
**Selby Area
Internal Drainage Board**

**Selby Area IDB
Biodiversity Action Plan**

November 2009

FINAL REPORT

**JBA Consulting
Denison House
Hexthorpe Road
DONCASTER
South Yorkshire
DN4 0BF
UK
t: +44 (0)1302 342 055
f: +44 (0)1302 329 887
www.jbaconsulting.co.uk**

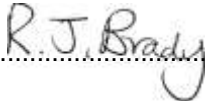
**Selby Area
Internal Drainage Board
12 Park Street
SELBY
North Yorkshire
YO8 4PW**


REVISION HISTORY

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CONTRACT

This report describes work commissioned by the Selby Area Internal Drainage Board to produce a Biodiversity Audit and Action Plan for the drainage district. Richard Barnard, Kieran Sheehan, Rachael Brady, Laura Hicks, Jon Whitmore and Christopher Toop of JBA Consulting carried out the work.

Prepared by:  Rachael Brady BSc MSc MIEEM
Senior Ecologist

Reviewed by: ...pp.....  Kieran Sheehan BSc MSc PGCE MIEEM MifL
Senior Ecologist

DISCLAIMER

This document has been prepared solely as a Biodiversity Audit and Action Plan for the Selby Area Internal Drainage Board. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

ACKNOWLEDGMENTS

JBA would like to acknowledge Mark Wills of the North and East Yorkshire Ecological Data Centre in York for supplying much of the habitat and species data on which the distribution maps in this report are based.

PURPOSE

This Biodiversity Action Plan has been prepared by the Selby Area Internal Drainage Board in accordance with the commitment in the Implementation Plan of the DEFRA Internal Drainage Board Review for Internal Drainage Boards to produce their own Biodiversity Action Plans by April, 2010.

It also demonstrates the Board's commitment to fulfilling its duty as a public body under the Natural Environment and Rural Communities Act 2006 to conserve biodiversity.

Many of the Board's activities have benefits for biodiversity, not least its water level management and ditch maintenance work. It is hoped that this Biodiversity Action Plan will help the Board to maximise the biodiversity benefits from its activities and demonstrate its contribution to the Government's UK Biodiversity Action Plan targets.

The Board has adopted the Biodiversity Action Plan as one of its policies and is committed to its implementation. It will review the plan periodically and update it as appropriate.

Signed copy held at address below

.....

Date

Mr J Dennis
Chairman of the Board

CONTACT DETAILS

This Biodiversity Action Plan is a public statement by the Board of its biodiversity objectives and the methods by which it intends to achieve them.

We would welcome appropriate involvement in the delivery of the Plan from interested organisations, companies and individuals.

You can contact us about this Biodiversity Action Plan by writing to the following addresses:

Selby Area Internal Drainage Board
12 Park Street
SELBY
North Yorkshire
YO8 4PN

Selby Area Internal Drainage Board
Denison House
Hexthorpe Road
DONCASTER
South Yorkshire
DN4 0BF

Or by emailing:

Biodiversity & Conservation Officer

Rachael Brady (rachael.brady@jbaconsulting.co.uk)

Clerk to the Board

Nigel Everard (nigel.everard@hghyork.co.uk)

Further information is available on the Board's website: www.shiregroup-idbs.gov.uk

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ABBREVIATIONS

ART	Association of Rivers Trust
BAP	Biodiversity Action Plan
BARS	Biodiversity Action Reporting System
Bern	Bern Convention
BirdDir	European Birds Directive
BTO	British Trust for Ornithology
CFMP	Catchment Flood Management Plan
CITES	Convention on International Trade in Endangered Species
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EC	European Community
FC	Forestry Commission
FWAG	Farming and Wildlife Advisory Group
GIS	Geographical Information System
ha	Hectare
Hab Dir	European Habitats Directive
IDB	Internal Drainage Board
IUCN	International Union for Conservation of Nature and Natural Resources.
km	Kilometre
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
NA	Not Applicable
NBN	National Biodiversity Network
NCA	National Character Areas
NE	Natural England
NERC	Natural Environment Research Council
NEYEDC	North and East Yorkshire Ecological Data Centre
NVC	National Vegetation Classification
NYCC	North Yorkshire County Council
PCB	Polychlorinated Biphenyl
PCT	Pond Conservation Trust

ABBREVIATIONS

RDB	Red Data Book
RSPB	Royal Society for the Protection of Birds
SMART	Specific; Measurable; Achievable; Realistic; Time-related
UK BAP	UK Biodiversity Action Plan
WCA	Wildlife and Countryside Act 1981 (as amended)
WLMP	Water Level Management Plan
YWT	Yorkshire Wildlife Trust

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1 IDB BIODIVERSITY – AN INTRODUCTION

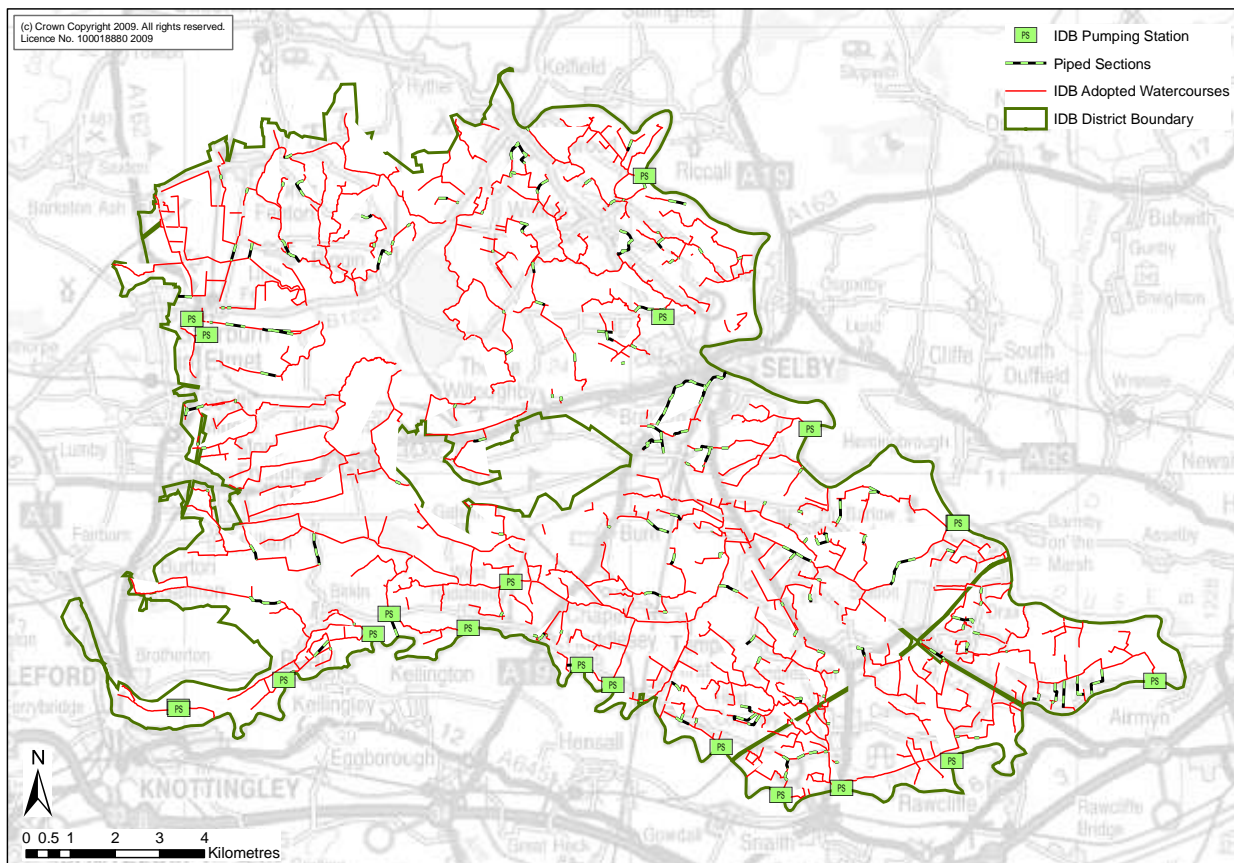
1.1 Introduction

The Selby Area Internal Drainage Board (IDB) has conducted a biodiversity audit of its district and identified those habitats and species that would benefit from particular management or actions by the IDB. Using this information, which is presented in later sections, the IDB's Biodiversity Action Plan (BAP) has been developed. The Plan identifies objectives for the conservation and enhancement of biodiversity within the drainage district, and goes on to describe targets and actions that will hopefully deliver these objectives. The intention is to integrate, as appropriate, biodiversity into the Board's activities, such as annual maintenance programmes and capital works projects.

The action plan will help to safeguard the biodiversity of the drainage district now and for future generations. In particular, it is hoped that implementing the plan will contribute to the achievement of local and national targets for UK BAP priority species and habitats. Species and habitats which are not listed in the UK BAP but may be locally significant for a variety of reasons have also been considered.

The Plan is an evolving document that will be reviewed and updated on a regular basis. It covers the entire drainage district of the IDB, as shown in Figure 1-1.

Figure 1-1 Selby Area IDB District



1.2 What is Biodiversity?

The Convention on Biodiversity agreed at the Earth Summit in Rio de Janeiro in 1992 defined biodiversity as:

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

Biodiversity can be defined simply as “the variety of life” and encompasses the whole spectrum of living organisms, including plants, birds, mammals, and insects. It includes both common and rare species, as well as the genetic diversity within species. Biodiversity also refers to the habitats and ecosystems that support these species.

1.3 The Importance of Conserving Biodiversity

Biodiversity is a vital resource and it is essential to acknowledge its importance to our lives along with the range of benefits that it produces:

- Supply of ecosystem services – water, nutrients, climate change mitigation, pollination
- Life resources – food, medicine, energy and raw materials
- Improved health and well-being
- Landscape and cultural distinctiveness
- Direct economic benefits from biodiversity resources and ‘added value’ through local economic activity and tourism
- Educational, recreational and amenity resources

1.4 The Biodiversity Action Planning Framework

This IDB Biodiversity Action Plan is part of a much larger biodiversity framework that encompasses international, national and local levels of biodiversity action planning and conservation.

1.4.1 Biodiversity - The International Context

The international commitment to halt the worldwide loss of habitats and species and their genetic resources was agreed in 1992 at United Nations Conference on the Environment and Development, commonly known as the Rio Earth Summit. Over 150 countries, including the United Kingdom, signed the Convention on Biological Diversity, pledging to contribute to the conservation of biodiversity at the global level. These states made a commitment to draw up national strategies to address the losses to global biodiversity and to resolve how economic development could go hand in hand with the maintenance of biodiversity.

The Rio Convention includes a global commitment to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level (www.biodiv.org/convention/default.html). The 2002 World Summit in Johannesburg on Sustainable Development subsequently endorsed this target.

1.4.2 Biodiversity - The National Context

The UK BAP is the UK’s commitment to Article 6A of the Rio Convention on Biological Diversity. It describes the UK’s priority species and habitats, and seeks to benefit 65 priority habitats and 1149 species in total. It identifies other key areas for action such as the building of partnerships for conserving biodiversity and gathering vital biodiversity data.

In England, *Working with the Grain of Nature* sets out the Government’s strategy 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; and
- Achieving net gain in water and wetland BAP priority habitats through Water Level Management Plans (WLMPs), Catchment Flood Management Plans (CFMPs), and sustainable flood management approaches.

1.4.3 Local Biodiversity Action Plans

For the UK BAP to be implemented successfully it requires some means of ensuring that the national strategy is translated into effective action at the local level. The UK targets for the management, enhancement, restoration, and creation of habitats and species populations have therefore been translated into targets in Local Biodiversity Action Plans (LBAPs), which tend to operate at the county level.

1.5 Internal Drainage Boards and Biodiversity

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.

The Act 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 comprises the Biodiversity Action Plan priority species and habitats for England.

In 2007, the Government's IDB Review Implementation Plan established a commitment that IDBs should produce their own Biodiversity Action Plans.

This IDB Biodiversity Action Plan has been produced to help fulfil these requirements and seeks to set out targets and actions that complement the UK Biodiversity Action Plan and Local Biodiversity Action Plans.

1.6 The Aims of the Selby Area IDB Biodiversity Action Plan

The aims of the Selby Area IDB BAP are:

- To ensure that habitat and species targets from the UK Biodiversity Action Plan and the local LBAP are translated into effective action within the drainage district.
- To identify targets for other habitats and species of local importance within the drainage district.
- To develop effective local partnerships to ensure that programs for biodiversity conservation are maintained in the long term.
- To raise awareness within the IDB and locally of the need for biodiversity conservation, and to provide guidance to landowners, occupiers and their representatives on biodiversity and inland water management.
- To ensure that opportunities for conservation and enhancement of biodiversity are fully considered throughout the IDB's operations, and
- To monitor and report on progress in biodiversity conservation.

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2 THE IDB BAP PROCESS

2.1 The Biodiversity Audit

To produce this IDB Biodiversity Action Plan, information on the habitats and species present in the catchment was first obtained. This “Biodiversity Audit” involved the collation of existing data held by the IDB and by other biodiversity partners.

2.2 Evaluating and Prioritising Habitats and Species

The Biodiversity Audit identified those priority habitats and species in the UK Biodiversity Action Plan and the Local Biodiversity Action Plan that can be found in the drainage district. Additional non-BAP habitats and species deemed to be important within the drainage district were also identified.

Further habitats and species, together with additional targets and actions, may be added in the future, as knowledge is improved and delivery of the IDB BAP is reviewed.

A range of criteria was then used to select those species and habitats that are of particular importance to the IDB – that is to say, those habitats and species that could benefit from IDB actions. The criteria used included their national and local status, the opportunities for effective IDB action and the resources available.

2.3 Setting Objectives, Targets and Indicators

For each habitat and species identified as being important to the IDB, conservation objectives and targets have been drawn up and set out in the Plan. The objectives express the IDB’s broad aims for benefiting a particular habitat or species. The related targets have been set to focus IDB programmes of action and to identify outcomes that can be monitored to measure achievement. For each target an indicator has been set – a measurable feature of the target that, when monitored over time, allows delivery to be assessed.

In order for this BAP to be as effective as possible the targets and actions have been devised to be SMART (Specific, Measurable, Achievable, Relevant and Time-limited). The targets are ambitious, but are also considered to be proportionate and practicable given the resources available.

Procedural targets and actions have also been considered. These are targets that the Board will use to measure the way in which it considers, and incorporates, biodiversity across the whole range of its operations. These may involve changes to administrative, management and operating procedures.

2.4 Implementation

Once targets have been set for habitats and species, it is important that the actions to deliver the Biodiversity Action Plan are described. The Plan sets out how the Board intends to implement the actions in the plan, often in partnership with other organisations or individuals.

2.5 Monitoring

Achievement of the Plan targets will be measured by a programme of monitoring which the Board will undertake, in some instances with assistance from its partners, and the methods to be used are described in the Plan.

2.6 Reporting and Reviewing

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.

The Plan sets out the methods the IDB will be using to review the delivery of targets and to communicate progress to partner organisations and the public.

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3 THE BIODIVERSITY AUDIT

3.1 Introduction

The following Sections 4, 5 and 6 summarise the results of the Biodiversity Audit. Section 4 provides information about the drainage district and a list of the nature conservation sites that occur within or bordering its boundaries. Sections 5 and 6 list respectively the habitats and species occurring within the district that are of potential importance to the IDB.

3.2 Local Biodiversity Action Plans

The following Local Biodiversity Action Plan covers the IDB's drainage district:

- Selby Biodiversity Action Plan

3.3 Biodiversity Audit Boundary

The Biodiversity Audit covers the entire district of the IDB, as shown in Figure 1-1. Where data has been obtained that shows a record of a species in a 1km square or 10km square which the district wholly or partially covers, this has been included in the area of the audit.

3.4 Sources of Data – Habitats

Information on habitats of relevance occurring within the drainage district was obtained from the following sources:

- GIS data on priority BAP habitats (Natural England)
- Phase 1 Habitat Surveys of parts of the district undertaken by JBA Consulting
- North & East Yorkshire Ecological Data Centre (NEYEDC)
- Selby Biodiversity Action Plan

3.5 Sources of Data - Species

Information on species of relevance occurring within the drainage district was obtained from the following sources:

- Ecological surveys of the drainage district undertaken by JBA Consulting
- National Biodiversity Network (NBN) Gateway
- NEYEDC
- Selby Biodiversity Action Plan

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4 NATURE CONSERVATION SITES

4.1 The Drainage District

The drainage district covers an area of 19,342 ha of low-lying land and contains approximately 500km of IDB-maintained watercourses. It stretches from Little Airmyn in the east, to Brotherton in the west, and Cawood in the north. It is bounded by the River Aire in the south and the River Ouse in the east.

4.2 Geology

The geology of the drainage district consists of undifferentiated Triassic rocks, including interbedded sandstone and conglomerates (British Geological Survey (BGS), 2009).

4.3 Landscape

4.3.1 Landscape Designations

There are no landscape designations within the internal drainage district.

4.3.2 Landscape Character

Natural England has divided the whole of England into a number of National Character Areas (NCA) based on characteristic landforms, wildlife and land use. They are not designations and are not confined by traditional administrative boundaries. For each NCA, Natural England has prepared a profile that characterises the wildlife and natural features, identifies the influences that act upon those features and sets objectives for nature conservation.

The drainage district is located within the following NCAs:

- **Humberhead Levels** – a predominantly flat agricultural landscape. Much of the area is extremely low-lying, with some areas lying at or below the mean high-water mark. The landscape includes the broad floodplains of several major rivers which drain to the Humber.
- **Southern Magnesian Limestone** - this landscape is formed by the two escarpments of the Upper and Lower Magnesian Limestone, which stretch from near Bedale, running southwards through South Yorkshire and into Derbyshire where they terminate near Nottingham. The escarpments form quite a narrow ridge feature which acts as a distinct barrier between the industrial coalfields and the Yorkshire Dales fringe to the west and the lowland vales to the east.

4.4 Statutory Nature Conservation Sites

The following section describes all nature conservation sites located within the IDB district. For each site its designation, features contributing to its designation, and the potential for IDB activities to impact upon the site are identified. Sites graded as high are those containing IDB drains, medium are those with IDB drains running adjacent or into it, and low are those that are disassociated from the IDB drains.

4.4.1 International Sites

There are no internationally designated nature conservation sites located within the district.

4.4.2 National Sites

There is one Site of Special Scientific Interest (SSSI) within the drainage district, as described in Table 4-1; its location is displayed in Figure 4-1.

Table 4-1 National Sites of Conservation Importance

Site Name	Designation	Features Contributing to Designation	Potential to be Affected by IDB Activities
Burr Closes	SSSI	A small area of damp meadowland containing flowering plant species now scarce in the Vale of York	Medium

4.4.3 Local Nature Reserves

There is one Local Nature Reserve (LNR) located within the district as described in Table 4-1 and shown on Figure 4-1.

Table 4-2 Local Nature Reserves

Site Name	Designation	Features Contributing to Designation	Potential to be Affected by IDB Activities
Barlow Common	LNR	A mosaic of woodland, wetland, reedbeds and four large ponds. The site attracts wildfowl and migrating waders, has a rich flora supporting diverse invertebrates. Mammals present include Water Vole, Weasel and Stoat.	Medium

4.5 Non-statutory Nature Conservation Sites

Within the Selby Area internal drainage district 50 sites have been identified locally as being important for wildlife, and are designated Sites of Importance for Nature Conservation (SINC). Whilst these designations do not have statutory status, the sites themselves are important for their contribution to biodiversity and planning policy requires that they are given consideration. These sites are listed below in Table 4-2 and shown on Figure 4-1.

Table 4-3 Non-statutory Nature Conservation Sites

Site Name	Designation	Grid Reference	Potential to be Affected by IDB Activities
Ash Tree Dike and Ponds	SINC	SE502320	Low
Bank of River Aire, Fairburn-Brotherton	SINC	SE472267	Low
Barber Rein	SINC	SE588325	Medium
Barlow Common	SINC	SE633287	Medium
Bishop Wood	SINC	SE557336	High
Borrow Pit, Cawood	SINC	SE586380	Low
Brockholes	SINC	SE673254	Medium
Burn Dis-used Airfield	SINC	SE598278	Low
Byram Park	SINC	SE492268	Low
Bywater Wood	SINC	SE507277	Low
Carlton Park Pond	SINC	SE649232	Medium
Castle Garth	SINC	SE572375	Low
Cobble Croft Wood	SINC	SE637268	Medium
Common Plantation	SINC	SE637275	Medium
Disused Railway Embankment	SINC	SE678276	Medium

Field at side of Hillam Gates Level Crossing	SINC	SE501292	Medium
Fields near Barlow Grange Farm	SINC	SE629312	Medium
Field near Primrose Hill, Cat Babbleton	SINC	SE620283	Medium
Great Lawn Wood	SINC	SE547365	Medium
Jowland Whin near Quosquo Hall	SINC	SE627261	Medium
Kerrick Spring Wood, Carlton	SINC	SE630248	Medium
Keysbury Field	SINC	SE575373	Low
Meadow East of Orchard Farm	SINC	SE648286	Low
Meadow near Hillam Gates Level Crossing	SINC	SE499289	Low
Meadows near River Aire	SINC	SE640228	Medium
Meadow South of Drax	SINC	SE678239	Medium
Moss Hagg	SINC	SE571331	Medium
Mulberry Farm Ponds	SINC	SE612359	Medium
Newland Ings, Newland	SINC	SE683234	Low
Oakney Woods and Ponds	SINC	SE614306	Medium
Paradise Wood	SINC	SE540373	Low
Pasture off Nanny Lane	SINC	SE521367	Low
Pasture opposite Gypsum Works	SINC	SE508346	Medium
Pond at Betteras Hill Road	SINC	SE505290	Medium
Ponds East of A63	SINC	SE511296	High
Roadside Verge	SINC	SE640298	Low
Roscarrs Ponds	SINC	SE638311	High
Sand Pitt Wood and Barffs Close Plantation	SINC	SE632274	Medium
Scrub Land, Henwick Hall Lane, Brayton	SINC	SE610294	Medium
Scrub South of A63	SINC	SE514296	Low
Selby Canal and Towpath	SINC	SE580288	Medium
SHB/1, Sherburn in Elmet	SINC	SE503329	High
Staker Wood	SINC	SE557282	Low
Staynor Wood	SINC	SE628307	Medium
Sturges Ponds	SINC	SE616309	Low
Swamp on Selby Dam near Low Rest Park Farm	SINC	SE548322	Medium
West Marsh	SINC	SE626233	Medium
Willow Scrub, Birkin Holme	SINC	SE546266	Medium
Woodland on Barlow Pasture, Botany Bay Farm	SINC	SE617292	Medium
Woods Between Railway and Selby Canal	SINC	SE612306	Low

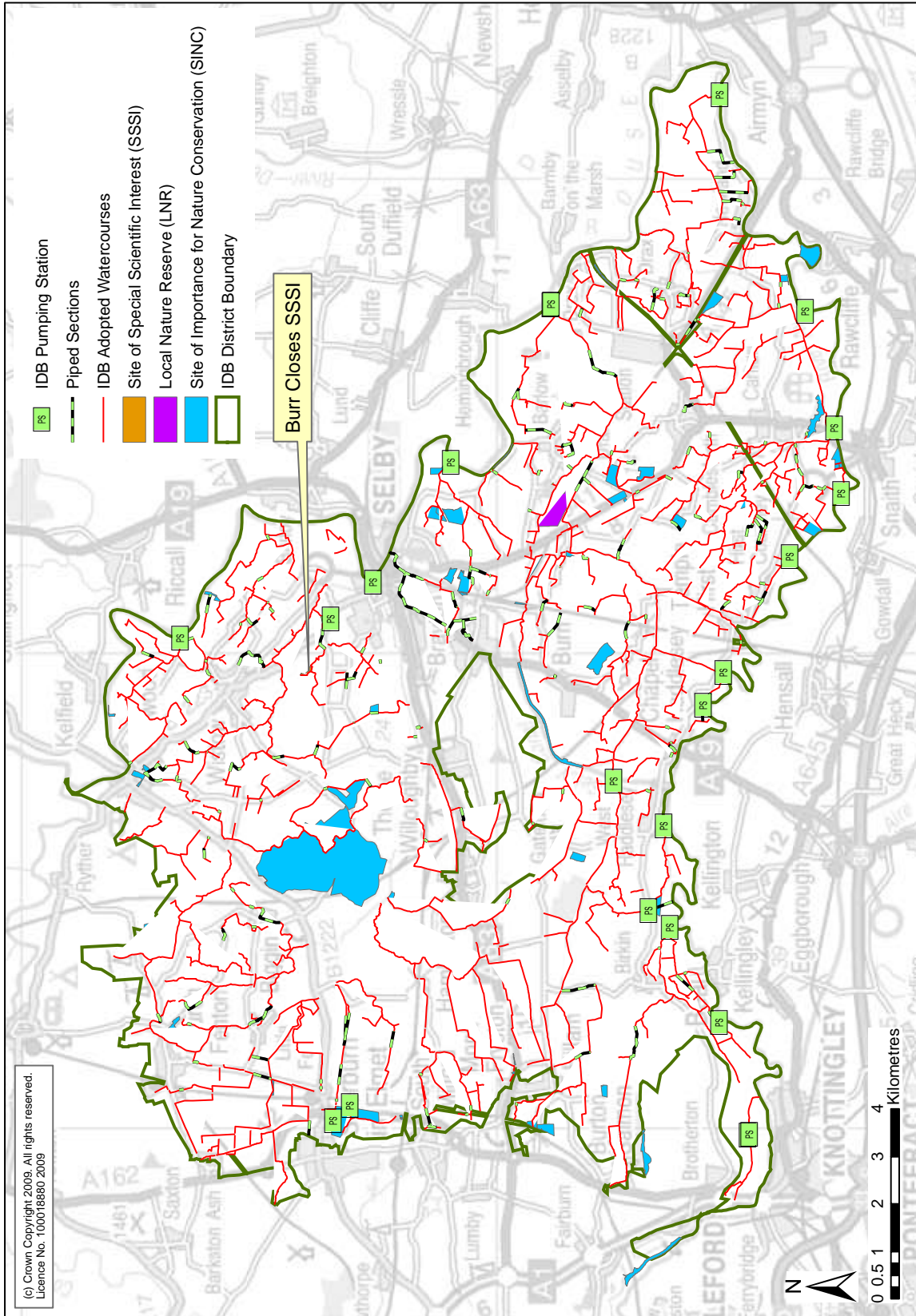


Figure 4-1 Location of Nature Conservation Sites

5 HABITAT AUDIT

5.1 Introduction

The habitat audit is divided into two sections – a Habitat Audit Summary and a description of the Habitats of Importance for the IDB. The first of these sections identifies the UK BAP priority habitats and the Selby Local BAP habitats that occur within the IDB district. It then identifies those habitats of potential importance to the IDB. These habitats are described in more detail in the second section.

5.2 Habitat Audit Summary

Table 5-1 lists the BAP habitats occurring within the IDB district. Habitats of importance to the IDB are identified and classified as high, medium, or low in terms of the potential for the IDB to maintain, restore or expand habitat. A number of habitats from the medium and high categories are taken forward to full action planning.

Table 5-1 Habitat Audit Summary

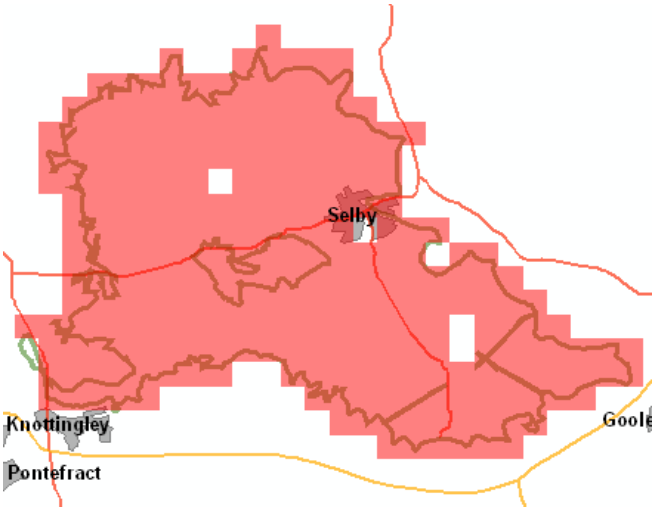
Broad Habitat Type	UK BAP Priority Habitat	Local Biodiversity Action Plan Habitat	Habitat of Importance for IDB	Location of Habitat of Importance for IDB	IDB Potential for Maintaining, Restoring or Expanding Habitat
Arable and Horticultural	Arable Field Margins	Arable Farmland	Arable Field Margins	Throughout arable areas of the district	Medium
Boundary and Linear Features	Hedgerows	Ancient and/or Species-rich Hedgerows	Hedgerows	Throughout the entire district	Low
Broadleaved, Mixed and Yew Woodland	Wet Woodland	Woodland	Wet Woodland	Mainly in the North of the district. Largest example is Bishop Wood	Medium
	Wood Pasture and Parkland	Lowland Wood Pasture and Parkland	No	-	-
Fen, Marsh and Swamp	Reedbeds	Reedbeds	Reedbeds	The largest resource is at Fairburn Ings RSPB reserve on the western edge of the district. Some small reedbeds occur on the fringes of lakes, ponds, rivers and ditches	Low
	Lowland Fens	Fens	Fens	Are present at Fairburn Ings	Low
Improved Grassland	Coastal and Floodplain Grazing Marsh	Grazing Marsh	Coastal and Floodplain Grazing Marsh	Adjacent to the River Aire near Gowdall and Rawcliffe	Low
Neutral Grassland	Lowland Meadows	Unimproved Grassland	No	-	-

Rivers and Streams	Rivers	Rivers, Streams and Ditches	Drains and Ditches	Numerous IDB maintained ditches, plus watercourses maintained by EA and riparian owners. IDB watercourses outfall into the River Aire to the south and the River Ouse to the east of the district by gravity and pump	High
Standing Open Waters and Canals	Ponds	Lakes and Ponds	Ponds	Throughout the district. Includes floodedings, borrow pits and ponds	Medium
	Eutrophic Standing Waters	Canals	No	-	-

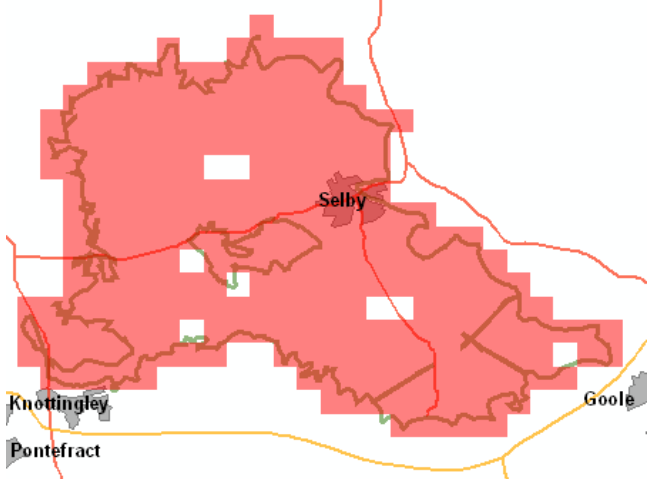
5.3 Habitats of Importance for the IDB

The following section provides more information on the status and location of the habitats within the drainage district that are of importance for the IDB and may benefit from water level management or other IDB activities.

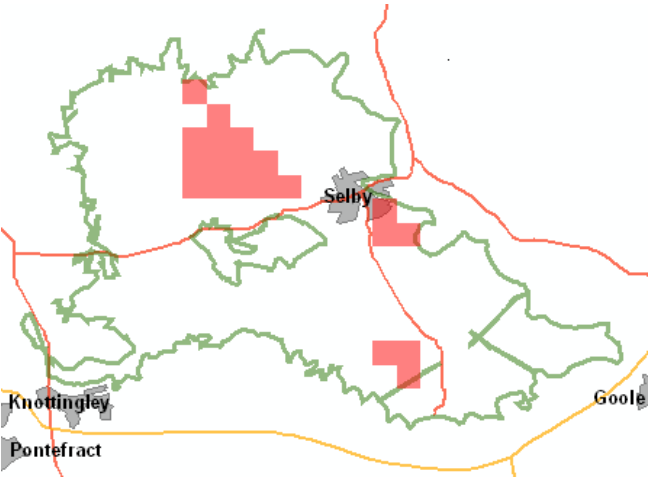
5.3.1 Arable Farmland (Including Arable Field Margins)

<p>Description</p> <p>Arable field margins refer to strips of land lying between arable crops and the field boundary, which are deliberately managed to create conditions which benefit key farmland species.</p> <p>National Status</p> <p>Arable crops cover an estimated area of 1,403,000ha in the UK. If a field margin of only 6m were managed for wildlife a further 95,600ha of land could be managed in a way that would benefit wildlife, without having serious detrimental effects on the remaining cropped area.</p> <p>Arable field margins provide important habitat for a number of birds, butterflies, and numerous other invertebrates as well as supporting threatened and important species of arable flora.</p> <p>Threats</p> <p>The main threats include arable intensification, cultivation to field edges, removal of field boundaries and inappropriate management techniques aimed at 'tidiness'.</p>	<p>Status of Arable Farmland (Including Arable Field Margins)</p> <p>(1km Distribution)</p> 
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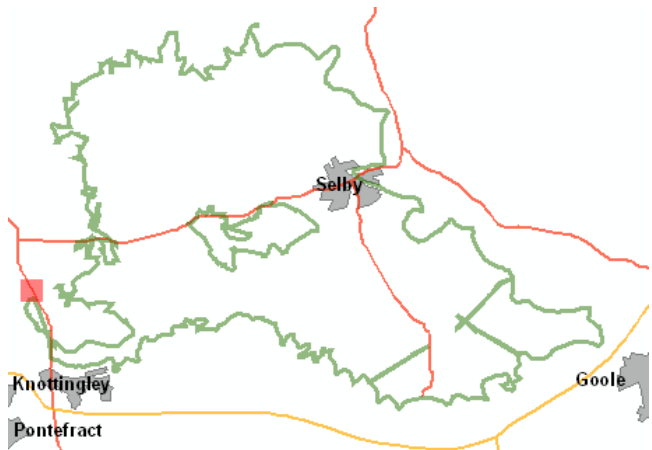
5.3.2 Hedgerows (Including Ancient and Species-rich Hedgerows)

<p>Description</p> <p>Hedgerows are linear strips of trees and shrubs often associated with features such as ditches, banks and grass verges. Hedgerows and hedgerow trees provide valuable habitat for a large range of species, including over 600 plant species, 1500 insects, 65 birds and 20 mammals.</p> <p>Status</p> <p>There has been a dramatic decline in hedgerows in the UK during the latter half of the twentieth century. It is estimated that only 10% of all UK hedgerows are being managed favourably for conservation.</p> <p>Threats</p> <p>The majority of threats relate to changes in agricultural practices and/or poor management, and include: over-frequent, too severe and badly timed cutting; contamination by pesticides and fertilisers and increases in intensive arable farming.</p>	<p style="text-align: center;">Status of Hedgerows (1km Distribution)</p> 
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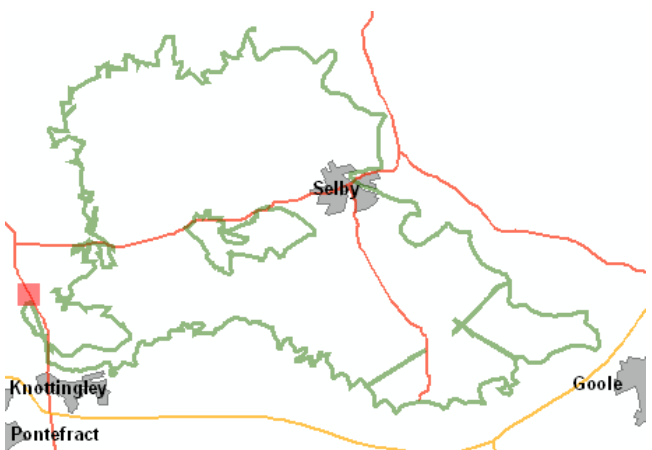
5.3.3 Wet Woodland

<p>Description</p> <p>Wet woodland occurs on poorly drained or seasonally wet soils, with Alder, Birch and willows usually becoming the predominant tree species. It is frequently found in mosaic with other woodland or wetland habitats.</p> <p>National Status</p> <p>There is no precise data available on the national extent of wet woodland. In the 1980s, the estimated UK coverage of wet woodland was 50,000 – 70,000 ha of which 25,000 – 30,000 ha was ancient semi-natural.</p> <p>Wet woodland combines elements of many other ecosystems and as such is important for many species particularly bryophytes and invertebrates.</p> <p>Threats</p> <p>Wet woodland is affected by the following factors that impact directly or indirectly upon its current condition and dynamics: clearance and conversion to other land-uses; cessation of management; inappropriate grazing, land drainage and flood defence; poor water quality; invasion by non-native species such as Himalayan Balsam (<i>Impatiens glandulifera</i>); and climate change.</p>	<p style="text-align: center;">Status of Wet Woodland (1km Distribution)</p> 
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5.3.4 Reedbeds

<p>Description</p> <p>Reedbeds are wetlands dominated by stands of Common Reed (<i>Phragmites australis</i>). They contain few plant species and the water level remains at, or above, ground level for most of the year.</p> <p>Status</p> <p>The UK has about 5000 ha of reedbeds but only about 50 of these sites are greater than 20 ha in size.</p> <p>Reedbeds are amongst the most important habitats for birds in the UK. They support a distinctive breeding bird assemblage including 6 nationally rare Red Data Book Birds; the Bittern (<i>Botaurus stellaris</i>), Marsh Harrier (<i>Circus aeruginosus</i>), Crane (<i>Grus grus</i>), Cetti's Warbler (<i>Cettia cetti</i>), Savi's Warbler (<i>Locustella luscinioides</i>) and Bearded Tit (<i>Panurus biarmicus</i>).</p> <p>Threats</p> <p>The primary threats to reedbeds include: land drainage; conversion to agriculture; development; neglect; poor management; excessive water abstraction; siltation; habitat fragmentation; and climate change.</p>	<p style="text-align: center;">Status of Reedbeds (1km Distribution)</p> 
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5.3.5 Fens

<p>Description</p> <p>Fens occur on soils that experience at least periodic waterlogging. They can encompass a wide range of plant communities on both peat and mineral soils and can include swamps, mires, springs flushes, and fenny fields. Fens often occur in association with other semi-natural habitats especially wet woodland, wet grassland and open water.</p> <p>Status</p> <p>The total UK extent of fens is estimated to be approximately 18,050ha. The UK is believed to hold the majority of the remaining European resource of fenland habitat, although much of this is highly fragmented.</p> <p>Threats</p> <p>The principle threat to these habitats is excessive land drainage or land reclamation, principally for agriculture. Pollution, inappropriate management, water abstraction and the general fragmentation of the habitat are further threats to the UK status of fens.</p>	<p style="text-align: center;">Status of Fens (1km Distribution)</p> 
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5.3.6 Floodplain Grazing Marsh

Description

Floodplain grazing marshes are periodically inundated pastures, or meadows with ditches which maintain the water levels, containing standing brackish or fresh water. Almost all are grazed and some are cut for hay or silage.

These grasslands are particularly important for breeding waders and wintering wildfowl.

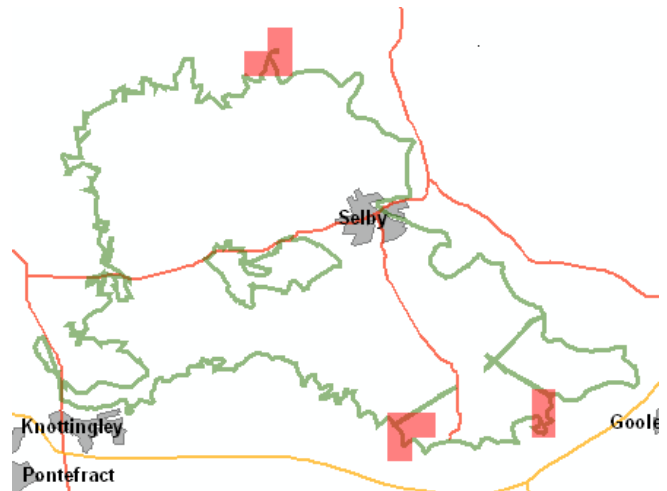
National Status

The exact extent of floodplain grazing marsh in the UK is not known but it is possible that there may be a total of 300,000ha. England holds the largest proportion with an estimate in 1994 of 200,000ha.

Threats

The principle threats to floodplain grazing marsh include: arable intensification; decline in traditional livestock farming; lack of traditional land management; increases in use of pesticides and insecticides; insensitive flood control works; sea level rise, and increasing pollution of groundwater.

Status of Floodplain Grazing Marsh (1km Distribution)



5.3.7 Rivers, Streams and Ditches

Description

Flowing waters can take a variety of forms. Typically they include rivers and streams, which are dynamic, flowing waterbodies, but can also include slower flowing man-made watercourses such as ditches and drains. They host a range of sub-habitats such as shingle beds and eroding river banks, and provide valuable movement and dispersal corridors for mobile species such as Otters (*Lutra lutra*) and Kingfishers (*Alcedo atthis*).

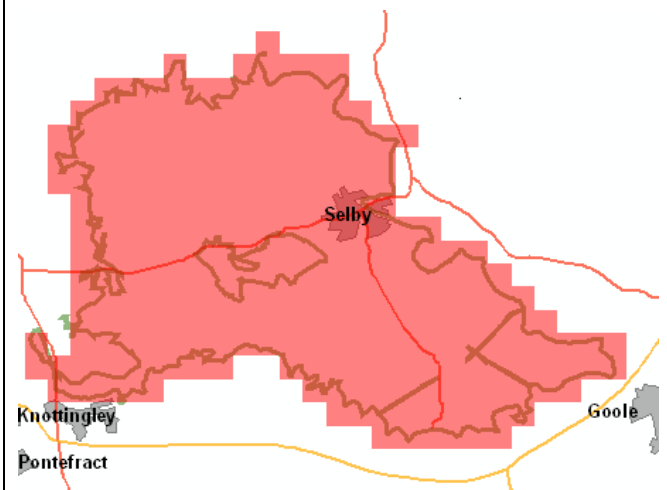
National Status

The national status of this habitat group is somewhat uncertain. Although it is clearly widespread, there is a great variety in river quality and types making accurate assessment difficult.

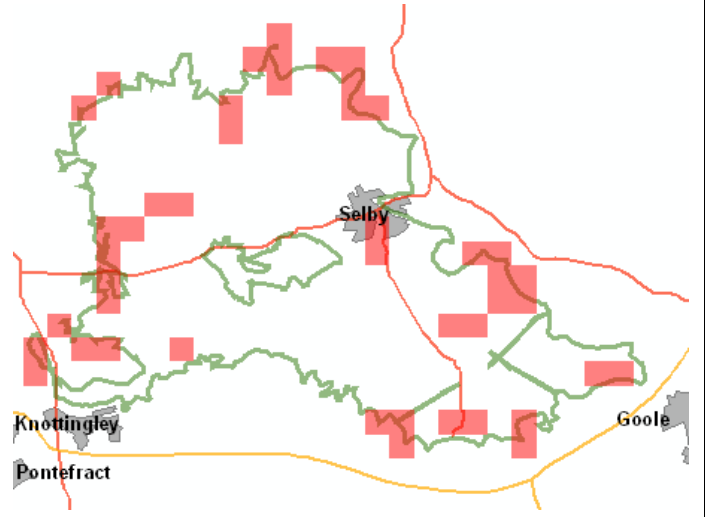
Threats

Flowing waters are susceptible to a wide range of threats. These can be related to water abstraction or transfer; inappropriate management; damage or disturbance from recreational activities; non-native plant and animal species, and development within the catchment.

Status of Rivers, Streams and Ditches (1km Distribution)



5.3.8 Lakes and Ponds

<p>Description</p> <p>Standing open waterbodies can be either of human or natural origin, and vary widely in size and type. Ponds are small bodies of water between 1m² and 2ha in area that hold water for more than four months in a year. Anything larger than this is defined as a lake.</p> <p>Standing waterbodies are of great importance for wildlife. Approximately 3,500 invertebrate species are found in standing freshwater, with over two-thirds of Red Data Book invertebrate species occurring in ponds. Over 300 species of vascular plants have been recorded in ponds, including half of the UK's wetland plants.</p> <p>National Status</p> <p>Numbers of ponds in the UK have suffered a decline of over 75% in the last 100 years. The current number of ponds is estimated to be 375,000, of which about 229,000 are located in lowland Britain.</p> <p>Threats</p> <p>The majority of threats relate to inappropriate management or land use, including: neglect or lack of management; introduced species; excessive pond clearance; damage and disturbance by recreational activities; pollution; nutrient enrichment, and dumping and infilling with waste.</p>	<p style="text-align: center;">Lakes and Ponds (1km Distribution)</p> 
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6 SPECIES AUDIT

6.1.1

6.2 Introduction

As with the habitat audit, the species audit is divided into two sections – a Species Audit Summary and a description of the Species of Importance for the IDB. The first of these sections lists the UK and Local BAP priority species that have been recorded within the IDB district, as identified by the information gathering exercise. The second section describes those species of particular importance, or potential importance within the IDB district.

6.3 Species Audit Summary

Table 6-1 lists the BAP species recorded within the IDB district. Also listed are those species of importance to the IDB, or of potential importance. The species listed are categorised as high, medium or low in terms of the IDBs potential to maintain or increase species population or range. A number of species from the medium to high categories are taken forward to full action planning.

Table 6-1 Species Audit Summary

Species	Group	UK BAP Priority Species	Local BAP Species	Species of Importance for IDB	Location within District	IDB Potential for Maintaining or Increasing Species Population or Range
Water Vole (<i>Arvicola amphibius</i>)	Mammals	Yes	Yes	Yes	Located throughout the district, but records mainly in the north-east near Selby and Cawood.	High
European Hedgehog (<i>Erinaceus europaeus</i>)	Mammals	Yes	No	No	-	-
Brown Hare (<i>Lepus europaeus</i>)	Mammals	Yes	No	No	-	-
Otter (<i>Lutra lutra</i>)	Mammals	Yes	Yes	Yes	Recorded on the River Ouse at Cawood and Selby Dam, the River Aire at West Haddlesey and Rawcliffe and Bishop Dike at Sherburn in Elmet.	Medium
Harvest Mouse (<i>Micromys minutus</i>)	Mammals	Yes	No	No	-	-
Noctule Bat (<i>Nyctalus noctula</i>)	Mammals	Yes	Yes	Yes	Recorded in the north and west of the district.	Low

Species	Group	UK BAP Priority Species	Local BAP Species	Species of Importance for IDB	Location within District	IDB Potential for Maintaining or Increasing Species Population or Range
Soprano Pipistrelle Bat (<i>Pipistrellus pygmaeus</i>)	Mammals	Yes	Yes	Yes	Recorded in the north-west of the district.	Low
Brown Long-eared Bat (<i>Plecotus auritus</i>)	Mammals	Yes	Yes	Yes	Recorded throughout the district.	Low
Cuckoo (<i>Cuculus canorus</i>)	Birds	Yes	No	No	-	-
Yellowhammer (<i>Emberiza citrinella</i>)	Birds	Yes	No	No	-	-
Reed Bunting (<i>Emberiza schoeniclus</i>)	Birds	Yes	No	Yes	Located throughout the district on lakes and ponds including Cawood and West Marshes and Roscarrs Pond.	Medium
Yellow Wagtail (<i>Motacilla flava</i>)	Birds	Yes	No	No	-	-
Spotted Flycatcher (<i>Muscicapa striata</i>)	Birds	Yes	No	No	-	-
Curlew (<i>Numenius arquata</i>)	Birds	Yes	No	No	-	-
Grey Partridge (<i>Perdix perdix</i>)	Birds	Yes	No	No	-	-
Turtle Dove (<i>Streptopelia turtur</i>)	Birds	Yes	No	No	-	-
Barn Owl (<i>Tyto alba</i>)	Birds	No	No	Yes	Recorded mainly in the south-west of the district near to the River Aire.	High
Lapwing (<i>Vanellus vanellus</i>)	Birds	Yes	No	No	-	-
Common Toad (<i>Bufo bufo</i>)	Amphibians	Yes	No	No	-	-
Great Crested Newt (<i>Triturus cristatus</i>)	Amphibians	Yes	Yes	Yes	Recorded at Cawood and Church Fenton.	Medium

Species	Group	UK BAP Priority Species	Local BAP Species	Species of Importance for IDB	Location within District	IDB Potential for Maintaining or Increasing Species Population or Range
Grass Snake (<i>Natrix natrix</i>)	Reptiles	Yes	No	Yes	Located throughout the district but mainly recorded in the east near Selby and Drax.	Medium
European Eel (<i>Anguilla anguilla</i>)	Fish	Yes	No	Yes	Recorded in the River Aire near Beal.	Medium
Forester Moth (<i>Adscita staites</i>)	Invertebrates	Yes	Yes	No	-	-
Large Nutmeg Moth (<i>Apamea anceps</i>)	Invertebrates	Yes	No	No	-	-
Tansy Beetle (<i>Chrysolina graminis</i>)	Invertebrates	Yes	Yes	Yes	Located along the banks of the River Ouse as far south as Barlby.	Medium
Dingy Skipper Butterfly (<i>Erynnis tages</i>)	Invertebrates	Yes	Yes	No	-	-
Brindled Beauty Moth (<i>Lycia hirtaria</i>)	Invertebrates	Yes	No	No	-	-
Mud Pond Snail (<i>Omphiscola glabra</i>)	Invertebrates	Yes	No	No	-	-
Scarce Vapourer Moth (<i>Orgyia recens</i>)	Invertebrates	Yes	Yes	No	-	-
Grass Rivulet Moth (<i>Perizoma albulata</i>)	Invertebrates	Yes	No	No	-	-
Argent and sable Moth (<i>Rheumaptera hastata</i>)	Invertebrates	Yes	Yes	No	-	-
White-letter Hairstreak Butterfly (<i>Satyrion w-album</i>)	Invertebrates	Yes	No	No	-	-
Sword-grass Moth (<i>Xylena exsoleta</i>)	Invertebrates	Yes	No	No	-	-
Frog Orchid (<i>Coeloglossum viride</i>)	Vascular Plants	Yes	No	No	-	-

Species	Group	UK BAP Priority Species	Local BAP Species	Species of Importance for IDB	Location within District	IDB Potential for Maintaining or Increasing Species Population or Range
Small-flowered Catchfly (<i>Silene gallica</i>)	Vascular Plants	Yes	No	No	-	-

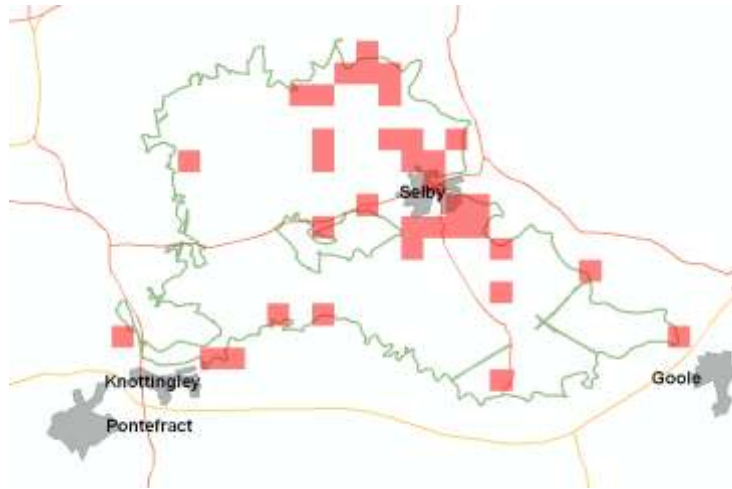
6.4 Species of Importance for the IDB

In this section, more detail is provided on the status and distribution of each of the species identified as being of importance, or potential importance for the IDB – the majority of these are related to wetland environments. A summary of the current status of each species in relation to the principle conservation legislation and designations is given; the abbreviations used in this summary, and the legislation to which they relate are presented in Table 6-2. The distribution maps are based on data available at the time of the production of this plan, and may not represent the species' full range within the drainage district.

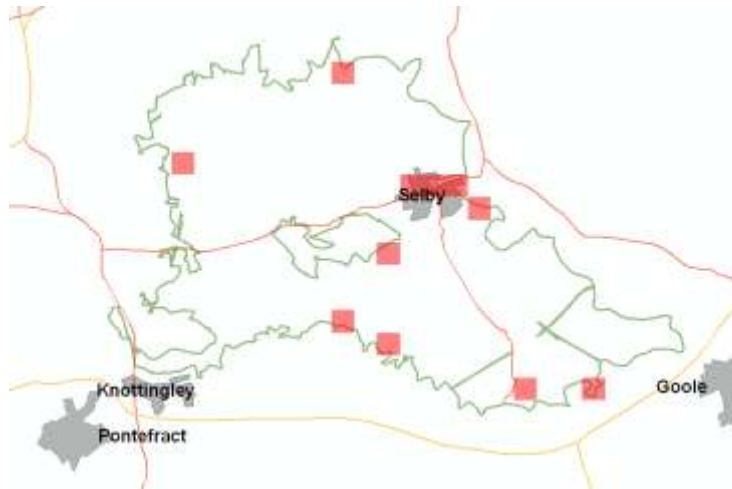
Table 6-2 Current Status Abbreviations

Abbreviation	Description
Bonn I/II/bats	6.5 Convention on the Conservation of Migratory Species of Wild Animals, giving appendix number, 'bats' showing the species inclusion in the convention's Agreement on the Conservation of Bats in Europe.
Bern I/II/III	6.6 Convention on the European Wildlife and Natural Habitats, giving the appendix number.
CITES I,II	6.7 Convention of International Trade in Endangered Species of wild fauna and flora, giving the appendix number.
CR94, 2/4	6.8 The Conservation Regulations 1994, a transposal of the EC Habitats and Birds Directions into UK law, giving schedule number.
ECII/IV/V	6.9 EC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (Habitats Directive), giving annex number.
EC Birds	6.10 EC Directive on the Conservation of Wild Birds (Birds Directive), annex I.
Game Acts	6.11 These specify conditions when certain game species may not be hunted or shot.
WCA 1/5/6/8/9	6.12 Wildlife & Countryside Act 1981 (as amended), giving the schedule number.

6.12.1 Water Vole (*Arvicola amphibius*)

<p>Current Status</p> <p><i>WCA 5, UKBAP Priority Species</i></p> <p>A rather large vole that occurs mainly on well vegetated banks of lowland ponds, rivers, canals and drainage ditches. It feeds mainly on grasses and typically nests in burrows, but occasionally in reed tussocks in marshes, producing around two litters of five offspring per year.</p> <p>Found close to water throughout Britain. Once abundant, Water Vole numbers and their distribution have declined significantly, becoming extinct in some parts of Britain.</p> <p>Threats</p> <p>The main threats to Water Vole are; loss and fragmentation of habitat; disturbance of riverside habitat; inappropriate management of waterways; predation by Mink and other predators; pollution; and poisoning.</p>	<p>Water Vole (1km Distribution)</p> 
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6.12.2 Otter (*Lutra lutra*)

<p>Current Status</p> <p><i>WCA 5, 6; EC II, IV; Cites I; CR94, 2; UKBAP Priority Species</i></p> <p>The Otter is a large carnivore associated with lakes, rivers and marshes.</p> <p>Otters were widespread in UK until a sharp decline in the 1950s as a result of persecution and pollution from organochlorine insecticides. The species is now recovering with improvements in river water quality and re-introductions in some areas.</p> <p>Threats</p> <p>The main threats to Otter are pollution; loss of bankside habitat; road mortality; capture in eel traps; disturbance and inappropriate river management.</p>	<p>Otter (1km Distribution)</p> 
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6.12.3 Reed Bunting (*Emberiza schoeniclus*)

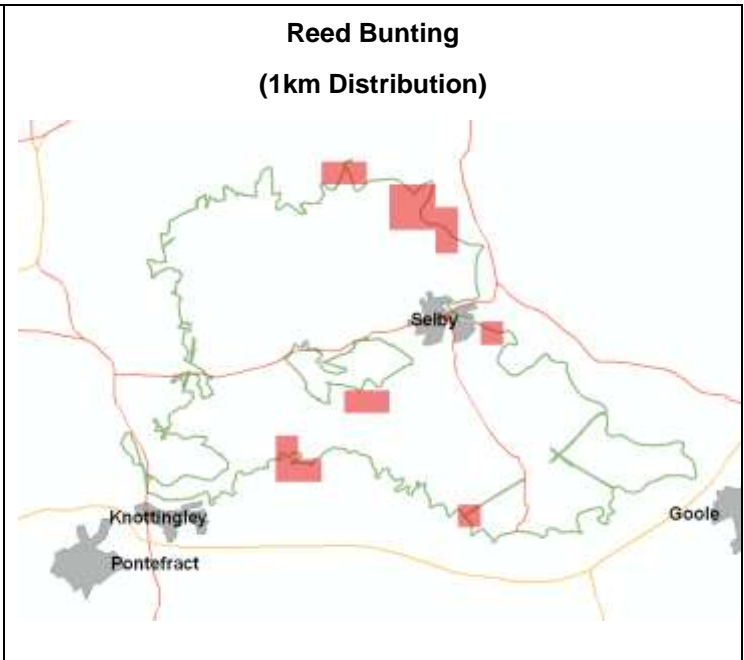
Current Status

Bern II, UK BAP Priority Species, Red Data List

Common and widespread in Europe and found throughout the UK. Of conservation concern in the UK after a significant decline in the population during the 1970s and 1980s. Typically found in wet vegetation but has recently spread into farmland and, in winter, into gardens.

Threats

The main threats to Reed Bunting are the use of herbicides and insecticides; changes to farming practices and regimes; loss of farmland habitat diversity; loss of wetland habitats; and un-sympathetic river engineering.



6.12.4 Barn Owl (*Tyto alba*)

Current Status

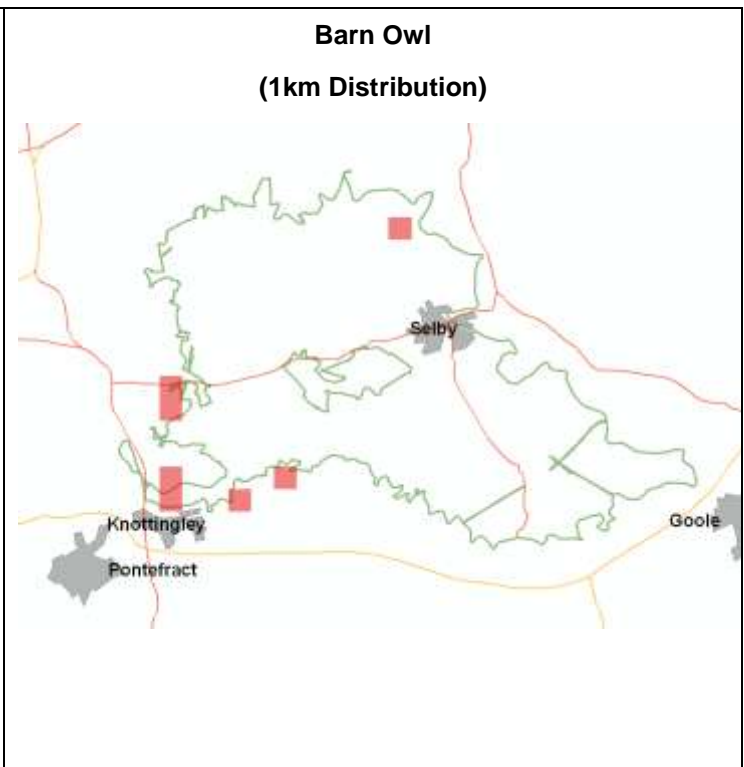
Bern: II, WCA 1.1, Cites A, Amber Data List

The Barn Owl is one of the most widely distributed animals in the world, however, in the UK the bird has suffered declines over the past fifty years with the species losing more than a quarter of its breeding range.

Threats

The two main factors in the landscape responsible for the decline in the range of Barn Owls are:

- The refurbishment of old barns and out-buildings resulting in a loss of potential nesting sites. As a result many suitable foraging habitats are not occupied by this species in spite of the availability of prey.
- The loss of permanent grassland to arable cropping. Barn Owls like to hunt in the tall, unkempt margins of fields. If these are lost then so is their chief prey item, the Field Vole.



6.12.5 Grass Snake (*Natrix natrix*)

Current Status

UK BAP Priority Species, WCA 9

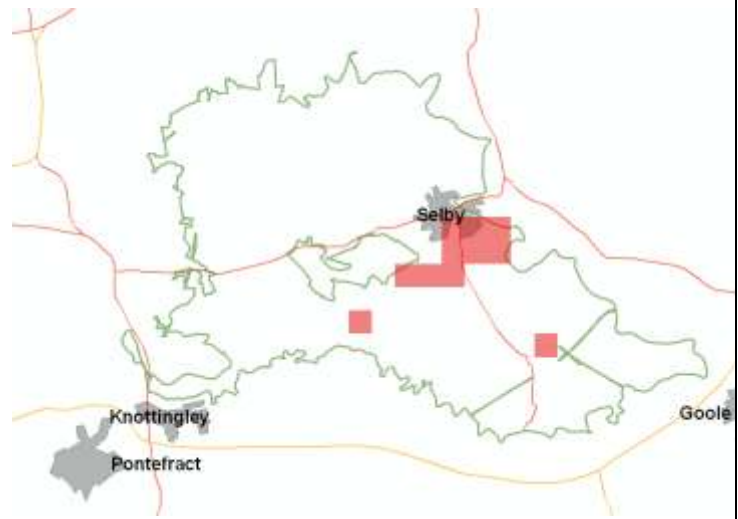
The Grass Snake is our largest reptile, with some adults growing to well over a metre in length. It is often associated in water, it swims well and feeds mainly on amphibians and fish.

It is common throughout lowland England and Wales but has declined in numbers and range over the century.

Threats

The main threat to the Grass Snake is people who often take a dim view of its presence in their gardens and allotments. Because of this egg-laying sites and basking locations have been destroyed as well as, on occasion, individual snakes. It has also declined due to the loss and fragmentation of wetland habitats.

Grass Snake (1km Distribution)



6.12.6 European Eel (*Anguilla anguilla*)

Current Status

UK BAP Priority, IUCN Red List: Critically Endangered, CITES: App II, EC: Reg. 1100/2007

Since the 1970s, the numbers of eels reaching Europe is thought to have declined by around 90%. However, it is not clear whether this is a man-made decline or is part of a normal long-term natural cycle.

Threats

The threats facing Eels are unknown but the following have been put forward as potential causes of the decline: overfishing, especially for glass eels and elvers; parasites such as *Anguillicola crassus* (introduced from Japan in the 1980s); barriers to migration such as hydroelectric plants; PCB pollution and climate change.

European Eel (1km Distribution)



6.12.7 Tansy Beetle (*Chrysolina graminis*)

Current Status

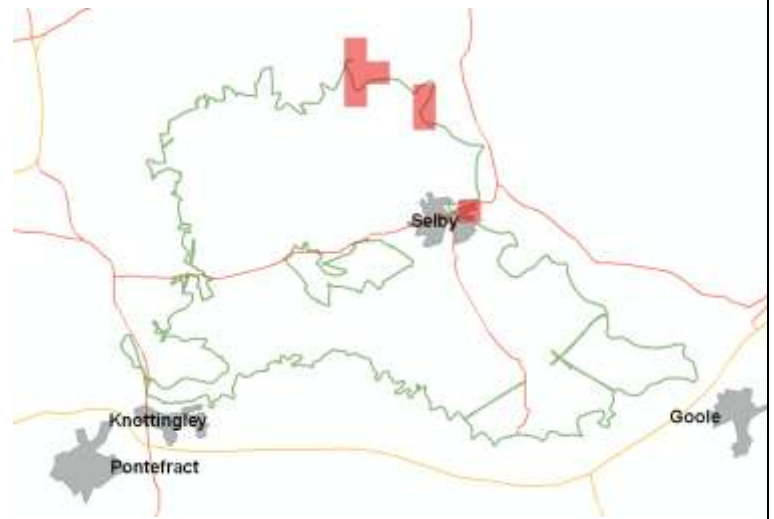
UKBAP Priority Species

The Tansy Beetle is an uncommon species that depends upon the Tansy plant (*Tanacetum vulgare*) for all its food needs. Once fairly widespread in Britain, the species has become extinct over much of its range. It is found now only along the River Ouse around York.

Threats

The main threats to Tansy Beetle are the grazing or trampling of Tansy by livestock; poor bankside vegetation management; un-seasonal flooding; riverbank erosion and engineering works; pesticides and, because it is so unusual, specimen collection.

Tansy Beetle (1km Distribution)



7 HABITAT AND SPECIES ACTION PLANS

7.1 Habitat and Species Action Plans

The following sections contain action plans for each of the habitats and species that have been prioritised for action by the IDB. The plans set out the objectives, targets and actions that the IDB believes are appropriate for each. These plans will be reviewed and updated periodically.

Where IDB objectives and targets contribute to UK BAP or Selby Local BAP targets, this is also identified.

7.2 Action Plans for the Selby Area IDB

7.2.1 Habitat Action Plans

The following Habitat Action Plans are included for the Selby Area IDB drainage district:

- Arable Field Margins
- Wet Woodland
- Drains and Ditches

7.2.2 Species Action Plans

The following Species Action Plans are included for the Selby Area IDB drainage district:

- Water Vole
- Otter
- Barn Owl
- European Eel

7.2.3 Procedural Action Plans

- A Procedural Action Plan has also been devised for the Selby Area IDB.

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8 HABITAT ACTION PLAN – ARABLE FIELD MARGINS

8.1 Introduction

Arable field margins are herbaceous strips or blocks, usually sited on the outer 2-12m margin of the arable field, that are managed specifically to provide benefits for wildlife. They are commonly known as grass margins or wildlife strips.

The margin is usually uncultivated grassland, self-seeded, or sown with a carefully chosen wildlife mix, and with a diversity of perennial broadleaved plants. The vegetation is cut annually or approximately every three years to prevent scrub invasion.

Arable field margins can provide a feeding habitat for several farmland birds, including the Grey Partridge and a variety of passerines such as the Corn Bunting and Yellowhammer. In addition to birds, these margins are beneficial for invertebrates, provide cover and feeding areas for the Brown Hare and other small mammals, and foraging strips for predators such as Barn Owls.



8.2 National Status

Approximately 41% of the British landscape is tilled (44% in England), of which cereals alone comprise 51% (Joint Nature Conservation Committee 2006). This gives an estimated area coverage for arable crops of 1,403,000ha across the UK.

The current national resource is estimated to be 105,217ha. However, given the extent of arable crops, if a margin of 6m were managed for wildlife across the UK resource, a further 95,600ha of land would be available to wildlife, without any serious detrimental effects on the remaining cropped areas.

Arable field margins are listed as a UK BAP priority habitat.

8.3 Local Status

There is no widely available accurate documentation of the extent of arable field margins within Yorkshire. The introduction of Countryside Stewardship Schemes, Local Environmental Risk Assessment for Pesticides and new Cross Compliance rules are all believed to have had positive effects on the distribution of arable field margins across the county. There is, however, still believed to be substantial scope for expansion of the coverage of this habitat and for improvement in the management of existing field margins.

Arable Field Margins are included in the Selby LBAP Arable Farmland Habitat Action Plan.

8.4 Status within the Drainage District

As described in the preceding section, there is only very limited information available on the distribution of arable field margins. It is expected, however, that an arable field margin in some form exists alongside the majority of arable fields, or there is the potential for one to exist. This is reflected in the mapped distribution for the Selby IDB district.

8.5 Threats

The current threats to arable field margins in the Selby Area IDB district include:

- Intensification of arable farming, leading to increased use of pesticides in efforts to obtain a weed free monoculture
- Expansion of fields and removal of field boundaries in order to increase field size and farm productivity
- Cultivation all the way to field edges
- Inappropriate management of existing field margins, such as spraying to remove 'weeds'
- Nutrient enrichment from agricultural runoff.

8.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
1	Maintain and improve the quality of current arable field margins within the drainage district	1.1	Encourage appropriate management techniques for field margins adjacent to IDB watercourses	EA FWAG NE	2010 onwards	Number of landowners advised	Annually	√	√
		1.2	Reduce disturbance to ground nesting birds using arable field margins adjacent to IDB drains		2010 onwards	Start date for annual maintenance	Annually		
2	Maintain and expand the current extent of arable field margins within the district	2.1	Encourage the creation of arable field margins adjacent to IDB watercourses	EA FWAG NE	2010 onwards	Number of landowners advised	Annually	√	
		2.2	Promote the uptake of Environmental Stewardship schemes within the drainage district	EA FWAG NE	2010 onwards	Number of landowners advised	Annually	√	√
		2.3	Encourage an increase in margins containing plant species which provide seed for wild birds and sources of nectar and pollen	EA FWAG NE	2010 onwards	Number of landowners advised	Annually	√	√

8.7 Associated Species

Key species associated with the habitat action plan for arable field margins include farmland birds (including the UK BAP species Grey Partridge, Yellowhammer and Skylark).

9 HABITAT ACTION PLAN – WET WOODLAND

9.1 Introduction

Wet woodland occurs on poorly drained soils and low-lying land often as a mosaic where the ground undulates. Wet woodland is often dominated by Birch, Willow and Alder. The humid conditions support large bryophyte assemblages and rich and varied invertebrate populations. These are often ancient woodlands on soils that were historically too wet to drain effectively for farmland.



9.2 National Status

The UK BAP records an estimate of the extent of wet woodland as being between 50,000 and 70,000ha. This is based on estimates from the Nature Conservancy Council in the 1980s. Wet woodland represents a successional stage and as such is at threat from drying out; some recruitment is also possible as wetlands, fens and marshes become wooded, and also through the process of succession.

Wet woodland is a UK BAP priority habitat.

9.3 Local Status

There are no precise figures for the amount of wet woodland within Selby district, however, a number of patches have been recorded although not accurately mapped (or differentiated from other types of woodland). The extent of the data deficit is illustrated by the fact that surveys to date have found only 343ha in the whole of Yorkshire.

Wet Woodland is included within the Selby LBAP Woodland Habitat Action Plan.

9.4 Status within the Drainage District

Wet woodland occurs mainly in the north of the drainage district. The largest site is Bishop Wood, managed by the Forestry Commission, who are currently undertaking work to restore the 330ha site to its original wet woodland state. Smaller examples of wet woodland include Great Lawn Wood, Moss Hagg, Thorpe Wood and Kerrick Spring Wood.

9.5 Threats

The main threats to wet woodland in the drainage district include:

- Fragmentation and loss of habitat through drainage and land use changes
- Lowering of water tables through abstraction of water for drinking and agricultural irrigation
- Loss of traditional woodland management techniques
- Poor water quality in catchments surrounding remaining areas of wet woodland
- Invasive plant species lowering species diversity of the herb layer

9.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
3	Improve understanding of distribution of wet woodland within the drainage district	3.1	Identify and map areas of wet woodland adjacent to IDB watercourses	FC	2012	Area mapped (m ²)	Annually to 2012		
		3.2	Submit mapped records of wet woodland to Natural England and NEYEDC		2012	Number of records submitted	Annually to 2012		
4	Maintain and improve existing areas of wet woodland within the drainage district	4.1	Ensure requirements of wet woodland are considered when undertaking maintenance and capital works		Ongoing	Conditions applied	As required	√	
		4.2	Encourage sympathetic management of wet woodland and surrounding land	NE FC	2010 onwards	Number of landowners advised	Annually	√	√
		4.3	Work with the Forestry Commission to investigate the potential for IDB activities to contribute towards the restoration of Bishop Wood	FC	Ongoing	Discussions/ meetings held	Annually		√

9.7 Associated Species

Key species associated with Wet Woodland include Otter and Bats.

10 HABITAT ACTION PLAN – DRAINS AND DITCHES

10.1 Introduction

Drains and ditches are man-made watercourses used to remove surface water run-off. The mosaic of features found within these watercourses can support a diverse range of plants and animals. For example, berms can support a variety of marginal plants, and exposed sediments such as shingle beds and sand bars are important for a range of invertebrates. Drains and ditches can also provide important habitat for Water Voles, a nationally declining species.

Drains and ditches also provide a wildlife corridor link between fragmented habitats in intensively farmed landscapes.



10.2 National Status

There is no widely available information on the status or distribution of drains and ditches in the UK. Clearly they are widespread, and will occur wherever drainage is artificially managed, which accounts for most, if not all, of lowland Britain. Given the abundance of drains and ditches, the quality of the habitat they provide is perhaps of more interest than the extent. The vast majority of aquatic habitats in the UK, especially in lowland areas, have undergone declines in quality and it is likely that this is reflected across most of this habitat type as well.

10.3 Local Status

Drains and ditches, even though they are man-made, are an integral part of the drainage system of much of the district and are intimately connected with rivers and streams. Rivers, streams and Ditches are included within the Selby Local BAP.

10.4 Status within the Drainage District

The Selby Area IDB is responsible for 422.5km of watercourse within the drainage district. These drains and ditches are used in the management of water levels for land drainage and flood defence. There are also a number of 'Main River' watercourses within the district maintained by the Environment Agency, along with numerous minor drains and ditches under riparian ownership.

10.5 Threats

The main threats to drains and ditches in the IDB district include:

- Pollution, including eutrophication and acidification
- Excessive ground and surface water extraction
- Intensive land drainage and flood defence works
- Inappropriate bank management, including overgrazing

- Invasive plant and animal species (i.e. Himalayan Balsam and Giant Hogweed)

10.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
5	Maintain and enhance the existing habitat and species diversity of watercourses within the drainage district	5.1	Ensure the appropriate management of the Selby Area IDB watercourses through an integrated Biodiversity Action Plan and Maintenance regime		Ongoing	Plan production	Annually		√
		5.2	Identify and assess potential impacts of all new discharges into IDB maintained watercourses	EA	Ongoing	% of consents assessed	Annually		√
		5.3	Produce guidance and provide advice on ditch management to riparian owners within the drainage district	NE FWAG	Ongoing	Number of owners advised	Annually		√
		5.4	Review all applications for "Consent for works affecting IDB watercourses" to ensure minimal environmental impacts on the aquatic habitat		Ongoing	% of consents reviewed	Annually		√
6	Control non-native invasive species along IDB watercourses	6.1	Record and monitor non-native invasive plant and animal species on and/or adjacent to IDB watercourses	EA YWT	2010 onwards	Length (m) of watercourse surveyed	Annually		
		6.2	Assess feasibility of controlling stands of invasive plants on IDB watercourses	EA	Ongoing	Length (m) of watercourse assessed	Annually		

10.7 Associated Species

Key species associated with Drains and Ditches include Water Vole, Otter, Bats and Eels.

11 SPECIES ACTION PLAN – WATER VOLE

11.1 Introduction

The Water Vole is the UK's largest vole species. It is frequently confused with the Brown Rat, but can be distinguished by its furred tail, blunt muzzle, and more discrete ears. Water Voles occur along vegetated banks of slow flowing rivers, streams, ditches, dykes and lakes where they feed on grasses and other waterside vegetation.

Signs of the presence of Water Voles can include cropped 'lawns' of grazed vegetation, latrines of droppings, and networks of burrows and tunnels in banks and surface vegetation. Water Vole burrows are generally between 4 and 8cm in diameter and can be confused with holes made by Brown Rats - the lack of spoil created by Water Voles, and a slightly smaller opening, are the principal distinguishing features.



11.2 National Status

The Water Vole is found throughout Britain, although it is scarcer in upland areas and reliant on areas with appropriate freshwater habitats. Once common throughout its range, the Water Vole underwent dramatic declines in number in the twentieth century. A survey in 1996-1998 by the Vincent Wildlife Trust found that occupancy of sites where Water Voles had previously been recorded had declined by 89%. The Water Vole is afforded full protection from disturbance and destruction of both individuals and occupied habitat through its inclusion on Schedule 5 of the Wildlife and Countryside Act, 1981 (and subsequent amendments).

The Water Vole is a priority species under the UK Biodiversity Action Plan.

11.3 Local Status

The Water Vole has been recorded throughout the Selby district, especially on the Derwent and Ouse sub-catchments. However, there have not been any systematic surveys so the current status is unclear.

The Water Vole is a Selby LBAP priority species.

11.4 Status within the Drainage District

The Water Vole has been recorded throughout the district, however most records are concentrated in the north-east near Selby and Cawood (with strongholds on Bishop Dike and at Selby Dam). They have been found to be present on 18 IDB maintained watercourses but are likely to be distributed more widely as these records only reflect the small proportion of watercourses that have been surveyed.

11.5 Threats

The main threats to Water Vole in the drainage district include:

- Predation by the non-native North American Mink
- Habitat loss due to intensive agricultural practices, inappropriate vegetation management, insensitive flood defence and drainage engineering (culverting, bank reinforcement) and bank erosion from heavy grazing
- Pollution resulting in poor water quality
- Variation in water levels. Greatly fluctuating water levels can flood burrow systems and drown Water Voles. The drying out of watercourses may also be detrimental, leaving burrow entrances exposed and Water Voles vulnerable to predators

11.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
7	Maintain and enhance suitable habitat for Water Vole within the drainage district	7.1	Assess existing habitat suitability of IDB watercourses for Water Vole	YWT	2010	Length (m) assessed	2010		
		7.2	Ensure appropriate management of IDB watercourses with known Water Vole populations		Ongoing	Length (m) managed/maintained	Annually	√	√
		7.3	Review maintenance regimes and identify watercourses where the mowing and weed cutting regime can be altered to enhance and increase Water Vole habitat		2010 onwards	Length (m) enhanced	Annually		
		7.4	Work with landowners to improve the riparian habitat for Water Voles	NE YWT	2010 onwards	Number of landowners advised	Annually	√	√
8	Ensure all IDB works comply with relevant legislation protecting Water Vole and their habitat	8.1	Provide training to IDB employees on legislation pertaining to Water Vole and their habitat		2011	Number of employees trained	Annually to 2011	√	√
		8.2	Ensure Water Vole surveys are conducted prior to any bank improvement, drainage or other engineering works		Ongoing	Number of surveys undertaken	Annually	√	√
9	Monitor populations of Water Vole within the drainage district	9.1	Collate records of Water Voles to establish a baseline data set for this species in the drainage district		Ongoing	Number of records collated	Annually	√	√
		9.2	Submit all Water Vole records from the drainage district to NEYEDC		2010 onwards	Number of records submitted	Annually	√	√
		9.3	Undertake monitoring of key Water Vole colonies, particular those at Clough Dike and Roscars Drain		2010 onwards	Length (m) surveyed	Annually	√	√
		9.4	Investigate the distribution of Mink in the drainage district	YWT	2010 onwards	Length (m) assessed	Annually	√	√
		9.5	Assess whether Mink control would benefit Water Vole recovery/recolonisation and/or site safeguard	YWT	2011 onwards	Assessment completed	As required	√	√

12 SPECIES ACTION PLAN – OTTER

12.1 Introduction

The Otter is a semi-aquatic species, feeding mainly on fish and crustaceans caught underwater. They have a life expectancy of between 10-15 years and are territorial in nature. Otters are well equipped for swimming rapidly through water. They have a long body, a powerful tail and webbed feet.



In the UK, Otters can breed all year round. They produce between one and five young (usually two or three) which are born blind and without teeth. They stay with their mother for up to one year while she teaches them how to swim and catch fish. Adult Otters have no natural predators, although in the past they were heavily persecuted by gamekeepers.

During the late 1950s, following the introduction of new and stronger pesticides, the UK's Otter population went into rapid decline. It is only recently that the Otter population in Britain has started to recover through protective legislation and conservation programmes.

12.2 National Status

The Otter is a UK BAP Priority Species due to the rapid decline in numbers experienced by this species between the 1950s and the 1970s. During this time, the species declined markedly both in numbers and extent and by the 1980s was effectively extinct from the midlands and south-east of England. However, populations remained in Wales, south-west England and much of Scotland, where sea loch and coastal colonies comprise one of the largest populations in Europe. There is also a significant population of Otters in Northern Ireland. The decline now appears to have halted and sightings are being reported in former habitats.

The Otter is protected under Schedule 5 and 6 of the Wildlife and Countryside Act 1981 and Schedule 2 of the Conservation (Natural Habitats, etc.) Regulations 1994. It is listed on Appendix 1 of CITES, Appendix II of the Bern Convention and Annexes II and IV of the Habitats Directive.

12.3 Local Status

The majority of recorded Otter activity is on the Rivers Derwent and Wharfe, with some evidence of activity on the Aire. It is thought the River Ouse and Selby Canal act as the main corridors linking the other river systems.

Otter is a Selby LBAP priority species.

12.4 Status within the Drainage District

Otters have not been recorded as breeding within the district, but there are records of Otter activity on the River Ouse near Cawood, Selby Toll Bridge and Selby Dam, and also on the River Aire near Rawcliffe and West Haddlesey. Otter activity has also been recorded on Bishop Dike and the IDB hold a record of an Otter spraint found on a culvert on East Common Drain, adjacent to the Selby By-pass.

12.5 Threats

The main threats to Otters in the drainage district include:

- Pollution, impacting on water quality and food supply/prey
- Poor in-channel and bankside habitat management
- Disturbance from human activity due to development and recreation
- Accidental death on roads and in traps

12.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
10	Maintain and enhance suitable habitat for Otter within the drainage district	10.1	Assess existing habitat suitability for Otter	EA YWT	2010	Length (m) assessed	2010		
		10.2	Work with landowners to improve the riparian habitat for Otter	NE EA YWT FWAG	2010 onwards	Number of landowners advised	Annually	√	√
		10.3	Ensure maintenance and improvement works take into account the needs of otters, retaining features such as trees, scrub and overhanging root systems	EA	Ongoing	Number of features retained	Annually	√	
11	Ensure all IDB works comply with relevant legislation protecting Otter and their habitat.	11.1	Provide training to IDB employees on legislation pertaining to Otter and their habitat		2011	Number of employees trained	Annually to 2011	√	√
		11.2	Ensure surveys for Otter activity are conducted prior to any bank improvement, drainage or other engineering works		Ongoing	Number of surveys undertaken	Annually	√	√
12	Monitor Otter activity within the drainage district.	12.1	Collate records of Otter activity to establish a baseline data set for this species in the drainage district		Ongoing	Number of records collated	Annually	√	√
		12.2	Submit all Otter records from the drainage district to NEYEDC		2010 onwards	Number of records submitted	Annually	√	√

13 SPECIES ACTION PLAN – BARN OWL

13.1 Introduction

The Barn Owl is a distinctive owl species in the UK owing to its overall pale, creamy colouring. It favours areas of open country, particularly grazing meadows, as well as linear habitats such as arable field margins and road verges.



The Barn Owl feeds primarily on small rodents, but will also take invertebrates and even amphibians and reptiles if available. Barn Owls can occupy a range of roosting habitats, but have a strong preference for undisturbed locations. They do not build a nest for breeding, and therefore require a generally level surface on which to lay their eggs.

13.2 National Status

Data from the British Trust for Ornithology (BTO) show that Barn Owls underwent a notable decline throughout the twentieth century, although there is evidence of an upturn in numbers following reductions in the use of organochlorine pesticides. The UK population was estimated at between 3000 and 5000 breeding pairs in 1995-1997, with the prior declines enough to lead to the categorisation of Barn Owls as an Amber species on the RSPB's list of 'Birds of Conservation Concern'. The Hawk and Owl Trust is a national UK charity dedicated to conserving owls and other birds of prey through creating and managing nesting, roosting and feeding habitats. It is believed that 4 out of 5 breeding pairs of Barn Owl in the UK now depend on nest boxes for their homes.

13.3 Local Status

There is limited information available on the distribution of Barn Owls in Selby, However, they are likely to be fairly common where the habitat is suitable.

13.4 Status within the Drainage District

There are records of Barn Owl within the south-west of the drainage district, adjacent to the River Aire and also at Cawood Marshes. However, it is likely that Barn Owls are more widely distributed throughout the district.

13.5 Threats

The main threats to Barn Owls in the drainage district include:

- Loss of habitat such as rough grassland and hedgerows to development and agricultural intensification, and an associated decline in prey species
- Loss of nesting sites through the demolition or conversion of old buildings
- Road deaths

- Disturbance to nesting and roosting sites (often unintentional), and
- Poisoning from pesticides, particularly 'second generation' rodenticides used to control warfarin-resistant rodents.

13.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
13	Maintain and enhance suitable breeding and hunting habitat for Barn Owl within the drainage district	13.1	Encourage landowners to enter agri-environment schemes and promote the creation of grass margins around arable fields	NE FWAG	Ongoing	Number of landowners advised	Annually		
		13.2	Erect three Barn Owl boxes on IDB pumping stations adjacent to the Rivers Aire and Ouse	EA Hawk & Owl Trust	2014	Number of boxes	Annually to 2014		
14	Monitor Barn Owl numbers within the drainage district	14.1	Collate records of Barn Owl to establish a baseline data set for this species in the drainage district		Ongoing	Number of records collated	Annually		
		14.2	Submit all Barn Owl records from the drainage district to NEYEDC		2010 onwards	Number of records submitted	Annually		
		14.3	Monitor the use of Barn Owl boxes once erected	Hawk & Owl Trust	Ongoing	Number of monitoring visits	Annually		

14 SPECIES ACTION PLAN – EUROPEAN EEL

14.1 Introduction

The European Eel is a catadromous fish species, spending most of its adult life in freshwater and migrating to the Sargasso Sea to spawn. Adult eels spend on average between 7 and 20 years in freshwater before undertaking their spawning migration to sea. Prior to migration, adults are generally dark brown on the dorsal surface and flanks, and yellow on the underside (this gives rise to the commonly used term for pre-migrating adults, 'yellow eels'); a number of physiological changes occur in migrating adult fish, including atrophy of the stomach and development of a silvery sheen (at which point they are commonly referred to as 'silver eels').



A hatchling eel is referred to as a Leptocephalus and has a flattened (in dorsal view), transparent body. Hatching in the Sargasso Sea, these larvae are carried towards UK shores by Gulf Stream currents; on reaching the continental shelf, leptocephali undertake a metamorphosis into glass eels which have a similar body shape to adult eels but are largely transparent. During their migration into estuarine and freshwater, glass eels become pigmented and develop the brown colouration of adult eels.

Eels are generally opportunistic carnivores, preying on a huge variety of prey species. Yellow eels prefer habitats that are generally silted with submerged vegetation, both of which offer cover. There is a prevalence of larger female eels in catchments on the east coast of England and smaller male eels on catchments on the west coast of England.

14.2 National Status

The European Eel is the only eel species resident in freshwater in the UK.

Although adult European Eels are common throughout the UK, the recruitment of glass eels to European shores has shown a marked decline in the last 25 years; the International Council for the Exploration of the Seas indicates that the stock of the European Eel is outside safe biological limits across European waters. In recognition of the fragile nature of the European Eel stock, European Union Council Regulation No 1100/2007/EC requires member states to develop national management plans to enable stock recovery. Eel Management Plans were produced by DEFRA for all River Basin Districts in England in 2009.

The European Eel is a UK BAP priority species.

14.3 Local Status

Eels are reported by DEFRA to be present in all major river systems in the Humber River Basin District. Observed densities are reported to be less than 1 per 100m², but this is believed to be an underestimate of the population. There is a clear absence of eels higher up the river system, with the cut off coinciding with known barriers to fish migration.

14.4 Status within the Drainage District

There is a record of European Eel on the River Aire near Old Eye Pumping Station. The IDB currently holds no records of eels from within the drainage district. However, given the presence of suitable habitat, this is more likely to reflect a lack of targeted surveying rather than a genuine absence.

14.5 Threats

The principle threats to the European Eel are as follows:

- Loss and inappropriate management of habitat
- Barriers to upstream and downstream migration
- Water quality
- Contaminants in sediment
- Overfishing
- Entrainment at abstraction points
- The Eel-specific parasite, *Anguillicola crassus*
- Effects of climate change (impacting upon recruitment of juveniles to UK waters)

14.6 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
15	Determine the presence of European Eel within the drainage district	15.1	Produce a yellow eel (presence/absence) monitoring programme	EA	2010	Monitoring plan drafted	2010		
		15.2	Deliver the yellow eel (presence/absence) monitoring programme	EA	Ongoing	Number of survey locations monitored	Annually		
		15.3	Submit all European Eel records to NEYEDC		Ongoing	Number of records submitted	Annually		
16	Maintain and enhance suitable habitat for European Eel within the drainage district	16.1	Assess existing habitat suitability for European Eel		2010	% of catchment assessed	2010		
		16.2	Review maintenance regimes and identify watercourses where the desilting and weed cutting regime can be altered to enhance and increase European Eel habitat		2011 onwards	Length of watercourse improved (m)	Annually		
17	Reduce the impacts of existing barriers to migration on escapement and recruitment	17.1	Develop external funding strategy for eel passage improvement project within the district (that identifies appropriate external funding sources)	EA	2010	Strategy produced	2010		
		17.2	Secure funding to enable prioritisation of existing barriers to migration for mitigation works	EA ART	2010	Funding secured	2010		
		17.3	Prioritise existing structures for mitigation works to reduce impacts of barriers to migration	EA ART	2011	Structures prioritised	2011		
		17.4	Source funding to enable mitigation works and associated pre- and post-project monitoring programme on priority structures	EA ART	2011	Funding secured	2011		
		17.5	Undertake mitigation works on priority structures	EA ART	2013	Number of structures improved	2013		
18	Reduce the impact of new IDB infrastructure on escapement and	18.1	Design all future in-channel structures with facilities to allow the migration of adult		As required	Number of passable structures	As required		

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
	recruitment of eel		and juvenile eel life stages			installed			
		18.2	Secure partnership funding to facilitate delivery of 18.1 above		As required	Partnership funding secured	As required		
19	Reduce the impacts of entrainment on eel populations	19.1	Produce a briefing note highlighting the impacts of entrainment on eel populations and send to relevant Board employees/contractors		2010	Number of employees/contractors	2010		
		19.2	Recommend consideration be given to reducing the impacts of entrainment on eel populations when responding to relevant planning applications	Local Authorities	Ongoing	Number of applications commented on	Annually		
20	Improve water quality of managed and associated watercourses	20.1	Encourage landowners within the drainage district to undertake Catchment Sensitive Farming practices	EA NE FWAG	Ongoing	Number of landowners advised	Annually		

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15 PROCEDURAL ACTION PLAN

15.1 Introduction

A range of procedural actions and targets have also been devised within this Action Plan. These will contribute to alterations in the way in which internal and administrative operations are carried out within the Selby Area IDB to benefit biodiversity. They will lead to the promotion of best-practice methods and contribute to overall biodiversity gain, outside of the targets identified in the specific habitat and species action plans.

15.2 IDB Objectives and Targets

Target Ref.	Target	Action Ref.	IDB Actions	Partners	Date	Indicators	Reporting	UK BAP	Local BAP
21	Promote environmental best practice when undertaking all drainage works	21.1	Train IDB employees/ contractors in environmental best practice		Ongoing	Number of employees trained	Annually		
		21.2	Advise landowners within the drainage district on environmental best practice		Ongoing	Number of landowners advised	Annually	√	√
		21.3	Publicise examples of environmental best practice		As required	Number of articles/press releases	When required		
22	Control culverting of watercourses	22.1	Review all applications for "Consent for works affecting IDB watercourses" and advise appropriately		Ongoing	Number of consents reviewed	Annually		
23	Improve understanding of species populations present within the drainage district	23.1	Submit all species records to NEYEDC		Ongoing	Number of records submitted	Annually		
24	Improve BAP delivery through partnership working with organisations and landowners	24.1	Develop existing partnerships to deliver BAP targets and seek new partners to allow delivery through joint working or funding		Ongoing	Number or area of BAP targets delivered through partnership working	Annually		

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16 IMPLEMENTATION

16.1 Implementation

The actions detailed in the habitat and species actions plans in previous chapters will be implemented predominantly through minor changes to IDB management and maintenance methods.

To complement this BAP a maintenance programme will be devised by the Board, through which many of the actions will be implemented. Any capital works undertaken by the Board will also present the opportunity for the implementation of BAP actions.

Partnership working will allow several actions to be implemented, for example, data collection and the provision of advice.

The Selby Area IDB 'BAP Champion' will also take the lead and ensure that the actions detailed in this action plan are implemented.

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17 MONITORING

17.1 Monitoring

Monitoring of the Selby Area IDB BAP will be required to ensure that the actions detailed in the habitat and species action plans are being implemented.

Monitoring of the indicators detailed in the action plans will be undertaken and recorded, generally on an annual basis.

The Selby Area IDB 'BAP Champion' will be involved in monitoring and recording the implementation of the Selby Area IDB BAP.

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

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18 REVIEWING AND REPORTING PROCESS

18.1 Reviewing and Reporting Process

Progression of the BAP requires reporting to the public, BAP Working Group and also to the UK BAP.

Progress towards each of the targets is likely to be assessed annually and it is anticipated that the Selby Area IDB BAP will be fully reviewed after five years. However, the production and long-term development of the BAP is a flexible process.

Annual reporting will be done through the Shire Group website, meetings of the Selby Area IDB and through the national Biodiversity Action Reporting System (BARS). Targets and actions for the individual action plans have been written so that they fit the national BARS, which is the approved system for reporting. Using BARS, annual progress reports will be produced and made available.

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