

# INTERNAL DRAINAGE BOARD BIODIVERSITY ACTION PLANNING

## A GUIDE TO PRODUCING IDB BIODIVERSITY ACTION PLANS



## Introduction

The Implementation Plan of the DEFRA Internal Drainage Board Review commits IDBs to producing Biodiversity Action Plans (BAP) by 1<sup>st</sup> April, 2010. The purpose of this guidance and the accompanying plan template is to assist IDBs to meet this commitment and, at the same time, help fulfil their duty as public bodies under the Natural Environment and Rural Communities Act 2006 to conserve biodiversity.

Through their water level management activities, IDBs already achieve much for conservation and biodiversity. By introducing Biodiversity Action Plans for all IDBs, it is hoped that the conservation and enhancement of biodiversity, particularly outside the boundaries of Sites of Special Scientific Interest (SSSI), can be better integrated into IDB planning and work programmes. In addition, Biodiversity Action Plans will provide IDBs with a formal mechanism to better demonstrate and record the contribution to biodiversity that they already make.

Contributing to biodiversity is an important part of an IDB's role as a modern public authority. IDBs are uniquely placed to conserve and improve freshwater and wetland habitats, and to forge partnerships to ensure sustainable water level management in lowland areas:

- IDBs are, collectively, one of the biggest managers of freshwater and wetland habitats in the country and therefore have a critically important role to play in maintaining and enhancing the nation's biodiversity.
- The thousands of kilometres of IDB ditches and water courses host a major wildlife resource.
- Water level management by IDBs supports distinctive wetland habitats and characteristic landscapes.
- Hundreds of UK Biodiversity Action Plan wetland plant and animal species can be found in IDB districts – from lichens to wildflowers and from insects to mammals.
- IDB drainage districts contain hundreds of SSSIs and local wildlife sites.

By setting objectives and targets to conserve and enhance wetland species and habitats, IDB Biodiversity Action Plans will help to link the ongoing conservation work of IDBs to the national and local BAP targets and actions. It will also facilitate the recording of BAP habitat gain to be set against the DEFRA flood risk management Outcome Measures target for UK Biodiversity Action Plan habitat creation.

This guide to producing IDB Biodiversity Action Plans was prepared by the DEFRA IDB BAP Working Group comprising representatives from Internal Drainage Boards, the Association of Drainage Authorities, and Natural England.

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## The Biodiversity Action Planning Framework

### **Biodiversity – A Global Imperative**

Biodiversity is the term widely used to describe “biological diversity” – the variety of life on earth. It includes all plants and animals, and the wide range of habitats where they grow and live. Biodiversity covers the whole of the natural world around us: the rare and endangered, but also the commonplace.

The intricate network of species, habitats and ecosystems comprising biodiversity provides the support systems that sustain human existence. It provides many of the essentials of human life – food, water and clothing – and is essential for human health and well-being. Biodiversity also has a vital role in giving a distinctive character to an area, be it the grasslands of the Somerset Levels or the fens of the Norfolk Broads.

However, the world is losing biodiversity at an ever-increasing rate as a result of human activity, and the conservation of biodiversity is now widely recognised as a global imperative.

The Convention on Biological Diversity agreed at the Earth Summit in Rio de Janeiro in 1992 recognised that action must be taken to halt this loss of animal and plant species and that each country has the primary responsibility to conserve and enhance biodiversity within its own jurisdiction. Biodiversity conservation is also a key part of sustainability, and Agenda 21, also agreed at the Earth Summit, is a commitment by governments to deliver action at a local level to secure sustainable development. Developing a programme for biodiversity conservation at the local level is one of the core commitments of Agenda 21 and production of Biodiversity Action Plans is seen as a way in which this can be achieved.

The 2006 Millennium Ecosystem Assessment initiated by the United Nations emphasised the importance of ecosystem services to human well-being and highlighted the rapid degradation of these systems over the last 50 years. The principle of restoring and maintaining ecosystem functioning now informs the Government’s approach to the environment and biodiversity, which embraces landscape and catchment-scale solutions to biodiversity loss and climate change. This ecosystems approach seeks to establish the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way.

Other important international commitments on biodiversity include the European Council’s Gothenburg Target, adopted in 2001, to halt the loss of biodiversity in Europe by 2010, and the global agreement reached at the World Summit on Sustainable Development in Johannesburg in 2002 to significantly reduce the rate of biodiversity loss by 2010.

### **Biodiversity Action in the UK**

The UK Government’s response to the Rio Biodiversity Convention was *Biodiversity: The UK Action Plan*, published in 1994, which set out the objectives of enhancing:

- Populations and natural ranges of native species, and the quality and range of wildlife habitats and ecosystems.
- Internationally important and threatened species, habitats and ecosystems.
- Species, habitats, and natural and managed ecosystems that are characteristic of local areas.
- The biodiversity of natural and semi-natural habitats where this has diminished in recent years.

The UK Biodiversity Steering Group has established a programme to deliver these objectives through a framework of national biodiversity targets, the collating of biological information, the raising of public awareness, and the promotion of Local Biodiversity Action Plans. Central to this approach is the need to develop partnerships between government agencies, public bodies, voluntary conservation organisations and local communities.

Following revision in 2007, the UK Biodiversity Action Plan (UK BAP) priority list now contains 65 priority habitats and 1149 priority species.

The principal means by which the Government co-ordinates the policy effort to conserve biodiversity in England is through the England Biodiversity Strategy – *Working with the Grain of Nature: A Biodiversity Strategy for England*. This sets out the Government’s vision for conserving and enhancing biological diversity, and establishes programmes of action for integrating biodiversity into policy and planning for

key sectors, together with appropriate targets and indicators. The Strategy has a Water and Wetlands Working Group and an associated programme of action that includes:

- Integrating biodiversity into whole-catchment management.
- Achieving net gain in water and wetland BAP priority habitats through Water Level Management Plans, Catchment Flood Management Plans, and sustainable flood management approaches.

The UK BAP and the England Biodiversity Strategy form part of a hierarchy of biodiversity planning and delivery with Biodiversity Action Plans operating at all levels:

- United Kingdom – UK Biodiversity Action Plan.
- National – England Biodiversity Strategy.
- Regional – Regional Biodiversity Strategies (incorporated within Regional Spatial Strategies).
- County – Local Biodiversity Action Plans.
- Organisation, public authority, or company – for example, IDB Biodiversity Action Plans.

The emphasis of the plans will differ at each level from national to local, with progressively greater emphasis on implementation of conservation action on the ground. The key point is that all plans and actions in this hierarchy should form an integrated whole with objectives and targets that are consistent and complementary.

### ***Local Biodiversity Action Plans***

Local Biodiversity Action Plans (LBAPs) tend to operate on a county basis and are the means for ensuring that the UK BAP is translated into effective action at local level by:

- Ensuring that national targets for habitats and species, as specified in the UK BAP, are attained in an effective and consistent manner throughout the UK.
- Identifying targets for habitats and species appropriate to the local area, and reflecting the values of people locally.
- Developing effective local partnerships to deliver long-term programmes for biodiversity conservation.
- Raising awareness locally of the need for biodiversity conservation.
- Ensuring opportunities for conservation and enhancement of the whole biodiversity resource are fully considered.
- Providing a basis for monitoring progress at local and national level.

An LBAP identifies the actions required to implement agreed targets, and specifies appropriate delivery mechanisms through local partnerships. It is not simply a document, rather a process that forms a long-term strategy for biodiversity gain:

- Establishing a plan partnership.
- Agreeing broad objectives.
- Reviewing the wildlife resources of the area.
- Establishing a database.
- Identifying priorities within the local and national context.
- Setting objectives and specific targets and proposals for action.
- Identifying delivery mechanisms and sources of finance and advice.
- Publishing the plan and implementing the agreed programme of action.
- Establishing a long-term monitoring programme to measure the effectiveness of the plan in achieving national and local targets.

IDBs are encouraged to join their Local Biodiversity Partnership, either individually or as a group of IDBs, and to actively contribute to the development of water and wetland-related elements of the LBAP. This can help to raise the local profile of IDB work and will allow IDBs to become involved in the LBAP process. It may be appropriate for an IDB, or a group of IDBs, to lead the Local Biodiversity Partnership's wetlands programme in order to guide the development of LBAP work on these habitats and species.

Above all, IDBs can take the initiative in identifying those targets in the LBAP that they are best-placed to deliver and to then integrate these within the IDBs' own Biodiversity Action Plan. IDBs can become the champions for specific LBAP wetland targets.

### **IDBs and Biodiversity Legal Duties**

When carrying out their functions, IDBs are required to have regard to a number of statutory duties relating to conservation and biodiversity. Some of this legislation relates specifically to maintaining or restoring the condition of designated sites such as SSSIs, but there are duties to conserve and enhance biodiversity in the wider landscape:

#### ***Land Drainage Act 1994***

Section 61 of the Land Drainage Act 1994 places a duty on every IDB, when formulating or considering any proposals relating to its functions, to exercise its powers to further the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological or physiographical features of special interest. It is also required to take into account any effect that such proposals would have on the beauty or amenity of any rural or urban area or on any such flora, fauna, features, buildings, sites or objects.

#### ***Wildlife and Countryside Act 1981***

As public bodies, every IDB has a duty under Section 28G of the Wildlife and Countryside Act 1981 to take reasonable steps, consistent with the proper exercise of its functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which a site has been designated a Site of Special Scientific Interest.

#### ***Natural Environment and Rural Communities Act 2006***

Section 40(1) of the Natural Environment and Rural Communities Act 2006 places a duty on IDBs to conserve biodiversity. As a public body, every IDB must have regard in exercising its functions, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

Section 40(3) states that conserving biodiversity includes restoring or enhancing a population or habitat. In so doing, an IDB should have regard to the list published by the Secretary of State of living organisms and types of habitat that are of principal importance for the purpose of conserving biodiversity. In effect, this list consists of the Biodiversity Action Plan priority species and habitats for England.

In its *Guidance for Public Authorities on Implementing the Biodiversity Duty*, the Government states that, in order to demonstrate that it has implemented its duty under the Act to have regard to the conservation of biodiversity, a public authority is likely to be able to show that it has:

1. Identified and taken opportunities to integrate biodiversity considerations into all relevant service areas and functions, and ensured that biodiversity is protected and enhanced in line with current statutory obligations.
2. Raised awareness of staff and managers with regard to biodiversity issues.
3. Demonstrated a commitment and contribution to Biodiversity Action Plans, where appropriate.
4. Demonstrated progress against key biodiversity indicators and targets for BAP-listed priority habitats and species and LBAP listed species and habitats, where appropriate.

#### ***Birds Directive 1979***

IDBs are required to assist Government in fulfilling its obligations under Section 3 of the Birds Directive 1979 to take requisite measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all species of naturally occurring birds in the wild state.

#### ***Habitats Regulations 1994***

Regulation 3(4) of the Habitats Regulations 1994 require that an IDB, when exercising any of its functions, must have regard to the requirements of the Habitats Directive 1992 so far as they may be affected by the exercise of those functions. This includes taking appropriate steps to avoid, in Special Areas of Conservation, the deterioration of natural habitats and the habitats of species as well as the disturbance of the species for which the areas have been designated. The Regulations also impose a general duty on competent authorities to ensure that the habitats and species listed under the Directive are maintained in favourable conservation status.

### **IDBs and Biodiversity Policy Commitments**

In addition to discharging their legal duties to conserve and enhance biodiversity, IDBs are required as flood operating authorities to carry out their functions within a policy framework that sets goals for biodiversity and environmental performance:

#### ***Making Space for Water***

The Government's aim for flood and coastal erosion risk management, as expressed in its *Making Space for Water* strategy, is to manage the risk from flooding and coastal erosion by employing an integrated portfolio of approaches that reflect both national and local priorities:

- To reduce the threat to people and their property; and
- To deliver the greatest environmental, social and economic benefit consistent with the Government's sustainable development principles.

Flood and coastal defence works therefore need to be environmentally acceptable as well as technically sound and economically viable. The Government is urging flood operating authorities to consider environmental opportunities in all their activities and to achieve greater sustainability by working with natural processes.

#### ***Flood Risk Management Outcome Measures Targets***

The Government has established a framework of Outcome Measures to allocate flood risk management resources and to guide the activities of flood operating authorities so that they reflect *Making Space for Water* and Government policy more generally. There is an Outcome Measure for nationally important wildlife sites with an accompanying target that requires flood operating authorities to deliver programmes of measures for bringing SSSIs into favourable condition.

There is also an Outcome Measure for UK Biodiversity Action Plan habitats. Its accompanying target specifies the net increase in the area of priority BAP habitats that the Government expects to result from the activities of flood operating authorities, including IDBs. Thus, all flood operating authorities are expected to demonstrate the benefit to UK BAP habitats that they have contributed through their activities.

#### ***Planning Policy***

Overall, IDBs' engagement with the planning system should be informed by the Government's objectives for planning expressed in *PPS9 Biodiversity and Geological Conservation*:

- Promote sustainable development by ensuring that biological and geological diversity are conserved and enhanced as an integral part of social, environmental and economic development, so that policies and decisions about the development and use of land integrate biodiversity and geological diversity with other considerations.
  - Conserve, enhance and restore the diversity of England's wildlife and geology by sustaining, and where possible improving, the quality and extent of natural habitat and geological and geomorphological sites; the natural physical processes on which they depend; and the populations of naturally occurring species which they support.
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## **IDB Biodiversity Action Plans**

### **IDB Biodiversity Principles**

This guidance for producing IDB Biodiversity Action Plans embraces the following principles:

- Notwithstanding the need to maintain appropriate standards of flood risk management, all of an IDB's network of drainage channels has the potential to be valuable for biodiversity to a greater or lesser degree.
- Biodiversity is a key measure of sustainability and should be considered as part of every activity – planning, maintenance, capital works and commercial activities.
- While IDB BAPs need to focus primarily on the UK BAP priority habitats and species present, they will want to conserve and enhance other locally-important habitats and species as appropriate.
- The biodiversity objectives of IDBs will be best identified and achieved in partnership with other environmental bodies and land managers, while IDBs can also help these partners deliver their biodiversity objectives.

### **IDB Biodiversity Objectives**

The development and implementation of an IDB BAP is also intended to achieve a number of broad objectives:

- Integration of biodiversity management into IDB activities.
- Use of biodiversity-friendly techniques to conserve and enhance the habitats and species within the drainage district.
- Increased knowledge of the biodiversity of drainage channels and associated habitats through maintenance of appropriate habitats and species records.
- Promotion of awareness among IDB staff, land-managers and partner organisations of the value and conservation requirements of relevant wetland habitats and species.
- Co-operation with land-managers and partner organisations to achieve biodiversity improvements.
- Communication and promotion of the wide range of IDB biodiversity work with landowners and managers, partner organisations, government and the general public.
- More sustainable practices and activities.

### **IDB Biodiversity Action Plans**

IDB Biodiversity Action Plans are similar in concept to the Local Biodiversity Action Plans (LBAPs) produced for English counties by the local partnerships made up of bodies such as wildlife trusts and local authorities. LBAPs link to the national UK BAP but have an emphasis on the habitats and species important in county areas. Similarly, the IDB BAP should link to the LBAP but focus in detail on just those habitats and species that are relevant to the IDB's area of operation and identify specific actions that the IDB intends to implement.

In most cases, the IDB plan will share some objectives and targets with the LBAP. It is certainly important that IDBs liaise with the LBAP partnership and Regional Biodiversity Co-ordinators (contact details are available from Natural England offices) to identify common objectives. Indeed, liaising with the LBAP partnership and the Regional Biodiversity Co-ordinator can help considerably in the production of the IDB plan. Ultimately, the IDB BAP should focus on those habitat and species actions that the IDB is best-placed to deliver.

IDB BAPs should aim to combine national and local objectives and priorities. An IDB BAP should:

- Review the biodiversity present, or potentially present, in the IDB district.
- Prioritise habitats and species for action.
- Identify appropriate objectives and related targets that will help conserve and enhance these habitats and species.
- Identify a programme to achieve these objectives and targets through the IDB's various activities: planning, maintenance, capital works, contracting, and training.
- Develop an awareness of its biodiversity objectives among staff, Board members, land-managers and partners.
- Use biodiversity objectives to build productive local partnerships.
- Establish systems to help monitor and report the IDB's work on biodiversity.

### **IDB Biodiversity Action Planning – A Five-Stage Process**

Each IDB district is different in terms of area, physical character and its potential for biodiversity improvement. Whatever the scale of the Biodiversity Action Plan, the same five-stage process can be followed using this guidance and the accompanying plan template:

1. **Conducting a Biodiversity Audit**

This is an audit of the habitats and species that are present in the IDB's sphere of operation using already existing and readily available data. It requires an assessment of the relative importance of these species and habitats, highlighting the BAP priority habitats and species for the IDB's area of operation. It also includes a list of the wildlife sites in the drainage district.

2. **Producing an IDB Biodiversity Action Plan**

This involves selecting the habitats and species that would benefit from IDB action and developing objectives and targets for conserving and enhancing these features. These targets should be SMART (Specific, Measurable, Achievable, Realistic, Time-limited). The plan will often identify proposals for partnerships, especially with land-managers and LBAP partnership members, to facilitate joint objectives, practical projects, resource-sharing and fund-raising.

3. **Implementing**

This means integrating biodiversity actions into the IDB's existing work programmes and practices, such as maintenance or capital programmes.

4. **Monitoring**

It is important to pick simple indicators of progress towards the IDB's biodiversity targets and to collate information on biodiversity achievement.

5. **Reviewing and Reporting Progress**

In light of the information gained from monitoring, biodiversity delivery can be reviewed and appropriate amendments made over time to the IDB BAP and associated work programmes. It is also important to communicate the IDB's achievements to partner organisations and the wider biodiversity community, principally using the web-based Biodiversity Activity Reporting System (BARS).

### **Sub-catchment and Joint IDB Biodiversity Action Plans**

When preparing to develop a plan, IDBs should consider whether there is merit in working together with neighbouring Boards to produce a single, joint Biodiversity Action Plan that covers a sub-catchment or discrete part of a drainage system. Similarly, Boards that are part of a group or consortium of IDBs may wish to join together to produce a single IDB BAP.

There may be good reasons for producing a joint plan:

- A group of IDBs may manage an area that is a coherent ecological or hydrological unit.
- Planning, funding and delivering actions in a particular area may be more efficient under a single plan.
- There may be considerable efficiencies and cost-savings in data collation for the Biodiversity Audit.
- Above all, delivery of biodiversity objectives and targets may be maximised.

### **Using the Guidance and Template**

The following sections of this document provide guidance on conducting a Biodiversity Audit and then using the audit information to produce an IDB Biodiversity Action Plan. The guidance document is accompanied by a template for the audit and action plan and the two should be read side-by-side.

1. Each section of the guidance explains how to complete the relevant section of the Biodiversity Action Plan template.
2. The template also contains explanatory text to guide completion of particular sections.
3. Text marked in yellow indicates where the IDB text should enter its own text. In some cases, text marked in yellow provides examples which can then be over-written or deleted as appropriate.

## Conducting a Biodiversity Audit

The Biodiversity Audit is used as the basis for the subsequent completion of the IDB Biodiversity Action Plan. The species and habitats identified by the audit as being present within or close to the district will help in determining which habitats and species will be chosen to have individual action plans within the BAP.

The production of a Biodiversity Audit consists of two main stages:

- a) Collating biodiversity information about the drainage district.
- b) Identifying habitats and species of importance to the IDB.

Figure 1 at the end of this section summarises the suggested process for conducting an IDB Biodiversity Audit and Table 1 supplies links for several sources of data.

### Collating Biodiversity Information

The first stage of a Biodiversity Audit is the gathering together of information. This should be a desk-based exercise to collate existing biodiversity information relevant to the IDB's area of operation. A great deal of information may already be held by the IDB and additional data can be obtained from external bodies such as Local Biological Records Centres or LBAP partners. The audit should be based on the most recent and accurate data available and very old data needs to be treated with caution. However, lack of complete data should not deter the audit process. The audit is likely to identify information gaps and this is in itself an important part of the biodiversity planning process.

A range of information needs to be collated for the drainage district:

- Details of nature conservation sites
- Habitat information
- Species information

### Nature Conservation Sites

Information should be collated on nature conservation sites, including non-statutory sites, located in the drainage district, along with any details of the site's interest features that are relevant to the IDB. For example, it should be noted if the site has a Water Level Management Plan (WLMP) or has water-dependent habitats or species.

### Habitats

The IDB should assemble information on the habitats in its district. This will include a mix of broad habitat types, UK BAP priority habitats and local priority habitats. The audit should provide an understanding of the distribution of water-dependent biodiversity features within IDB districts. This can then be used to develop appropriate biodiversity objectives and, in combination with other environmental information, such as the location of SSSIs, to identify areas of high and low biodiversity potential.

The habitat audit should include, as a minimum:

- Any UK BAP priority habitats in the drainage district. A selected list of freshwater and wetland priority habitats likely to be found in an IDB's area of operation is attached to this guidance in **Appendix 1**. A full list of UK BAP priority habitats can be found on the UK BAP website ([www.ukbap.org.uk](http://www.ukbap.org.uk)).
- Other habitats which are of local conservation importance, locally threatened, locally rare, locally distinctive/characteristic or locally popular.

### Species

The IDB should assemble information on species recorded in the district. This should include, as a minimum:

- Any UK BAP priority species in the drainage district. A selected list of freshwater and wetland priority species likely to be of relevance to an IDB's activities is attached to this guidance in **Appendix 2**. A full list of UK priority BAP species can be found on the UK BAP website ([www.ukbap.org.uk](http://www.ukbap.org.uk)).
- Other species which are of local conservation concern, locally threatened, locally rare, locally distinctive/characteristic or locally popular.
- Non-native and invasive species that pose a risk of damaging impacts.

### Sources of Information for Audit

There are a number of possible sources of information for the audit:

- Biodiversity and related data already held by the IDB:
  - Phase 1 habitat surveys.
  - More detailed surveys and reports conducted in conjunction with specific capital projects.
  - Maps of drainage system, topography, land-use.
- A map and list of the UK BAP priority wetland habitats that have been recorded in the IDB's district accompanies this guidance and can also be found on the DEFRA website ([www.defra.gov.uk](http://www.defra.gov.uk)). Not all drainage districts contain BAP priority habitats and so every IDB will not necessarily have a map to accompany this guidance. IDBs should be aware that the accuracy of the mapping for each habitat type varies so a degree of ground-truthing is advisable. Priority habitat maps are also available on Natural England's Nature on the Map website ([www.natureonthemap.org.uk](http://www.natureonthemap.org.uk)).
- Habitat and species location records held by Local Biological Record Centres, which can be identified and contacted via the website of the National Federation of Biological Recording ([www.nfbr.org.uk/html/links](http://www.nfbr.org.uk/html/links)).
- The National Biodiversity Network Gateway website where it is possible to search a large number of biological datasets by particular county, map square or site ([www.searchnbn.net/index\\_homepage/index.jsp](http://www.searchnbn.net/index_homepage/index.jsp)).
- County Wildlife Trusts survey data.
- Information held by non-governmental conservation organisations, such as the Royal Society for the Protection of Birds, Plantlife, and Buglife.
- Government conservation and environment agencies: Natural England and the Environment Agency local offices may have habitat and species information for specific locations in the form of reports or data spreadsheets.
- The Local Biodiversity Action Plan produced by the LBAP partners, normally on a county basis.
- Regional Biodiversity Audits. These have been produced for most regions in England, providing information on the priority BAP habitats and species which are important regionally, but also often listing species that are not national priorities but have a regional significance.

Table 1 lists a range of general data sources for the desk-based audit and provides relevant weblinks.

**Table 1: Data sources for desk-based IDB Biodiversity Audits**

Source	Type of Data	Link
Natural England and Environment Agency	Maps of each IDB boundary showing priority BAP habitat locations.	Distributed with IDB BAP guidance and available via <a href="http://www.defra.gov.uk">www.defra.gov.uk</a>
Magic	Maps and GIS files for all statutory designated nature conservation sites.	<a href="http://www.magic.gov.uk">www.magic.gov.uk</a>
Natural England	Website map with links to downloadable site and GIS information	<a href="http://www.english-nature.org.uk/toolz/sitemap.htm">www.english-nature.org.uk/toolz/sitemap.htm</a>
Natural England	Downloadable GIS datasets for designated sites, BAP habitats, natural areas and joint character areas.	<a href="http://www.english-nature.org.uk/pubs/gis/gis_register.asp">www.english-nature.org.uk/pubs/gis/gis_register.asp</a>
Natural England	Information on statutory designated nature conservation sites, including citations for SSSIs. Also includes Local Nature Reserves.	<a href="http://www.english-nature.org.uk/speciallink.htm">www.english-nature.org.uk/speciallink.htm</a>
JNCC	Information on all internationally designated sites (Ramsar, SPA and SAC).	<a href="http://www.jncc.gov.uk">www.jncc.gov.uk</a>
NBN Gateway	Provides distribution maps and downloadable wildlife data for the UK.	<a href="http://www.searchnbn.net">www.searchnbn.net</a>
UK BAP	Lists all UK BAP priority species and habitats. Provides links to Local BAPs throughout the UK.	<a href="http://www.ukbap.org.uk/">www.ukbap.org.uk/</a>
Wildlife Trusts	Provides links to local Wildlife Trust websites.	<a href="http://www.wildlifetrusts.org">www.wildlifetrusts.org</a>

Local Biological Records Centres	Provides links to Local Biological Records Centres throughout the country.	<a href="http://www.nbn-nfbr.org.uk/nbn.php">www.nbn-nfbr.org.uk/nbn.php</a>
Direct.gov	Provides links to Local Planning Authority websites where local plans and proposals maps can be found. These often provide information on non-statutory designated sites.	<a href="http://www.direct.gov.uk/en/index.htm">www.direct.gov.uk/en/index.htm</a>

It should be noted that ecological data is recorded in a number of ways that can complicate the collection and assimilation of data. Data for species may be available in one of the following forms:

- Grid-referenced information that allows the exact location of the record to be pinpointed.
- Site-based information, e.g. water voles were recorded in the North Drain in 2005.
- Grid-square records – usually 10 km squares or 1 km squares. These data are less specific to the district as a 10 km square may just intersect the IDB boundary. It is relevant information at this stage and should be included, especially if two or more squares have the information recorded.

### Identifying Habitats and Species of Importance

The second stage of producing an IDB Biodiversity Audit involves identifying those habitats and species within the drainage district that are of importance to the IDB – that is to say, those habitats and species that could benefit from IDB actions and therefore should feature in the IDB BAP.

IDB BAPs should give consideration first to all those UK BAP priority habitats and species that have been identified as occurring locally or that have the potential to occur within the IDB district. Plans should also address habitats and species that are of regional or local importance, and may well have been identified in the LBAP.

Technically, a species or habitat is deemed of importance if it is included in one, or more, of the following:

- Bonn Convention on the Conservation of Migratory Species of Wild Animals, Appendices I or II.
- Bern Convention on the Conservation of European Wildlife and Natural Habitats, Appendices I, II or III.
- EC Habitats Directive, Annex I (habitats) or Annex II (species).
- EC Birds Directive, Annex I (species).
- Wildlife and Countryside Act (1981) (as amended), Schedules 1, 5, 6, 8, or 9 (species).
- UK Biodiversity Action Plan.
- A Local Biodiversity Action Plan.

But in most cases, those wetland habitats and species that are UK BAP priorities (and thus listed in **Appendices 1 and 2** of this guidance) will be a good starting point for the process of identifying potential importance. Information about other habitats or species occurring locally that are listed under the Habitats and Birds Directives or the Wildlife and Countryside Act can usually be obtained from Natural England or the LBAP partnership organisations.

In many cases there will be much overlap between the international, national and local levels of legislation and biodiversity action planning. However, additional species and habitats not identified as internationally, nationally or locally important may also be given action plans if considered important within the drainage district. This guidance provides the example of an action plan for the barn owl (see **Appendix 3**).

Once the habitats and species of importance within the IDB district have been identified, the Biodiversity Audit sections of the template can be filled in:

- **Section 4** – the audit of nature conservation sites in the drainage district.
- **Section 5** – The habitat audit summary, giving information on the presence of broad habitat types, UK BAP priority habitats and LBAP habitats, and identifying habitats of importance to the IDB.
- **Section 6** – The species audit summary, giving information on UK BAP priority species, LBAP species and locally-important non-BAP species, and identifying species of importance to the IDB.

### Strategic Catchment Planning and Habitat Re-creation

In identifying species and habitats or importance for the IDB, it is important to consider the possibility of reversing past losses, where this is practical to do so. The distribution and extent of habitats and species

may have changed or they may have disappeared from the local area. Including them in the Biodiversity Audit allows for consideration to be given to reintroductions and habitat recreation.

As a rough guide, reference should be made to species extinctions within the last 25 years or, where extinction dates are unknown, to the most recent record. For habitats, an assessment of habitat loss will be valuable. Many counties now have ecological network maps or biodiversity opportunity maps that identify potential areas for biodiversity enhancement or habitat recreation.

Nationally, a partnership of government agencies and conservation organisations has produced the *Wetland Vision*, a GIS-based resource that has mapped the historic loss of wetlands in England and, more importantly, has identified where wetlands could be restored or recreated. The *Wetland Vision* maps can be analysed at a regional and local level to provide information on the potential opportunities for wetland habitat creation or enhancement ([www.wetlandvision.org.uk](http://www.wetlandvision.org.uk)).

It may be appropriate for an IDB to undertake a more strategic, catchment-scale biodiversity audit in areas of high biodiversity interest. For example, there may be catchments that include several designated sites. A broad-scale strategic audit could use topographical, hydrological and habitat data to assess existing water management and to identify opportunities for habitat restoration and the creation of linking habitat, connecting existing areas of high biodiversity value.

Information of this sort would also assist the effective targeting of Environmental Stewardship Higher Level Scheme options within IDB districts and provide an important context for the development of strategic water management plans, such as WLMPs and Catchment Flood Management Plans.

#### **Further Information Requirements**

The initial desk-based Biodiversity Audit should be sufficient to produce the IDB BAP, but it may identify gaps in data and knowledge and point to the need for further data collection. It is envisaged that the desk-based audit of habitats and species within the IDB's area of operation will be complemented in the longer term by data gathered from a variety of field surveys that will extend the range of baseline data and increasingly inform targeted capital or maintenance work.

It is anticipated that, over time, IDBs may undertake essentially two types of biodiversity survey:

- Detailed surveys of locations where capital works and non-regular maintenance operations are being undertaken. These areas are normally surveyed in an appropriate level of detail to provide information on species and vegetation communities present.
- Broad-scale habitat surveys in conjunction with other IDB activities. These tend to use broad-scale, rapid survey methods, providing a snap-shot of the habitat and vegetation on a site, that can be bolted on to other routine activities, such as the IDB's regular asset management surveys.

When planning to carry out new survey work it may be beneficial to collaborate with the local biodiversity partnership, which will be engaged regularly in commissioning habitat and species surveys. It is important that any new data collected from surveys and studies are shared with local biological record centres.

In addition to more formal surveys, day-to-day monitoring can be very valuable. For example, a number of IDBs already enlist enthusiastic staff in the monitoring process, developing simple recording sheets for sightings of species such as water vole.

The timing of biodiversity surveys should be considered as seasonality often governs the species present.

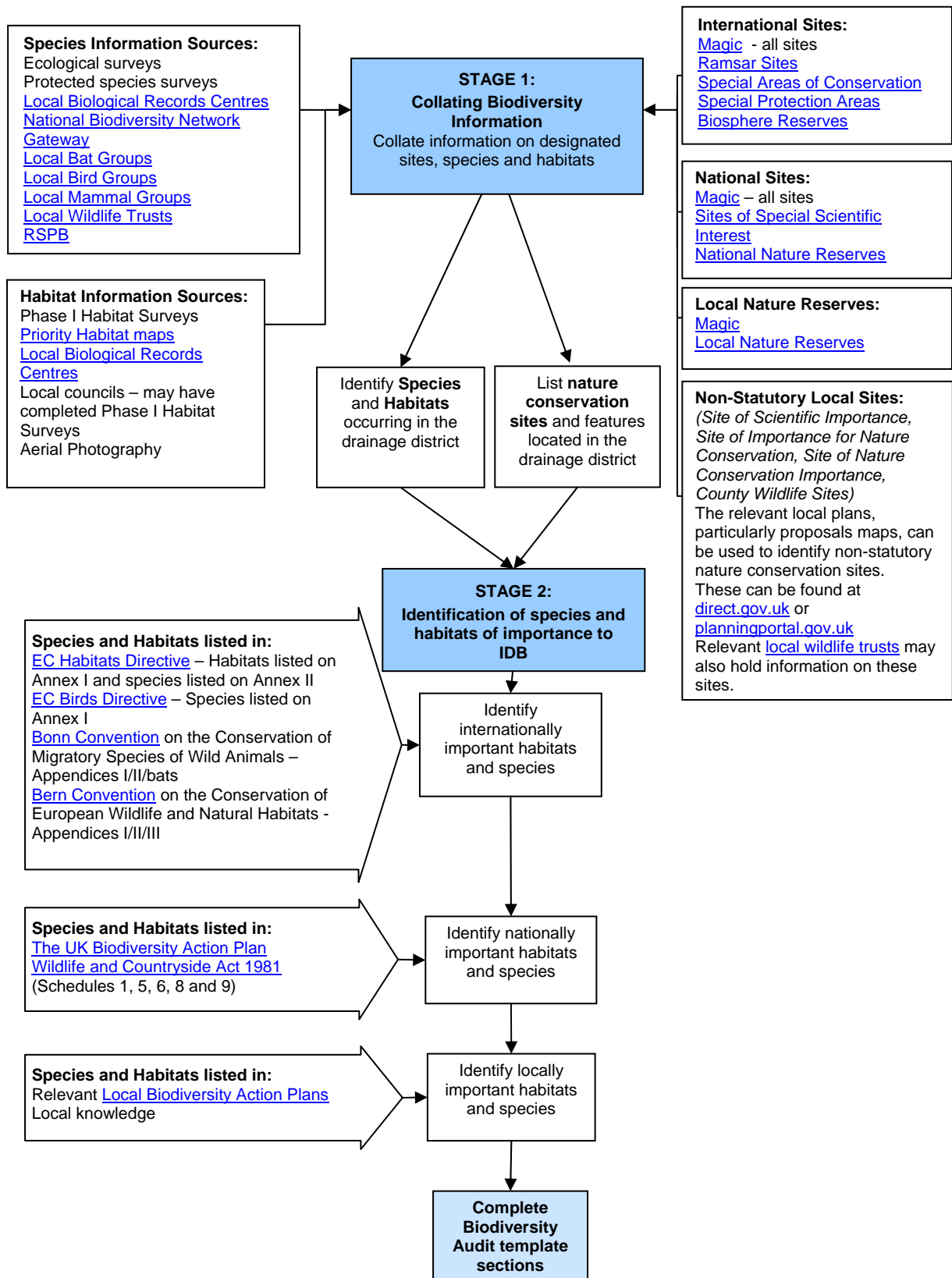


Figure 1: Process for conducting an IDB Biodiversity Audit

## Producing an IDB Biodiversity Action Plan

### Evaluating and Prioritising Habitats and Species

The next step is to evaluate those habitats and species of importance identified in the Biodiversity Audit to decide which to prioritise for action. An IDB BAP is really a collection of separate action plans for individual habitats and species. See Figure 2 at the end of this section for an outline of the process for producing an IDB Biodiversity Action Plan.

The IDB's criteria for evaluation should mirror the criteria used to identify national priorities. The evaluation will therefore identify habitats and species for which urgent conservation actions are required and the potential or scale of opportunity available to the IDB to deliver significant conservation gains.

In evaluating and prioritising the IDB's habitats and species for action, it is important to liaise locally with the LBAP biodiversity partnership, which can be an invaluable source of information and advice.

The following criteria may be used to evaluate the importance of habitats to the IDB:

- UK BAP priority habitats, in particular those characteristic of the area.
- Significance of local resource in national context – e.g. is a habitat confined to the area or does the area have a high proportion of the national resource?
- Opportunities available to the IDB to enhance the local resource of the habitat.
- Local decline rates – declines and increases assessed, where possible, over the last 25 years.
- Local rarity – habitat occurrence in the IDB district or the area covered by the Local Biodiversity Action Plan.
- Local threats to the habitat – e.g. pollution, development, lack of management.
- Degree of habitat fragmentation and viability of the remaining fragments.
- Importance of habitat for key species.
- Local distinctiveness.

The following criteria may be used to evaluate the importance of species to the IDB:

- UK BAP priority species, in particular those most characteristic of the area.
- Significance of local resource in national context – e.g. is a species unique to the area or does the area have a high proportion of the national population of the species?
- Opportunities available to the IDB to maintain or increase species populations locally.
- Local decline rates.
- Local rarity.
- Local threats.
- Local distinctiveness – high-profile or popular species or species particularly associated with an area.

Selection of the IDB's priority species or habitats in a given area may involve choosing between UK BAP priority habitats and species – not simply identifying all those that occur in the area. Some UK BAP priority habitats and species may be more characteristic of some IDB areas than others. In this case, it may be appropriate for local effort to be focused on the more characteristic habitats and species. The relative opportunity available in an area should also guide selection. Selection should remain sufficiently flexible to accommodate the best opportunities for conservation gain on a cost-benefit basis.

### Action Plan Objectives, Targets and Indicators

Having prioritised the habitats and species of importance present, appropriate objectives and targets for the Biodiversity Action Plan can be established, taking into account:

- The water level management and flood risk management requirements of the district.
- Existing IDB maintenance and capital works programmes.
- Legal obligations toward designated sites.
- UK BAP and LBAP objectives and targets.
- Habitat creation or restoration opportunities.
- Other values for the site, such as its landscape value and amenity use.
- Security, health and safety, and access considerations.
- Most efficient use of resources.



Using the Biodiversity Audit information and the above criteria, the IDB should be in a position to identify areas of high and low biodiversity potential within its area of operation. Indeed, it may be able to identify particular catchments or parts of the drainage network that could be specially targeted for programmes of conservation management.

Objectives, targets and actions for habitats and species should be developed for the IDB's targeted habitats and species and entered in the appropriate action plan tables in **Sections 8 and 9** of the IDB BAP template.

IDBs may wish to consider developing a **Procedural Action Plan** that is not linked to particular habitats or species but sets objectives, targets and actions for cross-cutting IDB activities such as training, communications or planning. The intention is to integrate biodiversity consideration into IDB practices and procedures more widely. A procedural action plan table can be found in **Section 10** of the template.

### **Objectives**

Objectives are the high-level aims of the IDB BAP. Objectives will provide the overall direction and focus for the plan. Plan objectives should be supported by realistic, achievable targets (see below) with an individual action plan for each habitat and species outlining how the targets will be met. See **Sections 8-10** of the template. Targets are the measurable goals that are set in order to assess whether or not the IDB BAP objectives are being achieved. Overall, the plan objectives, targets and actions all need to match each other.

The following questions may help to set suitable objectives:

- a) What are you trying to achieve? What are your objectives for the plan? What would constitute a successful outcome or set of outcomes?
- b) Have similar objectives been set in other plans (UKBAP or LBAP) that could be adapted?
- c) Are your objectives defined to reflect outcomes (e.g. recovery in species population/range or enhanced sustainable management for habitats) rather than the outputs (e.g. operations carried out, surveys undertaken, or management plans written), which will be the focus of particular actions?
- d) How might your objectives and outcomes be measured?
- e) Are your objectives defined in such a way that progress toward meeting them can be monitored?
- f) What factors are critical to success?
- g) What SMART targets can be then set?

More specifically, the IDB should aim to set objectives and associated targets for its shortlist of habitats and species that are:

- a) Appropriate to maintain or restore the natural character of an area, and contribute an appropriate proportion of the national and local BAP targets for each given feature.
- b) Set to the same measurable parameters, wherever possible, that are used in the national and local BAP targets for priority habitats and species.
- c) Set against timescales that, wherever possible, mirror timescales set in national and local BAP action plans. Milestones can be included towards long-term objectives. It is often sensible to set short, medium and long-term targets that allow a phased approach to delivering biodiversity.

The IDB's biodiversity objectives should reflect, in broad terms, the local LBAP priorities, but it should be stressed that the IDB will almost certainly wish to generate its own unique objectives. Moreover, the IDB biodiversity audit and plan may identify new objectives that could be put forward for inclusion in future revisions of the LBAP.

### **SMART Targets**

Targets are precise measures of progress towards long-term objectives, usually based on quantified units related to questions like: "By when will it be done? How much will be done or achieved? How many species or what numbers will be affected?"

The targets in a BAP plan should aim to be **SMART** (Specific, Measurable, Achievable, Relevant and Time-limited):

#### **S – Specific**

Targets should be clear, meaningful and well-defined. Will you know when you've reached it? Targets should represent a quantitative milestone towards meeting a viable and sustainable long-term objective.

- M – Measurable** It must be possible to monitor and report progress towards the target.
- A – Achievable** Targets should be achievable both biologically and practically, and be based on reasonable assumptions about the availability of IDB staffing, resources, locations, etc..
- R – Relevant** Targets and actions should be appropriate to the IDB and its sphere of operation. Will they help you achieve your biodiversity objectives?
- T – Time-limited** Targets should be time-limited – i.e. achievable within a specific timeframe – to help prioritise and plan actions. They may incorporate a series of milestones.

The key points to remember when setting targets are:

- Choosing SMART targets at the beginning of the action plan process will help to ensure that monitoring and reporting are an integral part and will help identify issues to feed back into further planning and review.
- Target-setting needs to be done carefully as poorly-set targets may deflect actions from broader priorities or lead to unintended outcomes.
- Targets need to be reviewed at appropriate intervals to ensure that they are always appropriate to existing needs.
- Targets should not be confused with actions. Ideally, targets should be measurable variables that relate specifically to species and habitat status. For example, developing a management plan is an action, not a target.
- It is sensible to set short, medium and long-term targets that allow a phased approach to delivering biodiversity objectives and where possible mirror timescales set for national or LBAP action plans.
- Targets for habitats can often address the ecological needs of a wide range of species. It may be useful to link targets for habitats with their associated species.

Wherever possible, targets should be assigned to the following standard UK BAP categories to ensure consistency across plans. For habitats:

- **Maintaining extent** – no reduction in area of BAP habitat
- **Achieving condition** – maintain and/or improve the condition of existing BAP habitat
- **Restoration** – improve the condition of relict or degraded habitat
- **Expansion** – increase the extent of BAP habitat

For species:

- **Range** – maintain and/or increase range compared to baseline range
- **Population size** – maintain and/or increase population size compared to baseline level

However, standard target types are not always appropriate and IDBs should feel free to be innovative in designing targets that suit their purposes.

Targets for UK BAP priority habitats and species can often address the beneficial needs of a wide range of other species. Every effort should be made to ensure that an integrated approach is taken to setting targets and then determining actions for delivery. Integrated and non-conflicting targets should be set wherever possible, and it may be helpful in achieving this to liaise with LBAP representatives or Natural England.

This guidance provides a list of UK BAP priority habitats and species in **Appendices 1 and 2** that are likely to be of relevance to the IDB, and the Local Biodiversity Action Plan can be consulted to assist in the process of identifying appropriate IDB objectives that will complement broader LBAP objectives.

**Appendix 3** provides more information on SMART targets and gives three examples of targets and actions for habitats and species that are relevant to IDBs.

Setting realistic targets for the implementation of the action plan is key to its success. Targets need to consider ecological priorities, but also resources and staff availability as well as the timing of related

management activities. It should be bourn in mind that there may be various sources of external funding to assist with some projects.

### **Indicators**

Indicators are performance measures for the action plan – measurable features of a target that, when monitored over time, allow delivery of the target to be assessed. It is important to set appropriate indicators for the IDB's biodiversity targets in order to measure progress and to allow reporting of results.

Good indicators should be:

- Relevant
- Simple
- Easy to measure
- Easy to communicate
- Meaningful
- Encouraging of action on the ground

It is important to establish indicators that provide the IDB with ways of measuring both the current status of biodiversity in terms of species, habitats and ecosystems ("state" indicators) and also ways of measuring achievements in delivering biodiversity objectives and targets ("performance" indicators). For example, water voles returning to ditches is a good indicator of improved habitat quality (state) and the effective implementation of particular IDB ditch management programmes (performance).

Establishing effective indicators will help the IDB to both measure and report on the success of work programmes and check it is on track to deliver plan objectives and targets. They can also promote action on the ground and communicate the progress of action plans to partners and other stakeholders.

The flow chart in Figure 2 shows the complete process for producing an IDB Biodiversity Action Plan, from conducting the Biodiversity Audit to undertaking five-yearly reviews.

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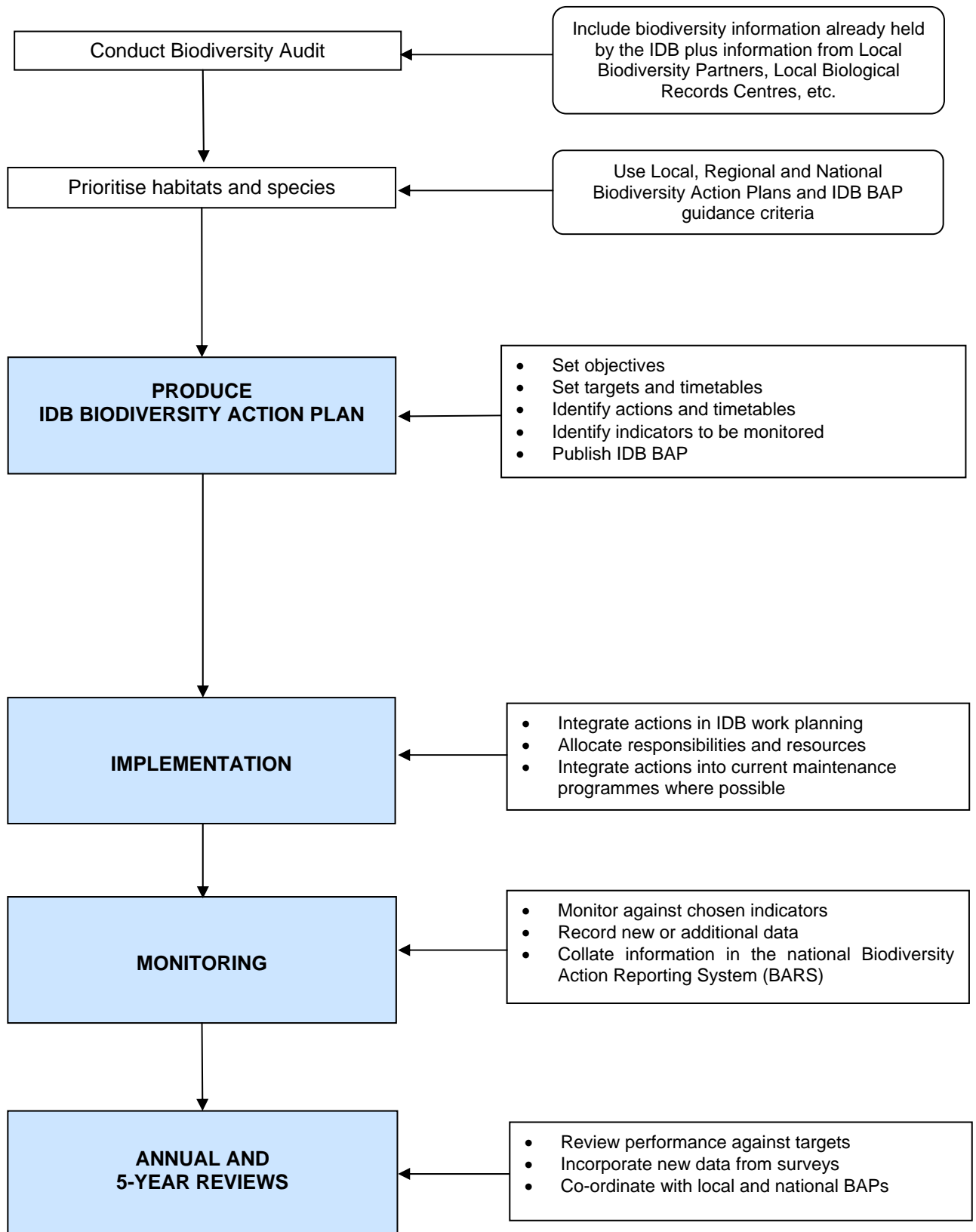


Figure 2: Outline of the Biodiversity Action Plan process.

## Implementing

### Integrating BAP Actions into Work Programmes

It is important that biodiversity actions to deliver targets are integrated into the IDB's mainstream work-planning process. Thus, planning for both maintenance programmes and capital and non-regular maintenance work should give consideration to the opportunities for implementing the actions in the IDB BAP.

Actions to deliver BAP targets may involve simple amendments to existing routine maintenance activities – such as ditch slubbing or vegetation cutting – or detailed planning to incorporate biodiversity gain in new capital works. It is important to consider how actions can be built into existing systems and management regimes so as to maximise efficiency and minimise costs.

Reference to *Nature Conservation and the Management of Drainage Channels*, the recommended guidance manual for the biodiversity management of watercourses, can help to identify techniques that are appropriate for delivering BAP actions. This guidance is being updated by the Association of Drainage Authorities and Natural England and a new version is due for publication in September 2008.

### Integrated Biodiversity Management

It is important that the IDB's biodiversity actions are, as far as possible, part of an integrated approach to habitat management based on catchments, sub-catchments or particular units of the drainage system. While UK BAP priority species often have their own individual action plans, they are of course reliant on particular habitats, which support whole communities of species. Improved management of a particular habitat will benefit a host of species. It is vital that management for priority species is not considered in isolation but as part of a holistic approach to effective habitat management.

This integration can assist with the efficient deployment of resources but also generate ideas for new biodiversity gains. **Appendix 4** provides some case studies of biodiversity projects that have been initiated by IDBs.

### Environmental Management Systems

Some IDBs may already operate an Environmental Management System (EMS) and will wish to integrate the BAP into this system. The Government is encouraging public authorities to incorporate and implement appropriate policies within their Asset Management Plans and Procurement Strategies, and through the adoption of Environmental Management Systems. Improving environmental performance also offers opportunities to demonstrate cost savings and improved efficiency. Environmental Management Systems can help public authorities systematically deliver positive environmental outcomes at a strategic level on resource efficiency, energy efficiency, planning, environmental health, education, waste management and pollution control.

In addition, an Environmental Management System can:

- Help a public authority to demonstrate its commitment to its environmental obligations.
- Increase environmental awareness and wider engagement of staff in environmental schemes.
- Mainstream environmental improvement and systematic measurement of progress against targets.

Information about EMS is available from organisations such as the British Standards Institute (BSI) and the Institute of Environmental Management and Assessment (IEMA). Further information can also be found at [www.emas.org.uk](http://www.emas.org.uk) or [www.iso14000-iso14001-environmental-management.com](http://www.iso14000-iso14001-environmental-management.com).

### Allocating Responsibilities and Assigning Resources

The BAP plan may include actions to be carried out by different groups – IDB staff, contractors or land managers within the drainage district. It is important that responsibility for leading on actions is clearly defined and that the BAP objectives, targets and actions are communicated to all relevant parties.

### Improving Employee Awareness

It is important to develop staff awareness of biodiversity to facilitate its integration into ongoing site management. Appropriate guidance can be made available for the species and habitats associated with IDB works. It is also important that contractors' staff are aware of the IDB's biodiversity aims and objectives.

### **Partnership Links**

Building partnerships is often the key to successfully developing and implementing the IDB BAP. Many local biodiversity partnerships have established habitat working groups dealing with wetlands and waterbodies. IDB involvement in these groups can greatly assist information exchange, co-ordination of activities, and identification of new opportunities.

### **An IDB Biodiversity Champion**

A BAP is an ongoing process and can involve many different players. It can be helpful to designate a biodiversity 'champion' within the IDB who has overall lead on developing and implementing the BAP and acts as a liaison officer with the IDB's biodiversity partners.

### **Publishing the IDB BAP**

The development of a BAP provides the IDB with a vehicle for describing the range of work that it undertakes in support of biodiversity – be it sympathetic vegetation cutting, conservation management of water levels to support Environmental Stewardship Higher Level Scheme options, or the creation of new wetland habitat.

It is important that a record of this contribution is placed in the public domain and made available to other organisations and the general public. The biodiversity role of IDBs needs to be better understood and valued, and IDB BAPs provide a mechanism for recording current biodiversity delivery and future aspirations.

It is recommended that IDBs publish the BAP on their website and ensure that relevant partners, including land managers, contractors, and local LBAP organisations, are aware of its location.

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## Monitoring

### Monitoring Indicators

It is important that the IDB monitors the delivery of its BAP objectives, and the setting of appropriate targets and measurable indicators should allow this to take place. A simple process should be put in place to record what actions have been carried out and when.

Target indicators (e.g. ditch length, habitat hectares or population numbers) should be measured and recorded according to methods chosen at the outset. Sufficient monitoring of the chosen indicators should be undertaken each year to facilitate reporting against the plan targets.

Well-chosen indicators should be able to measure progress without the need to resort to extensive survey programmes.

### Recording New and Additional Data

Species and habitats vary naturally over time. Monitoring over time will result in new information, such as the presence of species missed during earlier surveys. Any new information should be incorporated into the IDB BAP as appropriate.

### Collating Biodiversity Information Centrally

The information gathered by the initial biodiversity audit and subsequent monitoring should be collated and made available. It is good practice to ensure that any new biological data from habitat or species surveys are shared with the local biological records centre and the local biodiversity partnership.

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## Reviewing and Reporting Progress

It is important to review the implementation of the BAP, assess changes in the status of habitats and species and the overall feasibility of objectives and targets. In addition, it is vital that the successful achievement of targets is recorded and the gains for biodiversity registered in the public domain.

### Reviewing Performance Against Targets

The indicators agreed at the earlier stage of plan production should be used to monitor how successfully the IDB BAP is being implemented and how biodiversity has benefited on a site. If targets are not met, the IDB will want to identify why this has happened and, if necessary, amend the action plan accordingly.

### Annual and Five-Yearly Reviews

The IDB should use the results of monitoring to review its delivery of its BAP objectives and targets on an annual basis and make any appropriate adjustments to its workplan. It is advisable to undertake a comprehensive review of the plan as a whole every five years and consider any major revisions that may be required of actions, targets or objectives.

### Incorporating New Information into the Plan

Any changes needed to the workplan should be fed back into the implementation phase of the IDB BAP process.

### Co-ordinating the Review with UKBAP and LBAPs

UK and LBAP priorities and objectives may be updated over time so it is important to check regularly that the IDB BAP objectives and targets still reflect these.

### Reporting and Communicating

It is important that progress against the biodiversity targets is widely communicated. Keeping the participants and stakeholders of the IDB BAP informed helps to gain continued support from within as

well as outside the IDB. It is good practice to publish the IDB BAP and annual reports on progress on the IDB's website.

**Biodiversity Action Reporting System**

The Biodiversity Action Reporting System (BARS) is the UK's national biodiversity information system that supports the planning, monitoring and reporting requirements of national, local and organisations' Biodiversity Actions Plans. It also allows users to learn about the progress being made with local and national BAPs. The BARS website can be found at [www.ukbap-reporting.org.uk](http://www.ukbap-reporting.org.uk) and guidance for IDBs on using BARS is contained in **Appendix 5**.

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## Appendix 1: BAP Habitat Types

**Relevant BAP Broad Habitat types for terrestrial and freshwater environments and their associated UK BAP Priority Habitats.** (Priority Habitats with weblinks are connected to the current published national priority action plan for the habitat. Following the August 2007 revision of the list of priority habitats, these plans may change).

BAP Broad Habitat	UK BAP Priority Habitat
Rivers and Streams	Rivers (A plan currently exists for <a href="#">Chalk Rivers</a> )
Standing Open Water and Canals	Oligotrophic and Dystrophic Lakes
	Ponds
	<a href="#">Mesotrophic Lakes</a>
	<a href="#">Eutrophic Standing Waters</a>
	<a href="#">Aquifer-fed Naturally Fluctuating Water Bodies</a>
Arable and Horticultural	<a href="#">Arable Field Margins</a>
Boundary & Linear Features	<a href="#">Hedgerows</a>
Broadleaved, Mixed and Yew Woodland	Traditional Orchards
	<a href="#">Wood-Pasture and Parkland</a>
	<a href="#">Upland Oakwood</a>
	<a href="#">Lowland Beech and Yew Woodland</a>
	<a href="#">Upland Mixed Ashwoods</a>
	<a href="#">Wet Woodland</a>
	Lowland Mixed Deciduous Woodland
Upland Birchwoods	
Coniferous Woodland	<a href="#">Native Pine Woodlands</a>
Acid Grassland	<a href="#">Lowland Dry Acid Grassland</a>
Calcareous Grassland	<a href="#">Lowland Calcareous Grassland</a>
	<a href="#">Upland Calcareous Grassland</a>
Neutral Grassland	<a href="#">Lowland Meadows</a>
	<a href="#">Upland Hay Meadows</a>
Improved Grassland	<a href="#">Coastal and Floodplain Grazing Marsh</a>
Dwarf Shrub Heath	<a href="#">Lowland Heathland</a>
	<a href="#">Upland Heathland</a>
Fen, Marsh and Swamp	Upland Flushes, Fens and Swamps
	<a href="#">Purple Moor Grass and Rush Pastures</a>
	<a href="#">Lowland Fens</a>
	<a href="#">Reedbeds</a>
Bogs	<a href="#">Lowland Raised Bog</a>
	<a href="#">Blanket Bog</a>

## Appendix 2: BAP Priority Species

### UK BAP Priority Species Associated with Internal Drainage Board Spheres of Operation.

Common Name	Group	Order	Scientific Name	High association with drainage channels?	Association with channel banks	Notes
Aquatic warbler	Birds	Bird	<i>Acrocephalus paludicola</i>			Dorset, reedbeds
Marsh warbler	Birds	Bird	<i>Acrocephalus palustris</i>			
Sky lark	Birds	Bird	<i>Alauda arvensis arvensis</i>		Grassy banks	
Bittern	Birds	Bird	<i>Botaurus stellaris stellaris</i>			
Linnet	Birds	Bird	<i>Carduelis cannabina autochthona</i>		Hedges/ scrubby banks	
Reed bunting	Birds	Bird	<i>Emberiza schoeniclus schoeniclus</i>	High		
Black-tailed godwit	Birds	Bird	<i>Limosa limosa limosa</i>			
Spotted flycatcher	Birds	Bird	<i>Muscicapa striata striata</i>			
Tree sparrow	Birds	Bird	<i>Passer montanus montanus</i>			
Bullfinch	Birds	Bird	<i>Pyrrhula pyrrhula pileata</i>		Hedges/ scrubby banks	
Song thrush	Birds	Bird	<i>Turdus philomelos clarkei</i>		Hedges/ scrubby banks	
Lapwing	Birds	Bird	<i>Vanellus vanellus</i>			
European eel	Fish	Anguilliformes	<i>Anguilla anguilla</i>	High		
Spined loach	Fish	Cypriniformes	<i>Cobitis taenia</i>	High		
Common toad	Herptiles	Amphibian	<i>Bufo bufo</i>			
Natterjack toad	Herptiles	Amphibian	<i>Bufo calamita</i>			Coastal site
Pool frog	Herptiles	Amphibian	<i>Rana lessonae</i>			
Great crested newt	Herptiles	Amphibian	<i>Triturus cristatus</i>	High		
Grass snake	Herptiles	Reptile	<i>Natrix natrix</i>			

Common Name	Group	Order	Scientific Name	High association with drainage channels?	Association with channel banks	Notes
Marsh honey fungus	Lower plants and fungi	Fungus	<i>Armillaria ectypa</i>			Under-recorded, associated with common reed
Orange-fruited elm-lichen	Lower plants and fungi	Lichen	<i>Caloplaca luteoalba</i>			
River jelly lichen	Lower plants and fungi	Lichen	<i>Collema dichotomum</i>			
Fen notchwort	Lower plants and fungi	Liverwort	<i>Leiocolea rutheana</i>			
Veilwort	Lower plants and fungi	Liverwort	<i>Pallavicinia lyellii</i>			Raised bogs, damp woodland
Sausage beard-moss	Lower plants and fungi	Moss	<i>Didymodon tomaculosus</i>			Yorkshire
Baltic stonewort	Lower plants and fungi	Stonewort	<i>Chara baltica</i>			Saline lagoons, ditches, Norfolk Broads
Bearded stonewort	Lower plants and fungi	Stonewort	<i>Chara canescens</i>			
Convergent stonewort	Lower plants and fungi	Stonewort	<i>Chara connivens</i>			
Intermediate stonewort	Lower plants and fungi	Stonewort	<i>Chara intermedia</i>			
Foxtail stonewort	Lower plants and fungi	Stonewort	<i>Lamprothamnium papulosum</i>			
Dwarf stonewort	Lower plants and fungi	Stonewort	<i>Nitella tenuissima</i>			Wicken Fen lode
Starry stonewort	Lower plants and fungi	Stonewort	<i>Nitellopsis obtusa</i>			
Tassel stonewort	Lower plants and fungi	Stonewort	<i>Tolypella intricata</i>	High		Ditches Avon, Glos, Suffolk, Norfolk, Cambs
Great tassel stonewort	Lower plants and fungi	Stonewort	<i>Tolypella prolifera</i>	High		Ditches Somerset, Sussex, Cambs, Lincs
Rosser's sac-spider	Terrestrial invertebrates	Araneae	<i>Clubiona rosserae</i>			Wet fen, sedge
Fen raft spider	Terrestrial invertebrates	Araneae	<i>Dolomedes plantarius</i>	High		Redgrave & Lopham, and Pevensy Levels

Common Name	Group	Order	Scientific Name	High association with drainage channels?	Association with channel banks	Notes
a freshwater bryozoan	Terrestrial invertebrates	Bryozoa	<i>Lophopus crystallinus</i>			
Swollen spire snail	Terrestrial invertebrates	Caenogastropoda	<i>Mercuria similis</i>			
Large-mouthed valve snail	Terrestrial invertebrates	Caenogastropoda	<i>Valvata macrostoma</i>			
Pashford pot beetle	Terrestrial invertebrates	Coleoptera	<i>Cryptocephalus exiguus</i>			
a reed beetle	Terrestrial invertebrates	Coleoptera	<i>Donacia aquatica</i>			Sedges
Sallow guest weevil	Terrestrial invertebrates	Coleoptera	<i>Melanapion minimum</i>			
a click beetle	Terrestrial invertebrates	Coleoptera	<i>Melanotus punctolineatus</i>			Coastal dunes
Alder flea weevil	Terrestrial invertebrates	Coleoptera	<i>Rhynchaenus testaceus</i>			Alders
Hairy click beetle	Terrestrial invertebrates	Coleoptera	<i>Synaptus filiformis</i>			Channel banks, River Parrett, Somerset
a ground beetle	Terrestrial invertebrates	Coleoptera - ground beetle	<i>Agonum scitulum</i>			
a ground beetle	Terrestrial invertebrates	Coleoptera - ground beetle	<i>Anisodactylus nemorivagus</i>			
Saltmarsh longspur	Terrestrial invertebrates	Coleoptera - ground beetle	<i>Anisodactylus poeciloides</i>			Ditches
a diving beetle	Terrestrial invertebrates	Coleoptera - water beetle	<i>Bidessus unistriatus</i>			Drains, ditches, reed litter
a reed beetle	Terrestrial invertebrates	Coleoptera - water beetle	<i>Donacia bicolora</i>			Bur-reed
a diving beetle	Terrestrial invertebrates	Coleoptera - water beetle	<i>Laccophilus poecilus</i>	High		Lewis Levels
White-clawed crayfish	Terrestrial invertebrates	Decapoda	<i>Austropotamobius pallipes</i>			
	Terrestrial invertebrates	Diptera	<i>Dolichopus laticola</i>			Norfolk Broads
	Terrestrial invertebrates	Diptera	<i>Dolichopus nigripes</i>			Norfolk Broads
a cranefly	Terrestrial invertebrates	Diptera	<i>Lipsothrix nervosa</i>			Wet/rotting timber
a soldierfly	Terrestrial invertebrates	Diptera	<i>Odontomyia hydroleon</i>			
Lesser water measurer	Terrestrial invertebrates	Heteroptera	<i>Hydrometra gracilenta</i>			

Common Name	Group	Order	Scientific Name	High association with drainage channels?	Association with channel banks	Notes
Large garden bumblebee	Terrestrial invertebrates	Hymenoptera	<i>Bombus ruderatus</i>		Grassy banks	
Marsh mallow moth	Terrestrial invertebrates	Lepidoptera	<i>Hydraecia osseola hucherardi</i>		Grassy banks	Romney Marsh especially
Shining ramshorn snail	Terrestrial invertebrates	Lymnophila	<i>Segmentina nitida</i>	High		
Little ramshorn whirlpool snail	Terrestrial invertebrates	Mollusca	<i>Anisus vorticulus</i>	High		Norfolk, Pevensey
Thames ramshorn snail	Terrestrial invertebrates	Mollusca	<i>Gyraulus acronicus</i>			
Fine-lined pea mussel	Terrestrial invertebrates	Mollusca	<i>Pisidium tenuilineatum</i>			
Narrow-mouthed whorl snail	Terrestrial invertebrates	Mollusca	<i>Vertigo angustior</i>	High		
Round-mouthed whorl snail	Terrestrial invertebrates	Mollusca	<i>Vertigo genesii</i>			
Geyer's whorl snail	Terrestrial invertebrates	Mollusca	<i>Vertigo geyeri</i>			
Desmoulin's whorl snail	Terrestrial invertebrates	Mollusca	<i>Vertigo moulinsiana</i>			
Norfolk hawkler	Terrestrial invertebrates	Odonata	<i>Aeshna isosceles</i>			
Southern damselfly	Terrestrial invertebrates	Odonata	<i>Coenagrion mercuriale</i>			Streams, runnels
Large marsh grasshopper	Terrestrial invertebrates	Orthoptera	<i>Stethophyma grossum</i>			
a stonefly	Terrestrial invertebrates	Plecoptera	<i>Brachyptera putata</i>			River shallows
Depressed river mussel	Terrestrial invertebrates	Unionoidea	<i>Pseudanodonta complanata</i>			
Water vole	Terrestrial mammals	Terrestrial mammal	<i>Arvicola terrestris</i>	High		
Barbastelle bat	Terrestrial mammals	Terrestrial mammal	<i>Barbastella barbastellus</i>			
Otter	Terrestrial mammals	Terrestrial mammal	<i>Lutra lutra</i>	High		
Dormouse	Terrestrial mammals	Terrestrial mammal	<i>Muscardinus avellanarius</i>			
Bechstein's bat	Terrestrial mammals	Terrestrial mammal	<i>Myotis bechsteinii</i>			
Soprano pipistrelle	Terrestrial mammals	Terrestrial mammal	<i>Pipistrellus pygmaeus</i>			
Lesser horseshoe bat	Terrestrial mammals	Terrestrial mammal	<i>Rhinolophus hipposideros</i>			

Common Name	Group	Order	Scientific Name	High association with drainage channels?	Association with channel banks	Notes
Pillwort	Vascular plants	Fern	<i>Pilularia globulifera</i>	High		East Anglia
Ribbon-leaved water-plantain	Vascular plants	Flowering plant	<i>Alisma gramineum</i>	High		
Creeping marshwort	Vascular plants	Flowering plant	<i>Apium repens</i>			
Narrow small-reed	Vascular plants	Flowering plant	<i>Calamagrostis stricta</i>			
Divided sedge	Vascular plants	Flowering plant	<i>Carex divisa</i>			
True fox-sedge	Vascular plants	Flowering plant	<i>Carex vulpina</i>			
Early marsh orchid (sub-species)	Vascular plants	Flowering plant	<i>Dactylorhiza incarnata subsp. ochroleuca</i>			
Starfruit	Vascular plants	Flowering plant	<i>Damasonium alisma</i>			
Least lettuce	Vascular plants	Flowering plant	<i>Lactuca saligna</i>			
Cut-grass	Vascular plants	Flowering plant	<i>Leersia oryzoides</i>		Grassy banks	Ditch banks
Fen orchid	Vascular plants	Flowering plant	<i>Liparis loeselii</i>			
Floating water-plantain	Vascular plants	Flowering plant	<i>Luronium natans</i>	High		Norfolk
Holly-leaved naiad	Vascular plants	Flowering plant	<i>Najas marina</i>			
Tubular water-dropwort	Vascular plants	Flowering plant	<i>Oenanthe fistulosa</i>	High		
Sharp-leaved pondweed	Vascular plants	Flowering plant	<i>Potamogeton acutifolius</i>			
Grass-wrack pondweed	Vascular plants	Flowering plant	<i>Potamogeton compressus</i>	High		East Anglia
Triangular club-rush	Vascular plants	Flowering plant	<i>Schoenoplectus triquetus</i>			
Fen ragwort	Vascular plants	Flowering plant	<i>Senecio paludosus</i>			
Greater water-parsnip	Vascular plants	Flowering plant	<i>Sium latifolium</i>	High		
Marsh stitchwort	Vascular plants	Flowering plant	<i>Stellaria palustris</i>			
Fen violet	Vascular plants	Flowering plant	<i>Viola persicifolia</i>			

### Appendix 3: Example Action Plans

#### SMART targets and actions for IDB Biodiversity Action Plans

The following tables provide some examples of how to produce an IDB Biodiversity Action Plan that is linked to both national and local BAP priority plans and their targets.

Nationally, the UK BAP has set 65 Priority habitats and 1149 priority species, and there action plans for a large number of these. Each Local Biodiversity Action Plan works on the basis of a partnership to identify local priorities and to determine the contribution they can make to the delivery of the national Habitat Action Plan and Species Action Plan targets.

In addition, the Local Biodiversity Action Plan often has action plans for species and habitats that are important locally. For instance, the Cambridgeshire Biodiversity Partnership has a local habitat action plan for drainage ditches that is reproduced in this appendix as an example plan.

An IDB can also have its own action plans for species or habitats that it values within its district. For example, King's Lynn IDB has worked in partnership with the Hawk and Owl Trust to put up nest boxes within its district, and might therefore choose to produce an IDB Action Plan for the barn owl.

For each UK BAP habitat or species action plan targets have been set. Actions designed to deliver the targets are grouped in the following categories:

- Policy and legislation
- Site safeguard and management
- Species management and protection
- Advisory
- Research and monitoring
- Communications and publicity

Local BAPs often use the same format as the national plans and add their own targets and actions to complement the national ones. This guidance recommends using the same terminology as the national BAP action plans and therefore refers first to targets and then to actions. Targets should be SMART:

- S – Specific** Targets should be clear, meaningful and well-defined. Will you know when you've reached it? Targets should represent a quantitative milestone towards meeting a viable and sustainable long-term objective.
- M – Measurable** It must be possible to monitor and report progress towards the target.
- A – Achievable** Targets should be achievable both biologically and practically, and be based on reasonable assumptions about the availability of IDB staffing, resources, locations, etc..
- R – Relevant** Targets and actions should be appropriate to the IDB and its sphere of operation. Will they help you achieve your biodiversity objectives?
- T – Time-limited** Targets should be time-limited – i.e. achievable within a specific timeframe – to help prioritise and plan actions. They may incorporate a series of milestones.

## Drainage Ditch Habitat Action Plan – Example Plan

### Introduction

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In East Anglia, drainage ditches are vital to the maintenance of high-quality agricultural land and in the Cambridgeshire Fenland are a highly characteristic landscape feature. Drainage ditches can vary in size from small roadside cuts to 10m-wide agricultural drains that together can comprise a large linear freshwater system. The flow of water in ditches is typically slow-moving and in the Fenland is artificially regulated. However, many smaller drains, especially roadside verge drains carry more water during the winter months and can even be dry, especially those overlying boulder clay, during summer. The drainage ditch network connects with streams and rivers that are covered by a separate Cambridgeshire Rivers and Streams Habitat Action Plan.

Although an artificial habitat, drainage ditches and their associated banks are valuable for a broad range of wildlife, and there are many plants that are associated with ditches. The Cambridgeshire Biodiversity Partnership defines ditches of “conservation value” as having eight or more vascular plant species present, or a single Red List vascular plant species, or two Nationally Scarce vascular plant species, or nine or more Odonata (dragonfly and damselfly) species recorded per 20m length. Other species associated with ditches include birds, amphibians, grass snakes, water voles, fish, molluscs and invertebrates, such as snails and water beetles.

### Legal Protection Status

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The Land Drainage Act 1991 (as amended 1994) places a statutory duty on the Internal Drainage Board to further conservation where consistent with its functions.

### Local Biodiversity Action Plan Targets

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#### Five-Year Targets for 2005

- Bring 50 per cent of drainage ditches within current (as of 1999) SSSIs in Cambridgeshire into favourable management.
- A typical 5 hectare field (200m x 250m) with ditches all round has a perimeter of nearly 1 km, so bring 30 km of key drainage ditches of conservation value (outside statutory SSSIs) into favourable management and introduce buffer zones.

#### Ten-Year Targets for 2010

- Bring all drainage ditches within current (as of 1999) SSSIs in Cambridgeshire into favourable management.
- Bring 60 km of key drainage ditches of conservation value (outside statutory SSSIs) into favourable management.
- Introduce buffer zones to 25 per cent of all ditches in the county.

### IDB Objectives and Targets

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- Favourable wildlife management of ditches but with respect for their important land drainage and flood defence functions.



Cambridgeshire LBAP Targets	Cambridgeshire LBAP Actions	IDB Action Reference	IDB Actions	Date	Indicators	Reporting
<p><b>Five-Year Targets for 2005:</b></p> <ul style="list-style-type: none"> <li>Bring 50% of drainage ditches within current SSSIs in Cambridgeshire into favourable management.</li> <li>A typical 5 ha field (200m x 250m) with ditches all round has a perimeter of nearly 1 km, so bring 30 km of key drainage ditches of conservation value (outside statutory SSSIs) into favourable management and introduce buffer zones.</li> </ul> <p><b>Ten-Year Targets for 2010:</b></p> <ul style="list-style-type: none"> <li>Bring all drainage ditches within current SSSIs in Cambridgeshire into favourable management.</li> <li>Bring 60 km of key drainage ditches of conservation value (outside statutory SSSIs) into favourable management.</li> <li>Introduce buffer zones to 25% of all ditches in the county.</li> </ul>	<p>Ensure that key Cambridgeshire biodiversity partners liaise and offer advice to Internal Drainage Boards with regard to drainage ditch management, Species Action Plans and rare species monitoring</p>	<b>D1.1</b>	Review drainage ditch management	2007	Report published	Report in year of completion and in five-yearly report
		<b>D1.2</b>	Establish a link with Cambridgeshire Biodiversity Partnership	2007		
	<p>Liaise with Environment Agency, Association of Drainage Authorities and IDBs on suitable site prescriptions for drainage ditches of nature conservation value</p>	<b>D2</b>	Liaise with key Cambridgeshire biodiversity partners on suitable site prescriptions for drainage ditches of nature conservation value	2007	Percentage of network managed	Report in year of completion and in five-yearly report

## Water Vole Priority Species Action Plan – Example Plan

### Introduction

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In some areas the water vole is colloquially known as the water rat. It has the characteristic rounded body, blunt muzzle and short ears that typify the vole family, but is larger and longer-tailed than other species, and consequently some confusion with the brown rat occurs. Water voles are herbivorous and inhabit a wide range of permanent watercourses, favouring sites with rushes, sedges and reeds. They are colonial and breeding occurs between March and September. Water voles do not hibernate but during winter a large proportion of time is spent below ground in a series of burrows. Current factors causing loss or decline in Norfolk:

- Population fragmentation and isolation.
- Habitat loss and degradation due to development and inappropriate management.
- Insensitive watercourse engineering and maintenance works.
- Inappropriate water level management.
- The American mink is considered to be the main agent of the recent acceleration in the rate of national decline and is likely to be a significant factor in localised areas in Norfolk, for example, the Waveney Valley.
- Poisoning by rodenticides used for the control of rats.

### Legal Protection Status

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The water vole is protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) through its inclusion on Schedule 5 of the Act. This makes it an offence to intentionally kill, injure or capture a water vole, intentionally or recklessly damage, destroy or obstruct access to any structure or place that water voles use for shelter or protection, or to disturb water voles while they are using such a place.

### National UK BAP Targets

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- To arrest the decline and maintain the current distribution and status of the water vole.
- To restore water voles to their pre-1970 range by 2010.
- To ensure management of watercourses and wetlands in order to maintain the restored population.
- Maintain the current range (730 occupied 10km squares) of the water vole in the UK.
- Achieve an increase in range of 50 new occupied 10km squares in the UK by 2010.

### Local Biodiversity Action Plan Targets

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- To maintain the current distribution and abundance of the water vole in Norfolk.
- To restore water vole populations throughout Norfolk by 2010.
- To ensure the appropriate management of watercourses and wetlands which will facilitate the above.

### **IDB Objectives and Targets**

- To maintain the current distribution and abundance of the water vole in the IDB District.
- To ensure the appropriate management of watercourses and wetlands which will facilitate the above.

<b>UK BAP Actions</b>	<b>Norfolk LBAP Actions</b>	<b>IDB Action Reference</b>	<b>IDB Actions</b>		<b>Date</b>	<b>Indicators</b>	<b>Reporting</b>
<b>Policy and Legislation:</b>  Promote favourable management of riparian habitat	Ensure management needs incorporated in relevant agri-environment schemes, Water Level Management Plans, Local Environmental Action Plans, at consultation. (Environment Agency, Natural England, Farming and Wildlife Advisory Group, Broads Authority, Norfolk Wildlife Trust, and IDBs)	<b>WV1.1</b>	Establish policies (good working practice) to ensure management needs are incorporated in working practices	Ensure management needs are incorporated in the reviews of the relevant WLMPs	2010	Number of plans being reviewed	Report on the number of plans reviewed (annually and five-yearly)
		<b>WV1.2</b>		Ensure management needs are incorporated in the review of Standard Maintenance Operations	2007	Standard Maintenance Operations review completed	Report in year of completion and in five-yearly report
		<b>WV1.3</b>		Review by-laws and establish a culverting policy	2008	By-law review completed and culverting policy established	Report in year of completion and in five-yearly report
<b>Site Safeguard and Management:</b>  Include management needs in Sites of Special Scientific Interest and wildlife sites	Obtain guidance and disseminate to owners and managers of Sites of Special Scientific Interest and County Wildlife Sites (Environment Agency, Norfolk Wildlife Trust, and IDB)	<b>WV2</b>	Produce a leaflet on water voles for landowners and publish on website		2007	Leaflet produced	Report in year of completion and in five-yearly report

<b>UK BAP Actions</b>	<b>Norfolk LBAP Actions</b>	<b>IDB Action Reference</b>	<b>IDB Actions</b>	<b>Date</b>	<b>Indicators</b>	<b>Reporting</b>
<p><b>Species Management and Protection:</b></p> <p>Encourage mink control if necessary</p>	<p>Advise landowners on reasons for controlling mink, and on appropriate methods, and encourage submission of records of mink trapped.</p> <p>(Environment Agency, Natural England, Farming and Wildlife Advisory Group, Broads Authority, Norfolk Wildlife Trust, and IDB)</p>	<b>WV3</b>	Work in partnership on mink control project	Ongoing	Partnership working	<p>Number of partnership meetings held.</p> <p>Number of mink trapped.</p> <p>Percentage of drainage district covered by trapping network</p>
		<b>WV4</b>	Implement good working practice	2007/08	<p>Number of water vole surveys undertaken.</p> <p>Number of times advice on water voles given</p>	Annually and five-yearly
<p><b>Advisory:</b></p> <p>Provide advice to riparian managers</p>	<p>Ensure that all people involved in river and riverbank management are aware of the requirements of water vole conservation.</p> <p>(Environment Agency, Natural England, Farming and Wildlife Advisory Group, local authorities, Broads Authority, Norfolk Wildlife Trust, IDBs, including IDB and Environment Agency operational staff)</p>	<b>WV5</b>	Train operational staff on publication of revised Standard Maintenance Operations	2007	Number of training courses given	Report in year of completion and in five-yearly report

## **Barn Owl Local Species Action Plan – Example Plan**

### **Introduction**

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With its heart-shaped face, buff back and wings and pure white under-parts the barn owl is a distinctive and much-loved countryside bird. Barn owls mainly hunt by sound rather than by sight. With its acute hearing the barn owl can detect the slightest movement of its prey. The ears are set asymmetrically, one higher than the other, under the feathering of the inside edge of the facial disc, located next to the eyes. The facial disc acts as a sound funnel, collecting and filtering sound. This allows the owl to detect the movement of its prey with complete accuracy.

The barn owl is one of the most widespread birds in the world and is present in every continent except Antarctica. However, during the twentieth century there was a dramatic decline in the number of barn owls throughout Europe as farming methods intensified and farm buildings, their traditional homes, have become less hospitable as roosting and nesting sites. The depletion of rough-grassland feeding habitat and the extensive fragmentation of the remaining areas of grassland in Britain have been identified as the primary reasons for the decline. Research has shown that barn owls have declined by 70% over the last 50 years and are now seriously threatened.

### **Legal Protection Status**

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The barn owl is listed in Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats, etc.) Regulations 1994, and Schedule 5 of the Wildlife and Countryside Act 1981.

### **Status Within Drainage District**

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The banks of rivers and ditches offer an opportunity to create a network of rough-grassland corridors which would not only provide new habitat but would offer much-needed continuity of habitat, farm-to-farm.

### **IDB Objectives and Targets**

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- Maintain and, where appropriate and practical, enhance the foraging and breeding habitat of the barn owl.
- Seek to improve nest box provision within the IDB drainage district.

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<b>IDB Action Reference</b>	<b>IDB Actions</b>	<b>Date</b>	<b>Indicators</b>	<b>Reporting</b>
<b>BO1.1</b>	Install nest boxes in key locations across the drainage district	2007	Number of boxes installed	Report in year of completion and in five-yearly report
<b>BO1.2</b>	Improve habitat for barn owls around nest box sites	2007	Area of habitat improved	Report in year of completion and in five-yearly report
<b>BO2</b>	Liaise with Hawk and Owl Trust to undertake monitoring of nest boxes	2007 - ongoing	Percentage increase in breeding success	Report in year of completion and in five-yearly report
<b>BO3</b>	Provide guidance on habitat requirements for the barn owl for landowners and publish on website	2008	Leaflet produced	Report in year of completion and in five-yearly report

## Appendix 4: IDB Biodiversity Projects

### IDB Biodiversity in Action

The following case studies are examples of biodiversity projects led by IDBs:

**Name:** **Middle Level Ditch Conservation Officer**

**BAP Species Target:** Water Voles (National BAP)  
Drainage Ditches (Local BAP)

**IDB:** Middle Level Commissioners

**Funding:** The post was supported by:  
Cambridgeshire and Peterborough Biodiversity Partnership,  
Cambridgeshire Wildlife Trust, Cambridgeshire County Farms,  
Environment Agency, and Natural England.

**Details:** The position of Fenland Drainage Ditch Officer was created within the Middle Level area to monitor wildlife and advise on the management of ditches and drains.

**Name:** **Mid-Norfolk Mink Control Project**

**BAP Species Target:** Water Voles (National BAP)

**IDB:** Norfolk Rivers IDB

**Funding:** Partnership project with Natural England, Norfolk Biodiversity Partnership, Norfolk Wildlife Trust, Norfolk County Council, and the Environment Agency. The Norfolk Rivers IDB contributed annual funding to the project. This Project has received a grant over three years from the SITA Trust.

**Details:** The Mink Control Project has been established to promote water vole conservation along the River Wensum and tributaries through the trapping of mink. It was feared that, without increased, sustained mink control, water voles would become extinct in Norfolk within the next ten years.

A Project Officer was appointed to manage and co-ordinate the project. The project will co-ordinate, encourage and expand the mink control efforts already taking place within the River Wensum catchment by working with landowners and gamekeepers. It is hoped that this project will help to halt the decline of the water vole and lead to a recovery of the population in this area of Norfolk. The project will also collate existing baseline data on mink and water vole populations, and monitor the effects of mink control.

The project has the backing of the UK Water Vole Biodiversity Steering Group. The Steering Group has issued guidance on mink control that will be followed and promoted by the project. The group includes representation from Natural England, the Environment Agency, WildCRU (University of Oxford) and The Wildlife Trusts.

**Name:** **Determining the Status and Pattern of Distribution of Water Voles in the Waveney and Little Ouse River Valleys 2004-05**

**BAP Species Target:** Water Vole (National BAP)

**IDB:** Southery & District IDB

**Funding:** Information not available

**Details:** Water vole survey project to inform targeted management.

**Name:** **Wildlife Conservation Partnership**

**BAP Species Target:** Barn Owl (Local BAP)

**IDB:** Water Management Alliance (formerly Kings Lynn Consortium of Internal Drainage Boards)

**Funding:** £3,000 per annum

**Details:** Since 1990 the Water Management Alliance in conjunction with the Wildlife Conservation Partnership, which supports the work of the Hawk and Owl Trust, has achieved considerable success with its project to help re-establish the barn owl population in East Anglia. Since the project began almost 200 owlets have fledged from IDB nest boxes. 2002 was a particularly successful year when over 40 young barn owls fledged.

**Name:** **Rivers and Wetlands**

**BAP Species Target:** Greater water-parsnip *Sium latifolium* (National and Local BAP)

**IDB:** Lindsey Marsh Drainage Board

**Funding:** To be determined

**Details:** A target in the Lincolnshire LBAP Species Action Plan is to regenerate plants from the seed-bank for reintroduction and transplanting to suitable new sites in the county, creating 25 self-sustaining locations by 2010. Investigation of IDB drains, including recently reformed drains, is taking place to determine if any sites are suitable for reinstatement. Maintenance programmes will be reviewed as part of this process.

The IDB is reviewing nature reserve management plans to ensure that they provide for the plant's requirements, and is introducing sympathetic management on sites within its known historic range. If no plants appear in 5 years, but continuing appropriate management can be agreed, consideration will be given to establishing plants from seed collected from nature reserves.

The IDB will also be seeking to identify new reintroduction sites and to provide opportunities for the spread of greater water-parsnip from extant sites by natural dispersal.



## Appendix 5: Guide to the Biodiversity Action Reporting System

### BARS Guidance for Internal Drainage Board BAPs

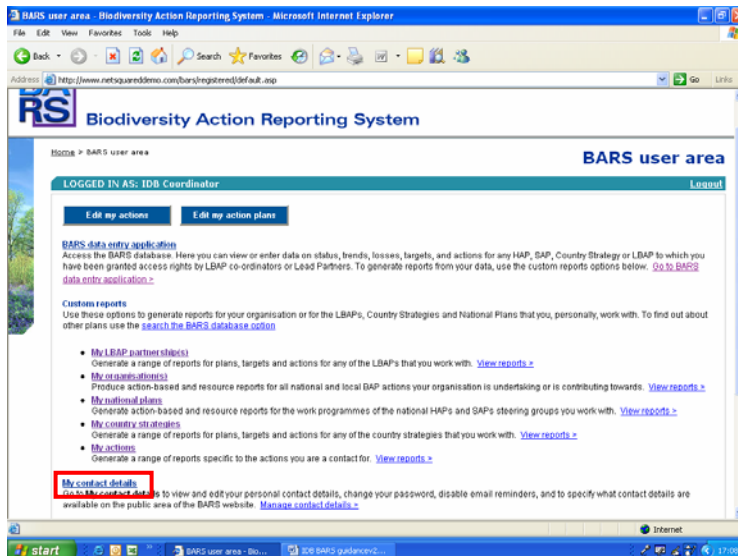
The Biodiversity Action Reporting System (BARS) ([www.ukbap-reporting.org.uk](http://www.ukbap-reporting.org.uk)) is the web-based system used to support the planning, monitoring and reporting requirements of UK Biodiversity Action Plans (BAP). Recording the Internal Drainage Board BAP onto BARS will enable a range of detailed reports specific to the activities of the IDB plan to be generated.

### Registering the IDB BAP on BARS

To register the IDB and the IDB BAP on BARS contact BARS administration [admin@ukbap-reporting.org.uk](mailto:admin@ukbap-reporting.org.uk). To register the name and email address of the person who is to be the co-ordinator of the plan, the title of the IDB BAP and broad geographical area covered will be needed. Once an IDB co-ordinator has been registered it is the responsibility of the co-ordinator to maintain the BAP details and contacts lists. Once registered, if you need a reminder of your username or password please use the link [I have forgotten my password](#) which is highlighted in yellow and located beneath the login boxes on the BARS homepage.

### Logging in for the First Time

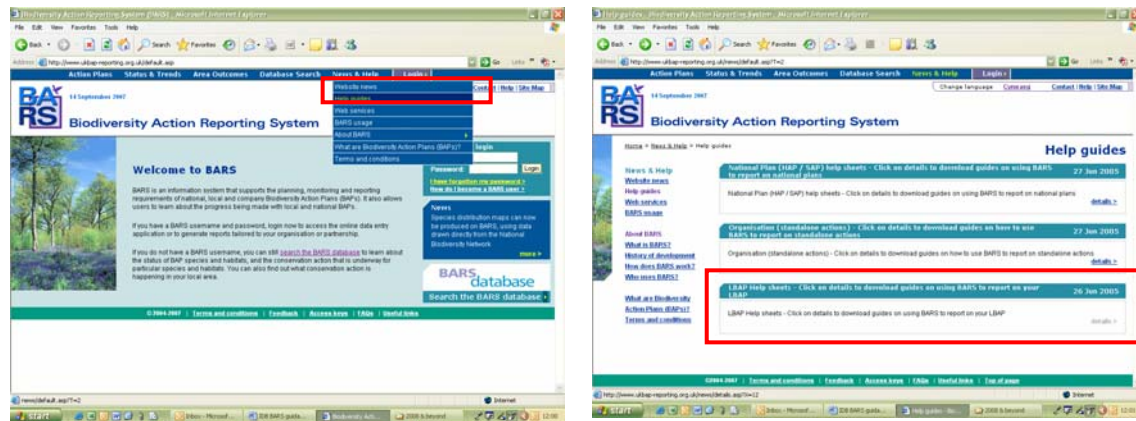
The very first time a user logs in to BARS they are prompted to accept the terms and conditions of the website. Having accepted these they will be asked to change their password to something memorable. Passwords need to be at least 8 characters long and contain both upper case and lower case letters and a numeral. It is suggested that the co-ordinator checks to ensure their details are correct using the link [My contact details](#) on the BARS user area page.



### Help on Using the BARS System

Help on entering and viewing information using the BARS system is available from downloadable help guides that can be accessed via the [News, Help and Information](#) drop-down menu on the homepage. There are a suite of guides aimed specifically for local biodiversity action plans (see below).

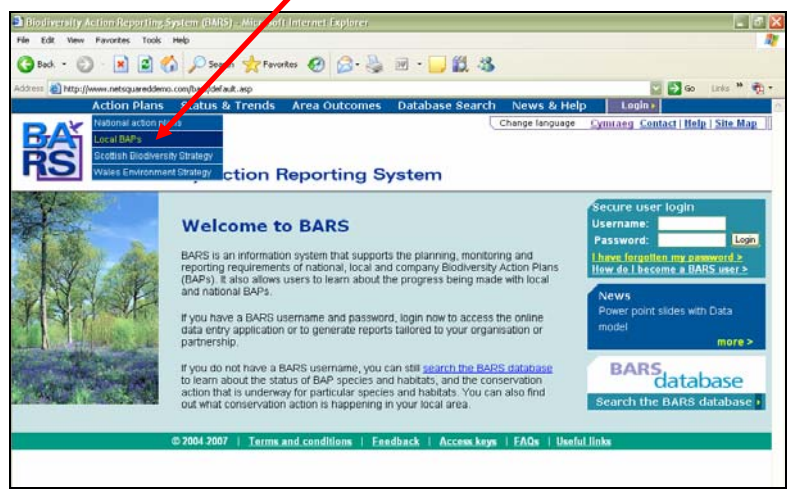
The following sections highlight the steps required to add IDB BAPs to BARS. Reference is made to the relevant guidance notes within the LBAP suite of guides for each step.



**Help ?** In addition there is comprehensive, context-sensitive help available on most screens. Any technical queries or problems should either be sent through the [Contact](#) button on the homepage or to [info@ukbap-reporting.org.uk](mailto:info@ukbap-reporting.org.uk).

**Example IDB BAP**  
 For guidance, an example IDB BAP has been entered onto the BARS demonstration site ([www.netsquareddemo.com/bars](http://www.netsquareddemo.com/bars)). Please note this is not the live BARS site and is used for demonstration and training purposes only.

Much of the information entered for this demonstration BAP can be viewed through the public [Action plans](#) search by selecting [Company BAPs](#) and searching for [Internal Drainage Board BAP](#).



The following login can be used to view the data entry application of BARS and allows you to add information (e.g. plans, targets, actions) and view custom reports about the IDB BAP. Please note this login will **ONLY** work for the demo site. Both username and password are case sensitive.

**Username:** idbcoordinator  
**Password:** Password2

### Setting up the IDB BAP

The following points are the suggested sequence of steps to enter information for an IDB onto BARS:

- **Creating lists** of contacts, specific locations and habitats and species targeted by the BAP will help to save time when it comes to adding plans, targets and actions.

**Relevant help guides:**

- [LBAP: getting started using the data entry application](#)
- [LBAP: membership status](#)
- [Adding users to your LBAP in BARS](#)
- [LBAP: species and habitat lists](#)
- [LBAP: Locations list](#)

- **Adding species or habitat plans** for the IDB BAP e.g. Reedbed Habitat Action Plan (HAP), Water Vole Species Action Plan (SAP).

**Relevant help guides**

- [LBAPs: Administering action plans - additional info for LBAP co-ordinators and Plan Leaders](#)

- **Adding targets** for Habitat Action Plans and Species Action Plans. Where possible targets should be SMART and follow the UK target types, enabling you to enter numeric goals (refer to the earlier section of this guidance: *Producing an IDB Biodiversity Action Plan*).

**Relevant help guides**

- [LBAP: Entering, editing and viewing LBAP targets](#)

- **Adding actions** to deliver targets. These are the specific activities or projects being undertaken by the IDB to conserve biodiversity and contribute towards the HAP and SAP targets. Progress towards these actions should be reported regularly.

**Relevant help guides**

- [LBAPs: Adding and editing actions](#)
- [LBAPs: Reporting on actions](#)
- [LBAPs: Entering and viewing Action Plan Periodic Reports](#)

- **Viewing reports** from the IDB BAP. Once information has been entered for the IDB BAP it will be possible to generate a range of specific customised reports.

**Relevant help guides**

- [Viewing and saving reports in BARS](#)

For further assistance please contact: [info@ukbap-reporting.org.uk](mailto:info@ukbap-reporting.org.uk)