

**TICKHILL
INTERNAL DRAINAGE BOARD**

BIODIVERSITY ACTION PLAN

March 2010

This Biodiversity Action Plan has been prepared by the Tickhill Internal Drainage Board in accordance with the commitment in the Implementation Plan of the Defra Review of Internal Drainage Boards (IDBs) 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.

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Date

Mr J K. Durdy
Chairman of the Board

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.

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Further information is available on the Board's website: www.tickhillidb.co.uk

CONTENTS

1	IDB BIODIVERSITY – AN INTRODUCTION-----	5
1.1	Introduction	5
1.2	What is Biodiversity?	6
1.3	The Importance of Conserving Biodiversity	6
1.4	The Biodiversity Action Planning Framework	6
1.5	Biodiversity – The International Context.....	6
1.6	Biodiversity – The National Context.....	6
1.7	Local Biodiversity Action Plans	7
1.8	Internal Drainage Boards and Biodiversity	7
1.9	The Aims of the IDB Biodiversity Action Plan.....	7
2	THE IDB BAP PROCESS -----	8
2.1	The Biodiversity Audit.....	8
2.2	Evaluating and Prioritising Habitats and Species	8
2.3	Setting Objectives, Targets and Indicators.....	8
2.4	Implementation	8
2.5	Monitoring.....	8
2.6	Reporting and Reviewing Progress.....	8
3	THE BIODIVERSITY AUDIT -----	9
3.1	Introduction	9
3.2	Local Biodiversity Action Plans.....	9
3.3	IDB Biodiversity Audit Boundary	9
3.4	Sources of Data - Habitats	9
3.5	Sources of Data - Species.....	9
4	NATURE CONSERVATION SITES -----	10
4.1	The Drainage District.....	10
4.2	Geology	10
4.3	Landscape	10
4.4	Statutory Nature Conservation Sites.....	11
4.5	Non-statutory Local Sites	12
5	HABITAT AUDIT-----	13
5.1	Habitat Audit Summary.....	13
5.2	Habitats of Importance for the Board	14
6	SPECIES AUDIT -----	16
6.1	Species Audit Summary	16
6.2	Species of Importance for the IDB	18
7	HABITAT AND SPECIES ACTION PLANS-----	20
7.1	Habitat and Species Action Plans.....	20
8	HABITAT ACTION PLANS-----	21
8.1	Hedgerow Action Plan.....	21
8.2	Reedbeds Action Plan.....	22
8.3	Rivers, Canals and Drains Action Plan	23
8.4	Ponds Action Plan.....	24
9	SPECIES ACTION PLANS-----	26
9.1	European Eel Action Plan.....	26
9.2	Grass Snake Action Plan.....	27
9.3	Invasive Species Action Plan.....	29
9.4	Water Vole Action Plan.....	30
10	PROCEDURAL ACTION PLAN-----	32
11	IMPLEMENTATION -----	34

11.1	Implementation	34
11.2	Monitoring.....	34
12	REVIEWING AND REPORTING PROGRESS -----	35
12.1	Reviewing and Reporting Progress.....	35

1 IDB BIODIVERSITY – AN INTRODUCTION

1.1 Introduction

Tickhill Internal Drainage Board has conducted a biodiversity audit of its district and identified those habitats and species that would benefit from particular management or actions by the Board. Using this information, which is presented in later sections, the Board’s Biodiversity Action Plan 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 schemes.

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 Board, as shown in Figure 1.

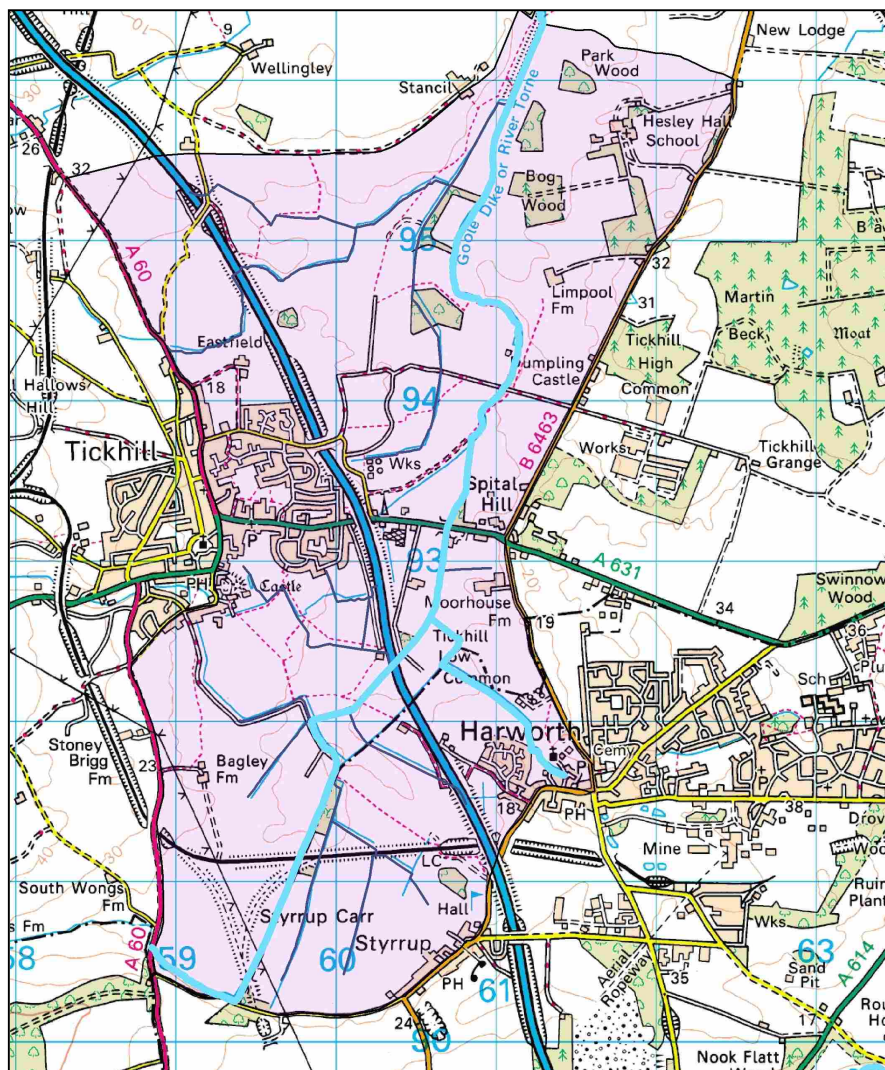


Figure 1. Tickhill Internal Drainage Board District
(CROWN COPYRIGHT RESERVED Reproduced from Ordnance Survey Digital Map Data 2008. All Rights Reserved. DEFRA Licence: 100018880)

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

Tickhill Internal Drainage Board’s Biodiversity Action Plan is part of a much larger biodiversity framework that encompasses international, national and local levels of biodiversity action planning and conservation.

1.5 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 (<http://www.cbd.int/convention/convention.shtml>). The 2002 World Summit in Johannesburg on Sustainable Development subsequently endorsed this target.

1.6 Biodiversity – The National Context

The UK Biodiversity Action Plan (UK BAP) is the UK 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 1150 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.
- Achieving net gain in water and wetland BAP priority habitats through Water Level

Management Plans, Catchment Flood Management Plans and sustainable flood management approaches.

1.7 Local Biodiversity Action Plans

For the UK Biodiversity Action Plan 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.

1.8 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 of 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.

1.9 The Aims of the IDB Biodiversity Action Plan

The aims of this IDB BAP are:

- To ensure that habitat and species targets from the UK Biodiversity Action Plan and the local BAP are translated into effective action within the Board's drainage district.
- To identify targets for other habitats and species of local importance within the Board's 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 Board 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 Board's operations, and
- To monitor and report on progress in biodiversity conservation.

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 Board 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 Board's BAP is reviewed.

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

2.3 Setting Objectives, Targets and Indicators

For each habitat and species identified as being important to the Board, conservation objectives and targets have been drawn up and set out in the Plan. The objectives express the Board's broad aims for benefiting a particular habitat or species. The related targets have been set to focus Board 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. The methods to be used are described in the Plan.

2.6 Reporting and Reviewing Progress

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

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

3 THE BIODIVERSITY AUDIT

3.1 Introduction

The following Sections 4, 5 and 6 summarise the results of the Biodiversity Audit undertaken in 2007/2009. 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 Board.

3.2 Local Biodiversity Action Plans

Tickhill Internal Drainage Board's District encompasses two Local Biodiversity Action Plans.

The majority of the district in South Yorkshire is within the Doncaster Local Biodiversity Action Plan, a partnership that includes: Doncaster Metropolitan Borough Council, Doncaster Naturalists' Society, Yorkshire Naturalists' Union and Doncaster's Biological Records Centre. The Doncaster Local Biodiversity Action Plan was published in January 2007.

In Nottinghamshire, the Local Biodiversity Action Plan was produced by the Biodiversity Action Group with partners; British Trust for Conservation Volunteers, Farming and Wildlife Advisory Group, Inter-Authority Sustainability Working Group, Natural England, Notts Biological and Geological Records Centre, Nottinghamshire County Council, Nottinghamshire Wildlife Trust and the Royal Society for the Protection of Birds. The Nottinghamshire Local Biodiversity Action Plan was published in 1998.

For more information see: www.doncaster.gov.uk/biodiversity and www.nottsbag.org.uk

3.3 IDB Biodiversity Audit Boundary

The Biodiversity Audit covers the entire district of Tickhill Internal Drainage Board as shown in Figure 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 habitats and sites provided by Natural England.
- Surveys of the district conducted by the Board's staff.
- List of Habitats of Conservation Concern in Nottinghamshire.

3.5 Sources of Data - Species

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

- A Species Audit of Doncaster Borough, Doncaster Local Biodiversity Action Plan.
- The Distribution of Rare and Scarce Plants in the Doncaster Borough A Preliminary Atlas.
- List of Species of Conservation Concern in Nottinghamshire.
- Data available on the National Biodiversity Network (NBN) Gateway.
- Tickhill Countryside Group, Water Vole Survey - 2006

4 NATURE CONSERVATION SITES

4.1 The Drainage District

The drainage district covers an area of 2,600ha and contains 14.5km of Board maintained watercourses. It is located in South Yorkshire, east of the village of Tickhill in the Doncaster Metropolitan Borough Council's area and extends southwards to the Bassetlaw District of Nottinghamshire.

The Board's drains are mostly dependent upon gravity flow. All flows eventually discharge into watercourses, which are currently the responsibility of the Environment Agency, the River Torne being the most important of these. The Board's Middle Drain is pumped into the River Torne at Tickhill Low Common.

4.2 Geology

The underlying geology of Tickhill is sandstone of Permian and Triassic epochs. The Board's district is a predominately flat area comprising remnant peats of the Longmoss Association. North of Tickhill is the loamy and sandy soils of the Wick 1 Association, to the south are Newport 1 Association and river alluviums of the Enborne association. The soils are predominately grade 3 with some grade 2 land towards the west of the district.

4.3 Landscape

4.3.1 Landscape Designations

There are no statutory designated landscapes within the Board's 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 descriptive but not confined by traditional administrative boundaries. For each NCA, Natural England has prepared a profile that characterises the wildlife and natural features and identifies the influences that act upon those features and sets objectives for nature conservation.

The Tickhill district is predominantly within the Southern Magnesian Limestone with eastern parts in the Humberhead Levels National Character Area.

The key characteristics of the National Character Areas are:

Southern Magnesian Limestone	Humberhead Levels
<p>Elevated ridge with smoothly rolling landform dissected by dry valleys.</p> <p>Predominantly Magnesian Limestone geology, which influences soils and ecological character.</p> <p>Long views over surrounding lowland.</p> <p>Fertile intensively farmed arable land.</p> <p>Large fields bounded by low cut thorn hedges creating a generally large scale, open landscape.</p> <p>Large number of country houses and estates with parkland, estate woodlands, plantations and game coverts.</p>	<p>A flat landscape occupying the area of the former pro-glacial Lake Humber.</p> <p>Very low lying, commonly at or below mean high water mark.</p> <p>Surface geology of drift deposits including glacial tills, clays, peats, sand and gravel and wind blown sand, giving local variations in character.</p> <p>Broad floodplains of major navigable rivers draining to the Humber Estuary with extensive areas of wash lands and some alluvial meadows.</p> <p>Rich high quality land, which is intensively farmed and includes substantial areas of warp land.</p>

Southern Magnesian Limestone	Humberhead Levels
<p>Woodlands combining with open arable land to create a wooded farmland landscape in some parts.</p> <p>Unifying influence of creamy white Magnesian Limestone as a building material often combined with red clay pantile roofing.</p> <p>River valleys and gorges cutting through the ridge exposing the underlying rock.</p> <p>Industrial influences, especially in the Aire and Don Valleys and other central valleys and along the coal measures fringe with mines, shale tips, transport routes, power lines and industrial settlements.</p> <p>Main transport corridor of the A1 which is often apparent in areas of otherwise undisturbed rural landscape.</p> <p>Archaeological remains reflecting the long-standing importance of the area for the settlement and transport.</p>	<p>Essentially flat, very open character with occasional rising ground formed by ridges of sand and outcrops of Mercia Mudstone.</p> <p>Very large open fields divided by dykes with relatively few hedgerows or field trees.</p> <p>Peat bogs of international ecological and historical importance that are widely exploited for commercial peat extraction.</p> <p>Widespread evidence of drainage history in rivers, old river courses, ditches, dykes and canals.</p> <p>Important areas of historic landscape such as the more enclosed agricultural landscape at Fishlake, the remnant open fields of the Isle of Axholme and the unique 'cable' landscape of Thorne.</p> <p>Areas of remnant heath and large, isolated conifer plantations on poor sandy soils.</p> <p>Modern motorways on embankments and large installations, notably power stations, which are often prominent in the flat landscape.</p>

4.3.3 Historic Environment Record

Numerous sites are recorded by Nottinghamshire County Council's Historic Environment Records and the South Yorkshire Archaeology Service. The South Yorkshire Archaeology Service is the advisor to Doncaster Council on archaeological matters and they maintain the South Yorkshire Sites and Monuments Record, all new works are checked with the Historic Environment Records and the South Yorkshire Archaeology Service at the planning stage.

4.3.4 Tree Preservation Orders

Tree Preservation Orders (TPOs) are made under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999. TPOs are administered by Bassetlaw District and Doncaster Councils.

4.4 Statutory Nature Conservation Sites

4.4.1 International Sites

There are no internationally designated conservation sites in the Board's district.

4.4.2 National Sites

There are no national designated conservation sites in the Board's district.

4.4.3 Local Nature Reserves

There are no Local Nature Reserves designated by local authorities, under Section 21 of the National Parks and Access to the Countryside Act 1949, within the Board's district.

4.5 Non-statutory Local Sites

Doncaster Council's local sites are non-statutory, designated by the Local Planning Authority and represent a comprehensive suite of locally and regionally important wildlife and geological features. These sites are also known locally as 'Sites of Scientific Interest' (SSI's), and Regionally 'Important Geological Sites' (RIGS).

Local Sites contribute significantly to habitat and green infrastructure networks. Their designation helps to address not only biodiversity and geodiversity conservation targets but also contributes towards enriching quality of life, the preservation of local character, providing broader ecosystem services (flooding and climate change), open space and provision of opportunities for health, education and research.

The newly formed Doncaster Local Site Partnership is currently undertaking a review of the Borough's Local Sites as part of the Local Development Framework Process. The review process will include consultation on Doncaster's site selection criteria and proposed boundaries following initial assessment by the Partnership.

Bassetlaw District Council have over 290 Local Wildlife Sites, however their list is approximately 3 years out of date. It is expected that a new list will be available in 2010 and a copy will be uploaded on to the Board's GIS system if available electronically.

5 HABITAT AUDIT

5.1 Habitat Audit Summary

This habitat audit summary lists the broad habitat types and UK BAP priority habitats that occur within the Board's district as identified by the information gathering exercise. Also listed are habitats deemed to be of local importance and/or feature in the county Local Biodiversity Action Plan that occur in the Board's district. Habitats that are of potential importance for the Board, where water level management or other IDB activities may be of benefit, are identified. Finally, brief notes are included on the potential for the Board to maintain, restore or expand its important habitats.

Table 5. Habitat Audit Summary

Broad Habitat Types	UK BAP Priority Habitat	Local Biodiversity Action Plan Habitat	Habitat of Importance for Board	Location of Habitat of Importance for Board	Potential for Maintaining, Restoring or Expanding Habitat
Boundary & Linear Features	Hedgerows	Ancient and Species Rich Hedgerows	Yes	Across district	Maintain existing extent and plant additional areas where possible
Fen, Marsh and Swamp	Reedbeds	Fens, Marshes and Swamps	Yes	Berms and margins of Board maintained drains across district	Maintain and expand extent Linear reedbeds can be created alongside drains during reforming works and in flood storage areas
Rivers & Streams	(A plan currently exists for Chalk Rivers)	Rivers and Streams	Yes	Across district	Maintain extent Undertake management sympathetically Work with partners to improve conditions where possible
Ponds	Ponds	Ponds	No	Across district	Encourage creation and management

5.2 Habitats of Importance for the Board

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

5.2.1 Hedgerows

Description: Hedgerows are linear strips of shrubs and trees normally on field boundaries and often alongside ditches. Hedges are often planted, many during the main enclosure period (1600 – 1700).

National status and local county status: Concern about the decline of hedges led to the introduction of the Hedgerow Regulations 1997. The Local Biodiversity Action Plans have not ascertained changes in the extent of hedges in the Board's district.

Status and locations within drainage district: The Board's district is predominately within the Southern Magnesian Limestone with parts in the Humberhead Levels National Character Area. The majority of the hedges are associated with areas of grassland around Tickhill with less where the land is in arable cultivation.

Potential improvements: Avoid removal of existing hedges where possible. Replant hedges to maintain extent of habitat in district, sympathetically within the landscape character area.

5.2.2 Reedbeds

Description: Reedbeds are wetlands dominated by stands of the common reed where the water table is at or above ground level for most of the year. They tend to incorporate areas of open water and ditches and small areas of wet grassland and carr woodland may be associated with them. Reedbeds are included in Defra's Outcome Measure 5 as a "UK Biodiversity Action Plan habitat" if over 0.1 hectare in extent.

National status and local county status: The Local Biodiversity Action Plans have not ascertained changes in the extent of Reedbeds in the Board's district.

Status and locations within drainage district: Many of the Board maintained drains are fringed with reed and in future some may be established on specially created berms.

Potential improvements: The Board will continue to create berms during reforming programmes. The creation of reedbeds will be considered when wash lands and flood storage areas are created.

5.2.3 Rivers and Canals

Description: Rivers are natural streams of usually freshwater that flow toward the sea; many are now constrained by man-made banks. Drains are man-made watercourses created for flood defence purposes along the route of ancient streams or creeks or straighter drains created during drainage schemes.

National status and local county status: National data is not available.

Status and locations within drainage district: The Board maintains 14.5km of drains across its district and one pumping station on Middle Drain. All the Board's drains gravitate into the Goole Dyke/River Thorne managed by the Environment Agency.

Potential improvements: The Board is not responsible for water quality but undertakes its work to maintain and enhance the habitat while ensuring adequate conveyance and capacity for flood risk management. Species like filamentous algae indicate eutrophic conditions and can obstruct water vole burrows during the weed-cutting programme. The Board can identify where these species occur and work with partners to investigate solutions.

5.2.4 Ponds

Description: Ponds are defined as permanent and seasonal standing water bodies up to 2 ha in extent.

National status and local county status: Declining - no evidence to suggest that this is not repeated in the Board's district.

Status and locations within drainage district: The Local Biodiversity Action Plans have not ascertained changes in the number of ponds in the Board's district.

Potential improvements: The Board is consulted on proposals for new ponds, advice and support is provided. Creating ponds is in some cases used as mitigation for habitat loss in Byelaw and Section 23 consents.

6 SPECIES AUDIT

6.1 Species Audit Summary

This species audit summary lists the BAP priority species that occur within the Board's district as identified by the information gathering exercise. Also listed are species deemed to be of local importance and/or identified in the county Local Biodiversity Action Plan that occur in the Board's district. Species that are of potential importance for the Board, where water level management or other Board activities may be of benefit, are identified. Finally, brief notes are included on the potential for the Board to maintain or increase the population or range of species of importance.

Table 6. Species Audit Summary

Common Name	Group	Order	Scientific Name	UK BAP Priority Species	Local Biodiversity Action Plan(s) Species	Non-BAP Species But Important in the Board's District	Location of Species of Importance for the Board	Potential for Maintaining or Increasing Species Population or Range
Birds	Kingfisher <i>Alcedo atthis</i>			No	No		Throughout district	No specific Board actions other than the maintenance of habitat - see Habitats Action Plans for the Board's work on habitat projects that support these species
European Eel	Fish	Anguilliformes	<i>Anguilla anguilla</i>	Yes	No		Throughout district	Status currently unknown in the Board's district In conjunction with partners establish status
Grass Snake	Herptiles	Reptile	<i>Natrix natrix</i>	Yes	No		Throughout district	Status currently unknown in the Board's district In conjunction with partners establish status

Tickhill Internal Drainage Board – Biodiversity Action Plan

Common Name	Group	Order	Scientific Name	UK BAP Priority Species	Local Biodiversity Action Plan(s) Species	Non-BAP Species But Important in the Board's District	Location of Species of Importance for the Board	Potential for Maintaining or Increasing Species Population or Range
Great Crested Newt	Herptiles	Amphibian	<i>Triturus cristatus</i>	Yes	No		Throughout district	No specific Board actions other than to encourage creation of ponds - see Habitats Action Plans
Invasive Species	Numerous	N/A	N/A	No - see Species Action Plan	Yes - biodiversity and legislative issues	See Species Action Plan for full details: American Mink - across district Giant Hogweed Himalayan Balsam - occasional plants occur in the Board's district Japanese Knotweed Pondweeds; Canadian Pondweed and Nuttall's pondweed occur in some drains Signal Crayfish - not known to occur in the Board maintained drains. Water Fern -across district Wild Turnip/Oilseed Rape - across district.		
Toad – Common	Herptiles	Amphibian	<i>Bufo bufo</i>	Yes	No		Throughout district	No specific Board actions other than to encourage creation of ponds see Habitats Action Plans Any habitat enhancement for Great Crested Newt will benefit Common Toads
Tubular Water Dropwort	Plantae	Apiales	<i>Oenanthe fistulosa</i>	Yes	In Botanical Atlas		British Red Data plant	Survey for presence
Water Germander	Plantae		<i>Teucrium scordium</i>	Yes	In Botanical Atlas		British Red Data plant.	Survey for presence
Water Vole	Terrestrial mammals	Rodentia	<i>Arvicola amphibius</i>	Yes	No		Throughout district	Maintain existing population, expand population where declines have occurred

6.2 Species of Importance for the IDB

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

6.2.1 Birds

Description: The Kingfisher is a small unmistakable bright blue and orange bird of slow moving or still water. They fly rapidly, low over water, hunting fish from riverside perches, occasionally hovering above the water's surface.

National status and local status: The Kingfisher has suffered a decline and is amber listed.

Status and locations within drainage district: These species are still common within the Board's district with 39 records dated 1929 – 2005 across the Board's district.

Potential improvements: The maintenance of habitat and the Board's work on habitat projects that support these species - see Habitats Action Plans. Building Kingfisher Cliffs during any reforming works.

6.2.2 European Eel

Description: The Eel has a distinctive elongate snake-like brown body with yellow flanks and minute scales that are deeply embedded in the skin. The dorsal, caudal and anal fins form a continuous fringe; pelvic fins are absent.

National status and local status: The Eel is included in the UK BAP due to a drastic decline in numbers.

Status and locations within drainage district: Not known, the Board is collecting records to establish which catchments support Eels.

Potential improvements: Eels are catadromous spending most of their lives in freshwater rivers and return to the ocean to spawn. Eels require connectivity between the Board's district, the Environment Agency maintained rivers and the sea.

6.2.3 Grass Snake

Description: The Grass Snake is our largest snake often up to 1metre in length. It is identified by the distinct yellow/cream/white around the neck and is not venomous.

National status and local status: The Grass Snake is included in the UK BAP due to a drastic decline in numbers. 140 records dated 1950-2006 across the Doncaster Biodiversity Partnership's area.

Status and locations within drainage district: Grass Snakes formerly occurred widely. The Board is collecting records to establish the Grass Snake's distribution in the district.

Potential improvements: Initially monitoring to establish the status of the Grass Snake in the Board's district.

6.2.4 Invasive Species

Description: These include; Giant Hogweed, Himalayan Balsam and Japanese Knotweed together with animals such as the American Mink and Signal Crayfish.

National status and local status: Many of these species have escaped from gardens or agricultural diversification projects.

Status and locations within drainage district: The status of these species in the Board's district is not yet established although American Mink are believed to be increasing.

Potential improvements: Surveillance and control where practical by the Board or in conjunction with partners.

6.2.5 Tubular water dropwort

Description: Tubular Water Dropwort is a perennial aquatic plant with hollow stems carrying pinnate leaves and narrow linear leaflets and umbels of white flowers; growing up to about 80 cm.

National status and local status: A UK BAP species.

Status and locations within drainage district: Last recorded in the Board's district before 1980.

Potential improvements: Survey for presence and monitor plants during operational work

6.2.6 Water Germander

Description: Water Germander is similar in appearance to a mint although the flowers are bigger. The leaves occur in opposite pairs on the stem and are covered by soft hairs and smell of garlic when crushed. The large flowers are pinkish to purple and produced in small whorls.

National status and local status: A UK BAP species.

Status and locations within drainage district: Recent records (post 1994) from the Tickhill area.

Potential improvements: Survey for presence and monitor plants during operational work.

6.2.7 Water Vole

Description: The largest British Vole, typically up to 20cm long, with dark fur and a "round" body, a short, fat face and a fur-covered tail. Water Voles in the UK feed predominately on aquatic vegetation and burrow into the banks of watercourses.

National status and local status: The Water Vole is estimated to have suffered a 90% fall in numbers in less than 20 years.

Status and locations within drainage district: 190 records, dated 1972-2006, across the Doncaster Biodiversity Partnership's area.

Potential improvements: The Board has and is reviewing its maintenance works to maintain Water Vole habitat and support the population. American Mink may be the biggest threat to the Water Vole in South Yorkshire.

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 Board. The plans set out the objectives, targets and actions that the Board believes are appropriate for each. These plans will be reviewed and updated periodically.

8 HABITAT ACTION PLANS

8.1 Hedgerow Action Plan

National UK BAP Targets

Hedgerows are a priority habitat for the UK Biodiversity Action Plan.

Local Biodiversity Action Plan Targets

Hedgerow and Hedgerow Trees are included in the Nottinghamshire's Biodiversity Action Plan.

Local Status

The local resource is unknown; several kilometres of hedgerow including many ancient boundary hedges have been removed since the 1940's.

Status within the Drainage District

The Biodiversity Audit did not attempt to map existing hedges in the Board's district. Many hedges are away from Board maintained watercourses, protection includes the Hedgerow Regulations 1997, the "Code of Good Agricultural Practice" and the requirements of Environmental Stewardship. Management of the hedges is the responsibility of adjacent landowners, the Board only undertakes cutting where it is inhibiting access.

In 2008 the Board changed from chemical to mechanical weed control. This is requiring increased management of bankside vegetation and may require the removal of some sections of hedge.

The Board's Byelaws (No. 10) states *that "No person without the previous consent of the Board shall erect any building or structure (including any embankment), whether temporary or permanent, or plant any tree, shrub, willow or other similar growth within nine metres of the landward toe of the bank where there is an embankment or wall or within nine metres of the top of the batter where there is no embankment or wall, or where the watercourse is enclosed within nine metres of the enclosing structure."*

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
1	Maintain the length of hedgerow in the district	1.1	Review the need for hedge removal during access improvements works		2010	No net loss	Annually
		1.2	Plant species rich hedges to compensate for any hedges necessarily removed for access improvements works		2010	No net loss	Annually
2	Increase the length of hedgerow in the district	2.1	Plant species rich hedges where possible during works programmes	FWAG WT	2010	Length of hedge planted	Annually

Associated Species

Farmland Birds including - Linnet, Reed Bunting and Tree Sparrow.

8.2 Reedbeds Action Plan

National UK BAP Targets

Reedbeds are a priority habitat for the UK Biodiversity Action Plan.

Local Biodiversity Action Plan Targets

Reedbeds are included in the Nottinghamshire and Doncaster Biodiversity Action Plan.

Local Status

Reedbed occur fringing Board maintained drains.

Status within the Drainage District

The Biodiversity Audit did not attempt to map existing reedbeds in the Board's district.

IDB's have pioneered the creation of berms alongside watercourses during reforming works; these normally colonise with reed and provide additional storage for water together with enhancing biodiversity. Reedbeds, as a national priority habitat, are included in Outcome Measures No. 5. Areas created that are larger than 0.1 hectares are reported against this measure in accordance with Environment Agency practice.

Board Objectives and Targets

Target Reference	Target	Action Reference	BOARD Actions	Partners	Date	Indicators	Reporting
3	Maintain the area of reedbed in the district	3.1	Replace habitat lost when installing culverts during access improvements works		2010	No net loss	Annually
4	Increase area of reedbed in the district	4.1	Create additional berms		2010	Area of new reedbed created	Annually
		4.2	Create reedbeds on wash land and flood storage areas where possible	FWAG WT NE	2010		

Associated Species

Water Voles, Reed and Sedge Warblers and Waterfowl. Larger areas may be used by Bearded Tits, Bitterns and Marsh Harriers.

8.3 Rivers, Canals and Drains Action Plan

National UK BAP Targets

Rivers, Canals and Drains are a priority habitat for the UK Biodiversity Action Plan.

Local Biodiversity Action Plan Targets

Rivers, Canals and Drains are included in the Nottinghamshire and Doncaster Biodiversity Action Plan.

Local Status

Not calculated.

Status within the Drainage District

The Board maintains 14.5km of watercourse within the drainage district. The Board maintained watercourses in the Tickhill Internal Drainage Board's district are:

- Artificial developed during the draining of the area.
- Originally designed and constructed solely for the function of conveying surplus water run-off and managing water levels.

The Board's role includes maintenance of the system and improvements such as creating new drains and structures.

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
5	Maintain & Improve Condition	5.1	Provide appropriate mitigation for maintenance works and projects to ensure no net loss of biodiversity	BRC	2003	No net loss of biodiversity	2015
		5.2	Control introduced exotic species	See Species Action Plans Target 11			
		5.3	Identify eutrophic condition in the district	EA	2009	Absence of filamentous algae	2010
		5.4	Review and develop the cutting programme in accordance with the Drainage Channel Biodiversity Manual	ADA BRC NE	2010	LWS status	2015

Associated Species

All wetland flora and fauna and Water Voles. The filamentous algae can obstruct water vole burrows when left on the bank during the annual weedcutting programme.

8.4 Ponds Action Plan

National UK BAP Targets

Ponds are a priority habitat for the UK Biodiversity Action Plan.

Local Biodiversity Action Plan Targets

Ponds are included in the Nottinghamshire and Doncaster Biodiversity Action Plan.

Local Status

Ponds are included in the Nottinghamshire and Doncaster Biodiversity Action Plan.

Status within the Drainage District

The Biodiversity Audit did not attempt to map existing ponds in the Board’s district.

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
6	Increase number of Ponds	6.1	Provide advice when requested on pond creation management	LBAP WT	2010	No. of ponds where advice was given	Annually
		6.2	Promote the creation of ponds as mitigation for loss of habitat for Byelaw and Section 23 consents where appropriate	LBAP WT	2010	No. of ponds created	Annually

Associated Species

Dragonflies and Damselflies, Common Toad, Grass Snake, Great Crested Newt and perhaps Water Vole.

9 SPECIES ACTION PLANS

9.1 European Eel Action Plan

Legal Protection Status

The European Eel is included in the Salmon and Freshwater Fisheries Act 1975. This Act provides a specific duty for the Environment Agency to maintain, improve and develop eel fisheries. Licences to fish for eels must be issued on demand by the Environment Agency and although some controls on the use and type of instruments are available through byelaws, there is no power to restrict the number of fishing units. The International Council for the Exploration of the Sea (ICES) states that the eel fishery is not sustainable. The European Union issued Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of the European Eel requiring member states to produce Eel Management Plans and setting measures to reduce anthropogenic mortalities of eels. In March 2009, CITES added the European Eel to Appendix II as a species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances.

National UK BAP Targets

The European Eel is a now Priority Species in the UK BAP. Eels were only added to the UK BAP in 2007.

Local Biodiversity Action Plan Targets

The European Eel is not included in the Nottinghamshire and Doncaster Biodiversity Action Plan.

Local Status

The National Biodiversity Network shows a UK wide distribution for the European Eel.

Status within the Drainage District

The Doncaster Biodiversity Action Plan reports 22 records from 1930-2002.

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
7	Establish the distribution of the Eel in the district	7.1	Operational staff to collect records during weedcutting works	EA LBP	2009	Eels present in all the Board's catchments	2012

9.2 Grass Snake Action Plan

Legal Protection Status

The Grass Snake receives general protection under the Wildlife and Countryside Act 1981 against killing, injuring and sale.

National UK BAP Targets

Included in the UK BAP list after a decline in the population.

Local Biodiversity Action Plan Targets

The Grass Snake is included in the Farmland and Grassland Habitat and Urban Action Plans.

Local Status

The Doncaster Biodiversity Action Plan reports 140 Records, dated 1950-2006.

Status within the Drainage District

Not known.

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
8	Establish the distribution of the Grass Snake in the district	8.1	Operational staff to collect records during weedcutting works	BRC LBP	2009	Grass Snake distribution	2012

9.3 Invasive Species Action Plan

Legal Protection Status

The Weeds Act lists injurious weeds (Common Ragwort, Broad-leaved Dock, Curled Dock, Creeping Thistle and Spear Thistle). The Secretary of State may serve enforcement notice on the occupier of land on which injurious weeds are growing. The Board, as a good neighbour, would instigate control of these weeds if necessary.

It is an offence under the Wildlife and Countryside Act 1981 section 14(2) to “*plant or otherwise cause to grow in the wild*” any plant listed in Schedule 9, Part II. Plants listed include Giant Hogweed, Japanese Knotweed and Fallopia. Wastes containing seeds and rhizomes including soil and sludge from the Board’s watercourses are included in the provisions of the Environmental Protection Act 1990.

Mink and introduced species of Crayfish are included in the Wildlife and Countryside Act 1981 prohibiting release into the wild.

National UK BAP Targets

Invasive species are not covered by the BAP but are mentioned as threats in Action Plans. A study commissioned by UK BAP Targets English Nature in 2005 reported 2,721 non-native species and hybrids in the wild in England including 1,798 flowering plants (73% of the total), most of which have escaped from gardens. The vast majority of non-native species do not cause any environmental or economic problems but some species can cause considerable damage. Invasive non-native species impact on biodiversity and the natural environment by displacing or preying upon native species by changing habitats or by introducing new diseases or parasites.

Local Biodiversity Action Plan Targets

Invasive species are not covered by the BAP but are mentioned as threats in Action Plans.

Local Status

Occasional work, such as an Environment Agency study on the distribution of Giant Hogweed, supplement the records held by the Nottinghamshire and Doncaster Environmental Records Centre.

Status within the Drainage District

American Mink *Neovison vison* are known to occur in the Board’s district.

Himalayan Balsam *Impatiens glandulifera* - occasional plants occur in the Board’s district.

Pondweeds: Canadian Pondweed *Elodea canadensis* and Nuttall’s pondweed *Elodea nuttallii* occur in some drains.

Signal Crayfish *Pacifastacus leniusculus* are not known to occur in the Board’s maintained drains although the National Biodiversity Network records them in the area.

Wild Turnip/Oilseed Rape *Brassica rapa* occurs on drain banks across the Board’s district.

Other species like Australian Swamp Stonecrop *Crassula helmsii*, Floating Pennywort *Hydrocotyle ranunculoides*, Parrot’s Feather *Myriophyllum aquaticum*, Water primrose *Ludwigia grandiflora* and numerous other species including fish and Signal Crayfish *Pacifastacus leniusculus* are likely to occur in garden ponds in the Board’s district.

Board Objectives and Targets

Species like Himalayan Balsam, Pondweeds (Canadian and Nuttall's) and Water Fern are difficult to control with the currently available chemicals whilst mechanical on large areas is ineffective. Actions to control these species must be applied at landscape scale, probably coordinated by the Doncaster Biodiversity Partnership. Policy and methods of control are developing with action coordinated nationally by the GB Non Native Species Secretariat.

Some species like Pondweeds (Canadian and Nuttall's) can inhibit conveyance. Biological control by introducing Chinese Grass Carp or reducing the plants vigour by increasing turbidity may be appropriate if control is required to manage flood risk.

For most species the Board is not currently undertaking any actions.

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
9	Monitor and record invasive species in Board maintained watercourses	9.1	Operational staff to collect records during weedcutting works	BRC	2010	Presence of invasive species established	2015

9.4 Water Vole Action Plan

Legal Protection Status

The Water Vole receives legal protection under the Wildlife and Countryside Act 1981. Originally this was under section 9(4): "*places which are used for shelter or protection*". In April 2008, the Water Vole received full protection under section 9 and it is now an offence to intentionally kill, take, injure or possess Water Voles.

National UK BAP Targets

Water Voles are a Priority Species in the UK BAP, targets are:

Target 1 Maintain the current distribution in order to arrest the decline of the species in Britain.

Target 2 Maintain the current abundance in order to arrest the decline of the species in Britain.

Target 3 Restore Water Voles to their former widespread distribution using the Vincent Wildlife Trust survey of 1989/1990 as a baseline by the year 2010.

Local Biodiversity Action Plan Targets

None.

Local Status

The Doncaster Biodiversity Action Plan's targets consider that the Water Vole population is to be stable. A survey in 2006 recorded water vole presence across the Board district.

Status within the Drainage District

Not known.

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
10	Maintain Water Vole Populations	10.1	Collect and collate sightings by operational staff	BRC	Annually	Distribution maintained/expanding	Annually
		10.2	Maintain quality of habitat, regular review of cutting programme	LBP NE	Annually	Quality of Habitat is maintained	Annually
		10.3	Maintain extent of Habitat - See Procedural Action Plan	LAs NE WT	Annually	Extent of Habitat is maintained	Annually

Currently the Board is collecting and collating sightings of Water Voles to enable an assessment of their distribution in the Board's district. This work started in 2009.

10 PROCEDURAL ACTION PLAN

Introduction

A number of procedural targets and actions have been established within this Procedural Action Plan. These are intended to integrate biodiversity considerations into Board practices and procedures.

Board Objectives and Targets

Target Reference	Target	Action Reference	Board Actions	Partners	Date	Indicators	Reporting
11	Maintain extent of habitat in the Board's district	11.1	Requires replacement habitat creation for Byelaw and Section 23 consents that reduce habitat Where the applicant has difficulty providing replacement habitat the Board may be able to provide it on a chargeable basis Ensure protection of drains/ditches within new developments and encourage appropriate management to enhance wildlife value	LAs NE WT FWAG	2006	No net loss of habitat	Annually
	Increase extent of habitat in the Board's district ¹	11.2	The Board will work with partners to increase habitat where possible.	Partnership workings - see Habitat Targets			
12	Surveillance of protected and invasive species	12.1	Annual recording programme during cutting season – records digitised	BRC	2006	Population stable/increasing for protected species	Data supplied to BRC Annually

¹ Defra's Making Space for Water: Outcome Measures No 5. UK Biodiversity Action Plan habitats require the Board to record an overall increase in Biodiversity Action Plan habitat.

		12.2	Biodiversity training for operational staff	LBAP	2009		Annually
13	Improving data and information flows	13.1	<p>Board's data supplied to BRC annually.</p> <p>Continued development of data on Board's GIS system that currently holds data on SSSIs</p> <p>Biological records collected by the Board</p>	<p>LAs</p> <p>HER</p> <p>BRC</p> <p>NE</p>	2006	Data readily available to all staff and the Board	Annually

11 IMPLEMENTATION

11.1 Implementation

Tickhill Internal Drainage Board's Biodiversity Action Plan will be adopted by the Board on 13th May 2010.

The Biodiversity Action Plan provides a series of targets for improving the Board's delivery of Biodiversity. The Board has received Environmental Advice since 2009 from a contracted Environmental Officer who is a Chartered Environmentalist and a full member of the Institute of Ecology and Environmental Management and acts as the Board's Biodiversity Champion.

Applicants wishing to alter watercourses (under Byelaws and Section 23 of the Land Drainage Act 1991) are requested to supply "The Environmental Impact of the Proposals". These are assessed by the Board's Environmental Officer.

Tickhill Internal Drainage Board's Biodiversity Action Plan will be published on the Board's website and a copy will be displayed in reception.

11.2 Monitoring

The Board will monitor progress for each of the targets in this Biodiversity Action Plan as detailed in the Habitat and Species Action Plans.

The Board will exchange data with the County Environmental Records Centre who, after verification of the records, will place them on the National Biodiversity Network www.nbn.org.uk, which is available to all.

12 REVIEWING AND REPORTING PROGRESS

12.1 Reviewing and Reporting Progress

A report on the operation of Tickhill Internal Drainage Board's Biodiversity Action Plan will be produced annually to the Board and published on the Board's website and supplied to the Nottinghamshire and Doncaster Biodiversity Partnerships.

Data such as the overall increase in UK Biodiversity Action Plan habitats (reedbeds) is reported to Defra (Outcome Measure No. 5) but will also be included on the Board's report via the Biodiversity Action Reporting System.

The Board's partners in delivering this Biodiversity Action Plan include:

Association of Drainage Authorities (ADA)
Bassetlaw District Council (LA)
Botanical Society of the British Isles (BSBI)
British Trust for Ornithology (BTO)
Doncaster Council (LA)
Doncaster Council, Historic Environment Record (HER)
Doncaster Environmental Records Centre (BRC)
Doncaster Local Biodiversity Action Plan (LBAP)
Environment Agency (EA)
Farming and Wildlife Advisory Group (FWAG)
Natural England (NE)
Nottinghamshire Wildlife Trust (WT)
Nottinghamshire County Council, Historic Environment Record (HER)
Nottinghamshire Biological and Geological Records Centre (BRC)
Nottinghamshire Biodiversity Action Group (LBAP)
Yorkshire Wildlife Trust (WT)

Items of particular interest are reported to the bi-monthly Board meetings, the full reports will be published annually.

The Board will enter targets and report delivery on the Biodiversity Action Reporting System, the UK's national biodiversity information system that supports the planning, monitoring and reporting requirements of national and local organisations' Biodiversity Actions Plans www.ukbap-reporting.org.uk.