBS).	Damage to limestone pavement. Removal of woodland cover (SB).	A tiny colony is known on degraded limestone pavement in Great Barnets Woods (SB).	Lowland Beech and yew woodland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Vascular plants								
* *Centaurea cyanus*	Cornflower	#?	P	RDB-EN	Arable fields & waste ground (TE, Stace 1997).	Changes in agricultural practices such as; increased herbicide & fertiliser use; intro. of highly compet. crops; destruction of field margins; loss of trad. crop rotations; conversion of arable land to pasture (UKBG).	Records from SAW	Cereal field margins
Dianthus armeria	Deptford pink	+	P	RDB-VU, Sch 8. WCA, Sect. 74 CROW	Dry grassy places & disturbed ground (TE, Stace 1997).	Conversion of pasture to arable & building land; destruction of hedgerows; habitat abandonment leading to closed veg. structure (UKBG).	Native in other parts of Britain, but not native here (TE). No longer occurs at the Monmouthshire site (TE).	Cereal field margins, lowland calcareous grassland & lowland dry acid grassland.
Fumaria purpurea	Purple ramping-fumitory	+	P	Sect. 74 CROW	Arable and waste ground and hedgerows (Stace 1997).	Poorly understood, but are likely to be; increased herbicide & fertiliser use; intro. of highly compet. crops; habitat destruction; loss of trad. crop rotations (UKBG).	Probably extinct in VC35, MMR 1985 (TE). Caerphilly record from the SAW.	Cereal field margins & ancient hedgerows
Galium tricornutum	Corn cleavers	#H	P	RDB-CE	An annual species of arable and waste ground, hedge-banks & sea-cliffs (Stace 1997, UKBG).	Increased herbicide & fertiliser use; intro. of highly compet. crops; loss of field-margin habitat; habitat abandonment; loss of trad. crop rotations (UKBG).	Records taken from the SAW. Pre-1972.	Cereal field margins

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Mentha pulegium	Pennyroyal	+	P	RDB-VU, Sch. 8 WCA, Sect. 74 CROW	Damp grassy places, by ponds or the sea (TE, Stace 1997).	Loss of seasonally wet habitat. Abandonment or infill of disturbed habitats (e.g. gateways). Habitat loss through lack of management, agricultural intensification & development (UKBG).	Native in other parts of Britain but not native here (TE). Torfaen records supplied by TE. Caerphilly & Monmouthshire records taken from the SAW	Lowland heathland
* *Scandix pecten-veneris*	Shepherd's needle	H	P	NS, Sect. 74 CROW	Annual species found on arable & waste ground or coastal sites (Stace 1997). Favours heavy calcareous clay soils (UKBG).	Increased herbicide & fertiliser use; intro. of highly compet. crops; loss of field-margin habitat; habitat abandonment; loss of trad. crop rotations (UKBG).	Records from the SAW. Pre-1972	Cereal field margins
Silene gallica	Small-flowered catchfly	H#+	P	Sect. 74 CROW	Waste places, cultivated land & open sandy ground (TE, Stace 1997).	Increased herbicide & fertiliser use; intro. of highly compet. crops; loss of suitable habitat; conversion of marginal arable land to pasture; loss of trad. crop rotations, early harvests (UKBG).	Probably extinct in VC35 (TE).	Cereal field margins

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
* *Trichomanes speciosum*	Killarney fern	+	P	RDB- VU, Ann II & IV Hab. Dir., Sch3 Hab. Regs., Sch8 WCA, Sect. 74 CROW	Very sheltered, damp rock faces, often near waterfalls or at cave entrances (Stace 1997)	Over collection & assoc. trampling. Decline in humidity related to disturbance by e.g. tree-felling & water abstraction. Eutrophication & physical damage from silt in flowing water (i.e. scouring, UKBG).	Gametophytes only at Cleddon Shoots 1997 (TE)	
Anisantha madritensis	Compact brome	#+	S	RDB-VU	Roadside verges, disturbed ground (TE). Open grassland on warm sandy soil (Stace 1997).		Records supplied by TE	
Atriplex longipes	Long-stalked orache	+	S	RDB-RR	Taller saltmarsh vegetation (TE, Stace, 1997)		No longer found at the Monmouthshire site.	
Cephalanthera longifolia	Narrow-leaved helleborine	+	S		Woods & shady places on calcareous soil (Stace 1997)		Probably extinct in VC35. MMR 1979 (TE).	
Epipactis palustris	Marsh helleborine	+	S		Base-rich marshy fields (TE, Stace 1997).		Records supplied by TE	
Eryngium campestre	Field eryngo	H#+	S	RDB-VU, Sch8 WCA	Grassland or open ground, esp. calcareous. Mostly near the coast (Stace 1997).		Records taken from the SAW	
Euphorbia serrulata	Upright spurge	+	S	RDB-VU	Woodland rides & roadside verges on limestone (TE, Stace 1997).	Vulnerable due to limited distribution.	Wye Valley (TE).	
Frangula alnus	Alder buckthorn	+	S		Scrub, bogs & open woods, usually damp peaty soils (TE, Stace 1997).		Records supplied by TE	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Gnaphalium sylvaticum	Heath cudweed	+	S		Open ground on banks, woodland rides & heaths (TE, Stace 1997).		No longer occurs at either Monmouthshire or Newport sites	
Gymnocarpium dryopteris	Oak fern	+	S		Damp woods, shaded scree slopes or rocky places on limestone (TE, Stace 1997).		Records supplied by TE	
Lycopodium clavatum	Stag's horn clubmoss	+	S		Heaths, moors, woods, mountains, mostly in grassy places (TE, Stace 1997).		Records supplied by TE	
Lythrum hyssopifolia	Grass-poly	+	S	RDB-VU, Sch 8. WCA	Light soil near pond (TE). Seasonally wet bare ground (Stace 1997).		Native in other parts of Britain but not native here (TE).	
Neottia nidus-avis	Bird's-nest orchid	+	S		On leaf litter in shady woods often under *Fagus* spp. on calcareous soils (TE, Stace 1997).		Records supplied by TE	
Orobanche hederae	Ivy broomrape	+	S		Parasitic on Ivy (*Hedera* spp.)		Records supplied by TE	
Petroselinum segetum	Corn parsley	+	S		Barish or grassy places in arable fields, pastures, hedgerows & on banks (Stace 1997).	Vulnerable due to limited distribution.	Most of the VC35 records occur on banks of reens & ditches near the sea (TE).	
Petrorhagia nanteuilii	Childing pink	+	S	RDB-EN	Dry grassy places (Stace 1997).			
Ranunculus penicillatus spp. *pseudofluitans*	Stream water-crowfoot	+	S		Rivers & streams, usually swift-flowing (TE, Stace 1997).	Vulnerable due to limited distribution.	Mounton Brook & R. Wye at Monmouth (TE).	
Salvia pratensis	Meadow clary	+	S	RDB-VU, Sch8 WCA	Calcareous grassland, scrub & wood borders (TE, Stace 1997).		Records supplied by TE. Monmouthshire at edge of range (Plantlife).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Scrophularia scorodonia	Balm-leaved figwort	+	S	RDB-RR	Waste places (TE). Grassy field boundaries & hedgerows, mostly near the coast (Stace 1997).		Native in other parts of Britain but not native here (TE). Newport Docks (TE).	
Sorbus anglica	English whitebeam	+	S	IUCN-VU, RDB-VU	Woods & rocky places mostly on limestone (TE, Stace 1997).	Vulnerable due to limited distribution.	Wye Valley (TE).	
Zostera marina	Eelgrass	+	S		Sea-coast & estuaries below low-water mark (0-4(9)m, Stace 1997).		Records supplied by TE	
Aconitum napellus	Monkshood	+		NS	Shady places by streams & rivers (TE)		Scarce plant register (BSBI)	
Alchemilla glabra	A lady's mantle	+			Damp rich grasslands, roadside verges, woodland rides (TE)		Records supplied by TE	
Alchemilla xanthochlora	A lady's mantle	+			Damp rich grasslands, roadside verges, woodland rides (TE)		Records supplied by TE	
Allium oleraceum	Field garlic	+			Dry grassy places in grassland & woodland (TE)		No longer present on this site (TE).	
Alllium triquetrum	Three-corner garlic	#+			Rough, waste & cultivated ground (TE). Copses hedgerows & waysides (Stace 1997).		Records supplied by TE	
Alopecurus aequalis	Orange foxtail	+			Pond edges (TE). Wet meadows, marshes, ditches (Stace 1997).		Records supplied by TE	
Alopecurus bulbosus	Bulbous foxtail	+		NS	Saltmarsh, wet grassy places near the sea, usually brackish & grazed (TE, Stace 1997)		Records supplied by TE	
Althaea officinalis	Marsh mallow	+		NS	Brackish ditches, banks & grassland near sea (TE, Stace 1997).		Records supplied by TE	

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Anacamptis pyramidalis	Pyramidal orchid	+			Limestone grassland & road verges (TE)		Records supplied by TE	
Anchusa arvensis	Bugloss	H#+			Waste ground & arable fields on light acid or calcareous soils (TE, Stace 1997)	Loss of arable field margins	Records supplied by TE	
Apium inundatum	Lesser marshwort	+			Ponds (TE). On bare mud near still shallow water (Stace 1997).		Records supplied by TE	
Asplenium marinum	Sea spleenwort	+			Walls, cliffs & rock crevices close to the sea (TE, Stace 1997).		Records supplied by TE	
Asplenium trichomanes ssp. *pachyrachis*	A maidenhair spleenwort	+			Limestone rocks & walls (TE).		Records supplied by TE	
Asplenium viride	Green spleenwort	+			Base rich upland rock crevices (TE, Stace 1997)		Records supplied by TE	
Astragalus glycyphyllos	Wild liquorice	+			Grassy places, woodland rides & scrub, mostly on limestone soils (TE, Stace 1997)		Records supplied by TE	
Atropa belladonna	Deadly nightshade	+			Woods, scrub, rough ground (Stace 1997)		Records supplied by TE	
Botrychium lunaira	Moonwort	+			Dry upland grassland (TE, Stace 1997).		Records supplied by TE	
Brachypodium pinnatum	Tor-grass	+			Limestone grassland (TE)		Records supplied by TE	
Brassica oleracea var. *oleracea*	Wild cabbage	+		NS	Cliffs & walls near the sea (TE).		Records supplied by TE	
Bromopsis benekenii	Lesser hairy-brome	+		NS	Woods, wood margins & hedgerows (TE, Stace 1997)		Records supplied by TE	

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Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Bromposis erecta	Upright brome	+			Limestone grassland & quarries (TE), also found on grassy slopes (Stace 1997).		Records supplied by TE	
Bupleurum tenuissimum	Slender hare's-ear	+		NS	Grassland near the sea (TE)		Records supplied by TE	
Calamagrostis epigejos	Wood small-reed	+			Damp woodland rides, margins & ditches (TE, Stace 1997).		Records supplied by TE	
Callitriche hamulata/brutia	A water star-wort	+			Reens, ditches and ponds (TE).		Records supplied by TE	
Callitriche obtusangula	Blunt-fruited water-starwort	+			Reens & ditches, by ponds & streams (TE, Stace 1997).		Records supplied by TE	
Calystegia sepium ssp. roseata	A hedge bindweed	+			Hedgerows, ditches, rough waste ground by water (TE, Stace 1997).		Records supplied by TE	
Campanula patula	Spreading bellflower	+		NS, Sect. 74 CROW	Open woodland, woodland rides & edges, hedgebanks (TE, Stace 1997).		Records supplied by TE	
Cardamine impatiens	Narrow-leaved bittercress	+		NS	Damp woodland rides & quarries (TE), river banks (Stace 1997)		Records supplied by TE	
Carex acuta	Slender tufted-sedge	+			Ponds, ditches, canals, rivers & in marshes (TE, Stace 1997).		Records supplied by TE	
Carex curta	White sedge	+			Wet acid places (TE), grassland, heathland, bogs & wet woodland (Stace 1997).		Probably extinct in VC35 (TE).	
Carex digitata	Fingered sedge	+		NS	Limestone cliffs & woodland rides, roadside verges (TE).		Records supplied by TE	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Carex distans	Distant sedge	+			Brackish & freshwater marshes near the sea (TE) wet rock places (Stace 1997).		Records supplied by TE	
Carex divulsa spp. *leersii*	Grey sedge	+			eHedgerows, wood borders, rough grassland on limestone (TE, Stace 1997).		Records supplied by TE	
Carex elongata	Elongated sedge	+			Damp places in boggy woods (TE) & wet meadows, by ditches (Stace 1997).		Records supplied by TE	
Carex extensa	Long-bracted sedge	+			Muddy or sandy brackish places in estuaries by sea (TE, Stace 1997).		Records supplied by TE	
Cerastium diffusum	Sea mouse-ear	+			Dry, open sandy places, quarries (TE, Stace 1997).		Records supplied by TE	
Chenopodium hybridum	Maple-leaved goosefoot	H#+			Waste & arable land, gardens (TE, Stace 1997).		Not native at these sites (TE).	
Chrysanthemum segetum	Corn marigold	H#+			Disturbed places on arable & waste ground (TE, Stace 1997).		No longer occurs at sites in Blaenau Gwent, Newport & Torfaen	
Chrysoplenium alternifolium	Alternate-leaved golden-saxifrage	+			Woodland rides, wet places in woodland, by streams & flushes (TE, Stace 1997).		Records supplied by TE	
Cirsium eriophorum	Woolly thistle	+			Dry grassland, scrub & banks on calcareous soil (TE, Stace 1997).		Records supplied by TE	
Convallaria majalis	Lily-of-the-valley	+			Dry woodland, scrub & hedgebanks usually on base rich soil (TE, Stace 1997).	Vulnerable due to limited distribution.	Wye Valley woodlands (TE)	

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Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Crataegus laevigata	Midland hawthorn	+			Woods & hedgerows (TE, Stace 1997).		Records supplied by TE	
Crataegus persimilis	Broad-leaved cockspur-thorn	#+			Roadside verges (TE).		Records supplied by TE	
Crepis biennis	Rough hawk's-beard	+			Rough grassland (TE, Stace 1997).		Records supplied by TE	
Crepis paludosa	Marsh hawk's-beard	+			Wet places in open woodland & grassland (Stace 1997).	Vulnerable due to limited distribution.	Sugar Loaf woodlands (TE).	
Crithmum maritimum	Rock samphire	+			Cliffs, rocks & less often sand & shingle by the sea (Stace 1997).	Vulnerable due to limited distribution.	Gwent levels (TE).	
Cyperus longus	Galingale	+		NS	Marshes, pondsides & ditches near the coast (TE, Stace 1997).		No longer occurs at the Newport site	
Dactylorhiza incarnata ssp. *Incarnata*	Early marsh orchid	+			Wet meadows & marshes on base-rich or neutral soil (TE, Stace 1997).		Records supplied by TE	
Echium vulgare	Viper's-bugloss	+			Open grassy places, rough grassland (TE) cliffs, shingle light often calcareous soil (Stace 1997).		Records supplied by TE	
Eriophorum latifolium	Broad-leaved cottongrass	+			Wet base-rich marshes & flushes (TE, Stace 1997).		Records supplied by TE	
Erodium maritimum	Sea stork's-bill	+			Bare places, short grassland, cliffs (TE, Stace 1997).		Native in other parts of Britain but not native here (TE).	
Euphorbia exigua	Dwarf spurge	#H+			Arable land (TE).		Not native at these sites (TE).	
Euphrasia pseudakereri	An eyebright	+		NS	Dry limestone grassland (TE).		Records supplied by TE	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Festuca altissima	Wood fescue	+			Moist stoney slopes & ravines in woods & copses (TE, Stace 1997).	Vulnerable due to limited distribution.	Wye Valley woodlands (TE)	
Festuca filiformis	Fine-leaved sheep's fescue	+			Grassy places usually acid sandy soil (TE, Stace 1997).		Records supplied by TE	
Festuca heterophylla	Various-leaved fescue	#+			Woods & wood borders on light soils (TE, Stace 1997).		Records supplied by TE	
Filago vulgaris	Common cudweed	+			Barish places on sandy soils, heaths & waysides (TE, Stace 1997).		No longer occurs at the Blaenau Gwent and Newport sites.	
Fragaria moschata	Hautbois strawberry	+			Scrub & hedgerows (TE, Stace 1997).		Not native at these sites (TE).	
Galium palustre ssp. *elongatum*	A common marsh-bedstraw	+			Damp meadows, wet woodland (TE), pondsides, ditches & marshes (Stace 1997).		Records supplied by TE	
Galium x pomeranicum	Hybrid bedstraw	+			Grassy places & hedgerows on well-drained base-rich soil (TE, Stace 1997).	Vulnerable due to limited distribution.	MOD Caerwent (TE).	
Genista anglica	Petty Whin	+			Sandy & peaty heaths & moors (TE)		Records supplied by TE	
Geranium rotundifolium	Round-leaved crane's-bill	+			Banks, walls & stoney ground (TE, Stace 1997).		Records supplied by TE	
Geranium versicolor	Pencilled crane's-bill	#+			Grown in gardens & naturalised in grassy places (TE, Stace 1997).		Not native at these sites (TE).	
Geum rivale	Water avens	+			Streamsides & marshes (TE, Stace 1997).		Records supplied by TE	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Geum x intermedium	Hybrid Avens	+			Open woodland (TE) marshes, streamsides, mountain rock ledges (Stace 1997).		Records supplied by TE	
Gymnadenia conopsea	Fragrant orchid	+			Limestone grassland & verges, marshes (TE).		Records supplied by TE	
Gymnocarpium robertianum	Limestone fern	+			Open or partly shaded scree-slopes or rocky places on limestone (TE, Stace 1997).		Records supplied by TE	
Helleborus foetidus	Stinking hellebore	+			Woods, hedgerows & roadside verges on calcareous soil (TE, Stace 1997).		Records supplied by TE	
Helleborus viridis	Green hellebore	+			Woods & scrub on calcareous soil (TE, Stace 1997).		Records supplied by TE	
Helictotrichon pratense	Meadow oat-grass	+			Grassland, usually base-rich soils (TE, Stace 1997).		Records supplied by TE	
Helictrichon pubescens	Downy oat-grass	+			Grassland, verges, disturbed ground (TE, Stace 1997).		Records supplied by TE	
Hieracium eboracense	A hawkweed	+			Rough grassland & verges (TE).		Records supplied by TE	
Hieracium pellucidum	A hawkweed	+			Grassland and rocky ground (TE)		Records supplied by TE	
Hieracium rigens	A hawkweed	+			Grassland & verges (TE)		Records supplied by TE	
Hieracium umbellatum spp. *bichlorophyllum*	A hawkweed	+			Grassland, verges & woodland (TE).		Records supplied by TE	
Hieracium vagum	A hawkweed	+			Grassland (TE)		Records supplied by TE	
Hippuris vulgaris	Mare's tail	+			Ponds, slow-flowing rivers esp. base-rich (TE, Stace 1997).		Records supplied by TE	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Hordelymus europaeus	Wood barley	+		NS	Woods & copses (TE).		Records supplied by TE	
Huperzia selago	Fir clubmoss	+			Heaths, moors, grassy or rocky places on mountains (TE, Stace 1997).		Records supplied by TE	
Hypericum elodes	Marsh St John's-wort	+			Bogs, pondsides & streamsides on acid soils (TE, Stace 1997).		Records supplied by TE	
Hypericum montanum	Pale St John's-wort	+			Open woodland , hedgebanks & rocky slopes usually on calcareous soils (TE, Stace 1997).		Records supplied by TE	
Juncus compressus	Round-fruited rush	+			Marshes & wet meadows often near the sea (TE, Stace 1997).		Records supplied by TE	
Juncus x diffusus	Hybrid rush	+			Marshes, ditches, wet meadows by lakes & rivers (TE, Stace 1997).		Records supplied by TE	
Juncus maritimus	Sea rush	+			Saltmarsh (TE, Stace 1997)		Records supplied by TE	
Juncus subnodulosus	Blunt-flowered rush	+			Marshes, reens & ditches, wet meadows on peaty base-rich soils (TE, Stace 1997).		Records supplied by TE	
Kicksia elatine	Sharp-leaved fluellen	+			Arable fields & field boundaries on light usually calcareous soils (TE, Stace 1997).		Not native at these sites (TE).	
Kicksia spuria	Round-leaved fluellen	+			Arable fields & field boundaries on light usually calcareous soils (TE, Stace 1997).		Not native at these sites, probably extinct in VC35, MMR 1985 (TE).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Koeleria macrantha	Crested hair-grass	+			Short limestone or sandy base-rich grassland (TE, Stace 1997).		Records supplied by TE	
Lavatera arborea	Tree mallow	+			Rocks, cliffs & waste ground near the sea (TE, Stace 1997).		Records supplied by TE	
Lepidium heterophyllum	Smith's pepperwort	+			Open grassland, banks, walls , waysides & arable fields (TE, Stace 1997).		Records supplied by TE	
Limonium vulgare	Common sea-lavender	+			Muddy saltmarsh (TE, Stace 1997).		Records supplied by TE	
Lotus glaber	Narrow-leaved bird's-foot-trefoil	+			Dry grassy places (TE, Stace 1997).	Vulnerable due to limited distribution.	Found mainly on grassy places near the coast in Gwent (TE).	
Malva neglecta	Dwarf mallow	H#+			Rough & waste ground, waysides (TE, Stace 1997)		Records supplied by TE	
Melica nutans	Mountain melick	+			Woods, scrub & shady rock crevices on limestone, quarries (TE, Stace 1997).		Records supplied by TE	
Mimulus moschatus	Musk	#+			Banks of reens, ditches & streams (TE).		Records supplied by TE	
Misopates oronitium	Weasel's snout	H#+			Weed of cultivated ground (TE, Stace 1997).		Not native at these sites, probably extinct in VC35, MMR 1988 (TE)	
Molinia caerulea ssp. *arundinacea*	A purple moor-grass	+			Fen type vegetation by rivers & canals (TE, Stace 1997).	Vulnerable due to limited distribution.	Llandegfedd Reservoir (TE)	
Monotropa hypopitys spp. *hypophegea*	Yellow bird's-nest	+			On leaf litter in woods (under *Pinus* spp. or *Fagus* spp.) (TE, Stace 1997).	Vulnerable due to limited distribution.	Beech woodland in Wye Valley (TE).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Myosotis ramosissima	Early forget-me-not	+			Dry open places on sandy or limestone soils (TE, Stace 1997).	Vulnerable due to limited distribution.	MOD Caerwent and until recently on a defensive bank at Sudbrook Fort (TE).	
Myriophyllum alterniflorum	Alternate water-milfoil	+			Mostly base-poor ponds & lakes (TE), slow streams & ditches (Stace 1997).		Records supplied by TE	
Myriophyllum spicatum	Spiked water-milfoil	+			Mostly base-rich ponds, lakes, slow rivers & ditches mostly lowlands (Stace 1997).		No longer occurs at the Monmouthshire site	
Myrrhis odorata	Sweet cicely	#+			Banks, pathsides, waste & grassy places (TE, Stace 1997).		Records supplied by TE	
Nuphar lutea	Yellow water-lily	+			In lakes, ponds & rivers (TE, Stace 1997).		Records are from ponds (TE)	
Oenanthe lachenallii	Parsley water drop-wort	+			Reens, ditches, marshes & saltmarsh, mostly near the sea (TE, Stace 1997).		Records supplied by TE	
Orchis morio	Green-winged orchid	+			Base-rich to neutral, short, undisturbed grassland (TE, Stace 1997).		Records supplied by TE	
Onobrychis viciifolia	Sainfoin	#?+			Grassland & bare places, mostly on limestone (TE, Stace 1997).		Not native at these sites, probably extinct in VC35, MMR 1975 (TE).	
Ornithopus perpusillus	Bird's foot	+			Dry barish sandy & gravelly ground (Stace 1997).		Records supplied by TE	
Orobanche minor var. *flava*	Common broomrape (yellow form)	+			Parasitic on Cat's ears (*Hypochaeris* spp.)		Newport Docks, no longer occurs at the Monmouthshire sites (TE).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Papaver dubium spp. *lecoqii*	Long-headed poppy	H#+			Arable ground, roadsides & waste places. Frequent only on limestone (TE, Stace 1997).		Not native at these sites (TE).	
Pedicularis palustris	Marsh lousewort	+			Wet heaths & bogs (TE, Stace 1997).		Records supplied by TE	
Phegopteris connectilis	Beech fern	+			Damp woods, shady rocky places & banks on acid soils (TE, Stace 1997)		Records supplied by TE	
Plantanthera bifolia	Lesser butterfly orchid	+			Woods, open grassland on calcareous soils (TE, Stace 1997).		Records supplied by TE	
Platanthera chlorantha	Greater butterfly orchid	+			Woods, open grassland on calcareous soils (TE, Stace 1997).		Records supplied by TE	
Poa angustifolia	Narrow-leaved meadow-grass	+			Grassy places, rough grassland, walls & banks on well-drained soil (Stace 1997).		Brockwell meadows and MOD Caerwent, no longer occurs at the Newport Docks site (TE)	
Polypodium cambricum	Southern polypody	+			Base-rich rocks, walls & tree trunks in moist places (TE, Stace 1997).		Records supplied by TE	
Populus nigra ssp. *betulifolia*	Black poplar	+			Fields by streams & ponds, river floodplains (Stace 1997).		Records supplied by TE	
Potamogeton trichoides	Hair-like pondweed	+		NS	Reens & ditches, ponds, canals & streams (TE, Stace 1997)		Records supplied by TE	
Potentilla argentea	Hairy cinquefoil				Sandy grassland, waste ground (TE, Stace 1997)		Recorded on coal waste (TE).	
Potentilla palustris	Marsh cinquefoil	+			Marshes, fens & bogs (Stace 1997).		Recorded from a pond site (TE).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Puccinellia distans	Reflexed saltmarsh-grass	+			Bare mud in saltmarshes & estuaries (TE, Stace 1997).		Records supplied by TE	
Puccinellia rupestris	Stiff saltmarsh-grass	+		NS	Bare places, mud, clay rocks & stones near the sea (TE, Stace 1997).		Records supplied by TE	
Pyrola minor	Common wintergreen	+			Leaf mould in woods, damp rock ledges, peaty moors (TE, Stace 1997).		Records supplied by TE	
Ranunculus baudotii	Brackish water-crowfoot	+			Reens, ditches & ponds near the sea on brackish ground (TE, Stace 1997).	Vulnerable due to limited distribution.	Gwent levels (TE).	
Ranunculus circinatus	Fan-leaved water-crowfoot	+			Reens, ditches, ponds, slow-flowing rivers, usually base-rich soils (TE, Stace 1997).	Vulnerable due to limited distribution.	Found mainly in Reens in VC35 (TE).	
Ranunculus lingua	Greater spearwort	+			Marshes, pond, reen & ditch banks (TE, Stace 1997).		Records supplied by TE	
Ranunculus parviflorus	Small-flowered buttercup	+			Open ground esp. near the coast (TE, Stace 1997).	Vulnerable due to limited distribution.	MOD Caerwent (TE).	
Ranunculus sardous	Hairy buttercup	+			Grassland, waste & cultivated land (TE, Stace 1997).		Records supplied by TE	
Ranunculus trichophyllus	Thread-leaved water crowfoot	+			Ponds, ditches, canals & slow-flowing rivers (TE, Stace 1997).		Records supplied by TE	
Rapistrum rugosum	Bastard cabbage	#+			Waste, arable land on tips, waysides & open grasslands (TE, Stace 1997).		Not native to these sites (TE).	
Reseda lutea	Wild mignonette	+			Disturbed waste & arable land, esp. on calcareous soils (TE, Stace 1997)		Records supplied by TE	

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Rosa micrantha	Small-flowered sweetbriar	+			Scrub, woodland edges, roadside verges & banks (TE, Stace 1997).		Records supplied by TE	
Rosa obtusifolia x R. stylosa	Hybrid wild rose	+			Hedges, scrub & wood borders (TE, Stace 1997).		Records supplied by TE	
Rosa tomentosa	Harsh downy-rose	+			Scrub, hedges & open woodland (TE, Stace 1997).		Records supplied by TE	
Rumex pulcher	Fiddle dock	+			Dry grassy places (TE)		Records supplied by TE	
Sagina maritima	Sea Pearlwort	+			Damp, sandy, rocky places & cliffs on barish soil near the coast (TE, Stace 1997).		Records supplied by TE	
Salix purpurea	Purple willow	+			Damp places (Stace 1997).		Found mainly on river banks in VC35 (TE).	
Salix triandra	Almond willow	H#+			Damp places (Stace 1997).		Found mainly on river & stream banks in VC35 (TE).	
Samolus valerandi	Brookweed	+			Wet places, esp. streams & flushes near the coast (TE, Stace 1997).	Inappropriate reen management.	Found mainly on the Gwent levels in VC35 (TE).	
Saxifraga hypnoides	Mossy saxifrage	+			Damp rock ledges, boulders & by mountain streams (TE, Stace 1997).		Records supplied by TE	
Scabiosa columbaria	Small scabious	+			Dry calcareous grassland & rocky places (TE, Stace 1997).		Records supplied by TE	
Schoenoplectus lacustris	Common club-rush	+			Shallow water, lakes, ponds, slow rivers & canals (TE, Stace 1997).		Records supplied by TE	

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Schoenoplectus tabernaemontani	Grey club-rush	+			Shallow water; ponds, reens & ditches, lakes, slow rivers & canals, marshes & wet peaty places (TE, Stace 1997).		Records supplied by TE	
Scleranthus annuus	Annual Knawel	+			Dry, open sandy ground (Stace 1997).	Vulnerable due to limited distribution.	Found on a wall at one site only(TE).	
Sorbus eminens	A whitebeam	+		IUCN-VU, RDB-VU	Rocky limestone woodland. Endemic to Wye Valley & Avon Gorge (TE, Stace 1997).	Vulnerable due to limited distribution.	Lady Park Wood (TE).	
Sorbus porrigentiformis	A whitebeam	+			Rocky limestone woodland (TE, Stace 1997).		Records supplied by TE	
Sorbus rupicola	A whitebeam	+			Rocky woodland, scrub & cliffs, usually on limestone (TE, Stace 1997).		Records supplied by TE	
Sorbus x thuringiaca	A hybrid whitebeam	+			Woodland, moorland, rocky places on calcareous soils (TE, Stace 1997).		Records supplied by TE	
Sorbus x vagensis	A hybrid whitebeam	+			Woodland, scrub, rocky places mostly calcareous soils or clay (TE, Stace 1997).		Records supplied by TE	
Sparganium erectum spp. *microcarpum*	Branched bur-reed	+			By ponds, lakes, slow rivers & canals, marshy fields & ditches (TE, Stace 1997).		Records supplied by TE	
Sparganium erectum spp. *neglectum*	Branched bur-reed	+			By ponds, lakes, slow rivers & canals, marshy fields & ditches (TE, Stace 1997).		Records supplied by TE	

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Spiranthes spiralis	Autumn lady's tresses	+			Short grassland in meadows & on banks (TE, Stace 1997).		Records supplied by TE	
Stellaria nemorum spp. *montanum*	Wood stitchwort	+			Damp woodland & shady streamsides (TE, Stace 1997).		Records supplied by TE	
Stellaria nemorum spp. *montana/ intermedia*	Intermediate wood stitchwort	+			Damp woodland & shady streamsides (TE).		Records supplied by TE	
Stellaria pallida	Lesser chickweed	+			Coastal shingle or bare sandy soil (TE, Stace 1997).		Records supplied by TE	
Symphytum grandiflorum	Creeping comfrey	#+			Hedgerows & woodlands (TE, Stace 1997).		Records supplied by TE	
Symphytum tuberosum	Tuberous comfrey	#+			Damp woods, ditches & river banks (TE, Stace 1997).		Not native on these sites (TE).	
Thalictrum minus	Lesser meadow-rue	+			Calcareous habitats, scrub (TE), grassy banks hedgerows, cliffs & lakesides (Stace 1997).		Native in other parts of Britain but not native here (TE).	
Thelypteris palustris	Marsh fern	+			Marshes, fens, wet woodlands shaded by taller plants (TE, Stace 1997).		Records supplied by TE	
Tilia platyphyllos	Large-leaved lime	+			Woodland & copses on base-rich soil (TE, Stace 1997).		Records supplied by TE	
Tragopogon porrifolius	Salsify	#+			Waste ground & waysides (TE, Stace 1997).		Not native on these sites (TE).	

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Trichophorum notho subsp. *Foerstrei*	Deer grass				Grows on wet acid heaths and bogs.		Records supplied by TE	
Trifolium ornithopodioides	Bird's foot clover				Sandy, semi-open ground mainly near the sea (TE, Stace 1997).	Vulnerable due to limited distribution.	Gwent levels (TE).	
Trifolium scabrum	Rough clover	+			Short grassland, open places, sandy ground (TE, Stace 1997).		Records supplied by TE	
Trifolium squamosum	Sea clover	+			Short often brackish turf near the sea (TE, Stace 1997).		Records supplied by TE	
Trifolium striatum	Knotted clover	+			Short grassland, open spaces on sandy ground, esp. near the sea (TE, Stace 1997).		Records supplied by TE	
Trifolium subterraneum	Subterranean clover	+			Short turf & barish places on sandy soils esp. near the sea (TE, Stace 1997).		Records supplied by TE	
Vaccinium oxycoccus	Cranberry	+			Bogs & very wet heaths	Vulnerable due to limited distribution.	Cleddon bog (TE).	
Verbascum nigrum	Dark mullein				Waste & rough ground, open spaces banks & grassland on soft limestone (TE, Stace 1997).		Records supplied by TE	
Verbascum virgatum	Twiggy mullein	#+			Waste places, dry banks & fields (TE, Stace 1997).		Records supplied by TE	
Veronica anagallis-aquatica	Blue water-speedwell	+			Ponds, reens & ditches, streams, marshes, wet meadows (TE, Stace 1997).	Inappropriate reen management.	Not been recorded for some years. Records supplied by TE	

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Vicia orobus	Wood bitter-vetch				Grassy, rocky places, heathland & scrub (TE, Stace 1997)		Records supplied by TE	
Vicia sylvatica	Wood vetch	+			Open woods & wood borders, scree, scrub, maritime cliffs & shingle (TE, Stace 1997).		Records supplied by TE	
Wolffia arrhiza	Rootless duckweed	+		NS	Ponds, reens & ditches (TE, Stace 1997).		Records supplied by TE	
Zannichellia palustris	Horned pondweed	+			Rivers, streams, ditches & ponds & brackish water (TE, Stace 1997).	Too low water table.	Records supplied by TE	
Zostera noltei	Dwarf eelgrass	+			Sea-coasts (TE, Stace 1997).		Records supplied by TE	
Fungi								
Hygrocybe calyptriformis	Pink meadow cap	+	P	Prov RDL (92), RDL (05) in progress. IUCN-VU, Sect. 74 CROW	Upland/lowland unimproved grasslands; acid - calcareous; includes grazed upland grassland & old lawns, churchyards & woodland edges.	Application of any fertilisers, moss killers; destruction of habitat including re-seeding; undergrazing and changes in drainage.	Under ten sites in VC35. Occurs in unimproved grasslands both montane and lowland, especially churchyards and old lawns - sometimes woodland margins (large pop. In Brecknock). 14 sites found in mid-Wales in 1997 (UKBG). Records for VC35 from the BMSFRD (and SE). Torfaen record - Talywain 2001 (SW).	All types of unimproved grassland. As for *Microglossum olivaceum.*
Microglossum olivaceum	Olive earth-tongue	+	P	Prov RDL (92), RDL (05) in progress IUCN-VU, Sect. 74 CROW	Upland/lowland unimproved grasslands; acid - calcareous;locally especially grazed upland grassland, but also old lawns & churchyards. Occurs in groups sometimes very numerous on the ground.	Application of any fertilisers, moss killers; destruction of habitat including reseeding; undergrazing and changes in drainage.	7 known sites by 2000 esp. Blorenge; M. Llangatock, Gilwern Hill. Occurs in neutral-basic grassland, lawns and deciduous woodland. Possibly saprophytic on moss. Favours but not exclusively short turf. Records from the BMSFRD (SE)	*Hygrocybe calyptriformis* , Lowland calcareous grassland & Maritime cliffs & slopes.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Amanita friabilis	Fragile amanita	+	S	WRDL, prov RDL (92), RDL (05) in progress IUCN-EN	Damp woodland, under Alder (*Alnus glutinosa*).	Destruction of habitat, drainage.	1 record of only four known sites in UK; Redbrook SO5309. 1196 Record taken from the BMSFRD, specimen lodged at Kew but precise location of find unknown.	Alder carr
Clavaria zollingeri	Violet coral	+	S	Prov RDL (92) IUCN-VU	Upland / lowland unimproved grasslands; acid and calcareous; especially grazed, also old lawns & churchyards. Grows on the ground singly or in small groups.	Application of any fertilisers, moss killers; destruction of habitat including reseeding; undergrazing and changes in drainage.	1 recent record from Penpergwm SO3409. 2000 record for VC35 taken from the BMSFRD.	All types of unimproved grassland - as for entire waxcap grassland suite of fungi
Phylloporus rhodoxanthus	Golden Gilled Bolete	+		European RDL, proposed Bern list for fungi, RDL (05) in progress.	Broadleaf woodland - often associated with Quercus but also Fagus, Corylus, Castanea. Only infrequently produces fruiting bodies, growing on the ground seldom more than a couple of fruiting bodies.	Destruction or degredation of habitat.	Several sites - a stronghold species in this area incl VC35 St Mary's Vale. Appears to be a western stronghold species. Several reliable sites fruiting over several years; including St Mary's vale; Blorenge; Abersychan and Brynmawr.	Broadleaf woodland; pasture woodland and hedges
Cantharellus ferruginascens (=C.pallens)	Pale Chanterelle	+		Prov UK RDL (92), WRDL, RDL (05) in progress	Associated with ancient Fagus woodland - a possible leaning towards calcareous soils. Also recorded with Quercus and Betula. Growing on bare or mossy ground often in groups.	Destruction of habitat through tree removal or damage.	Several sites - a stronghold species in this area inl VC35 St Mary's Vale. Appears to be a western stronghold species. Several reliable sites fruiting over several years; including; St Mary's Vale; Blorenge; Abersychan and Brynmawr.	Broadleaf woodland.

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Geastrum fornicatum	*Arched earthstar*	+		Prov RDL (92)	Associated with deep well rotted soil, leaf litter and decayed wood. With both broadleaf and conifer especially in ancient hedgrows (broadleaf) and churchyards (Taxus). Growing in groups on the ground or in woody hollows of rotted trunks.	Destruction of habitat through hedge removals, road widening, removal of dead wood.	Numerous sites in SE and Mid Wales indicate this is a Welsh stronghold species. Several sites across SE Wales where it fruits reliably in some number; St Marys Vale; Coed y Brain, Abergavenny.	Hedgerows, banks, churchyards and gardens.
Entoloma roseum	Rosy Pinkgill	+		Prov RDL (92), WRDL	Upland/lowland unimproved grasslands; acid - calcareous; includes grazed upland grassland & possibly old lawns & churchyards. Grows singly and in small numbers on the ground.	Application of any fertilisers, moss killers; destruction of habitat including reseeding; undergrazing and changes in drainage.	1 site at Clydach, 1998.	All categories of un-improved grassland.
Russula aurea (=R.aurata)	Gilded Brittlegill	+		Prov RDL (92), RDL (05) in progress, WRDL	Broadleaf woodland especially Fagus, Quercus and Betula. Fruting in small groups on the ground often in early Summer.	Destruction of habitat, tree removal or damage.	1 site: St Mary's vale VC35. Known to fruit reliably at this site.	Broadleaf woodland.
Tricholoma acerbum	Bitter Knight	+		Prov RDL (92), WRDL	Calcareous broadleaf woodland especially Fagus and Quercus. Grows in groups or rings on the ground.	Destruction of habitat, tree removal or damage.	1 site at Clydach, strong population at this site.	Calcareous broadleaf woodland, pasture woodland.

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Squamanita paradoxa	Powdercap Strangler	+		Prov RDL (92), RDL (05) in progress, WRDL	Unimproved grassland associated with strong populations of host fungus *Cystoderma amianthinum.* Only fruits rarely and singly in a population.	Application of any fertilisers, moss killers; destruction of habitat including reseeding; undergrazing and changes in drainage.	Only 4 UK sites, 1 Welsh record -Clydach VC 42 1996	All categories of un-improved grassland.
Ramaria aurea	Golden Coral	+		RDL (05) in progress	Ancient broadleaf woodland - primarily associated with Fagus but also Quercus. Growing on the ground in large groups or partial ring. Often in late Summer -early Autumn.	Destruction of habitat, tree removal or damage.	Under ten known UK sites. 2 local sites: St Marys Vale VC35, Clydach VC42	Broadleaf woodland.
Amphibians								
Triturus cristatus	Great crested newt	Y	P	IUCN-LR/cd, Bern Conv. App.2, Ann. II & IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5 WCA, Sect. 74 CROW.	Mostly lowlands but widespread in habitats with ponds. Breeding adults & juveniles found in ponds without fish. In winter, adults hibernate inbetween rocks.	Loss of suitable breeding ponds caused by water table reduction, in-filling for development, fish-stocking and the degradation, loss & fragmentation of terrestrial habitats. Pollution & agrochemicals (UKBG).	Records supplied by CT & JK	Mosaic
Bufo bufo	Common toad	Y	S	Sch5 WCA (sale)	Widespread in lowland habitats with ponds & places of refuge during the day (Frazer 1983).		Records supplied by CT & JK	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Rana temporaria	Common frog	Y	S	Sch5 WCA (sale)	Widespread in lowland habitats with ponds & places of refuge during the day (Frazer 1983).		Records supplied by CT & JK	
Triturus helveticus	Palmate newt	Y	S	Sch5 WCA (sale)	In summer, breeding adults & juveniles found in ponds in upland, lowland & coastal habitats, less common in ponds on calcareous soil. In winter, adults hibernate on land (Frazier 1983).		Records supplied by CT & JK	
Triturus vulgaris	Smooth newt	Y	S	Sch5 WCA (sale)	In summer, adults shelter under stones & in soil during the day. In winter, they hibernate in soil.		Records supplied by CT & JK	
Reptiles								
Anguis fragilis	Slow worm	Y	S	Sch5 WCA (sale)			Records supplied by CT & JK	
Lacerta vivipara	Common lizard	Y	S	Sch5 WCA (sale)			Records supplied by CT & JK	
Natrix natrix	Grass snake	Y	S	Sch5 WCA (sale)			Records supplied by CT & JK	
Vipera berus	Adder	Y	S	Sch5 WCA (sale)			Records supplied by CT & JK	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Fish								
Alosa alosa	Allis shad	P	P	IUCN-DD, Ann. II & V EU-Hab.Dir., Sch3 Hab.Reg, Sect. 74 CROW.	Migratory; adults live in estuaries and inshore waters for 3-4 yrs before migrating upstream to spawn (once) in gravel runs with deep pools nearby. Juveniles live in marginal slow-flowing areas of rivers migrating slowly to estuarine waters. Prefer large river systems (BP).	This species is not good at jumping so weirs & other barriers to migration in rivers & estuaries are a big threat. Other threats include; pollution, siltation, over-fishing, habitat destruction (BP, UKBG).	R. Usk & R. Wye. No confirmed breeding populations (BP, UKBG)	
Alosa fallax	Twaite shad	B	P	IUCN-DD, Ann II & V EU-Hab.Dir., Sch3 Hab.Reg, Sect. 74 CROW	Migatory; adults live in estuaries & inshore waters for 3-5 yrs before migrating upstream to spawn in gravel runs with deep pools nearby. Juveniles live in marginal slow-flowing areas of rivers migrating slowly to estuarine waters. Repeated spawners (BP).	This species is not good at jumping so weirs & other barriers to migration in rivers & estuaries are a big threat. Other threats include; pollution, siltation, over-fishing, habitat destruction (BP, UKBG).	Spawning populations occur in the R. Wye, R. Usk & R. Severn (BP, EA 2000, CCW 1997)	
Raja batis	Common skate	+	P		Bottom-dwelling species of the shallow coast and shelf seas. Widespread, but scarce (UKBG).	Commericial fishing as the target species & as by-catch (UKBG).	Severn Estuary (UKBG)	Commericial fish.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Teleosts	Commercial marine fish (cod, plaice, sole)	+	P		Fish stocks that are below 'Safe Biological Limits' in the Bristol Channel are Plaice & Sole (UKBG). Plaice & Sole are both bottom-dwelling species of the shallow coast (UKBG).	Threat is to local fish stocks rather than to individual species as a whole. Threat is over fishing i.e. "too many boats chasing too few fish" (UKBG).	Severn Estuary (UKBG)	Common Skate
Cottus gobio	Bullhead	Y	S	Ann. II EU-Hab.Dir.	Non-migratory species. Adults & juveniles live in shallow riffles and runs of gravel bedded streams (BP).	Siltation, organic enrichment, variation in water level (drought, BP).	Widespread in R. Usk catchment, R. Lwyd, R. Rhymney, R. Ebbw/R. Sirhowy, R. Wye & their tributaries (BP).	
Lampetra fluviatilis	River Lamprey	B	S	IUCN-LR/nt, Ann. II & V EU-Hab.Dir., Sch3 Hab.Reg.	Migratory species. Adults live in coastal areas where they are ectoparasites of seafish. Adults then migrate breed in freshwater gravelbeds. Juveniles are free-living in slow-moving, shallow areas of larger streams and the lower reaches of main rivers (BP).	In freshwater; siltation, organic enrichment, variation in water levels (drought). At sea; unknown. Barriers to migration in rivers & estuaries (BP).	R. Usk & R. Wye (BP).	
Lampetra planeri	Brook Lamprey	P	S	IUCN-LR/nt, Ann. II EU-Hab.Dir.	Non-migratory, free living as both juvenile & adult. Adults are short-lived & spawn in gravel of small streams. Juveniles live in shallow areas of slow-flowing small streams & rivers (BP).	Siltation, organic enrichment, variation in water level (drought, BP).	R. Usk & R. Wye (BP).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Petromyzon marinus	Sea lamprey	B	S	Ann. II EU-Hab.Dir.	Migratory species. Adults live in coastal areas where they are ectoparasites of seafish. Adults then migrate to breed in freshwater gravelbeds. Juveniles are free-living in slow-moving, shallow areas of larger streams and lower reachers of main rivers (BP).	In freshwater, siltation, organic enrichment, variable water levels (drought). At sea, unknown. Barriers to migration in rivers & estuaries (BP).	R. Usk & R.Wye (BP).	
Salmo salar	Atlantic salmon	B	S	Ann. II (in fr.water only) & V EU-Hab.Dir., Sch3 Hab.Reg.	Migratory species. juveniles live in rel. fast-flowing rivers with gravelbeds & diverse habitats for 1-3 yrs before migrating to open sea. Adults migrate upstream to breed in clean, well-oxygenated, gravelbeds (BP).	In freshwater, siltation, pollution, organic enrichment, variable water levels (drought). Predation by fish-eating birds. At sea, climate change, exploitation & netting. Barriers to migration in rivers & estuaries (BP).	R. Usk, R. Lwyd, R, Wye, R, Ebbw/R.Sirhowy, R. Rhymney (BP).	
Thymallus thymallus	Grayling	P	S	Ann. V EU-Hab.Dir., Sch3 Hab.Reg.	Non-migratory - although some in-river migration does occur. Adults & juveniles together in live in slow-flowing, wide reaches of rivers & streams - prefering streams, runs & large pools. Adults spawn in gravel-bedded streams near usual habitat (BP).	Siltation, organic enrichment, variation in water levels (drought, BP).	R. Wye, R. Rhymney (& R. Monnow, BP).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Anguilla anguilla	European Eel				Migratory species. Juvenile eels (Elver) migrate from the sea upstream into rivers & streams. During migration they prefer shallow gravel habitats and are able to cross wet grassland. Adults do best in deep still-water habitats, but deep pools & v. slow-flowing stretches of rivers are also good habitats. Adults migrate back to Sea to breed (BP).	Juveniles; obstructions during migration, pollution, over-exploitation as they reach estuaries & enter rivers in spring. Adults: unknown (BP).	All rivers & 'pills' that drain into the Severn Estuary (BP)	
Salmo trutti	Brown Trout	B			Migratory within rivers. Adults migrate up-river to spawn. Adults live in deep water with overhanging vegetation. Juveniles prefer shallower, fast-flowing water (not as fast-flowing as that prefered by salmon fry, BP).	Siltation, organic enrichment, variation in water levels (drought). Predation by fish-eating birds. Pollution. Barriers to migration within rivers (BP).	Widespread in the Usk catchment. R Lwyd, R. Rhymney, R. Ebbw/R. Sirhowy, R. Wye & associated tributaries (BP).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Mammals								
Arvicola terrestris	Water vole	+	P	Sect. 74 CROW	Densely vegetated riparian habitat along slow flowing streams and ditches with steep banks. Feeds on riparian vegetation: rarely far from water (MacDonald & Barrett 1993, UKBG).	Fragmentation & loss of habitat. Disturbance of riparian habitats. Predation on Mink. Pollution of watercourses & poisoning by rodenticides (UKBG).	Present in Newport according to a survey carried out for the SECS pipeline (1999) water voles are apparently present on the levels. To date CAWN haven't found any signs (JK).	
Barbastella barbastellus	Barbastelle		P	IUCN-VU, Ann II & IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA., Sect. 74 CROW.	Mainly a woodland species, use of old buildings/trees as summer/nursery roosts; underground sites/hollow trees for hibernation; riparian woodland may be important (MacDonald & Barrett 1993, UKBG).	Threats poorly understood. Loss & fragmentation of ancient deciduous woodland habitat. Loss, destruction & damage of roost or potential roosts in buildings, trees & underground sites. A reduction in the abundance of insect prey through fertiliser use & intensive grazing (UKBG).	Under-recorded in VC35 (PS)	Bechsteins & Lesser horseshoe bats. Lowland beech woodland, Wet woodland, Lowland wood pasture & parkland, Broad-leaved & yew woodland.
Lepus europaeus	Brown hare	Y	P	Sect. 74 CROW	Primarily arable & grassland areas with hedgerows and woodland edges (MacDonald & Barrett 1993, UKBG).	Conversion of grassland to arable. Loss of habitat diversity. Changes in planting & cropping regimes (UKBG).	Records supplied by CT & JK	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Lutra lutra	Otter	Y	P	IUCN-VU, Ann. II & IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA. Sect. 74 CROW.	Riparian species - uses rivers, streams, lakes & marshes (MacDonald & Barrett 1993, UKBG).	Pollution of watercourses (esp. PCBs). Poor water quality affecting prey numbers. Impovishment of riparian habitat features required for breeding & resting. Road death. Fish traps (UKBG).	Records supplied by CT & JK	
Muscardinus avellanarius	Dormouse	Y	P	IUCN-LR/nt, Ann. IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch6 WCA, Sect. 74 CROW.	Ancient woodland & hedgerow species also found in secondary woodland. Coppiced woodland (MacDonald & Barrett 1993, UKBG).	Habitat loss, notably as a result of the decline of hazel coppicing in woodland. Disturbance by stock. Habitat fragmentation (as little as 100m can cause absolute barriers to disperal unless arboreal routes are available, UKBG).	Records supplied by CT & JK	
Myotis bechsteinii	Bechstein's bat		P	IUCN-VU, Ann. II & IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA, Sect. 74 CROW.	Ancient woodland species (old growth woodland); roosts in trees; restricted to central/southern England (MacDonald & Barrett 1993, UKBG).	Theats poorly understood. Loss & fragmentation of open ancient deciduous woodland habitat. Loss, destruction & disturbance of roosts or potential roosts (particularly old trees, UKBG).	This species occurs in Gloucestershire and it is likely that it also occurs in Monmouthshire. However, Bechsteins are under-recorded in this County (PS).	Barbastelle & Lesser horseshoe bats. Lowland beech woodland, Wet woodland, Lowland wood pasture & parkland, bradleaved & yew woodland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Pipistrellus pipistrellus & P. pygmaes	Pipistrelle	Y	P	Ann. IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Widespread; ubiquituous - from suburban gardens to upland woodlands. Summer & hibernation roosts in buildings & trees. Feeds near water, in woodland, hedgerows & gardens (MacDonald & Barrett 1993, UKBG).	Loss of winter roosting sites in old buildings & old trees. Disturbance & destruction of maternity roosts through the use of toxic timber treatment chemicals. Loss of insect-rich feeding habitat and flyways, such as wetlands & hedgerows. Farming practices that reduce in insect prey abundance (UKBG).	Records supplied by CT, JK, PS & IR	
Pipistrellus pipstrellus	Pipistrelle 55	Y	P	Ann. IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA, Sect. 74 CROW.	Has been distinguished as a separate species to *P. pygmaes* and echolocates at 55kHz (IR).	(see *Pipistrellus* spp.)	Records supplied by IR	
Pipistrellus pygmaes	Pipistrelle 45	Y	P	Ann. IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA,	Has been distinguished as a separate species to *P. pipistrellus* and echolocates at 45kHz (IR).	(see P*ipistrellus s* pp.)	Records supplied by IR	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Rhinolophus ferrumequinum	Greater horseshoe bat	Y	P	IUCN-LR/nt, Ann.II & IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA, Sect. 74 CROW.	Summer roosts in old buildings, hibernation roosts in caves & mines. Hedgerows are used as flight-lines. Feeds over unimproved grazed pastures on species associated with dung. Restricted to SW UK (MacDonald & Barrett 1993, UKBG).	Loss, destruction & disturbance of maternity & hibernation roosts through unsympathetic renovation of old buildings & barns. Loss of insect-rich feeding habitat and flyways through loss of wetlands, hedgerows & the conversion of permanent pasture to other arable. Reduction in insect prey abundance esp. through loss of old pastures & agricultural intensification (UKBG).	Records supplied by IR	
Rhinolophus hipposideros	Lesser horseshoe bat	Y	P	IUCN-VU, Ann. II & IVa EU-Hab.Dir. Sch2 Hab.Reg., Sch5&6 WCA, Sect. 74 CROW.	Summer roosts in old buildings, hibernation roosts in caves & mines. Associated with ancient woodland and hedgerows. Restricted to SW UK (MacDonald & Barrett 1993, UKBG).	Loss, destruction & disturbance of maternity roosts through unsympathetic renovation of old buildings & barns. Loss or disturbance of hibernation roosts in mines & caves. Loss & fragmentation of woodlands, hedgerows, tree lines & other appropriate foraging habitat (UKBG).	Records supplied by IR & CCW	Barbastelle & Lesser horseshoe bats. Lowland beech woodland, Wet woodland, Lowland wood pasture & parkland, bradleaved & yew woodland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Capreolus capreolus	Roe deer	Y	S		Woodlands with rides and access to field edges. Occassionally species found in heathland with deep heather (MacDonald & Barrett 1993).		According to BDS from results of Forest Enterprise survey for the Midlands and Wales, numbers of Roe deer are increasing across S. Wales (JK).	
Dama dama	Fallow deer	#Y	S		Mature deciduous or mixed woodland with dense ground flora, with access to field edges or parkland. Prefer open woodlands (MacDonald & Barrett 1993).		According to BDS from results of Forest Enterprsie survey for the Midlands and Wales, numbers of Fallow deer are increasing across S. Wales (JK).	
Eptesicus serotinus	Serotine bat	Y	S	Ann. IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA,	Summer/nursery & hibernation roosts in buildings. Hibernation roosts may occassionally be in caves/mines. Feeds over pasture, parkland & along hedges & woodland edges (MacDonald & Barrett 1993).	On the edge of it's range Colonies often small <10 So could be overlooked. Unsympathetic renovations.	Records supplied by IR	Pipistrelles. Roosting similar.
Erinaceus europaeus	Hedgehog	Y	S	Sch6 WCA	Deciduous woodland, scrub & hedgerows, gardens & damp grassland & pasture (MacDonald & Barrett 1993).			

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Martes martes	Pine marten	+	S	Ann. V Hab.Dir., Sch3 Hab.Reg., Sch6 WCA.	Mature coniferous forest or mixed woodland with plenty of cover (MacDonald & Barrett 1993).			
Meles meles	Badger	Y	S	Sch6 WCA	Mosaic. Woodland, pasture, gardens, hedgerows. Favours mixed deciduous woodland with clearings (MacDonald & Barrett 1993).			
Mustela erminea	Stoat	Y	S		Mosaic & variable. Anywhere with cover & prey. From sand dunes & grasslands to woodlands & uplands (MacDonald & Barrett 1993).		Under-recorded (JK)	
Mustela nivalis	Weasel	Y	S		Mosaic & variable. Anywhere with cover & prey. From sand dunes & grasslands to woodlands & uplands (MacDonald & Barrett 1993).		Under-recorded (JK)	
Mustela putorius	Polecat	Y	S	Ann. V EU-Hab.Dir., Sch3 Hab.Reg., Sch6 WCA.	Lowland woodland & parkland, riparian habitat & marshes, farmland (MacDonald & Barrett 1993).		Under-recorded (JK)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Myotis daubentonii	Daubenton's bat	Y	S	Ann.IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Feeds in open woodland & riparian habitats. Summer/nusrery roosts trees, rock crevices & buildings. Hibernation roosts in damp underground sites (MacDonald & Barrett 1993).	Unsympathetic removal of mature trees. Pointing of bridges and culverts. Loss of waterside vegetation.	Monmouthshire record from IR	
Myotis brandtii	Brandt's bat	Y	S	Ann.IVa Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Feeds in woodland esp. near water. Summer/nursery roosts buildings. Hibernation roosts in underground sites (MacDonald & Barrett 1993).	Conversion of barns & other stone buildings. Loss of mature trees.	Brandt's and whiskered bats are jointly and under recorded in Gwent (IR)	
Myotis mystacinus	Whiskered bat	Y	S	Ann.IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Feeds in open meadows & woodlands often near water, also in parks & gardens. Summer/nursery roosts old buildings near water & trees. Hibernation roosts in underground sites (Macdonald & Barrett 1993).	Conversion of barns & other stone buildings. Loss of mature trees.	Brandt's and whiskered bats are jointly and under recorded in Gwent (IR).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Myotis nattereri	Natterer's bat	Y	S	Ann.IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Feeds in open woodland & farmland esp. with open water or marsh. Summer nursery roosts in trees, buildings & bridges. Hibernation roosts in damp caves/mines (MacDonald & Barrett 1993).	Uncontrolled conversion of barns etc. Loss of old trees.	Monmouthshire record from IR	
Neomys fodiens	Water shrew	Y	S	Sch6 WCA	Close to water, esp. banks of fast-flowing streams. Occ. found in ditches, ponds & near coast (MacDonald & Barrett 1993).		Under-recorded. CAWN have carried out surveys in Newport (2000) however, no positive results as yet (JK).	
Nyctalus noctula	Noctule bat	Y	S	Ann IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Found in various places, but mainly in woodland & parkland. Summer roosts in tree holes & occassionally in buildings. Hibernation roosts in trees, buildings, rock crevices & bridges (MacDonald & Barrett 1993).	Loss of roosting places. Clearance of old and damaged trees.	Records supplied by IR	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Plecotus auritus	Brown long-eared bat	Y	S	Ann. IVa EU-Hab.Dir., Sch2 Hab.Reg., Sch5&6 WCA.	Feed in sheltered fairly open woodland/parkland. Summer/nusery roosts in tree holes & buildings. Individuals may be found in caves. Hibernation roosts in buildings, underground sites & occas. Trees (MacDonald & Barrett 1993).	Unsympathetic conversions, loss of barns etc.	Records supplied by IR	
Sorex araneus	Common shrew	Y	S	Sch6 WCA	Mosaic. Thick grass, hedgerows, scrub, bracken in deciduous woodland & wetlands (MacDonald & Barrett 1993).			
Sorex minutus	Pygmy shrew	Y	S	Sch6 WCA	Found in areas with good ground cover - heathland, grassland, sand dunes, woodland edge, but not esp. in woodland (MacDonald & Barrett 1993).			
Apodemus flavicollis	Yellow necked mouse	Y			Mainly woodland incl. coniferous often close to farmland, hedgerows, field margins & gardens (MacDonald & Barrett 1993).		Gwent is a stronghold in UK as this species has a restricted UK distribution. However, it is not restricted in Gwent (PS). Found on Magor marsh. Under-recorded needs survey (JK).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Micromys minutus	Harvest mouse	+		RDB-LR/nt	Long grass in grassland reedbed, ungrazed hay meadows & cereal fields (MacDonald & Barrett 1993).		Very few records in Gwent found on Magor marsh. Needs survey (JK).	
Bees, Ants and Wasps								
* *Formica rufa*	Southern wood ant	+	P	IUCN-LR/nt	Lowland woodlands- woodland rides and clearings/ more open heath and scrub. Tend Homoptera in trees (UKBG).	Habitat loss. Inapprop. woodland management. Repeated disturbance (UKBG).	Probably fairly widespread in VC35 (MH)	Should be considered for monitoring only in Lowland Wood pasture & parkland, Upland Oak woodlands and Lowland Beech & Yew woodland LBAPs.
* *Bombus sylvarum*	Shrill carder bee	+	P	Sect. 74 CROW	Extensive areas of herb-rich rough grassland (MP), possibly needs scrub.	Habitat fragmentation & agricultural intensification (UKBG).	Very localised on the Gwent levels (MP). 3 sites on Gwent Levels in late '90s (MP). Newport record from MH (MH)	Link to other species of herb-rich grassland incl. *Bombus distinguendus, B. humilis, B. ruderatus.* Link with Lowland hay meadows and Lowland calcareous grassland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Bombus distinguendus	Great yellow bumble bee	H	P	NS	Sand dunes or herb-rich grassland containing long corolla flowers e.g. Fabaceae & Lamiaceae. Important forage plants include red clover and knapweed (UKBG).	Loss of extensive flower-rich meadows. Change in agricultural practice (sp.is assoc. with winter-grazing & summer growth)(UKBG).	Extinct in England & Wales extremely unlikely to still occur (MP,MH). Mon. record from 1922 (MH). Post-1970s record for Newport (UKBG).	Link to other species of Herb-rich grassland incl. *Bombus humilis, B. sylvarum, B. ruderatus.* Link with Lowland hay meadows and Lowland calcareous grassland.
Bombus humilis	Brown-banded carder bee	+	P	Local, Sect. 74 CROW	Herb-rich grassland containing long corolla flowers e.g. Fabaceae & Lamiaceae. Mainly coastal regions but also inland grassland (UKBG). Undoubtedly still occurs at a number of sites in VC35 incl. gardens (MP).	Loss of extensive flower-rich meadows. Changes in agricultural practice (UKBG).	Once widespread now restricted to SW coast of England/Southern coast of Wales (UKBG).	Link to other species of herb-rich grassland incl. *Bombus distinguendus, B. sylvarum, B. ruderatus.* Link with Lowland hay meadows and Lowland calcareous grassland.
Bombus ruderatus	Large garden bumble bee	+	P		Extensive areas of herb-rich grassland including sand dunes and coastal shingle containing long corolla flowers e.g. Fabaceae & Lamiaceae.	Loss of extensive flower-rich meadows through agricultural intensification (UKBG).	pre-1960s record in Prys-Jones & Corbet (1991).	Link to other species of herb-rich grassland incl. *Bombus humilis, B. sylvarum, B. distinguendus.* Link with Lowland hay meadows and Lowland calcareous grassland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Psithyrus rupestris	Hill cuckoo bee	+	S		A clepto-parasite of *Bombus lapidarius* , which is a common and widespread species (MP). *B. lapidarius* occurs in most grassland areas collecting nectar from species with good landing platforms & rel. short corollas, such as daisies, dandilions & thistles. The cuckoo-bee invades the nest of this sp. and lays its eggs in place of the *B. lapidarius* eggs, which are then brooded by the worker bees.		Almost certain to occur at a number of sites, requires survey (MP).	
Beetles								
Anostirus castaneus	A click beetle	H	P	RDB-EN	Grassland & heathland in coastal areas, but also found inland (JNCC, 1994). Found under stones, on bare ground, grasses, low plants & bushes (JNCC, 1987). Requires open ground, often maintained by disturbance, usually sandy soil (UKBG).	Agricultural improvements, such as reseeding & fertiliser application. Habitat loss. Changing of grazing regimes. Management requires some disturbance (JNCC 1994).	Extremely local even in seemingly suitable habitat (JNCC 1994). Single old record (JNCC 1994).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Bembidion testaceum	A ground beetle	H	P	NS, Sect. 74 CROW	River shingle beetle. Riparian species associated with sand and gravel at the margins of slow-running or standing water & gravel pits (UKBG).	River engineering, dredging & flood alleviation schemes. Encroachment by stock & presence of himalayan balsam can reduce habitat availability (JNCC 1994, UKBG).	Distribution is S. Wales is widespread but local. Mon. record is from 1933 in the R. Monnow (NMGW specimen). No records for VC35 in Coleoptera Atlas (Luff 1998)	Habitat implementation for this species will also benefit other species of exposed riverine sediments, including the stiletto flies, *Cliorismia rustica & Spiriverpa lunulata,* the cranefly *Rhabdomastix hilaris,* the ground beetle *Lionychus quadrillum* , the rove beetle *Meotica anglica &* the diving beetle *Bidessus minutissimus.*
Bidessus minutissimus	A diving beetle	+	P	RDB-RR, Sect. 74 CROW	Lower reaches of rivers (not brackish) associated with sand & gravel banks (UKBG).	River engineering, dredging & flood alleviation schemes. Water pollution, loss of clear gravel sites. Human recreational activity.	Only found in the R. Wye in VC35. Record from the Wye (1992, UKBG & EA 2000)	Habitat implementation for this species will also benefit other species, including the stiletto flies, *Cliorismia rustica & Spiriverpa lunulata,* the cranefly *Rhabdomastix hilaris,* the ground beetles *Bembidion testaceum & Lionychus quadrillum* and the rove beetle *Meotica anglica.*

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Lionychus quadrillum	A ground beetle	+	P	RDB-RR, Sect. 74 CROW	Coastal or river shingle beetle. Thought to only be associated with river shingle in Wales (MP).	River engineering, dredging & flood alleviation schemes. Encroachment by stock & presence of himalayan balsam can reduce habitat availability (JNCC 1994, UKBG).	Welsh rivers, including the Usk - no location (UKBG, Luff 1998). Very localised. No record location so Mon. & New. marked.	Habitat implementation for this species will also benefit other species of exposed riverine sediments, including the stiletto flies, *Cliorismia rustica* & *Spiriverpa lunulata* , the cranefly Rhabdomastix hilaris, the ground beetle *Bembidion testaceum,* the rove beetle *Meotica anglica* & the diving beetle *Bidessus minutissimus.*
Lucanus cervus	Stag beetle	+	P	Ann.II Hab. Dir., Sch 5 WCA, Sect. 74 CROW	Broad-leaved woodland, parks, other pasture woodland and gardens. Associated with decaying wood of deciduous trees (UKBG).	Loss of habitat by removal of dead wood from woodland (UKBG).	Occurs fairly frequently in the Severn Valley & coastal areas of SW England (UKBG).	Broad-leaved woodland, Lowland Wood pasture & parkland.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Meotica anglica	A rove beetle	+	P	RDB-Endemic, NS	River shingle beetle. Tiny riparian species associated with sand and gravel, largely subterranean habit (UKBG).	River engineering, dredging & flood alleviation schemes. Water pollution, loss of clear gravel sites. Human recreational activity.	Found in R. Usk in VC35. R. Usk, Pencarreg 1998 (MH)	Habitat implementation for this species will also benefit other species of exposed riverine sediments, including the stiletto flies *Cliorismia rustica* & *Spiriverpa lunulata,* the cranefly Rhabdomastix hilaris, the ground beetles *Bembidion testaceum* & *Lionychus quadrillum* & the diving beetle *Bidessus minutissimus.*
Synaptus filiformis	A click beetle	H	P	RDB-EN	Waterlogged soils. Can survive both brackish and freshwater inudations. Associated with reed canary grass (*Phalaris arundinacea*) (UKBG).	River engineering work, Inappropriate management - overgrazing of river banks & scrub encroachment. Agricultural improvements. Water pollution (UKBG).	Found in R. Wye in VC35 (NMGW). 1842 record on River Wye, including Tintern & Monmouth (NMGW).	
Hydrophilus piceus	Great silver water beetle	+	S				Newport lighthouse 1994, Magor 1994 (SW)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Butterflies								
* *Argynnis adippe*	High brown fritillary	Y	P	RDB-VU, Sch5 WCA, Sect. 74 CROW.	Found in bracken dominated habitats and grass/bracken mosaics or on scrub in clearings in large woods where Bracken and Common dog violet (*Viola riviniana*) grows in warm sheltered conditions (BC 2000).	Over or ungrazing on bracken slopes. Changes in management. Frequent fires (BC 2000).	Adults have been seen at Brynawel, no confirmed sightings since 1992, further survey work should be given priority (BC 2000).	
* *Boloria euphrosyne*	Pearl-bordered fritillary	Y	P	NS, Sch5 WCA (sale), Sect. 74 CROW	Open dry woodland or bracken/grass/scrub mosaics - were the Common dog violet (*Viola rivinianas*) grows in sunny sheltered conditions (BC 2000).	Over-grazing by sheep, abandonment, agricultural intensification & shading of bracken/grass/scrub mosaics (BC 2000).	Presumed extinct, last record 1986 (Cwm Merdogg), searched for in 1997 but not found (BC 2000).	
* *Eurodryas aurinia*	Marsh fritillary	Y	P	RDB-VU, Ann.II Hab. Dir., App.II Bern Conv. Sch 5 WCA, Sect. 74 CROW	Breeds in damp neutral or acid grasslands (Rhos pasture) and dry chalk and limestone grasslands. Main food plant is Devil's bit scabious (*Succisa pratensis*) (BC 2000).	Over or under grazing, abandonment, frequent fires, agricultural intensification, industrial development & afforestation of suitable habitat (BC 2000).	Recent records for Aberbargoed (strong colony) and the Penllwyn grasslands (BC 2000). Probably recently lost from Cwm Coed-y-Cerrig as a result of scrub growth (BC 2000). Now extinct in Monmouthshire (MA).	
Argynnis paphia	Silver-washed fritillary	Y	S	Local	Deciduous & conifer woodland. Main larval food plant is thought to be Common dog violet (*Viola riviniana* - BC 2000).	Over-grazing by sheep particularly. Lack of appropriate site management (BC 2000).	Widespread in E, but has declined (BC 2000).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Boloria selene	Small pearl-bordered fritillary	Y	S	Local	Damp open deciduous woodlands, where the larval food plant tends to be *Viola riviniana* or damp grassland, where the larval food plant tends to be *Viola palustris.* In Wales this sp. occurs more freq. on damp or coastal grasslands & moorlands than woodland (BC 2000).	Agricultural intensification, Inappropriate or lack of site management (BC 2000).	Declining in woodland habitats in the E but widespread & locally common in the N & W (BC 2000)	
Leptidea sinapis	Wood white	Y	S	NS, Sch 5 WCA (sale)	Woodland rides or clearings. Most widely used food plant is meadow vetchling (*Lathyrus pratensis*).		1987 record Dixton embankment. Western edge of current range. May be under-recorded (BC 2000).	
Erynnis tages	Dingy skipper	Y		Local	Found anywhere the larval food plant bird's foot trefoil (*Lotus corniculatus*) grows in abundance in sunny sheltered places (BC 2000).	Agricultural intensification, Lack of suitable site management (e.g. old railway lines (BC 2000).	Not uncommon, more common in the W where it seems to be increasing (BC 2000).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Nymphalis polychloros	Large tortoiseshell	Y		RDB-EN, Sch5 WCA (sale)	Found in clearing and the edge of mature decidous woodland, parkland, tree-lines & hedgerows. Willows are usually abundant at breeding localities & used as a nectar source for adults. The main larval food plants are Elm (*Ulmus*) spp. esp. Wych Elm, but also willows (*Salix* spp.), Aspen, Poplars & birches (*Betula* spp.).	Not really known, but contributory factors are: Dutch Elm disease. Hedge maintenance (Asher *et al.* 2001).		
Pyrgus malvae	Grizzled skipper	Y		Local	This sp. Can occur in a variety of habitats including, coastal grassland, woodland edges & sheltered hillsides where the larval food plants, such as Wild strawberry (*Fragaria vesca*) & Tormentil (*Potentilla erecta*) grow (BC 2000).	Inappropriate habitat management. Habitat fragmentation (BC 2000).	In Wales, this sp. is mainly associated with coastal and limestone grasslands with scrub (BC 2000).	
Strymonidia w-album	White-letter Hairstreak	Y		NS. Sch5 WCA (sale).	Widely distributed where the larval food plant - Elm (*Ulmus* spp.) grows (BC 2000).	Dutch Elm disease. Agricultural intensification. Hedge maintenance (BC 2000).	Increased after marked decline, several new sites since 1980, dutch Elm disease wiped out a number of colonies (BC-Wales AP).	
Thymelicus lineola	Essex skipper	+		Local	Larval food plant - Graminea (MA)		One site - may be starting to colonise Monmouthshire from Gloucestershire (BC 2000)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Moths								
* *Hydrelia sylvata*	Waved carpet	Y	P	NS, Sect. 74 CROW	Active coppiced woodland. Food plants are Alder (*Alnus glutinosa*), Birch (*Betula* spp.), Willow (*Salix* spp.) & blackthorn (*Prunus spinosa* , UKBG).	Decline in coppice management that produces young regrowth. Loss of broadleaved woodland (UKBG).	MMR - Hael Wood 1987 (Horton 1994). Localised distribution & under recorded (UKBG).	
* *Hypena rostralis*	Buttoned snout	Y	P	NS, Sect. 74 CROW	Adults fly over scrub near coast & rivers Hibernate in buildings and caves. Larval food plant is hops (*Humulus lupulus,* UKBG).	Redevelopment of derelict urban sites (UKBG).		
* *Minoa murinata*	Drab looper	Y	P	NS	Recently felled or coppiced woodland with the larval food plant Wood spurge (*Euphorbia amygdaloides*). The larvae prefer the flowers & floral leaves of these plants growing in full sun (UKBG).	Decline in coppice management . Replacement of small-scale rotational feeling by large-scale plantation management of even-aged trees (UKBG).	MMR - Dixton Bank 1988 (Horton 1994). Monmouthshire is a stronghold for this species (UKBG).	
* *Mythimna turca*	Double line	H	P	NS, Sect. 74 CROW	Wet grassland (sheltered & exposed), woodland clearings and rides. Larval food plants are Graminae (UKBG).	Loss of open glades and rides in woodland. Agricultural improvement of wet grassland. Over-grazing (UKBG).	MMR - Monmouthshire 1969 (Horton 1994). In Wales found on wet grassland (UKBG)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
* *Rheumaptera hastata*	Argent and sable	Y	P	NS, Sect. 74 CROW	Deciduous or conifer woodland rides with birch regrowth, open moorland and bogs, esp. at higher altitude or in coastal areas. Larval food plants are *Betula pendula* (& prob. *B. pubescens*) & bog myrtle (*Myrica gale,* UKBG).	Lack of birch regeneration at wood edges and on rides. Lack of active woodland management that encourages open areas. Over-grazing by sheep on moorland, preventing birch regen. & reduction in bog myrtle stands (UKBG).	MMR - Croes Robert Wood 1991 (Horton 1994). Has declined in England, status is less clear in Wales as species is probably under recorded (UKBG).	
* *Schrankia taenialis*	White-line snout	Y	P	NS	Found on a wide range of habitats, open moorland, conifer plantation, shady lanes, shady calcareous woodland, & shady wet woodland. Larval food plant not known, it may be, among others, heather flowers depending on habitat (MA, UKBG).	Not known (UKBG).	MMR - Slade Woods 1987 (Horton 1994). Probably under recorded, localised distribution (UKBG).	
Xylena exsoleta	Sword-grass	H	P	NS, Sect. 74 CROW	Mainly found on upland and moorland. Larval food plants are various but selective herbaceous & woody plants (UKBG).	Not known (UKBG).	MMR - Wye Valley 1892 (Horton 1994).	
Agrotis cinerea	Light-feathered rustic	Y	S	NS	Found locally In old limestone quarries (Horton 1994). Larval food plant - Thyme (*Thymus* spp.) (MA).		MMR- old quarries 1991 (Horton 1994)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Chesias rufata	Broom tip	Y	S	NS	Heathland and open woodland where the larval food plant - Broom (*Cytisus scoparius*) grows (Carter & Hargreaves 1994, Horton 1994, MA).		MRR - Cleddon bog (Horton 1994)	
Cossus cossus	Goat moth	+	S	NS	Woodland, hedgerows, gardens & orchards (Carter & Hargreaves 1994) Larval food plant - the heartwood of Deciduous trees (MA).		MRR - Newbridge-on-Usk 1971 (Horton 1994)	
Eriogaster lanestris	Small eggar	Y	S		Hedgerows & scrub. Larval food plant - Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Birch (*Betula* spp.) & Willow (*Salix* spp., Carter & Hargreaves 1994, MA).		MMR - Magor Pill 1983 (Horton 1994)	
Eupithecia egenaria	Pauper pug	Y	S	RDB-RR	Woodlands where the larval food plant - small-leaved lime (*Tilia cordata*) grows (MA).		MMR - Tintern 1991 (Horton 1994)	
Sabra harpagula	Scarce hook-tip	Y	S	RDB-RR	Woodlands where the larval food plant small-leaved lime (*Tilia cordata*) grows (MA)		MMR - Wye Valley 1991 (Horton 1994). Restricted to the Wye Valley Woodlands in UK (BC-Wales AP).	
Anarta myrtilli	Beautiful yellow underwing	+			Heathland & moorland.		MMR - Trefil 1988 (Horton 1994)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Bembecia scopigera	Six-belted clearwing	Y		NS	Limestone grassland & quarries, gravel pits & sea cliffs. Larval food plant - Bird's foot trefoil (*Lotus corniculatus*), Kidney vetch (*Anthyllis vulneraria*) & Horseshoe vetch (*Hippocrepis comosa* , Carter & Hargreaves 1994, MA)		Torfaen record 1988 (SW)	
Boarmia roboraria	Great oak beauty	+		NS	Woodland containing the larval food plants, Oak (*Quercus* spp.) & Silver birch (*Betula pendula* , Carter & Hargreaves 1994, MA)		Oak woodland in the Wye Valley 1971 (Horton 1994).	
Catarhoe rubidata	Ruddy carpet	Y		NS	Larval food plant - Galium (MA)		MMR - Wyndcliff Wood 1991 (Horton 1994)	
Cepphis advenaria	Little thorn	Y		NS	Open woodland & moorland where the larval food plant, Bilberry (*Vaccinium mytillus)* grows (Horton 1994, MA).		MMR - Risca 1983 (Horton 1994).	
Cerastis leucographa	White-marked	Y		Local	Deciduous woodland. Larval food plants - Herbaceous plants (Horton 1994, MA).		MMR - Hendre Woods 1987,Wyndcliff 1987, Ochrwyth 1987 (Horton 1994).	
Chloroclystis debiliata	Bilberry pug	Y		NS-Na	Woodland and moorland where larval food plant Bilberry (Vaccinium mytillus) grows (Horton 1994, MA).		MMR - Hael Woods 1987	

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Conistra rubiginea	Dotted chestnut	Y		NS	Deciduous woodland and wooded heathland. Larval food plant - Deciduous trees & herbaceous plants (Carter & Hargreaves 1994, MA).			
Cyclophora annulata	The Mocha	Y		NS	Woodlands, particularly beech with maple, hedgerows and limestone grassland (Carter & Hargreaves 1994). Larval food plant - Field maple (*Acer campestre*) & Sycamore (*Acer psuedoplatanus* , MA).		MMR - Wyndcliff 1991 (Horton 1994).	
Diarsia dahlii	Barred chestnut	+		Local	Heathland, moorland & woodland. Larval food plant - Dock (*Rumex* spp.) Plantain (*Plantago* spp.) and Willow (*Salix* spp., Carter & Hargreaves 1994, MA).		One site in Gwent (MA) - MMR - Cleddon bog 1986 (Horton 1994)	
Discoloxia blomeri	Blomer's rivulet	Y		NS	Larval food plant - Wych Elm (*Ulmus glabra* , MA).	Dutch Elm disease (Horton 1994).	MMR - Croes Robert Wood 1991 (Horton 1994).	
Egira conspicillaris	Silver cloud	Y		NS	Larval food plant - herbaceous plants (MA).		MMR - Usk 1977 (Horton 1994).	
Eilema caniola	Hoary footman	Y		NS	Found typically on sea cliffs & shingle beaches, but found in a quarry in Monmouthshire near the R. Wye (Horton 1994). Larval food plant - lichens (MA).		MMR - Wye Valley 1991 (Horton 1994).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Eilema sororcula	Orange footman	Y		Local	Dense woodland containing oaks &/or beech (Horton 1994). Larval food plant - lichens (MA).		MRR - Wyndcliff 1990 (Horton 1994). Was a UK SoCC but survey has revealed it is more common than first thought & no longer requires this status - MA	
Euithecia plumbeolata	Lead-coloured pug	Y		NS	Found locally in open woodland and heathland where the larval foodplant Common cow-wheat (*Melampyrum pratense*) grows (Horton 1994, MA).		MMR - Pontllanfraith 1987, Dinham 1987 (Horton 1994).	
Euphyia biangulata	Cloaked carpet	Y		NS	Larval food plant - Chickweeds & Stictchworts (*Stellaria* spp.)		MMR - Llansoy 1990 (Horton 1994).	
Eupithecia distinctaria	Thyme pug	Y		NS	Rocky coasts, limestone cliffs & quarries where the larval food plant (*Thymus serpyllum*) grows (Carter & Hargreaves, MA).		MMR - Risca 1992 (Horton 1994).	
Eupithecia expallidata	Bleached pug	Y		NS	Occurs locally in open woodland, woodland rides & clearings where the larval food plant, Goldenrod (*Solidago virgaurea*) grows (Horton 1994, MA).		MMR - Risca 1985 (Horton 1994).	
Eupithecia irriguata	Marbled pug	Y		NS	Woodlands with oak. Larval food plant - Oak (*Quercus* spp.)		MMR - East Monmouthshire 1987 (Horton 1994).	
Hypenodes turfosalis	Marsh oblique-barred	Y		NS			MMR - Cleddon Bog 1988 (Horton 1994).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Lampropteryx otregiata	Devon carpet	Y		NS	Found locally in damp Alder carr woodland. Larval food plant - Marsh bedstraw (*Galium palustre*)		MMR - Northern Monmouthshire 1973 (Horton 1994).	
Orthosia opima	Northern drab	Y		Local	Downland, heathland, marshes & sand dunes. Larval food plant - herbaceous plants		MMR - Clydach 1990 (Horton 1994).	
Parastichtis suspecta	The Suspected	Y		Local	Larval food plant - birch (*Betula* spp.)		MMR - Cleddon bog 1990 (Horton 1994).	
Perizoma blandiata	Pretty pinion	Y		NS	Larval food plant - eyebright (*Euphrasia* spp.)		MMR - Hael Wood 1986 (Horton 1994).	
Perizoma taeniatum	Barred carpet	+		NS-Na			MMR - 1972 between Tintern & Chepstow (Horton 1994)	
Photedes fluxa	Mere wainscot	Y		NS	Found locally in woodland where the larval food plant (*Calamagrostis epigeios*) grows in abundance (Horton 1994, MA).		MMR - One site in South Monmouthshire 1989 (Horton 1994).	
Spargania luctuata	White-banded carpet	Y		NS-Na	Larval food plant - Rose-bay willow-herb (*Chamaenerion angustifolium*).		MMR - Usk 1975 (Horton 1994).	
Synanthedon tipuliformis	Currant clearwing	H		NS	Occurs in places where the larval food plants of redcurrent (*Ribes rubrum*), blackcurrant (*Ribes nigrum*) & gooseberry (*Ribes uva-crispa*) grows (Carter & Hargreaves 1994, MA)..		MMR - Tintern 1911 (Horton 1994).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Tetheella fluctuosa	Satin lutestring	Y		Local	Found locally in woodland rides & open woodland containing the larval food plant birch (*Betula* spp.).		MMR - Dixton Bank 1988 (Horton 1994).	
Xylena vetusta	Red sword-grass	Y		NS	Moorland & marshes. Larval food plants include Yellow iris (*Iris psuedacorus*), sedges (*Carex* spp.), grasses (Graminae) and Deciduous trees.		MMR - Usk 1982 (Horton 1994).	
True Flies								
* *Asilus crabroniformis*	Hornet robberfly	+	P	Nb, Sect. 74 CROW	Unimproved grassland & heathland. Fly larvae prey on larvae of large dung beetles (UKBG).	Habitat loss & fragmentation, the use of Ivermectins & changes in stock management (UKBG).	Has been found in 9 sites in Monmouthshire from 1982-1999 (DC).	HAPs which involve dung!
Bombylius discolor	Dotted beefly	+	P	NS, Sect. 74 CROW	Parasitoid of colonies of large solitary bees (probably *Andrena* spp.) that nest in dry soil on bare ground. Habitats including dry grassland in woodland, coastal cliffs & quarries (UKBG).	Loss of suitable habitats & foraging areas for host species as a result of agricultural intensification (UKBG).	England & S. Wales have maintained viable populations of this species (UKBG). Newport record 1919 (NMGW)	Maritime cliffs and slopes

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Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Cliorismia rustica	A stiletto fly	+	P	RDB-RR, Sect. 74 CROW	Lowland rivers associated with sandy banks. Shady trees, bare & loose sand are part of the habitat mosaic required (UKBG).	Aggregate extraction from the river and river-banks, canalisation & deepening of water courses. Water abstraction that reduces river flow.	Many stations on the R. Usk & R. Monnow. MMR - 2000. Probably a UK stronghold (MH).	Habitat implementation for this species will also benefit other species of exposed riverine sediments, including the stiletto fly *Spiriverpa lunulata, the cranefly Rhabdomastix hilaris,* the ground beetles *Bembidion testaceum* & *Lionychus quadrillum,* the rove beetle *Meotica anglica* & the diving beetle *Bidessus minutissimus.*

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Rhabomastix hilaris (=laeta)	A cranefly	+	P	RDB-RR	Rivers with sandy sediment (UKBG).	Aggregate extraction from the river and river-banks, canalisation & deepening of water courses. Water abstraction that changes sedimentation patterns (UKBG).	Recent records from the R. Usk & R. Monnow (MH)	Habitat implementation for this species will also benefit other species of exposed riverine sediments, including the stiletto flies *Spiriverpa lunulata* & *Cliorismia rustica,* the ground beetles *Bembidion testaceum* & *Lionychus quadrillum,* the rove beetle *Meotica anglica* & the diving beetle *Bidessus minutissimus.* MONITOR ONLY.

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Spiriverpa lunulata	A stiletto fly	+	P	RDB-RR, Sect. 74 CROW	Adults found on depositional stretches of rivers & sandy river banks, especially where sand banks have built up at flood level. This sp. requires open conditions free from shade & loose sand (MH, UKBG).	Aggregate extraction. Canalisation & deepening of water courses (UKBG).	Several stations on the R. Usk. MMR - 2000 (MH)	Habitat implementation for this species will also benefit other species of exposed riverine sediments, including the stiletto fly *Cliorismia rustica, the cranefly Rhabdomastix hilaris, the ground* beetles *Bembidion testaceum* & *Lionychus quadrillus,* the rove beetle *Meotica anglica* & the diving beetle *Bidessus minutissimus.*
Odontomyia ornata	A soldier fly	+	S		Ditches on coastal grazing levels. Prefers shallow areas of ditches with floating cover & rich submergent vegetation at an early stage of succession. Adults visit flowers of hogweed *(Heracleum sphondylium*) & Hemlock water-dropwort (*Oenanthe crocata,* MH).	Among other things; loss of habitat, pollution.	Widespread on Gwent Levels. MMR - 1998 (MH).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Oxycera terminata	A soldier fly	+	S		Wooded streams. Larvae are likely to be detritivores on exposed river sand & fine gravel. Adults can be found on these sediments or settled on trees on river bank (MH).		Locally abundant on R. Monnow & R. Afon Honddu. MRR - 1997 (MH).	
Dragonflies and Damselflies								
Platycnemis pennipes	White-legged damselfly	+			Breeds along unshaded sections of unpolluted larger streams, canals and rivers with moderately to very slow flow. (Merritt *et al.* 1996).	Susceptible to pollution and intensive management of riverside vegetation (Merritt *et al.* 1996).	R. Wye & R. Usk (IDS). Records for 1975-1990 in Merritt *et al* (1996).	
Coenagrion pulchellum	Variable damselfly	+			Breeds in fens, mesotrophic ponds and lakes, slow-flowing dykes in coastal levels, canals, peaty pools and ditches in cut-over bogs with emergent vegetation. Found most commonly in coastal marshes Merritt *et al.* 1996).	Intensive agricultural practices e.g. conversion of grazing marshes to arable land with subsequent lowering of water table and loss of tradition dyke management techniques (Merritt *et al.* 1996).	NCC ditch survey 1984 shows number of populations on Gwent Levels (IDS) . Newport record - 1994 adult male, only known sighting (IDS). Monmouthshire record taken from Drake C.M. (1987) Dragonflies of the Gwent and Somerset Levels and Moors (SW).	
Aeshna grandis	Brown hawker	+	S		Occurs on ponds, lakes, slow-moving rivers, canals and ditches and often visits garden ponds. (Merritt et al.1996).		May not occur in VC35 any longer. BG only known breeding site outside of few sites in central welsh marches (IDS). Mon. Reens South side of Magor (BK)	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Brachytron pratense	Hairy dragonfly	+			Breeds in mesotrophic ponds and lakes, including mature gravel pits, canals, ditches and marshy fens with plenty of tall emergent vegetation; such as common club-rush, common reed, bulrush and great fen-sedge. May occasionally breed in slow moving rivers (Merritt et al.1996).	Changes in habitat e.g. grassland to arable, increases in pollution, eutrophication and adverse water management scheme which may result in the lowering of water levels (Merritt et al.1996).	This species is restricted to the wetland habitats on the Gwent levels, where it is thought to be widespread (IDS) Monmouthshire record taken from (Merritt et al.1996).	
Gomphus vulgatissimus	Club-tailed dragonfly	+			Breeds in unpolluted rivers of moderate to slow flow, the depositional nature of which provides the silt or mud in which the larvae live. Mating can take place far from water, sometimes in proximity to woodland or scrub. (Merritt et al.1996).		River Wye a stronghold of a species (IDS).	
Orthetrum cancellatum	Black-tailed skimmer	+			Breeds in ponds, lakes and slow-moving rivers and in dykes which can be quite brackish. Its favoured sites often have an open aspect with areas of bare ground on which it frequently settles to sun itself (Merritt *et al.* 1996).		Significant population of this species in Wales. Gwent has a good proportion (IDS).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Sympetrum sanguineum	Ruddy darter	+			Breeds in marshy margins of ponds, lakes (including old clay pits and gravel pits), canals and ditches, where there is an abundance of tall emergent vegetation. It can breed in quite brackish conditions (Merritt *et al.* 1996).	Very susceptible to permenent changes in water level due to improved drainage (Merritt *et al.* 1996).	Rare in Wales has a south-easterly distribution. Gwent Levels species (IDS), Magor reserve (BK), Monmouthshire record also taken from Merritt et al. (1996)	
Sympetrum fonscolombii	Red-veined darter				Breeds in shallow static water bodies - it is migratory and occurs sporadically in Britain (Merritt et al.1996).		Immigrant sp. Colonising UK at present. First sightings of individuals in Gwent during 2000 (IDS).	
Other insects								
Brachyptera putata	A stonefly	+	P	RDB - End, NS, Sect. 74 CROW	Larvae found in the middle & lowland sections of medium-large rivers with good water quality & rocky river-bed, usually found in the shallows, feeding on aquatic plant material (UKBG).	Acidification. Agricultural pollution. Declining water quality.	Records from R. Usk. Post 1980 record R. Usk at Llantrissant (MH)	
Potamanthus luteus	A mayfly	+			Larvae found in slow-flowing waters with a stony substrate. Adults noctural and breed in large rivers (MH).		MMR - R. Usk - Abergavenny & R. Wye - Monmouth 1979 (Bratton 1990)	
Spiders								
Araneus triguttatus	An orb spider	+		NS-Nb	Localised distribution. Found in trees and hedgerows (MK).	May be affected by hedgerow trimming in late summer/autumn (MK)	Only record for Wales. In Gwent this spider is on the western edge of its range in the UK (MK).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Arctosa cinerea	A shingle spider	+		NS-Nb	Found on river shingle (MK).	Shingle beds may be damaged by erosion or plant colonisation (MK).	Most southerly UK records. R. Usk & Sirhowy (MK).	
Diaea dorsata	A crab spider	H		NS-Nb	Found in bushes & trees mainly Box, Yew Oak & conifers (MK).	Population size unknown. May no longer occur (MK).	Historical record from 1853. Species at western edge of range. Population size unknown. May no longer occur (MK).	
Glyphesis servulus	A money spider	+		NS-Nb	Wetlands and bogs (MK).	Loss of habitat due to succession (MK).	Cleddon Bog. Very rare everywhere (MK).	
Liocranum rupicola		H		NS-Nb	Under stones & detritus in dry situations & occassionally indoors (MK).		Mainly southern species. Only two sites in county. Lower Cwmhir site may no longer be suitable. Continued occurrence at Rockfield uncertain (MK).	
Philodromus albidus	A running crab spider	+		NS-Nb	Bushes & lower branches of trees (MK).		Rare roputhern species. Only 1 site in county - may be small population size (MK).	
Philodromus praedatus	A running crab spider			NS-Nb	Bushes & lower branches of trees particularly Oak (MK).	Unknown	Southern species. Known from Wye Valley and Gwent Levels (MK).	
Zilla diodia	An orb weaver spider	+		NS-Nb	Hedgerows (MK).	May be affected by hedgerow trimming in late summer/autumn (MK).	The only Welsh records (MK)	
Hyptiotes paradoxus	Triangle spider	+		RDB-RR	Yew woodland. Found in evergreen trees especially Yew & Box (MK).	Habitat loss, needs yew woodland (MK).	Chepstow (2001), probably confined to limited area (MK).	
Harvestmen								
Sabacon viscayanum ramblaianum	A harvestman	+		NS-Nb	*Molinia* grassland.	Not threatened unless its habitat declines or is degraded (MK).	Confined to South Wales from Carmarthen to the Wye Valley and Gwent is prob. a stronghold (MK)	
Millepedes								

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Chordeuma proximum	A millipede	+	S		Deciduous woodland leaf litter (MK).	Loss of deciduous woodland habitat (MK).	Known from Glamorgan and Gloucestershire. Probably occurs wherever suitable habitat exists, in lowland parts of the county.	
Nanogona polydesmoides	A millipede	+	S		Under stones, logs, tree bark. Usually associated with woodland, but also found in open country (MK).	None.	Occurs throughout.	
Molluscs								
* *Margaritifera margaritifera*	A freshwater pearl mussel	H	P	IUCN-EN, Ann.II & IV Hab.Dir. App.II Bern Conv. Sch.5 WCA, Sect. 74 CROW	Non-calcareous permanent rivers, typically fast-flowing, clean, cool, well-oxgenated water with coarse sand or gravel beds with salmon or trout. Can not tolerate suspended sediments in water (Kerney 1999).	Poor water quality. Habitat loss through river engineering work. Reduction in host fish pops (UKBG).	In R. Wye in Herefordshire, probably not breeding (MH). Monmouthshire record from IK. Newport record from Kerney (1999). Re-introduction is a remote possibility (IK).	
* *Pisidium tenuilineatum*	Fine-lined pea mussel	+	P	RDB-RR, Sect. 74 CROW	Appears to prefer fine silty or muddy substrates in clean, hard, unpolluted water in lowland rivers & canals (Kerney 1999).	Poor water quality. Inappropriate water channel management (UKBG).	R. Monnow (2000, IK) & R. Monnow at St Maughams (1973, MH)	
* *Pseudanodonta complanata*	Compressed river mussel	+	P	Sect. 74 CROW	Lowland rivers & ditches, moderately calcium rich with silt, sand or gravel (Kerney 1999).	Poor water quality. Physical disturbance. Drought. Over-collection (UKBG).	Good populations in R. Wye at Monmouth (MH). (No records in Kerney 1999).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Leiostyla anglica	English chrysalis snail	+	S		Humid, undisturbed places under moist ground litter or in boggy hollows in shaded or open coniferous & deciduous woodland, marshes, dune slacks & sea cliffs (Kerney 1999).			
Limax tenellus (Malacolimax tenellus)	A slug	H	S		Restricted to ancient deciduous or coniferous woodland. Occ. on chalk or limestone, more common on poor acid soils often in remnant woodland on steep slopes. Shelters under ground-litter, logs, loose bark. Night feeding prob. on fungus. So, assoc. with decaying tree trunks (Kerney 1999).		pre-1965 Atlas of land and freshwater molluscs (SW)	
Pisidium pseudosphaerium	A freshwater bivalve	+	S		Ditches, ponds, lowland marsh & pasture. Clear, clean stagnant water choked with aquatic plants, with an organic bed. V. localised (Kerney 1999).			

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Ena montana	A slug		S		Principally a species of old deciduous woodland on well-drained calcareous soil. Lives among ground litter & fallen timber. In wet weather will climb a few feet up smooth tree trunks. Esp. beech & ash. Also found at the base of ancient hedgerows (Kerney 1999).		Records in Gloucs. Maybe in Monmouthshire - needs survey (MS).	Broad-leaved woodland
Crustacea								
* *Austropotamobius pallipes*	Freshwater white-clawed crayfish	+	P	IUCN-VU., Ann. II & V Hab. Dir. Sch5 WCA (taking & sale), Sect. 74 CROW	Clean calcareous streams, rivers & lakes, without too much silt (UKBG).	Crayfish plague (a fungal infection caused by *Aphanomyces astaci*). Direct competition from the non-native signal crayfish (*Pacifastcus leniusculus*). Pollution, particularly pesticides & sewage. In appropriate habitat modification & management.	Native to UK. Widespread in clean, calcareous water bodies. Tributary of the Afon Lwyd, Norton Brook, R. Monnow (CCW).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Chirocephalus diaphanus	Fairy shrimp	+	S	Sch5. WCA	Temporary pools ranging from cart ruts to weedy ponds, usually in pools receiving regular disturbance by trampling livestock, ploughing or vehicles'. The eggs persist in dry mud after breeding pools dry up in summer. Hatch after autumn rains replace water. Extremely local but often abundant where it does occur. Sporadic in appearance and distribution.	Drainage, infilling, scrub encroachment and re-surfacing of tracks and any change of land use. Sites should be carefully monitored and active management is often essential.		
Birds								
* *Alauda arvensis*	Skylark	Y	P	Sect. 74 CROW	Diverse mosaic habitat - semi/unimproved grassland (especially cattle grazed) maximizes nesting and feeding opportunities,also upland heath, purple moor grass, rush pasture, coastal & floodplain grazing marsh and re-vegetated post-industrial land (BG)	Intensive management of farmland, including loss of winter stubbles, overgrazing (especially sheep) and move from hay to silage (BG).	Widespread. More in uplands than farmed lowlands (JL).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
* *Caprimulgus europaeus*	Nightjar	B	P	Bern Conv Birds Dir, Sect. 74 CROW	Forest clearfells (4ha+ optimum), some on heather moor & ffridd/coedcae (BG)	Loss of continuity of clearfells, reduced large insect populations due to intensive management, disturbance by people and dogs (BG).	Forestry re-stocks particulary in Wentwood and Trellech (JL).	
* *Carduelis cannabina*	Linnet	Y	P	Bern Conv., Sect. 74 CROW.	Farmland with low hedgerows, uplandheath/ffridd/coedcae with low scrub, mature heather and gorse for breeding; weedy fields and stubbles for feeding (BG)	Intensive management of farmland, loss of winter stubble, removal or lack of management of hedgerows, lack of management/loss of gorse scrub (BG).	Widespread (JL).	
* *Emberiza schoeniclus*	Reed bunting	Y	P	Bern Conv, Sect. 74 CROW.	Core habitats are wetlands with tall vegetation (esp. reedbeds) and overgrown ditches/hedgerows in farmland, rush pastures (blanket bog/heath/grass/wet flush mosaic, BG)	Intensive management of farmland (including overgrazing), deterioration of wetland habitats (drainage, BG).	Levels and upland fringe (JL).	
* *Lullula arborea*	Woodlark	P	P	Birds Dir. RDB-2 Sch 1 WCA	Forest clearfells with bare areas of 4+ha, heathlands with short vegetation & other disturbed habitats, passage/winter birds use setaside/stubbles (BG).	Lack of suitable management to create/maintain areas of bare (disturbed) ground/short vegetation (BG).	Passage, Dingestow area (BG).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
* *Melanitta nigra*	Common scoter	P	P	Birds Dir Bonn Conv Sch 1 WCA RDB-2 Sect. 74 CROW	Winters in coastal waters or large euthrophic lakes (BG).	Pollution (oil), "over" eutrophication (BG).	Coastal / Llandegfedd in very low numbers (JL).	
* *Muscicapa striata*	Spotted flycatcher	B	P	Bern Conv Bonn Conv Sect. 74 CROW	Open woodland, parks, gardens, scattered mature trees (esp. deciduous), insect rich habitats (BG)	Summer weather conditions (wet and cold), intensive management of farmland, loss of woodland, veterin trees & deadwood, changes in conditions abroad (BG).	Widespread (JL).	
* *Passer montanus*	Tree sparrow	Y	P	Sect. 74 CROW	Deciduous trees with nest holes (or nestboxes), insect rich habitat for chick food and rough seed-rich patches for winter food (BG)	Intensive management of farmland, including loss of winter stubbles, loss of nest sites (BG).	Local to Llandegfedd and Usk Valley (JL).	
* *Perdix perdix*	Grey partridge	Y	P	Birds Dir RDB-3 Sect. 74 CROW	Semi-improved grassland mosaics, cereals with low weeds, species rich field margins & hedgerows (BG).	Reduced food supply (insecticides), intensive management of farmland (including loss of hedgerows, move from hay to silage), loss of winter stubble and habitat diversity (BG).	Local to the Usk Valley and the levels (BG).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
* *Pyrrhula pyrrhula*	Bullfinch	Y	P	Sect. 74 CROW	Hedgerows, woods, trees and shrubs, orchards, mixed scrub, (need weeds, berries, seeds and buds for feeding and thick hedgerows/scrub for nesting (BG)	Removal of farmland trees and hedgerows, loss of winter food through deterioration of hedgerows/field margins (BG).	Widespread (JL)	
* *Streptopelia turtur*	Turtle dove	B	P	Birds Dir CITES Sect. 74 CROW	Breeds in woodland/hedgerows (esp. thicket stage) feeds on open weedy areas (esp. with fumitory, BG)	Intensive management of farmland, hunting pressures abroad (BG).	Local to Trellech Plataeu (BG).	
* *Turdus philomelos*	Song thrush	Y	P	Birds Dir. Sect. 74 CROW	Woods, copses, thick hedgerows, damp hedge bottoms, farmland, gardens, gorse scrub (BG)	Intensive management of farmland, adverse weather (cold winters, dry summers), loss of nesting habitat, use of molluscicides (BG).	Widespread (JL).	
Asio flammeus	Short-eared owl	W	S	Bern Conv Birds Dir CITES	Rough grassland, heathland, saltmarsh, young plantations (anywhere where small mammals are abundant, BG).	inappropriate management, succession, road and rail casualties (population levels fluctuate with populations of rodents, BG).	Winter visitor to levels and uplands (JL).	
Asio otus	Long-eared owl	Y	S	Bern Conv CITES	Breeding - conifer plantations (or thickets) adjacent to rough grassland, heathland, young plantations (BG).	Inappropriate management of nesting areas, overgrazing or succession of feeding areas (BG).	Local breeder in Black Mountains. Winter visitor in Usk Valley (JL).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Calidris canutus	Knot	W	S	Birds Dir Bonn Conv RDB-1b	Severn estuary mudflats, undisturbed roost sites (BG).	Disturbance to feeding and roosting sites, sea level rise would reduce extent of mudflats (BG).	Coastal areas in large numbers (JL).	
Charadrius hiaticula	Ringed plover	P	S	Bern Conv Bonn Conv RDB-1b	Breeding - shingle shoreline, severn estuary mudflats for feeding (BG).	Disturbance to feeding and roosting sites, sea level rise would reduce extent of mudflats (BG).	Winter and passage records from coastal / inland waters (JL).	
Circus cyaneus	Hen harrier	0	S	Birds Dir Bonn Conv CITES Sect. 74 CROW	Well-managed, upland heath (BG).	Lack of management of heath, unsympathetic gamekeeping (BG).	Winter visitor and passage records in the upland and coastal areas (JL).	
Coccothraustes coccothraustes	Hawfinch	Y	S	Bern Conv	Broadleaved or mixed woodland, where there is a good food source eg seeds of cherry, hornbeam, beech, sycamore, hawthorn, holly (BG).	Inappropriate management, lack of food plant diversity in case of seed failure of single species (BG).	Wye Valley Woods and occasional elsewhere (JL).	
Cygnus columbianus	Bewick's swan	W	S		Winters on wet grassland, especially river valley flood plains, undisturbed roost sites (BG).	Drainage, intensification of agriculture, tillage, disturbance, flood prevention schemes (BG).	Wintering in central Usk valley and occasional elsewhere (JL).	
Dendrocopus minor	Lesser spotted woodpecker	Y	S	Bern Conv	Broadleaved woodland/parkland (with dead wood present, BG)	Inappropriate woodland management, removal of veterin trees and deadwood (BG).	Scarce but widespread (JL).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Emberiza citrinella	Yellowhammer	Y	S	Bern Conv	Breeding - clipped hedgerows, low scrub; feeding - mixed farmland including stubbles & weedy fields, grasslnd mosaics, ffridd/coedcae (BG).	Intensive management of farmland (including overgrazing and use of pesticides), removal or lack of management of hedgerows, loss of winter stubbles (BG).	Widespread. Particularly on upland fringe / Trellech Plateau (BG).	
Falco columbarius	Merlin	Y	S	Bern Conv Birds Dir Bonn Conv CITES Sch 1 WCA	Breeding - upland heath/purple moor grass (often nesting in conifer plantations), wintering - saltmarsh or farmland where flocks of small birds congregate (BG).	Inappropriate management of breebing habitat (overgrazing, felling of nesting stands), accumulation of pesticides through food chain, reduction of small bird populations (BG).	Winters on coast occasional breeding records on uplands (JL).	
Falco subbuteo	Hobby	B	S	Bern Conv Bonn Conv CITES Sch 1 WCA	Farmland (where there are good numbers of prey species e.g. martins/swallows/dragonflies, BG).	Factors affecting prey species, disturbance, egg collecting (BG).	Usk Valley. Widespread but scarce in farmed areas (JL).	
Gallinago gallinago	Snipe	Y	S	Birds Dir Bonn Conv	Breeding - wet grassland, purple moor grass, rush pasture; wintering - wet grassland, saltmarsh (BG).	Lack of wet grassland, drainage, intensification of agriculture, tillage (BG).	Wintering on upland fringe, the levels and seasonally flooded areas of the river valley. Scarce breeder (JL).	
Lagopus lagopus	Red grouse	Y	S	RDB-1a	Well-managed upland heath (BG)	Overgrazing, lack of management (BG).	Uplands (JL).	
Locustella naevia	Grasshopper warbler	B	S		Young plantations, marshland (BG).	Succession, drainage, intensification of agriculture (BG).	Local. Forrstry re-stocks with lots of grass (JL).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Mergus merganser	Goosander	Y	S	Birds Dir Bern Conv	rivers/reservoirs, breeding in holes in trees/nestboxes	persecution/culling by fishermen.	Breed on Usk and Wye (non tidal sections of rivers). Winter in Llandegfedd.(JL).	
Motacilla flava	Yellow wagtail	B	S	Bern Conv	Wet grassland, crops	Intensive management or improvement of farmland including drainage (BG).	Usk valley, Trothy valley and levels (JL).	
Numenius phaeopus	Whimbrel	P	S	Birds Dir Bonn Conv Sch 1 WCA	Wet grassland adjacent to severn estuary, undisturbed roost sites (BG).	Disturbance to feeding and roosting sites, sea level rise would reduce extent of mudflats (BG).	Spring Passage on Coast (BG).	
Parus montanus	Willow tit	Y	S		Wet broadleaved woodland/carr (with rotten wood for excavating nest holes, BG)	Inappropriate woodland management, lack of rotting wood for excavating nesthole (BG).	Wye Valley woods, Trellech Plateau, Chepstow Park wood, Wentwood (JL).	
Phalacrocorax carbo	Cormorant	Y	S		Severn estuary, rivers, reservoirs, undisturbed breeding site (BG).	Disturbance to breeding site, persecution/culling by fishermen (BG).	Small breeding colony established in the last 10 years at undisclosed location. Wide ranging during all seasons to main rivers and Llandegfedd reservoir (JL).	
Picus viridis	Green woodpecker	Y	S	Bern Conv	Broadleaved woodland adjacent to unimproved grassland, parkland (BG).	Loss of ant rich pastures, loss of mature trees (BG).	Widespread especially in the in the east of the county and in the North West areas (JL)	
Pluvialis apricaria	Golden plover	0	S	Birds Dir Bonn Conv RDB-1b Sect. 74 CROW	Breeding - upland heath/purple moor grass, wintering - short pasture farmland (BG).	Inappropriate management, overgrazing, afforestation, disturbance to breeding sites (and during the winter, BG).	Small Numbers wintering with Lapwing in the Neddern Valley and Usk Valley Breed in the National Park probably just Brecon area (JL).	

Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Regulus ingnicapillus	Firecrest	B	S	Bern Conv RDB-2 Sch 1 WCA	Mixed/broadleaved woodland with thick undergrowth (BG).	Severe winter weather (BG).	Scarce. Wentwood and Abergavenny (JL).	
Saxicola torquata	Stonechat	Y	S	Bern Conv	Upland heath, lowland heath (BG).	Overgrazing, lack of management,severe winter weather (BG).	Widespread. Breeding on hills and forestry re-stocks (JL).	
Tadorna tadorna	Shelduck	Y	S	Bern Conv Bonn Conv RDB-1b	Severn foreshore (feeds mainly on intertidal mud), requires rabbit burrows for nesting (BG).	Sea level rise would reduce extent of mudflats (BG).	Occasional breeding on coastal levels and estuary (JL).	
Tringa totanus	Redshank	Y	S	Birds Dir Bonn Conv RDB-1b	Breeding - wet grassland, saltmarsh; wintering on severn estuary, undisturbed roost sites (BG).	Breeding - drainage, intensification of agriculture, tillage. wintering - disturbance to feeding and roosting sites, sea level rise would reduce extent of mudflats (BG).	Passage / winter visitor and scarce breeder on the coast.	
Turdus torquata	Ring ouzel	B	S	Bern Conv	Upland heath (with rocky crags), needs close cropped turf for feeding (BG).	Afforestation, agricultural improvement, lack of management, disturbance, quarry reworkings (BG).	Scarce on uplands, all in National Park (JL).	
Tyto alba	Barn owl	Y	S	Bern Conv CITES Sch 1 WCA	Farmland/grassland (where there are good numbers of small mammals), post industrial land (BG).	Agricultural intensification (including use of pesticides/rodenticides), loss of nesting sites, road and rail casualties (BG).	Widespread (JL)	

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Species Name	Common Name	Monmouthshire	UK-BAP List	Status/ protection	Habitat/ Ecology	Threats	Known records	Associated habitat info. for LBAP work (UKBG).
Vanellus vanellus	Lapwing	Y	S	Birds Dir Bonn Conv Sect. 74 CROW	Mixed farmland (short turf or tillage for feeding), upland heath/grassland mosaics, colliery spoil (BG).	Changes to agricultural practices (autumn sowing of cereals), loss of small ponds/wet areas, disturbance, unsuitable land reclamation, predation (having a greater impact on a dwindling population, BG).	Scarce. Usk Valley, Trothy Valley and Neddern Valley. Overwintering flocks associated with breeding areas (JL).	
Egretta garzette	Little egret	Y*		Bern Conv Birds Dir CITES	Severn estuary, rivers, reservoirs, breeding in heronries (BG).	Disturbance to breeding locations (BG).	Occasional on waterbodies. Increasing numbers. Breeding in neighbouring county (JL).	

Appendix A-3 Monmouthshire SSSIs (to December 2004)

79	Barbados Hill Meadows
2	Blackcliff/Wyncliff *
NP	Black Mountains
NP	Blorenge
67	Blaentrothy Meadows
27	Brockwells Meadows
NP	Brynmawr Sections
29	Burness Castle Quarry
4	Bushy Close
28	Brook Cottage Llangibby
42	Caer Llan Wood
30	Cilwrgi Quarry
	Cleddon Bog
39	Cleddon Shoots Woodland *
65	Cobblers Plain Meadows Devauden
NP	Coed y Cerrig NNR x
NP	Coed y Person
NP	Cwm Clydach NNR x
7	Coombe Valley Wood NNR
49	Croes Robert Wood
NP	Cwm Llanwenarth
68	Cwm Mill Section Mardy
56	Cwm Ton Glascoed
59	Dinham Meadows
9	Fiddlers Elbow NNR *
NP	Foxhill x
10	Gaer House Woods
41	Gaer Wood Llangovan
NP	Gilwern Hill
12	Golden Hill Quarry Devauden
45	Graig Wood *
54	Gwent Levels (Magor & Undy)
54	Gwent Levels (Redwick & Llandevenny)
38	Harpers Grove/Lords Grove *
41	Livox Wood *
15	Llandegfedd Reservoir
77	Llangovan Church (bat site)
NP	Llanvihangel Moraine
NP	Llanover Quarry
64	Llwyn y Celyn Wetland
63	Lower Ground Penrhos
40	Lower Hael Wood *
66	Lower Nex Meadows Devauden
51	Maes yr Uchaf
1	Magor Marsh
76	Mynydd Bach (bat site)
NP	Mynydd Llangattock
61	Nedern Brook Wetlands Caldicot
73	Newton Court (Monmouth)
47	Park House Wood
46	Penarth Brook Woodland
32	Penpergwm Pond
62	Pentwyn Farm Grasslands Penallt
2a	Pierce Alcove & Piercefield Woods *
78	Plantation Farm/The Gethley
20	Priory Wood
43	Rectory Meadow Rogiet
71	River Usk (Lower Usk) x
72	River Usk (Upper Usk) x
36	River Wye – Afon Gwy x
34	Severn Estuary Xp
NP	Siambreddu
NP	Strawberry Cottage Wood
NP	Sugar Loaf Woodlands x
80	Upper Usk Tributaries
24	Upper Wye Gorge *
70	Wye Valley & For of Dean Bat Sites x

NOTES:
* Wye Valley Woods SACs
X other SACs
Xp Proposed SAC

Appendix A-4 Acronyms used in the Text

AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
BBS	British Bryological Society
BC	Butterfly Conservation
BMS	British Mycological Society
CCW	The Countryside Council for Wales
CLA	Country Land and Business Association
CPRW	Campaign for the Protection of Rural Wales
EAW	Environment Agency Wales
FWAG	Farming and Wildlife Action Group
FUW	Farmers Union of Wales
GBC	Glamorgan Bird Club
GOS	Gwent Ornithological Society
GWT	Gwent Wildlife Trust
HAP	Habitat Action Plan
HAN	Habitat Advice Note
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
MCC	Monmouthshire County Council
MCS	Monmouthshire Countryside Service
MMG	Monmouthshire Meadows Group
NFU	National Farmers Union
NNR	National Nature Reserve
NVC	National Vegetation Classification
pSAC	Possible Special Area for Conservation
SAC	Special Area for Conservation
SAP	Species Action Plan
SAN	Species Advice Note
SEWBReC	South East Biological Record Centre
SINC	Site of Importance for Nature Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
RSPB	Royal Society for the Protection of Birds
UBG	UK Biodiversity Group
UBP	UK Biodiversity Partnership
UCEG	Usk Conservation and Environment Group
UDP	Unitary Development Plan
VC	Watsonian Vice County
WAG	Welsh Assembly Government
WBP	Wales Biodiversity Partnership