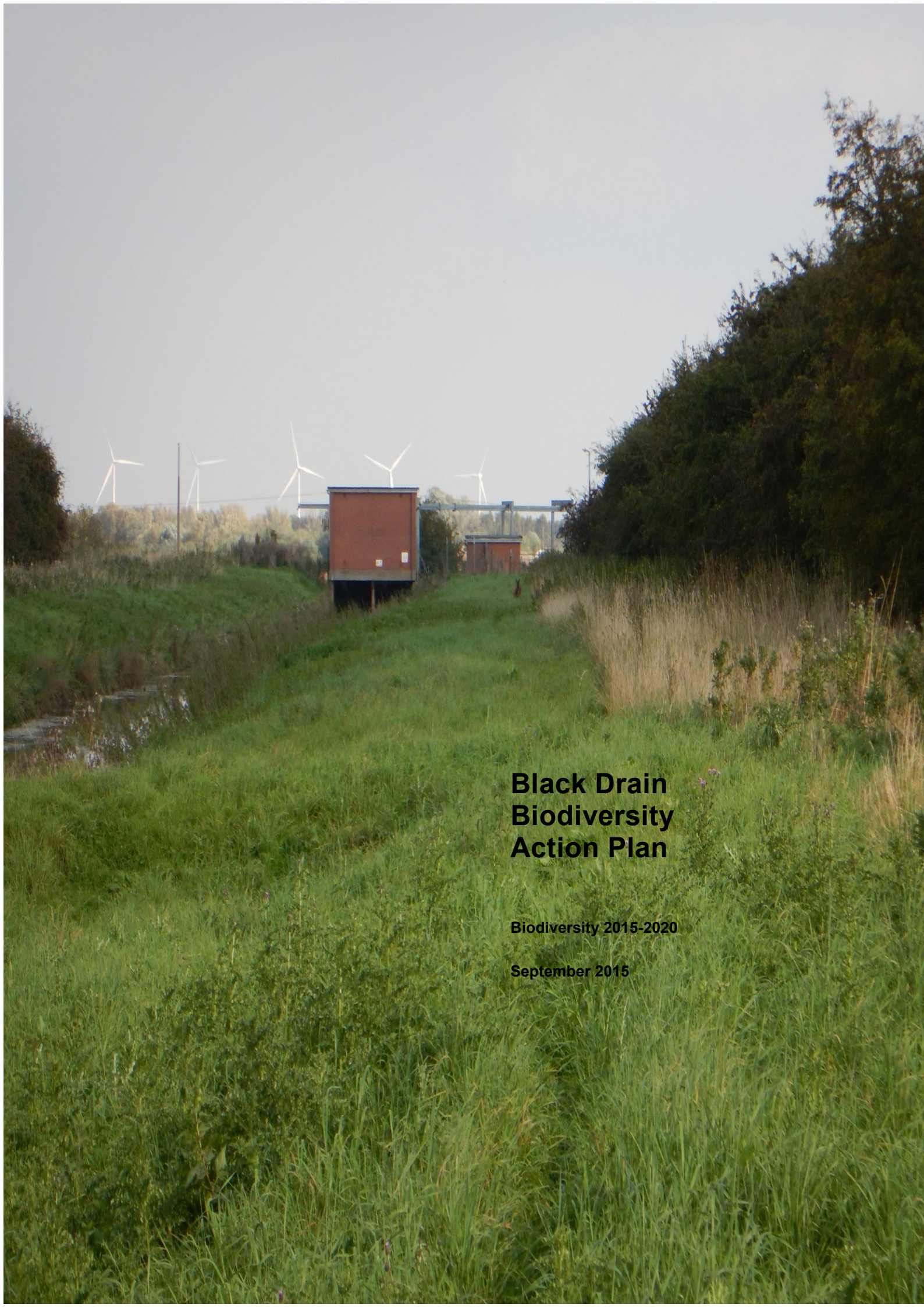

Black Drain Biodiversity Action Plan

Biodiversity 2015-2020

September 2015

Project Manager

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Revision History

Revision Ref / Date Issued	Amendments	Issued to
Draft report August 2015		D. Hinchliffe, Black Drain DB
Final Report September 2015		Black Drain DB

Contract

This report describes work commissioned on 14 August 2015 by David Hinchliffe, on behalf of Black Drain Drainage Board following Board Meeting of 18 June 2015. Alison Briggs BSc (Hons) Env.Sc., MSc Env .Mngt: Climate Change of JBA Consulting carried out this work.

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Purpose

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Internal Drainage Board Biodiversity Action Plans

Implementation of the Natural Environment and Rural Communities Act 2006 means every Public Body has a 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' (JNCC 2013), 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

The UK 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 to build on Black Drain Drainage Board 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.

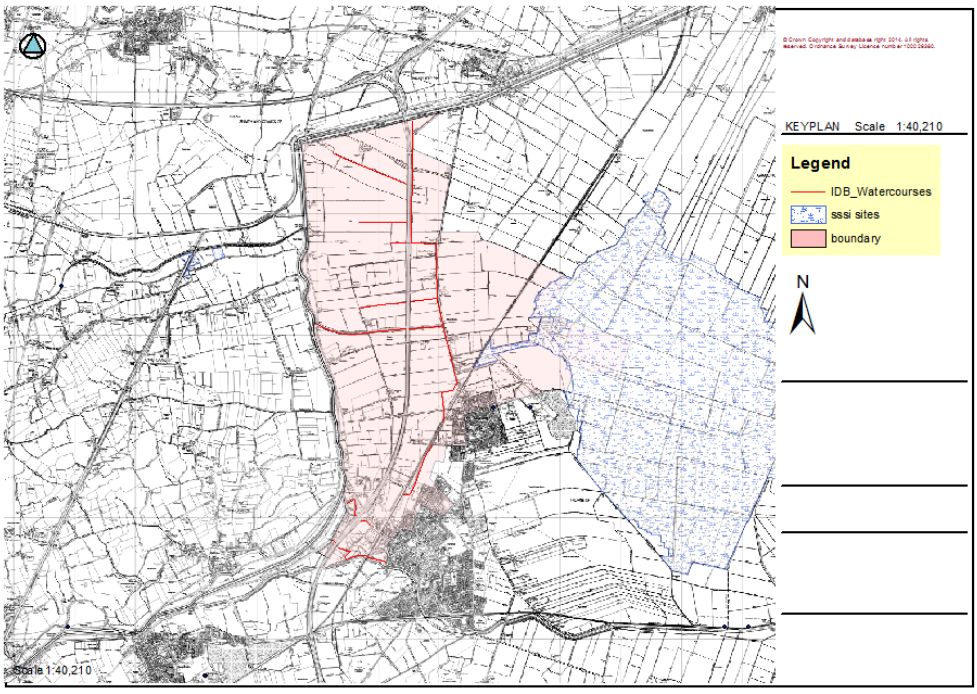
The Plan will help integrate biodiversity into the Board's activities through its annual maintenance programme and capital work projects.

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 the proximity of Thorne, Crowle & Goole Moors SSI.

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 Black Drain DB Biodiversity Action Plan

- To ensure habitat and species action targets from the UK BAP and Local Doncaster MBC 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. Most Board maintained watercourses fall into this habitat as they are slow moving with little flow.

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.

Eutrophic standing waters are a favoured habitat for European eel (*Anguilla anguilla*)

3.1.2 Targets and Actions

Black Drain Drainage Board has agreed two targets for the Habitat Action Plan for Eutrophic Standing Waters. These are:

1. Maintain and enhance the existing habitat and species diversity of watercourses within the Black Drain drainage District and

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

Actions the Board will take to achieve these 2 targets are for the first target;

1. Ensure the appropriate management of the Black Drain maintained watercourses through an Integrated Biodiversity Action Plan and Maintenance Regime by following best practice guidance and

2: Monitor known non-native invasive plant and animal species on and/or adjacent to Board maintained watercourses. For the second target: the Board will 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.

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 seven actions. The targets are:

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

Actions: assess existing habitat suitability of IDB watercourses for water vole; 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 and provide training to IDB employees and contractors on legislation pertaining to water vole and habitat.

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

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

Actions: Submit all water vole records to Doncaster Biodiversity officer and undertake monitoring of all key water vole colonies

4.1.2 Indicators and reporting

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

- Metered length of watercourse assessed and the date on which training is provided to employees and contractors.

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

- The number of records collated

The third Board Target action will be shown delivered by:

- indicators of number of records submitted
- Metered length of watercourse monitored

Reporting on these actions 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 situate within farmland to which Barn Owl is synonymous and the Board's District includes part of Thorne, Crowle & Goole Moors, a Site of Special Scientific Interest (SSSI) and a Designated Special Area of Conservation (SAC), good hunting ground for owl.

4.2.1 Targets and Actions

The Board agree one target, to monitor barn owl numbers within the Drainage District by the following actions:

1. Erect barn owl boxes on or around IDB pumping stations or surrounding land with consent of Landowner

2. Submit all barn owl records from the drainage district to Doncaster MBC Biodiversity Officer

3. Monitor the use of Barn Owl boxes erected within the District.

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

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

- % of boxes monitored

Reporting on these actions will be at the end of the BAP term.

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:

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

Actions: Seek to retain appropriate aquatic plants used by GCM to deposit eggs

2. Ensure all Board works comply with relevant legislation protecting Newt and habitat

Actions: provide training to IDB contractors on legislation pertaining to GCM and habitat and ensure GCM surveys are conducted prior to any drainage or other engineering works in close proximity to known ponds

3. Monitor populations of Great Crested Newt within the District

Actions: 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^2) 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 Bats

UK species Action Plans have been produced for many Bat species however the Board has agreed not to concentrate on one species but on all bats.

4.4.1 Targets and Actions

The Board has identified two targets for Bat species:

1. Enhance habitat for bats

Action: maintain areas of open water in drainage ditches for Daubenton's bats and erect bat boxes in suitable locations to provide summer roost sites

2. Ascertain the bat population

Action: Survey trees and IDB structures for the presence of bats prior to commencement of improvement or capital works

4.4.2 Indicators and reporting

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

- the area of open water and
- the number of bat boxes erected

The second board target action will be shown delivered by indicators of:

- number of surveys

Reporting will be ongoing throughout the life of the BAP

References

1. UK POST-2010 BIODIVERSITY FRAMEWORK: IMPLEMENTATION PLAN, available at: http://jncc.defra.gov.uk/pdf/UKBioFwk_ImpPlan_November2013.pdf

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