



**Danvm DC  
Biodiversity  
Action Plan**

**Biodiversity 2015-2020**

**September 2015**

# Project Manager

Alison Briggs  
 Danvm Drainage Commissioners  
 Epsom House  
 Malton Way  
 Adwick le Street  
 Doncaster  
 DN6 7FE

# Revision History

Revision Ref / Date Issued	Amendments	Issued to
Draft report September 2015		T. Sockett (Chairman)

# Contract

This report describes work commissioned on 6 June 2015 by Danvm Drainage Commissioners Alison Briggs BSc (Hons) Env.Sc., MSc Env.Mngt: Climate Change of JBA Consulting carried out this work.

Prepared by  ..... Alison Briggs BSc (Hons) Env. Sc., MSc. Env. Mngt: Climate Change  
 Environment Officer to Shire Group of IDBs

Reviewed by  ..... Ian Benn PG Dip Health & Safety and Environmental Law, MCQI  
 Head of Water Level Management

# Purpose

This document has been prepared as a Biodiversity Action Plan delivering Biodiversity 2015-2020 for the Danvm Drainage Commissioners. 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.

JBA Consulting has no liability regarding the use of this report except to Danvm Drainage Commissioners

## Copyright

© Jeremy Benn Associates Limited 2017

## Carbon Footprint

A printed copy of the main text in this document will result in a carbon footprint of 66g if 100% post-consumer recycled paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

JBA is aiming to reduce its per capita carbon emissions.

<b>Internal Drainage Board Biodiversity Action Plans .....</b>	<b>1</b>
<b>1 Internal Drainage Board Biodiversity .....</b>	<b>1</b>
1.1 Introduction .....	1
1.2 Importance of Conserving Biodiversity .....	1
1.3 Aims of Danvm Drainage Commissioners DB Biodiversity Action Plan .....	2
<b>2 IDB BAP process .....</b>	<b>2</b>
2.1 Objectives, Targets and Indicators .....	2
<b>3 Habitat Action Plan .....</b>	<b>3</b>
3.1 UK Broad Habitat - Standing Open Waters and Canals.....	3
3.2 Boundary and Linear Features .....	5
3.3 Unfavourable declining SSSI .....	5
<b>4 Species Action Plans .....</b>	<b>8</b>
4.1 Water Vole .....	8
4.2 Barn Owl .....	10
4.3 Great Crested Newt .....	11
4.4 Common Toad and Common Frog.....	12
4.5 Eel.....	13

## Internal Drainage Board Biodiversity Action Plans

Following implementation of the Natural Environment and Rural Communities Act 2006, every public body has duty to conserve biodiversity.

Internal Drainage boards were committed by Defra in its Implementation Plan of the IDB Review to produce their own Biodiversity Action Plans by April of 2010.

Many activities of an Internal Drainage Board have benefit for biodiversity, particularly through water level management and drainage ditch maintenance work.

As a result of new drivers and requirements, the 'UK Post-2010 Biodiversity Framework', published in July 2012, has succeeded the UK BAP. Devolution and the creation of country-level biodiversity strategies, has meant much of the work previously carried out under the UK BAP is now focussed at a country level. International priorities have also changed: the framework sets out the priorities for UK-level work to support the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020 and its five strategic goals and 20 'Aichi Targets', agreed at the CBD meeting in Nagoya, Japan, in October 2010; and the EU Biodiversity Strategy (EUBS), launched in May 2011.

Biodiversity action Plans will help the Board to maximise the biodiversity benefits from its activities and demonstrate its contribution to the Government's UK Post-2010 framework targets.

# 1 Internal Drainage Board Biodiversity

Although the Government now has a strategic plan to deliver biodiversity targets, the original UK BAP lists of priority species and habitats remain, an important and valuable reference source. Notably, they have been used to help draw up statutory lists of priority species and habitats in England, as required under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006.

This Biodiversity Action Plan (BAP) has been prepared on behalf of Danvm Drainage Commissioners to build on the achievements and successes through implementation of its first BAP 2010-2015.

## 1.1 Introduction

A report on the success of BAP 2010-2015 was delivered to the Board at its meeting June 2015.

Building on those successes, this Plan identifies objectives for the conservation and enhancement of biodiversity within the drainage district over which the Board has control and it describes targets and actions which it is hoped will deliver those objectives.

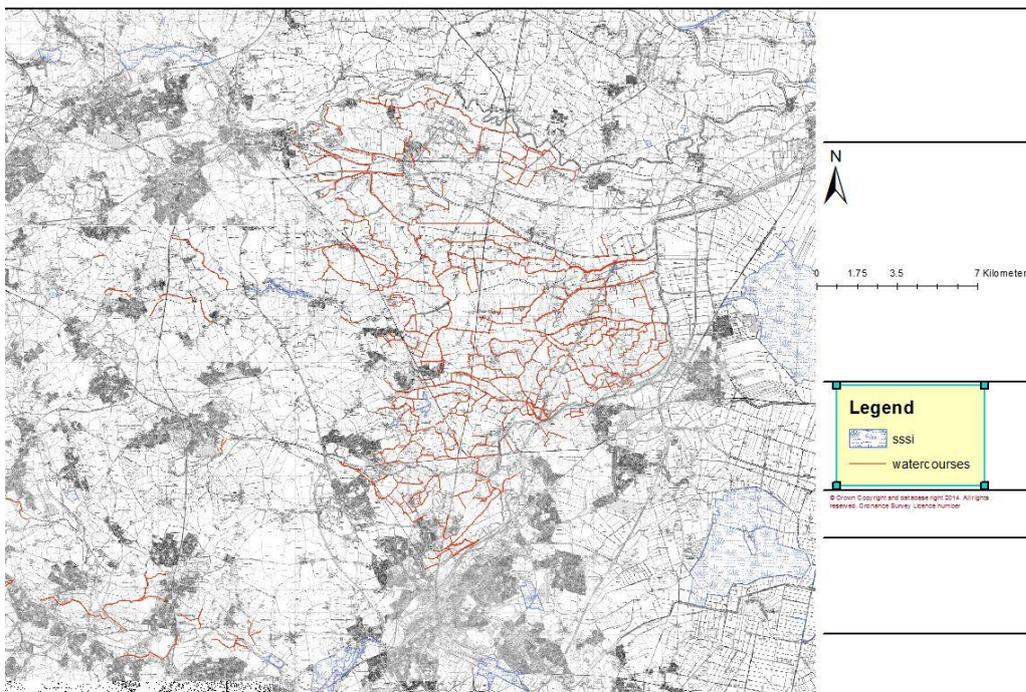
The Plan will help integrate biodiversity into the Board's activities through its annual maintenance programme and capital work projects.

The action plan will help safeguard the biodiversity of the District and it is hoped implementation of this plan will contribute to achievement of local and national targets for UK Biodiversity 2020.

The Plan is a dynamic document that will be reviewed and updated regularly with a final report being delivered autumn 2020.

The plan covers the Board's entire district as shown in figure 1.1 with particular relevance to Board maintained drains and two SSSI within the District, Shirley Pool SSSI and Went Ings Meadows SSSI

Figure 1-1: Drainage Board Area



## 1.2 Importance of Conserving Biodiversity

Biodiversity is a valuable resource and produces a range of benefits

- Provision of ecosystem services - benefits that contribute to making human life both possible and worth living; water, clean air, nutrients, pollination
- Provisioning services - food, medicine, raw materials, genetic diversity

- Cultural services - Improved health and wellbeing
- Regulating services - climate, hazard, noise, pollination, clean air, water quality and soil
- Economic benefits of added value through local economic activity

### **1.3 Aims of Danvm Drainage Commissioners DB Biodiversity Action Plan**

- To ensure habitat and species action targets from the UK BAP and Local Authority BAP are translated into effective action within the District
- Identify targets for other habitats and species of local importance within the District
- Raise awareness within the Board and locally, the need for biodiversity conservation as part of water level management
- Ensure that opportunities for conservation and enhancement of biodiversity are considered throughout all Board operations
- Monitor and report on progress in biodiversity conservation

## **2 IDB BAP process**

### **2.1 Objectives, Targets and Indicators**

Following on from achievements made in the 2010-2015 BAP the Board has agreed Habitat and Species Action Plans over which it has control and conservation objectives expressing the Board's aims for benefitting that particular habitat or species. The targets focus Board programmes of action and identify outcomes that can be measured and monitored.

## 3 Habitat Action Plan

### 3.1 UK Broad Habitat - Standing Open Waters and Canals

#### 3.1.1 Eutrophic Standing Water

##### Physical and chemical status

Eutrophic standing waters are highly productive because plant nutrients are plentiful, either naturally or as a result of artificial enrichment. These water bodies are characterised by having dense, long-term populations of algae in mid-summer, often making the water green. Their beds are covered by dark anaerobic mud, rich in organic matter. Many lowland water bodies in the UK are now heavily polluted, with high nutrient concentrations. Eutrophic waters are most typical of hard water areas of the lowlands of southern and eastern Britain.

##### Biological status

In their natural state, eutrophic waters have high biodiversity. Planktonic algae and zooplankton are abundant in the water column, submerged vegetation is diverse and numerous species of invertebrate and fish are present. Plant assemblages differ according to geographical area and nutrient concentration but fennel-leaved pondweed *Potamogeton pectinatus* and spiked water-milfoil *Myriophyllum spicatum* are characteristic throughout the UK. Common floating-leaved plants include yellow water lily *Nuphar lutea* and there is often a marginal fringe of reedswamp, which is an important component of the aquatic ecosystems.

Bottom-dwelling invertebrates such as snails, dragonflies and water beetles are abundant and calcareous sites may support large populations of the native freshwater crayfish *Austropotamobius pallipes*. Coarse fish such as roach *Rutilus rutilus*, tench *Tinca tinca* and pike *Esox lucius* are typical of eutrophic standing waters, but salmonids also occur naturally in some. Amphibians, including the protected great crested newt *Triturus cristatus*, are often present and the abundance of food can support internationally important bird populations.

In water bodies which are heavily enriched as a result of human activity, biodiversity is depressed because planktonic and filamentous algae (blanket-weed) increase rapidly at the expense of other aquatic organisms. Sensitive organisms, such as many of the pondweed *Potamogeton* and stonewort *Chara* species, then disappear and water bodies may reach a relatively stable but biologically impoverished state.

#### 3.1.2 Targets and Actions

Danvm Drainage Commissioners has agreed two targets for the Habitat Action Plan for Eutrophic Standing Waters.

**Target 1.** Maintain and enhance the existing habitat and species diversity of watercourses within the Drainage District

##### Action:

- Ensure the appropriate management of the Danvm DC maintained watercourses through an Integrated Biodiversity Action Plan and Maintenance Regime by following best practice guidance
- Monitor known non-native invasive plant and animal species on and/or adjacent to Board maintained watercourses

**Target 2.** Record stands of Invasive Non-Native Species on Board maintained watercourses.

##### Action:

- record and monitor non-native invasive plant and animal species on and/or adjacent to IDB watercourses, report to GB Non-Native Species Secretariat.

#### 3.1.3 Indicators and Reporting

For IDB actions in connection with Target 1, the indicators of delivery will be this Plan update, production and implementation that incorporates environmental best practice into its maintenance activity together with the indicator for monitoring of known INNS which will relate to the metered length of channel surveyed.

Indicators of delivery in connection with Target 2 will be the metered length of watercourses assessed and necessary reports to the GB Non-Native Species Secretariat. Reporting will be delivered annually to the Board.

### 3.1.4 Ponds

For the purpose of UK BAP priority habitat classification, ponds are defined as permanent and seasonal standing water bodies up to 2 ha in extent which meet one or more of the following criteria:

- Habitats of international importance
- Species of high conservation importance.
- Exceptional assemblages of key biotic groups
- Ponds of high ecological quality
- Other important ponds

Priority habitat ponds can be readily identified by standard survey techniques such as those developed for NVC, Common Standards Monitoring, the National Pond Survey or for specific species groups. Ponds are distinguished from other existing priority habitat types. The general principle to be applied is that where the standing water element is functionally a component of another priority habitat and that priority habitat definition takes account of the standing water element then it should be treated as part of that habitat.

Ponds are widespread throughout the UK, but high-quality examples are now highly localised, especially in the lowlands. In certain areas high quality ponds form particularly significant elements of the landscape, e.g. Cheshire Plan marl pits, the New Forest ponds, pingos of East Anglia, mid-Wales mawn pools, the North East Wales pond landscape, the forest and moorland pools of Speyside, dune slack pools, the machair pools in the Western Isles of Scotland, and examples of Habitats Directive Annex I pond habitats across Northern Ireland.

Estimates, based on the relatively small pond data sets currently available, suggest that around 20% of the c.400,000 ponds outside curtilage in the UK might meet one or more of the above criteria.

An inventory of ponds, including many high quality sites, has been established as part of the National Pond Monitoring Network and work is in progress to add further known sites to this database. The National Pond Monitoring Network (NPMN) will provide the main mechanism for monitoring priority habitat ponds. The NPMN was established in 2002 as a partnership of organisations involved in pond monitoring led by the Environment Agency and Pond Conservation.

### 3.1.5 Targets and Actions

The Board is the freehold owner of three ponds within its District, two bordering the Ea Beck in the Tilts area and one adjacent to a bridge at Stubbs Grange.

The Board has agreed two targets which will be delivered by three Board actions:

**Target 1.** Improve understanding of status of Board owned ponds

**Action:**

- Undertake surveys of Tilts Bridge ponds north and south of Ea Beck and pond at Stubbs Grange,
- Submit all records from surveys to local biological record centres and National Ponds Monitoring Network at [Freshwater Habitats.org](http://FreshwaterHabitats.org)

**Target 2.** Maintain and improve quality of ponds within Board ownership

**Action:**

- Identify if quality of Board owned ponds require improvement particularly for BAP Species Action Plans

### 3.1.6 Indicators and reporting

The indicators for Target 1 will be the survey effort in hours and the number of records submitted to the biological records centres and National Ponds Monitoring Network. Reporting will be within the life of the plan.

Indicators for Target 2 will be improvement work undertaken which is to be within the life of this BAP.

## 3.2 Boundary and Linear Features

### 3.2.1 Hedgerows

The definition of this priority habitat has been amended from the pre-existing Habitat Action Plan for ancient and/or species rich hedgerows in the UK BAP.

A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide (Bickmore, 2002). Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow. All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by this priority habitat, where each UK country can define the list of woody species native to their respective country. Climbers such as honeysuckle and bramble are recognised as integral to many hedgerows, however they require other woody plants to be present to form a distinct woody boundary feature, as such they are not included in the definition of woody species. The definition is limited to boundary lines of trees or shrubs, and excludes banks or walls without woody shrubs on top of them.

### 3.2.2 Targets and Actions

The board maintains a number of km of hedgerow adjacent to Board maintained watercourses, mainly running parallel with the public highway.

The Board agreed two targets which will be delivered by four actions:

**Target 1.** Identify and determine status of hedgerows alongside IDB watercourses.

**Actions:**

- Survey Board maintained hedgerows alongside and adjoining IDB watercourses
- identify ancient and species-rich hedgerows

**Target 2.** Ensure no net loss of hedgerow through the operations of the Board

**Actions:**

- Monitor all maintenance and new capital works to ensure any hedgerow removal is compensated by re-planting species-rich hedgerows
- ensure no damage to existing hedgerows caused by the operations of the Board.

### 3.2.3 Indicators and Reporting

The indicators for Target 1 will be represented by the length of hedgerow surveyed with annual reporting to the Board and where necessary the local ecological records centre. Indicators for Target 2 will be the number of capital schemes monitored and the length of protected/remaining hedgerow intact. Reporting will be on an annual basis.

## 3.3 Unfavourable declining SSSI

IDBs can contribute significantly to Outcome 1a of Biodiversity 2020 through Water Level Management Plan work to help achieve recovering and, ultimately, favourable condition on SSSIs. Natural England works closely with IDBs on SSSI recovery and manages the main recording mechanism to monitor progress toward SSSI favourable condition. IDBs have responsibility for a WLMP action or remedy on a SSSI requiring achievement of favourable condition by 2020 (under Outcome 1a). External funding is provided for this work primarily through flood risk management Grant-in-Aid.

The Board has identified three targets to be delivered by three actions

### 3.3.1 Targets and actions

Target 1. Preparation of Water Level Management Plan

Action:

- Secure funding for preparation of a WLMP for SSSI in unfavourable declining condition

Target 2. Implementation of Water Level Management Plan

Action:

- Submit PAR, secure funding, arrange plan implementation

Target 3. Monitoring water levels

Action:

- Throughout life of WLMP

### 3.3.2 Indicators and reporting

Indicators for Target 1 will be the number of requests received from Natural England. For Target 2 the indicator will be the number of successful PARS and for Target 3 will be annual production of a hydrograph. Reporting will be as and when the action arises and annually throughout the life of the WLMP for production of a hydrograph



## 4 Species Action Plans

### 4.1 Water Vole

Water Vole (*Arvicola terrestris*) is a protected species under Section 9, Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and for which UK BAP Species Action Plan was produced as part of the UK BAP. Between years 1989-1998 there was an 88% decline in individuals in the UK, it is also vulnerable to the impacts of Invasive Non-Native Species, mainly Mink through predation. The animal itself is protected and also its places of shelter or protection, which reflects that significant decline.

The Board identified this species in its 2010-2015 BAP and implemented actions designed to ensure its actions did not have a detrimental effect on this species but also where possible Board actions would ensure a positive effect. Building on those actions the Board has agreed specific targets and actions for 2015-2020.

#### 4.1.1 Targets and Actions

The Board has agreed three targets which will be delivered by six actions. The targets are:

**Target 1.** Maintain and enhance suitable habitat for water vole within Board maintained drains

**Actions:**

- ensure appropriate habitat management of IDB watercourses with known water vole populations;
- review maintenance regimes and identify watercourses where mowing and weed cutting regime can be altered to enhance and increase water vole habitat in accordance with board drain maintenance priority
- provide training to IDB employees and contractors on legislation pertaining to water vole and habitat.

**Target 2.** Ensure all Board works comply with relevant legislation protecting Water Vole and its habitat

**Actions:**

- ensure water vole surveys are conducted prior to any bank improvement, drainage or other engineering works
- ensure water vole surveys are conducted prior to any bank improvement, drainage or other engineering works

**Target 3.** Monitor populations of water vole within the drainage district.

**Actions:**

- Submit all water vole records to Doncaster Biodiversity officer
- undertake monitoring of all key water vole colonies

#### 4.1.2 Indicators and reporting

The first Board Target action will be shown delivered by six indicators of:

- Metered length of watercourse assessed
  - Metered length of watercourse enhanced
- Reporting will be ongoing through the life of the plan

The second Board Target action will be shown delivered by indicators of:

- The number of employees trained
  - The number of records collated
- Reporting will be from 2016 onward

The third Board Target action will be shown delivered by:

- The number of surveys undertaken
- Number of records submitted to Biological Records Centre

Reporting will be delivered annually.

## 4.2 Barn Owl

The UK BAP does not identify Barn Owl (*Tyto alba*) as a species requiring an action plan however much of the Board's district is situated within farmland to which Barn Owl is synonymous and the Board's District includes open farmland and pockets of woodland, all good hunting ground for owl. In its 2010-2015 BAP the Board installed three Barn Owl boxes, take up by Barn Owl has been positive however the Board acknowledged it could do more.

### 4.2.1 Targets and Actions

The Board agree two targets:

**Target 1.** Enhance Barn Owl numbers within the drainage district

**Action:**

- Erect three barn owl boxes at Board pump stations

**Target 2.** Monitor the use of Barn Owl boxes erected within the District.

**Action:**

- submit all barn owl records from the drainage district to local record centres and monitor the use of barn owl boxes once erected.

### 4.2.2 Indicators and Reporting

The first Board Target action will be shown delivered by indicators of:

- Number of barn owl boxes erected

The second Board Target action will be shown delivered by indicators of:

- Number of records submitted
- Number of monitoring visits

Reporting on these actions will be throughout the term of this BAP.

### 4.3 Great Crested Newt

A Species Action Plan existed under the UK BAP Species for Great Crested Newt (*Triturus cristatus*). One of the main reasons for decline and it is under continued threat from development, habitat fragmentation, fish introductions and lack of habitat management as well as pond loss. Many drains maintained by the Board are slow moving and contain floating plant species favoured by Newt for securing eggs.

#### 4.3.1 Targets and actions

The Board identified three targets for Great Crested Newt being delivered by six actions:

**Target 1.** Maintain suitable breeding habitat for Great Crested Newts within the District

**Actions:**

- Seek to retain appropriate aquatic plants used by GCN to deposit eggs,
- Assess the feasibility of undertaking restoration work on Board owned ponds
- maintain the pond at Bramwith Rands for the benefit of known GCN population.

**Target 2.** Ensure all IDB works comply with relevant legislation protecting Great Crested Newts and their habitats

**Actions:**

- Provide training to Board employees on legislation pertaining to GCN and habitat
- ensure GCN surveys are conducted prior to any drainage or other engineering works in close proximity to ponds.

**Target 3.** Monitor populations of Great Crested Newt within the District

**Action:**

- submit all GCM records from the district to Doncaster Biological record centre.

#### 4.3.2 Indicators and Reporting

The first Board Target action will be shown delivered by indicators of:

- the area (in m<sup>2</sup>) of plants retained.

The second Board Target action will be shown delivered by indicators of:

- the provision of training and the number of surveys undertaken.

The third Board Target action will be shown delivered by indicators of:

- the number of records submitted.

Reporting will be an ongoing action.

## 4.4 Common Toad and Common Frog

There is no UK Species Action Plans for these herpitiles however Common Toad would benefit from recognition of its habitat and management is required at the wider landscape scale both aquatic and terrestrial. Producing a Species Action Plan for Common Frog and Common Toad links into the Habitat Action Plan of Eutrophic Waters and Ponds. Both animals suffer from habitat fragmentation and countering these effects at a local scale is high priority.

### 4.4.1 Targets and Actions

The Board has identified one target for Common Frog and Common Toad with two actions:

**Target 1.** Ensure all Board maintenance work considers the terrestrial and aquatic habitat of Common Frog and Common Toad

**Actions:**

- provide training to Board employees on the lifecycle of both species and the varying types of habitat required
- record sightings of all stages of life cycle with local biodiversity records centre.

### 4.4.2 Indicators and reporting

The Board Target action will be shown delivered by indicators of:

- Number of employees trained
- Number of records submitted

Reporting will be ongoing throughout the life of the BAP

## 4.5 Eel

Eel is the subject of the Eel (England and Wales) Regulations 2010, European Eel (*Anguilla anguilla*) is Critically Endangered on the IUCN red list of threatened species. The next certification is Extinct in the Wild. IDB pump stations prohibit safe passage of eel from a pumped catchment and form a barrier to passage into the catchment. Some upstream catchments have altered considerably from that which would have existed before pump stations were built.

### 4.5.1 Targets and Actions

The Board has identified two targets for eel with a total of five actions

**Target 1.** Maintain and enhance suitable habitat for European Eel within the drainage district

**Actions:**

- Review maintenance regimes and identify watercourses where the desilting and weed cutting regime can be altered to enhance and increase European Eel habitat
- Where suspected sub-optimal habitat for eel undertake eel habitat suitability assessment for specific catchment

**Target 2.** Reduce the impacts of existing barriers to migration on escapement and recruitment

**Actions:**

- Secure funding to enable prioritisation of existing barriers to migration for mitigation works
- Source funding to enable mitigation works and associated pre and post project monitoring programme on existing priority structures
- Undertake mitigation works on priority structures

### 4.5.2 Indicators and reporting

The Board Target action will be shown delivered by indicators of:

Target 1:

- Length of watercourse surveyed
- Number of catchments assessed

Target 2:

- Funding secured
- Number of structures improved

All reporting will be annually or on completion of the work

## 4.6 Biodiversity

One of the targets identified in B2020: A Strategy for England's Wildlife is to halt biodiversity loss. The Board has a general duty under Section 61 of the Land Drainage Act 1991 (as amended) to conserve and enhance biodiversity as part of function. Kirk Bramwith pump station is the Board depot for its workforce, the original pump station dating back to Victorian times, providing suitable habitat for a variety of species.

### 4.6.1 Targets and Actions

The Board has identified one target for general biodiversity and one action

**Target 1.** Increase biodiversity as part of Board function

**Actions:**

- Provision of nesting material, feeding stations, habitat enhancement

### 4.6.2 Indicators and reporting

The Board Target action will be shown delivered by indicators of:

Target 1:

- Erection of nest boxes
- Erection of feeding stations
- Supply of general feeder seed suitable for several species

Reporting will be annually

**JBA**  
consulting

Offices at

**Coleshill**

**Doncaster**

**Dublin**

**Edinburgh**

**Exeter**

**Haywards Heath**

**Limerick**

**Newcastle upon Tyne**

**Newport**

**Saltaire**

**Skipton**

**Tadcaster**

**Thirsk**

**Wallingford**

**Warrington**

Registered Office

**South Barn**

**Broughton Hall**

**SKIPTON**

**North Yorkshire**

**BD23 3AE**

t:+44(0)1756 799919

e:info@jbaconsulting.com

Jeremy Benn Associates Ltd

**Registered in England**

**3246693**



**Visit our website**

[www.jbaconsulting.com](http://www.jbaconsulting.com)