

# Goole Fields Drainage Board Biodiversity Action Plan 2025-2030

December 2025

Prepared for:  
Goole Fields IDB

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**Goole Fields**  
District Drainage Board

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# Contract

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## Abbreviations

|         |                                                            |
|---------|------------------------------------------------------------|
| AONB    | Areas of Outstanding Natural Beauty                        |
| BAP     | Biodiversity Action Plan                                   |
| BNG     | Biodiversity Net Gain                                      |
| ERYC    | East Riding of Yorkshire Council                           |
| ERYBAPS | East Riding of Yorkshire Biodiversity Action Plan Strategy |
| GIS     | Geographic Information System                              |
| IDB     | Internal Drainage Board                                    |
| INNS    | Invasive Non-Native Species                                |
| IUCN    | International Union for Conservation of Nature             |
| JNCC    | Joint Nature Conservation Committee                        |
| LBAP    | Local Biodiversity Action Plan                             |
| LMDW    | Lowland Mixed Deciduous Woodland                           |
| LNR     | Local Nature Reserve                                       |
| LNRS    | Local Nature Recovery Strategies                           |
| MAGIC   | Multi-Agency Geographic Information for the Countryside    |
| NERC    | Natural Environment and Rural Communities                  |
| NEYEDC  | North and East Yorkshire Ecological Data Centre            |
| OSGR    | Ordnance Survey Grid Reference                             |
| SAC     | Special Area of Conservation                               |
| SPA     | Special Protection Area                                    |
| SSSI    | Site of Special Scientific Interest                        |

# 1 Internal Drainage Board Biodiversity

## 1.1 Internal Drainage Board Biodiversity Action Plans

This Biodiversity Action Plan (BAP) has been prepared on behalf of Goole Fields Internal Drainage Board in accordance with the commitment in the Implementation Plan of the Defra Internal Drainage Board Review of 2007 for Internal Drainage Boards (IDBs) to produce their own Biodiversity Action Plans. It demonstrates the Board's commitment to fulfilling its duty as a public body to conserve and enhance biodiversity under various legislation and policy including, but not limited to, the Environment Act 2021, the Natural Environment and Rural Communities Act 2006, the 25 Year Environment Plan and the Water Framework Directive.

Importantly, it reflects the Board's aspiration to maximise the support it provides to biodiversity, particularly priority UK species and habitats, and the wider environment in general through its day-to-day activities, by setting clear objectives, actions and targets.

The Board has adopted this 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. It covers the entire drainage district of the IDB, as shown in Figure 1-1.

### 1.1.1 Goole Fields BAP

A Goole Fields IDB BAP was first produced in 2010 with the latest BAP covering the years 2015-2020. This Biodiversity Action Plan follows on from the previous 2015-2020 BAP, reviewing and building on the targets and actions set within that BAP.

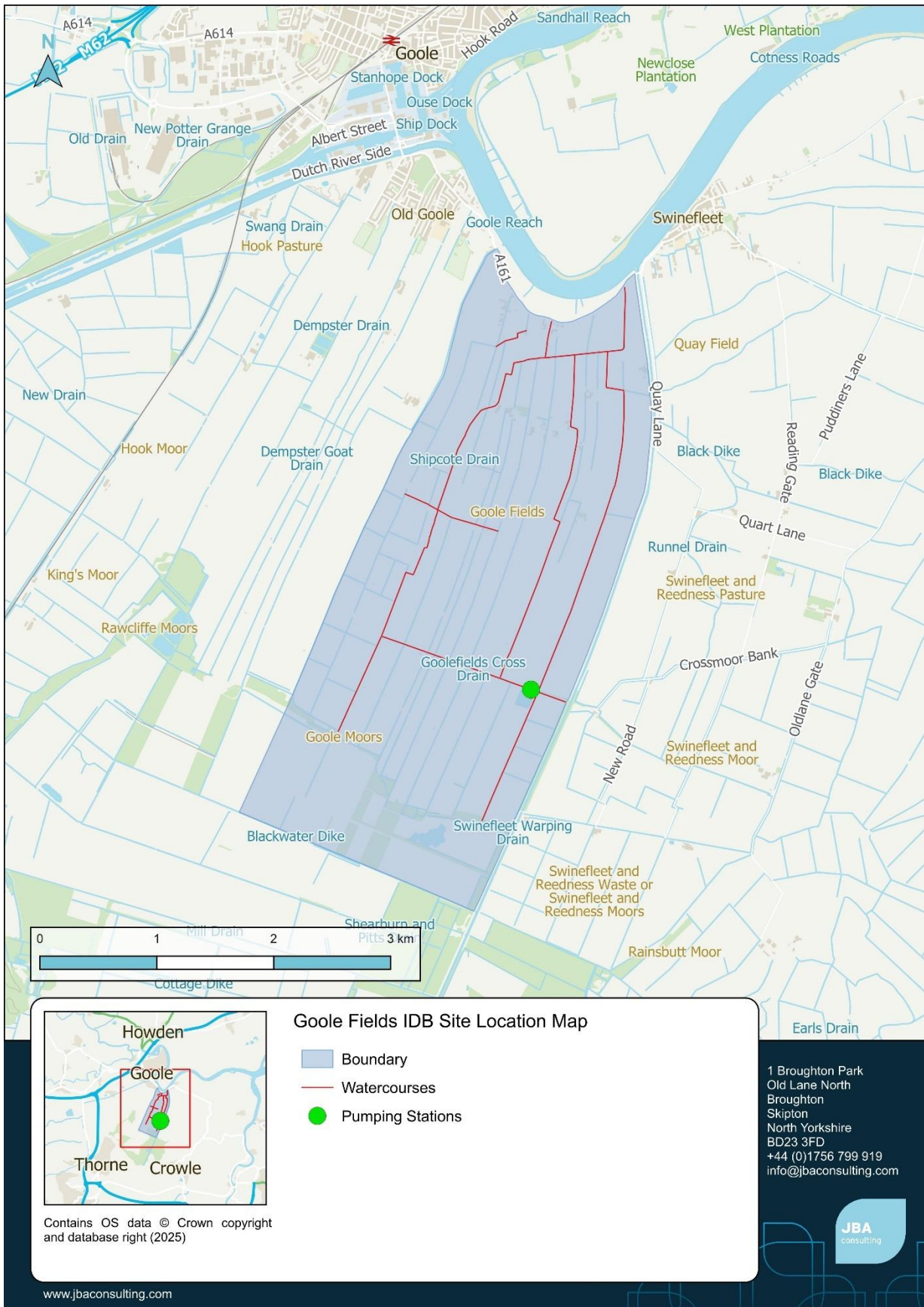


Figure 1-1: Goole Fields Drainage District Site Location Map

## 1.2 What is Biodiversity and why is it important?

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.

Biodiversity is part of our natural capital, a vital resource providing:

- Supply of ecosystem services including water, nutrients, climate change mitigation, flood mitigation, carbon storage and pollination;
- Life resources including 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.

This BAP is part of a much larger biodiversity framework that encompasses international, national and local levels of legislation and policy and which also include ecosystem services and climate change.

## 1.3 Legislative Background

When carrying out its functions, an IDB must pay particular regard to the effect on the environment. Some environmental legislation relates specifically to maintaining or restoring the condition of protected sites or protecting certain species, but there are also statutory duties for IDBs to conserve and enhance biodiversity in and alongside the watercourses they manage and the wider landscape.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on IDBs, as a public body, to conserve biodiversity. The Environment Act 2021 extends this duty on IDBs to also enhance biodiversity and report periodically on its actions. Therefore, as a public authority, every IDB must consider what action it can take, consistently with the proper exercise of its functions, to further the conservation and enhancement of biodiversity in England.

Below is a list of key environmental legislation (by no means exhaustive) relevant to the work of IDBs:

- The Environment Act 2021
- Conservation of Habitats and Species Regulations 2017 (as amended)
- Eels (England and Wales) Regulations 2009
- Water Environment (Water Framework Directive) (England and Wales) Regulations 2003
- Natural Environment and Rural Communities Act 2006 (Section 40)
- Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

- Land Drainage Act 1994
- Wildlife and Countryside Act 1981 (as amended)
- The Countryside and Rights of Way Act 2000
- The Protection of Badgers Act 1992
- Flood and Water Management Act 2010
- Salmon and Freshwater Fisheries Act 1975

#### 1.4 Policy & Strategic Background

The 25 Year Environment Plan, designated as an Environmental Improvement Plan under the Environment Act 2021, defines four priority areas of environmental conservation: air quality, waste and resource efficiency, water, and biodiversity. The main focus of the Environment Act 2021 ("the Act") is to make the Government's commitment to delivering the targets set against these four priorities legally binding. There are a number of elements of the Act which require IDB action and compliance, as set out below.

Section 102 of the Act strengthens Section 40 of the Natural Environment & Rural Communities Act 2006 and relates to the conservation and enhancement of biodiversity through the exercise of functions in relation to England. Public authorities must have regard to relevant Local Nature Recovery Strategies, Species Conservation Strategies and Protected Site Strategies. For local authorities and local planning authorities, a 5-yearly biodiversity report must be produced detailing the actions taken to comply with the duty and provide plans of action for the next reporting period. To demonstrate this the IDB will produce 5-yearly BAPs and will regularly engage with relevant stakeholders to keep up to date with new local strategies or priorities and incorporate these into the BAPs.

Part 6 of the Act requires the development of Local Nature Recovery Strategies (LNRS). LNRS are expected to be led mainly, but not always, by local authorities, but will be developed and delivered in partnership with a wide range of local stakeholders. The main outputs of the LNRS are to provide a list of priority opportunities for habitat improvement and restoration in the strategy area, and produce a local habitat map containing existing nature sites and habitats, and locations of the priorities for future habitat improvement and restoration. IDBs will have to give regard to any relevant LNRS when considering the actions they can take 'when complying with their biodiversity duty to further' the conservation and enhancement of biodiversity, and so will be expected to align the IDB BAP, environmental policy and best practice manual with those priorities set out in the LNRS.

The Act mandates that Biodiversity Net Gain (BNG) should be delivered at a minimum of 10% through the planning system. BNG became mandatory from the 12 February 2024 under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2023). This means a development will result in more or better-quality natural habitat than was there before development. Most IDB works would be permitted development, and at present, the understanding is that permitted developments will not be required to deliver biodiversity net gain under the Environment Act. If IDBs are planning non-exempt development, they will be subject to BNG, including the management

of the site to deliver the required outcomes for at least 30 years following project completion. The need for off-site biodiversity net gain sites to offset local development may present opportunities to IDBs. Biodiversity net gain requirements could create a strategic opportunity for IDBs to offer reliable long-term maintenance contracts for registered net gain sites linked to IDB channels and networks, including strategic sustainable drainage systems within the district. There could be opportunities for IDBs who own or lease land to make it available for off-site biodiversity net gain projects.

Section 109 and 110 of the Act provides for the development of species conservation and protected sites strategies, which may be prepared by Natural England with the purpose of improving the conservation status of any species of flora, fauna or a protected site. If and when they are developed through regulation, IDBs will be expected to co-operate with Natural England in the development and implementation of such strategies if they relate to areas under IDB management. The IDB will also have a duty to have regard to (which includes planning and taking auditable action) any relevant strategies whilst carrying out its functions, including when consenting the work of others.

Biodiversity Action Plans will help the Board to maximise the biodiversity benefits from its activities and demonstrate its contribution to the Environment Act 2021 targets.

## 1.5 Vision

The IDB's vision is:

*A drainage district where thriving wildlife is an integral part of delivering efficient and effective water-level management.*

## 1.6 Aims of Goole Fields Drainage Board Biodiversity Action Plan

The aims of this BAP are:

- To ensure habitat and species action targets from relevant national and local policies/strategies are translated into effective action within the district.
- To ensure Board maintenance does not adversely impact on any protected terrestrial or aquatic species, or protected sites.
- Identify targets for other habitats and species of local importance within the District.
- Raise awareness within the Board and locally on the need for biodiversity conservation as part of water level management, including contractor training.
- 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

In the production of this BAP a five-stage process has been followed:

1. Conducting a Biodiversity Audit,
2. Evaluating and prioritising habitats and species,
3. Defining Objectives and Actions - Habitat and Species Action Plans,
4. Implementation,
5. Monitoring and Reporting.

### 2.1 Biodiversity Audit

To produce the Goole Fields IDB BAP, information on the habitats and species present in the district were first obtained. This involved the collation of existing data held by the IDB and other freely available data sources.

Priority habitats and species in England, as identified in section 41 of the Natural Environment and Rural Communities Act 2006 as Habitats and Species of Principle Importance, that can be found in the Goole Fields drainage district were identified, as well as additional non-priority habitats and species deemed to be important within the district.

Sources of data used were:

- Natural England GIS data ([www.gis.naturalengland.org.uk/pubs/gis/GIS\\_register.asp](http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp))
- Natural England Designated Sites View (<https://designatedsites.naturalengland.org.uk/SiteSearch.aspx> )
- JNCC UK Biodiversity Action Plan (<https://jncc.gov.uk/our-work/uk-bap/> )
- Habitats and Species of Principle Importance (<https://www.gov.uk/government/publications/habitats-and-species-of-principal-importance-in-england> )
- Local Biodiversity Action Plans (LBAP)
- Natural England Priority Habitat Inventory (<https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::priority-habitats-inventory-england/about> )
- Goole Fields Internal Drainage Board: BAP 2015 - 2020 (JBA Consulting, 2015)

### 2.2 Prioritising Habitats and Species

There are 56 habitats, and 943 species listed under Section 41 of Principal Importance in England alone, therefore key species and habitats have been prioritised in the production of this IDB BAP. Those habitats and species which the IDB has the opportunity to enhance and conserve through their own work, such as those associated with aquatic and riparian environments have been targeted. Additionally, LNRS and other local strategies, when these become available, will be considered when shortlisting biodiversity priorities.

### 2.3 Objectives, Targets and Indicators

Following on from previous work, the Goole Fields Internal Drainage Board (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.

### 2.4 Implementation

Once targets have been set for habitats and species, it is important that the actions to deliver the BAP are described. The Plan sets out how the Board intends to implement the actions in the plan, which may be implemented in several ways including, integrating into existing systems, maintenance and management regimes, through capital works programmes, specific surveys, training and activities, collaboration with partners and developer or consented works.

### 2.5 Monitoring and Reporting

Monitoring is the on-going process of regularly collecting and analysing relevant information to make sure the actions within the Plan are positively contributing towards the targets and to capture any additional benefit achieved. The Plan sets out how and when this monitoring will take place for example, to regularly review the progress of actions against the plan at Board meetings throughout the life of the plan.

The frequency and type of information reported is also defined by the Plan and includes the publication of progress reports in the public domain via the IDB's website and in accordance with the duty set out in the Environment Act 2021.

The overall plan will be updated at least every 5 years but as this is a dynamic document it may change more frequently. For example, in the light of routine monitoring, changes may be necessary to ensure an objective can be met.

# 3 Biodiversity Audit

## 3.1 Goole Fields Drainage District

The drainage district covers an area of 10.69km<sup>2</sup> and the IDB maintain 15.25km of managed watercourses across the East Riding of Yorkshire Council (ERYC) area. The Board is responsible for one pumping stations and oversees one water level management structure.

## 3.2 Landscape Designations

There are no National Parks or National Landscapes (formerly Areas of Outstanding Natural Beauty (AONBs)), within the Goole Fields drainage district (nor within 5km of the drainage district boundary).

## 3.3 Statutory Nature Conservation Sites

### 3.3.1 Internationally and Nationally Designated Sites

The drainage district overlaps with Thorne, Crowle and Goole Moor Site of Special Scientific Interest (SSSI) and also the Humberhead Peatlands National Nature Reserve (NNR).

The drainage district also overlaps with one Special Areas of Conservation (SAC) (Thorne Moor) and one Special Protection Areas (SPA) (Thorne and Hatfield Moor), but no Ramsar sites.

The Humber Estuary SAC, SPA, Ramsar and SSSI lies immediately adjacent to the drainage district.

Table 3-1: Statutory sites within and adjacent to the Board's district

| Statutory Sites                    | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Humberhead Peatlands NNR           | Legally underpinned by: Hatfield Moors SSSI and Thorne, Crowle and Goole Moors SSSI with value for public engagement and access (Natural England, 2025).                                                                                                                                                                                                                                                                                                                                              |
| Hatfield Moors SSSI                | Lowland raised bog which 'developed directly upon nutrient deficient gravels without an initial reed swamp phase'. It forms the second largest habitat of its type in lowland England. Notable breeding bird (including Nightjar <i>Caprimulgus europaeus</i> ) and insect interest (including the Bog Rush Cricket <i>Metrioptera brachyptera</i> ). 'An unusually rich collection of <i>Potamogeton</i> pondweeds occur' within the drainage ditches intersecting the site (Natural England, 1988). |
| Thorne, Crowle and Goole Moor SSSI | The largest extent of lowland raised mire in England, with fen habitats containing a rich assemblage of species. Highly regarded its invertebrate fauna and important for                                                                                                                                                                                                                                                                                                                             |

| Statutory Sites              | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | its breeding and wintering, bird populations (Natural England, 1986).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Thorne Moor SAC              | Degraded raised bogs still capable of natural regeneration. The restored secondary surface is rich in species of bog-mosses <i>Sphagnum</i> spp., Common and Hare's-tail Cottongrasses <i>Eriophorum angustifolium</i> and <i>E. vaginatum</i> , Heather <i>Calluna vulgaris</i> , Cross-leaved Heath <i>Erica tetralix</i> , Round-leaved Sundew <i>Drosera rotundifolia</i> , Cranberry <i>Vaccinium oxycoccos</i> and Bog-rosemary <i>Andromeda polifolia</i> (English Nature, 2005).                                                                                                                                                                                                                                                                                       |
| Thorne and Hatfield Moor SPA | The site supports more than 1% of the Great Britain population of Annex 1 Nightjar <i>Caprimulgus europaeus</i> . The site also supports small numbers (at non-qualifying levels) of other Annex 1 species: Hen Harrier <i>Circus cyaneus</i> , Merlin <i>Falco columbarius</i> and Short-eared Owl <i>Asio flammeus</i> , Hobbies <i>Falco subbuteo</i> . Also notable are Nightingales <i>Luscinia megarhynchos</i> (Natural England, 2014).                                                                                                                                                                                                                                                                                                                                 |
| Humber Estuary - <b>SSSI</b> | "The Humber Estuary is a nationally important site with a series of nationally important habitats. These are the estuary itself (with its component habitats of intertidal mudflats and sandflats and coastal saltmarsh) and the associated saline lagoons, sand dunes and standing waters. The estuary supports nationally important numbers of 22 wintering waterfowl and nine passage waders, and a nationally important assemblage of breeding birds of lowland open waters and their margins. It is also nationally important for a breeding colony of grey seals <i>Halichoerus grypus</i> , river lamprey <i>Lampetra fluviatilis</i> and sea lamprey <i>Petromyzon marinus</i> , a vascular plant assemblage and an invertebrate assemblage." (Natural England, 2004). |
| Humber Estuary - <b>SAC</b>  | <p>Qualifying habitats:</p> <ul style="list-style-type: none"> <li>-Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> <li>-Coastal lagoons</li> <li>-Dunes with <i>Hippophae rhamnoides</i></li> <li>-Embryonic shifting dunes</li> <li>-Estuaries</li> <li>-Mudflats and sandflats not covered by seawater at low tide</li> <li>-Fixed dunes with herbaceous vegetation (`grey dunes`)</li> <li>-<i>Salicornia</i> and other annuals colonising mud and sand</li> <li>-Sandbanks which are slightly covered by sea water all the time</li> <li>-Shifting dunes along the shoreline with <i>Ammophila</i></li> </ul>                                                                                                                                       |

| Statutory Sites                | Reason for designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <p><i>arenaria</i> ('white dunes')</p> <p>Qualifying species:<br/>           -Grey Seal <i>Halichoerus grypus</i><br/>           -River Lamprey <i>Lampetra fluviatilis</i><br/>           -Sea Lamprey <i>Petromyzon marinus</i> (Natural England, 2009).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Huber Estuary - <b>SPA</b>     | <p>"The estuary supports important numbers of waterbirds (especially geese, ducks and waders) during the migration periods and in winter. In summer, it supports important breeding populations of Bittern <i>Botaurus stellaris</i>, Marsh Harrier <i>Circus aeruginosus</i>, Avocet <i>Recurvirostra avosetta</i> and Little Tern <i>Sterna albifrons</i>." (Natural England, 2007).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Humber Estuary - <b>Ramsar</b> | <p>"The Humber Estuary is the largest macro-tidal estuary on the British North Sea coast. It drains a catchment of some 24,240 square kilometres and is the site of the largest single input of freshwater from Britain into the North Sea. It has the second-highest tidal range in Britain (max 7.4 m) and approximately one-third of the estuary is exposed as mud or sand flats at low tide. The inner estuary supports extensive areas of reedbed with areas of mature and developing saltmarsh backed in places by limited areas of grazing marsh in the middle and outer estuary. On the north Lincolnshire coast the saltmarsh is backed by low sand dunes with marshy slacks and brackish pools. The Estuary regularly supports internationally important numbers of waterfowl in winter and nationally important breeding populations in summer." (JNCC, 2008).</p> |

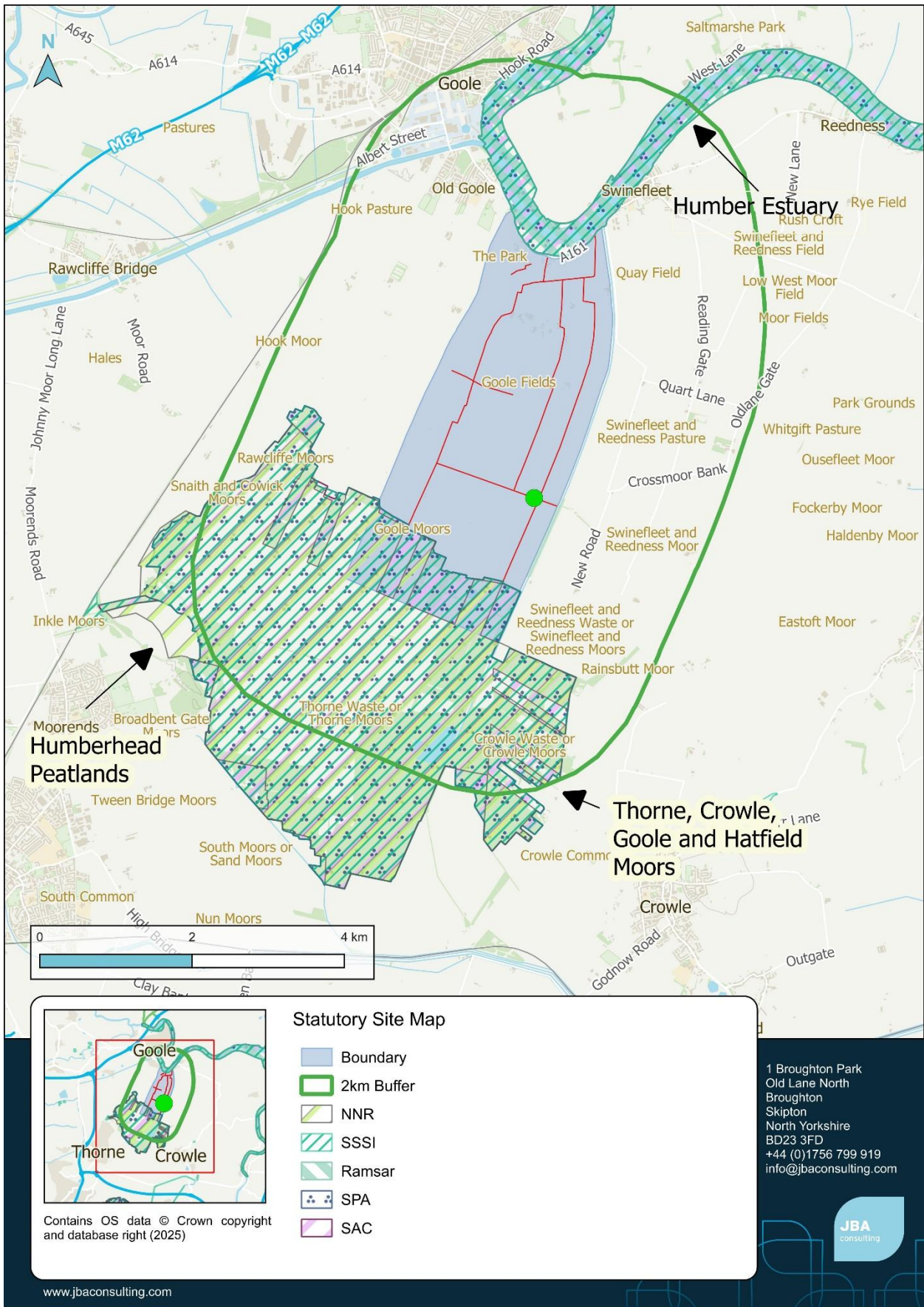


Figure 3-1: Statutory Site Map

### 3.3.2 Local Sites

There are no Local Nature Reserves (LNRs) within Goole Fields drainage district.

### 3.4 Non-Statutory Nature Conservation Sites

There are no Local Wildlife Sites (LWS) within Goole Fields drainage district.

### 3.5 Habitat Audit Summary

This habitat audit summary lists the UK priority habitats (Habitats of Principle Importance) that occur within the drainage district and are identified as likely to be influenced by the Board's activities. A map of these habitats is provided in Figure 3-2 below. Also listed are habitats deemed to be of local importance and/or featured in local nature strategies that occur in the drainage district. Finally, brief notes are included on the potential for the IDB to maintain, restore or expand its important habitats. Local habitat data information is available in the East Riding of Yorkshire Biodiversity Action Plan Strategy (ERYBAPS) (ERYC, 2010).

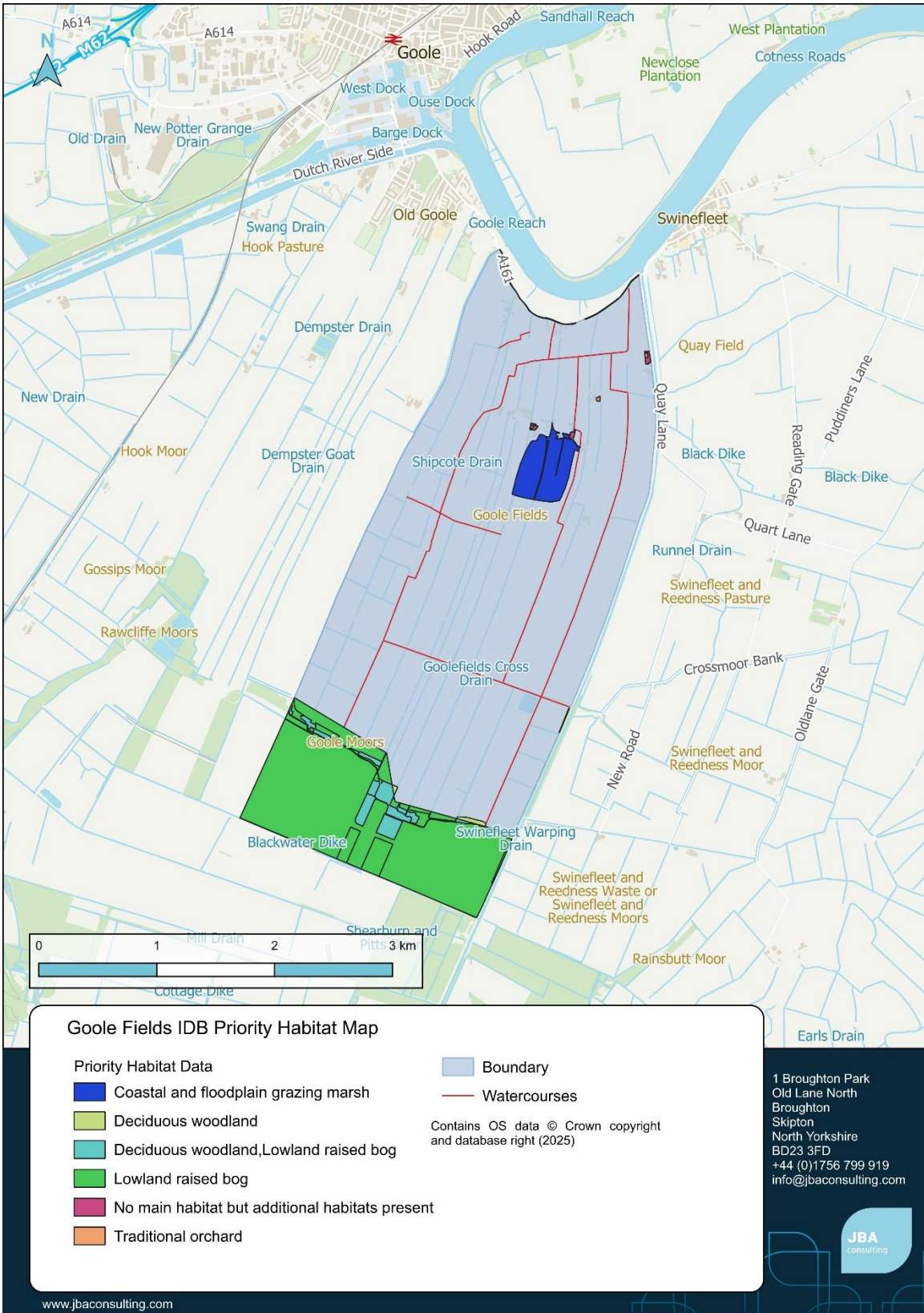


Figure 3-2: Priority Habitat Map

Table 3-2: Habitat Audit.

| UK Broad Priority Habitat       | National Status & Extent                                | Local Priority Habitat               | Local Status and Extent                                                                                                                                                                                       | Habitat of Importance for IDB    | IDB Potential for Maintaining, Restoring or Expanding Habitat (high/medium/low) |
|---------------------------------|---------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------|
| Standing open waters and canals | Declining, estimated 400,000 ponds in the UK            | Eutrophic standing water / Ponds     | Within the district primarily as drainage dykes.                                                                                                                                                              | Eutrophic standing water / Ponds | Medium                                                                          |
| Arable and Horticulture         | Trend is increasing, estimated over 105,200ha in the UK | Arable farmland (field margins)      | Widespread throughout the County.                                                                                                                                                                             | Arable field margins             | High                                                                            |
| Boundary and Linear Features    | Stable                                                  | Hedgerows                            | Widespread.                                                                                                                                                                                                   | Hedgerows                        | High                                                                            |
| Improved grassland              | Trend not known, estimated 230,000ha in the UK          | Coastal and floodplain grazing marsh | Widespread in the East Riding e.g. Swine Moor, Figham Common, Thornton Ings, Broomfleet Island. 22.26 ha within the Goole Fields IDB drainage district alone, however largely set-back from IDB watercourses. | Grazing marsh                    | Medium                                                                          |

| UK Broad Priority Habitat           | National Status & Extent                                                                                                                                                                                                                | Local Priority Habitat                                 | Local Status and Extent                                                                                                                                        | Habitat of Importance for IDB                         | IDB Potential for Maintaining, Restoring or Expanding Habitat (high/medium/low) |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------|
| Broadleaved, Mixed and Yew Woodland | <p>250,000ha of LMDW in the UK. It has declined in area by clearance, overgrazing and replanting with non-native species, by about 30–40% over the last 50 years</p> <p>Estimated 24,600ha traditional orchard area. Trend unknown.</p> | Lowland Mixed Deciduous Woodland / Traditional orchard | <p>Stands of LMDW are largely in association with Thorne Moors.</p> <p>A few small isolated sites of traditional orchard-not adjacent to IDB watercourses.</p> | <p>Deciduous woodland</p> <p>Traditional orchards</p> | <p>Medium</p> <p>Low</p>                                                        |

| UK Broad Priority Habitat | National Status & Extent                                                                                     | Local Priority Habitat | Local Status and Extent                                                                                | Habitat of Importance for IDB | IDB Potential for Maintaining, Restoring or Expanding Habitat (high/medium/low) |
|---------------------------|--------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------|
| Bogs                      | <p>Dramatic decline since around the start of the nineteenth century.</p> <p>Just 500ha left in England.</p> | Lowland Raised Bog     | Predominantly within Humberhead Peatlands NNR, Thorne, Crowle and Goole Moor SSSI and Thorne Moor SAC. | Lowland Raised Bog            | High                                                                            |

### 3.6 Species Audit Summary

This species audit summary will include priority species (Species of Principal Importance) that occur in association with the UKBAP habitats identified in Section 3.5, within the East Riding. These species have been identified as likely to be influenced by the Board's activities. Also, listed are species deemed to be of local importance and/or identified by local nature strategies. Finally, the potential for the IDB to improve the status of the species in the drainage district is considered. Local species data information is available in the East Riding of Yorkshire Biodiversity Action Plan Strategy (ERYBAPS) (ERYC, 2010).

Table 3-3: Species Audit

| Common & Scientific Name                 | National Status                                                                                                      | Local Status                                                        | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Birds</b>                             |                                                                                                                      |                                                                     |                                                                        |                                                                                           |
| Nightjar<br><i>Caprimulgus europaeus</i> | Conservation status:<br>Amber<br>Declining<br>UK breeding population: -45.5% decline 1968-72 to 2008-11 (BTO, 2025). | Present within Thorne and Hatfield Moor SPA.                        | Lowland raised bog                                                     | Low                                                                                       |
| Grey Partridge<br><i>Perdix perdix</i>   | Conservation status:<br>Red<br>Declining<br>92% decline 1967–2022 (BTO, 2025).                                       | Likely regionally important populations in the county (ERYC, 2010). | Arable field margins and hedgerows.                                    | Medium                                                                                    |

| Common & Scientific Name                  | National Status                                                                        | Local Status                                       | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|-------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Cuckoo <i>Cuculus canorus</i>             | Conservation status:<br>Red<br><br>Declining<br><br>35% decline 1995–2022 (BTO, 2025). | Unknown.                                           | Hedgerows.                                                             | Low                                                                                       |
| Turtle Dove<br><i>Streptopelia turtur</i> | Conservation status:<br>Red<br><br>Declining<br><br>99% decline 1967–2022 (BTO, 2025). | MAGIC Map lists records between 2005-2009 locally. | Hedgerows.                                                             | Low                                                                                       |

| Common & Scientific Name         | National Status                                                                                   | Local Status                                                                                                                                                                                                             | Supporting habitats for Species of Importance within drainage district                                                                                                       | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|----------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Lapwing <i>Vanellus vanellus</i> | Conservation status:<br>Red<br><br>Declining<br><br>62% decline 1967-2022 (BTO, 2025).            | Nationally important breeding populations nearby within Lower Derwent Valley National Nature Reserve and non-breeding populations on the Humber Estuary (ERYC, 2010). MAGIC Map lists records between 2005-2009 locally. | Spring crops and permanent grassland with low chemical input.<br><br>Short, tussocky sward.<br><br>Arable land, cropped fields.<br><br>Coastal and floodplain grazing marsh. | Medium                                                                                    |
| Curlew <i>Numenius arquata</i>   | Conservation status:<br>Red<br><br>Declining<br><br>UK breeding population: 50% decline 1995–2022 | Curlew occur in internationally important numbers on the Humber Estuary outside the breeding season                                                                                                                      | Arable field margins, coastal and floodplain grazing marsh.                                                                                                                  | Low                                                                                       |

| Common & Scientific Name                 | National Status                                                                                                                          | Local Status                                                                                                                   | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|                                          | UK winter population: 32% decline 1996/97–2021/22 (BTO, 2025).                                                                           | (ERYC, 2010). MAGIC Map lists records between 2005-2009 locally.                                                               |                                                                        |                                                                                           |
| Black Tailed-Godwit <i>Limosa limosa</i> | Conservation status: Red<br>Breeding declining wintering increasing.<br>UK winter population: 138% increase 1996/97–2021/22 (BTO, 2025). | Black Tailed Godwit occur in internationally important numbers on the Humber Estuary outside the breeding season (ERYC, 2010). | Coastal and floodplain grazing marsh.                                  | Low                                                                                       |
| Bittern <i>Botaurus stellaris</i>        | Conservation status: Amber<br>Increasing.<br>227 pairs counted in 2019 (BTO, 2025).                                                      | Positive trend following re-establishment (ERYC, 2010).                                                                        | Eutrophic standing waters.                                             | Low                                                                                       |

| Common & Scientific Name           | National Status                                                                                                     | Local Status                                                                                                                                                                | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Barn Owl <i>Tyto alba</i>          | Conservation status:<br>Green<br><br>Increasing<br><br>UK breeding population: 208% increase 1995–2022 (BTO, 2025). | Nearby the Lower Derwent Valley supports the largest population density of breeding barn Owl in the UK. Relatively widespread although local declines evident (ERYC, 2010). | Arable land, field margins and hedgerows.                              | High                                                                                      |
| Marsh Tit <i>Poecile palustris</i> | Conservation status:<br>Red<br><br>Declining<br><br>UK breeding population: 80% decline 1967–2022 (BTO, 2025).      | Status unknown.                                                                                                                                                             | Lowland mixed deciduous woodland.                                      | Medium                                                                                    |

| Common & Scientific Name                | National Status                                                                                                  | Local Status                                                        | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Skylark <i>Alauda arvensis</i>          | Conservation status:<br>Red<br><br>Declining<br><br>11% decline 1995-2022 (BTO, 2025)                            | Likely regionally important populations in the county (ERYC, 2010). | Set-aside.<br><br>Arable land/ field margins.                          | Medium                                                                                    |
| Common Starling <i>Sturnus vulgaris</i> | Conservation status:<br>Red<br><br>Declining<br><br>UK breeding population: 54% decline 1995–2022 (BTO, 2025)    | Status unknown.                                                     | Hedgerows.                                                             | Low                                                                                       |
| Song Thrush <i>Turdus philomelos</i>    | Conservation status:<br>Amber<br><br>Declining<br><br>UK breeding population: 48% decline 1967–2022 (BTO, 2025). | Status unknown.                                                     | Traditional orchards and lowland mixed deciduous woodland.             | Medium                                                                                    |

| Common & Scientific Name                 | National Status                                                                                              | Local Status                                                                                                           | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Tree Sparrow<br><i>Passer montanus</i>   | Conservation status:<br>Red<br><br>Increasing<br>UK breeding population: 62% increase 1995–2022 (BTO, 2025). | Likely regionally important populations in the county (ERYC, 2010). MAGIC Map lists records between 2005-2009 locally. | Eutrophic standing waters, arable field margins and hedgerows.         | Medium                                                                                    |
| Dunnock <i>Prunella modularis</i>        | Conservation status:<br>Amber<br><br>Declining<br>UK breeding population: 40% decline 1967–2022 (BTO, 2025). | Status unknown.                                                                                                        | Hedgerows.                                                             | Low                                                                                       |
| Yellow Wagtail<br><i>Motacilla flava</i> | Conservation status:<br>Red<br><br>Declining<br>UK breeding population: 74%                                  | Likely regionally important populations in the county (ERYC, 2010). MAGIC Map lists records between                    | Arable field margins, coastal and floodplain grazing marsh.            | Medium                                                                                    |

| Common & Scientific Name                     | National Status                                                                                                    | Local Status                                                        | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|                                              | decline 1967–2022 (BTO, 2025).                                                                                     | 2005-2009 locally.                                                  |                                                                        |                                                                                           |
| Common Bullfinch<br><i>Pyrrhula pyrrhula</i> | Conservation status:<br>Amber<br><br>Increasing<br><br>UK breeding population: 49% decrease 1967–2022 (BTO, 2025). | Status unknown.                                                     | Traditional orchards and lowland mixed deciduous woodland.             | Medium                                                                                    |
| Linnet <i>Linaria cannabina</i>              | Conservation status:<br>Red<br><br>Declining<br><br>UK breeding population: 23% decline 1995–2022 (BTO, 2025).     | Likely regionally important populations in the county (ERYC, 2010). | Arable field margins and hedgerows.                                    | Medium                                                                                    |

| Common & Scientific Name                    | National Status                                                                                                | Local Status                                                                                                                  | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Corn Bunting<br><i>Emberiza calandra</i>    | Conservation status:<br>Red<br><br>Stable.<br><br>UK breeding population: 83% decline 1967–2022 (BTO, 2025).   | Likely regionally important populations in the county (ERYC, 2010).<br><br>MAGIC Map lists records between 2005-2009 locally. | Arable field margins.                                                  | Medium                                                                                    |
| Yellowhammer<br><i>Emberiza citrinella</i>  | Conservation status:<br>Red<br><br>Declining<br><br>UK breeding population: 64% decline 1967–2022 (BTO, 2025). | Likely regionally important populations in the county (ERYC, 2010).                                                           | Arable field margins and hedgerows.                                    | Medium                                                                                    |
| Reed Bunting<br><i>Emberiza schoeniclus</i> | UK breeding population: no population change in UK 1967–2022 (BTO, 2025).                                      | Status unknown.                                                                                                               | Coastal and floodplain grazing marsh.                                  | Low                                                                                       |
| <b>Mammals</b>                              |                                                                                                                |                                                                                                                               |                                                                        |                                                                                           |

| Common & Scientific Name             | National Status                                                  | Local Status                                                                                                                                                                                                 | Supporting habitats for Species of Importance within drainage district                                                 | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|--------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Water Vole <i>Arvicola amphibius</i> | Conservation status: Endangered<br>Approx. population of 132,000 | 'Water Vole has a regional stronghold in agricultural drainage dykes in Holderness and the River Hull Headwaters' (ERYC, 2010). Historically present within the district. Current population status unknown. | Waterbodies. Evidence of Water Vole activity was last recorded within the District in 2022 on Shipcote Drain.          | Medium                                                                                    |
| Otter <i>Lutra lutra</i>             | Conservation status: Least concern                               | 'Otter also has a stronghold in the [nearby] Lower Derwent Valley' (ERYC, 2010).                                                                                                                             | Likely to occupy larger river systems but could use the smaller watercourses for foraging and commuting opportunities. | Low                                                                                       |

| Common & Scientific Name                             | National Status                                    | Local Status                                                          | Supporting habitats for Species of Importance within drainage district                                                 | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| West European Hedgehog<br><i>Erinaceus europaeus</i> | Conservation status:<br>Least concern              | 'Particularly [found] in and around towns and villages' (ERYC, 2010). | Hedgerows and lowland mixed deciduous woodland.                                                                        | Low                                                                                       |
| Brown Hare <i>Lepus europaeus</i>                    | Conservation status:<br>UK Red List<br>Declining.  | 'Brown hare still occurs in most Parishes' (ERYC, 2010).              | Arable field margins and hedgerows.                                                                                    | Low                                                                                       |
| Harvest Mouse<br><i>Micromys minutus</i>             | Conservation status:<br>UK Red List.<br>Declining. | Status unknown.                                                       | Hedgerows.                                                                                                             | Low                                                                                       |
| Brown Long-eared Bat <i>Plecotus auritus</i>         | Conservation status:<br>Least concern              | Status unknown.                                                       | Linear features (hedgerows, watercourses)<br><br>Woodlands.                                                            | Medium                                                                                    |
| <b>Herptiles</b>                                     |                                                    |                                                                       |                                                                                                                        |                                                                                           |
| Great Crested Newt <i>Triturus cristatus</i>         | Conservation status:<br>Least concern              | GCN licence return submitted 2017 confirming presence at:             | Ponds. Historic records (within the last 10 years) of Great Crested Newt within proximity to the District - records of | Medium                                                                                    |

| Common & Scientific Name                         | National Status                                                                                 | Local Status                                                          | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|                                                  |                                                                                                 | OSGR SE70481678.                                                      | Granted European Protected Species Applications (England).             |                                                                                           |
| Common Toad<br><i>Bufo bufo</i>                  | Conservation status: Least concern                                                              | 'Particularly [found] in and around towns and villages' (ERYC, 2010). | Water bodies.                                                          | Medium                                                                                    |
| Grass Snake <i>Natrix helvetica</i>              | Conservation status: Least concern                                                              | Status unknown.                                                       | Water bodies.                                                          | Medium                                                                                    |
| <b>Fish</b>                                      |                                                                                                 |                                                                       |                                                                        |                                                                                           |
| European Eel<br><i>Anguilla anguilla</i>         | Conservation status: Critically endangered.                                                     | Local status is unknown.                                              | Watercourses - unknown population                                      | Medium                                                                                    |
| <b>Invertebrates</b>                             |                                                                                                 |                                                                       |                                                                        |                                                                                           |
| White-letter Hairstreak <i>Satyrrium w-album</i> | Conservation status: VU (Butterfly Red List, 2021)(Butterfly Conservation, 2025).<br>Declining. | Present, likely under-recorded                                        | Lowland mixed deciduous woodland.                                      | Low                                                                                       |

| Common & Scientific Name                                | National Status                                                                                                                                     | Local Status                                                  | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Oak Hook-tip<br><i>Watsonalla binaria</i>               | Widespread                                                                                                                                          | Locally frequent (Yorkshire Moths, 2025).                     | Lowland mixed deciduous woodland.                                      | Low                                                                                       |
| Small Red-eyed Damselfly<br><i>Erythromma viridulum</i> | NE - Recent Colonist (RC) (JNCC, 2008a).                                                                                                            | Recent colonist, scarce breeder. Expanding. (Ashton, 2013).   | Eutrophic standing water.                                              | Medium                                                                                    |
| Large Heath<br><i>Coenonympha tullia</i>                | The butterfly has declined seriously in England and Wales but is still widespread in parts of Ireland and Scotland (Butterfly Conservation, 2025a). | Hatfield Moors SSSI, Thorne, Crowle and Goole Moors SSSI      | Lowland raised bog.                                                    | Low                                                                                       |
| <b>Plants</b>                                           |                                                                                                                                                     |                                                               |                                                                        |                                                                                           |
| Greater Water Parsnip<br><i>Sium latifolium</i>         | Substantial declines (BSBI, 2020)                                                                                                                   | Unknown; presence possible. Locally distributed (ERYC, 2010). | Ponds.                                                                 | Low                                                                                       |

| Common & Scientific Name                           | National Status                                                                                           | Local Status                                                                                                      | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Annual Knawel<br><i>Scleranthus annuus</i>         | Significant declines (BSBI, 2020)                                                                         | Unlikely to be present.                                                                                           | Arable field margins.                                                  | Low                                                                                       |
| Corn Buttercup<br><i>Ranunculus arvensis</i>       | Dramatic decline (BSBI,2020).                                                                             | Unknown; presence possible.                                                                                       | Arable field margins.                                                  | Low                                                                                       |
| Shepherd's Needle<br><i>Scandix pecten-veneris</i> | Declining (BSBI, 2020).                                                                                   | Unknown; presence possible.                                                                                       | Arable field margins.                                                  | Low                                                                                       |
| Cornflower<br><i>Centaurea cyanus</i>              | Substantial increase this century (BSBI, 2020).                                                           | Unknown; presence possible.                                                                                       | Arable field margins.                                                  | Low                                                                                       |
| Anomalous Flapwort<br><i>Mylia anomala</i>         | There is clear evidence for a decline in this species at low altitudes in Britain since 1980 (BBS, 2021). | Likely in Thorne, Crowle, Goole Moors SSSI and Hatfield Moors SSSI, Humberhead Peatlands NNR and Thorne Moor SAC. | Lowland raised bog.                                                    | Medium                                                                                    |

| Common & Scientific Name                             | National Status                              | Local Status                                                                                                      | Supporting habitats for Species of Importance within drainage district | IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low) |
|------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Forcipated Pincerwort<br><i>Cephalozia connivens</i> | Widespread in suitable habitats (BBS, 2021). | Likely in Thorne, Crowle, Goole Moors SSSI and Hatfield Moors SSSI, Humberhead Peatlands NNR and Thorne Moor SAC. | Lowland raised bog.                                                    | Medium                                                                                    |

## 4 Habitat Action Plan

### 4.1 Habitats of Principal Importance

As detailed in the Habitat Audit summary (Table 3-2), the Habitats of Principal Importance present within the Goole Fields IDB boundary are:

- Coastal and Floodplain Grazing Marsh
- Deciduous Woodland
- Lowland Raised Bog
- Traditional Orchards

As well as the above habitats identified using the Habitats of Principal Importance inventory, the following important habitats are also deemed to be present within the Board's boundary:

- Eutrophic standing waters
- Hedgerows
- Arable Farmland (Arable Field Margins)
- Ponds

The above habitats will be addressed within the following sections, apart from deciduous woodland and traditional orchards for which the IDB has little remit to influence and they cover a very small area of the Board's boundary. In addition, due to the size of the Board and the apportioned budget, actions are targeted to those which will achieve the most impact whilst remaining cost effective. For habitats linked to the neighbouring European sites (see Section 3.3.1), these are protected via other means (e.g. HRAs) i.e. for works taking place on the Humber Estuary and Thorne and Hatfield Moor. Works within these European sites should comply with the usual formalities for obtaining consent.

### 4.2 UK Broad Habitat - Improved Grassland

#### 4.2.1 Coastal and Floodplain Grazing Marsh

Grazing marsh is defined as periodically inundated pasture, or meadow, with ditches which maintain the water levels. Nearly all areas are grazed and some are cut for hay or silage. This habitat does not contain extensive tall fen species, such as reedbeds. This habitat is important habitat for a number of breeding waders and wintering wildfowl.

Floodplain Grazing Marsh priority habitat within the Board's district is relatively extensive, especially towards the northern and central portion of the District.

##### 4.2.1.1 Targets and Actions

The Board agreed two targets which will be delivered by two actions.

**Target 1.** Maintain current extent and quality of grazing marshes adjacent to IDB watercourses within the Goole Fields IDB district.

**Action:**

- Any proposed works will need to identify if floodplain grazing marsh is present within the works area. If the priority habitat is present, works will need to ensure that this habitat is not negatively impacted upon.

4.2.1.2 Indicators and Reporting

The indicators for Target 1 will be:

- The number of works that identified floodplain grazing marsh and did not cause any adverse impacts.

**4.3 UK Broad Habitat - Standing Open Waters and Canals**

4.3.1 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. 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.

Benthic invertebrates such as snails, dragonflies and water beetles are abundant, and calcareous sites may support large populations of the native freshwater White-clawed 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 (blanketweed) 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.

The Board identified this habitat in its 2015-2020 BAP and implemented actions, the below targets build on those actions.

#### 4.3.1.1 Targets and Actions

The Board 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 Board maintained watercourses through an Integrated Biodiversity Action Plan and Maintenance Regime by following best practice guidance and providing Contractor training.

**Target 2.** Ensure no further spread of Invasive Non-native Species (INNS) along and within Board maintained watercourses and aim to control these species.

**Action:**

- Record non-native invasive plant and animal species.
- Report INNS findings to local record centres.
- Contractor training on non-native invasive species.

#### 4.3.1.2 Indicators and Reporting

For IDB actions in connection with Target 1, the indicators of delivery will be:

- This Plan production.

Indicators of delivery for Target 2 will be:

- The number of records submitted to local record centres.
- Measures put in place to reduce spread.

Reporting on all actions will be annually.

## 4.4 UK Broad Habitat - Boundary and Linear Features

### 4.4.1 Hedgerows

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 *Lonicera periclymenum* and Bramble *Rubus fruticosus* agg. 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.

#### 4.4.1.1 Targets and Actions

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

**Target 1.** 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.

#### 4.4.1.2 Indicators and Reporting

Indicators for Target 1 will be

- The number of capital schemes monitored.
- The length of protected/remaining hedgerow intact.

Reporting will be on an annual basis.

# 5 Species Action Plan

## 5.1 Species of Principal Importance

Species of Principal Importance under the NERC Act (2006) that are present within the Goole Fields IDB district, as detailed in Table 3-3, include:

- Birds
  - Nightjar *Caprimulgus europaeus*
  - Grey Partridge *Perdix perdix*
  - Cuckoo *Cuculus canorus*
  - Turtle Dove *Streptopelia turtur*
  - Lapwing *Vanellus vanellus*
  - Curlew *Numenius arquata*
  - Black Tailed-Godwit *Limosa limosa*
  - Bittern *Botaurus stellaris*
  - Marsh Tit *Poecile palustris*
  - Skylark *Alauda arvensis*
  - Common Starling *Sturnus vulgaris*
  - Song Thrush *Turdus philomelos*
  - Tree Sparrow *Passer montanus*
  - Dunnock *Prunella modularis*
  - Yellow Wagtail *Motacilla flava*
  - Common Bullfinch *Pyrrhula pyrrhula*
  - Linnet *Linaria cannabina*
  - Corn Bunting *Emberiza calandra*
  - Yellowhammer *Emberiza citrinella*
  - Reed Bunting *Emberiza schoeniclus*
- Mammals
  - Water Vole *Arvicola amphibius*
  - Otter *Lutra lutra*
  - West European Hedgehog *Erinaceus europaeus*
  - Brown Hare *Lepus europaeus*
  - Harvest Mouse *Micromys minutus*
  - Brown Long-eared Bat *Plecotus auritus*
- Herptiles
  - Great Crested Newt *Triturus cristatus*
  - Common Toad *Bufo bufo*
  - Grass Snake *Natrix helvetica*
- Fish
  - European Eel *Anguilla anguilla*
- Invertebrates

- White-letter Hairstreak *Satyrrium w-album*
- Oak Hook-tip *Watsonalla binaria*
- Large Heath *Coenonympha tullia*
- Plants
  - Greater Water Parsnip *Sium latifolium*
  - Annual Knawel *Scleranthus annuus*
  - Caraway *Carum carvi*
  - Corn Buttercup *Ranunculus arvensis*
  - Shepherd's Needle *Scandix pecten-veneris*
  - Cornflower *Centaurea cyanus*

Not identified as Species of Principal Importance but are considered an important species within the Board's district include:

- Barn Owl *Tyto alba*
- Small Red-eyed Damselfly *Erythromma viridulum*
- Anomalous Flapwort *Mylia anomala*
- Forcipated Pincerwort *Cephalozia connivens*

To ensure targets and actions are achievable within the 5-year period of this BAP, not all species listed above have been included in the Species Action Plans below. Instead, specific species have been identified where actions and targets are more achievable within the Board's district.

## 5.2 Birds

### 5.2.1 Lapwing

Lapwing are a section 41 Species of Principal Importance and are deemed likely to be present within the Board's district due to the habitats this species occupies. Lapwing are associated with farmland habitats and due to their significant population declines they are a Red List species. They are a ground nesting bird, forming simple scrapes in mud or sand.

#### 5.2.1.1 Targets and Actions

The Board has agreed to one target which will be achieved by a single action.

**Target 1.** To understand the distribution of Lapwing within the Board's district.

**Action:**

- Record all sightings of Lapwing when undertaking site visits within the Board's district. Submit these records to the local records centre.

#### 5.2.1.2 Indicators and Reporting

Indicators for the above target will be the number of records.

Reporting will be annually.

## 5.3 Mammals

### 5.3.1 Water Vole

Water Vole is a protected species under Section 9, Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and a Section 41 Species of Principal Importance. They primarily occupy well vegetated, shallow, sloping banks alongside watercourses where burrowing is feasible into an earth bank. Water Vole numbers and their distribution has declined significantly with several locations across Britain with no Water Vole populations.

Evidence of Water Vole activity was last recorded within the District in 2022 in Shipcote Drain. The habitat here and within the district more widely is considered suitable to support Water Vole, although American Mink *Neovison vison* (which predate Water Vole) are believed to be established within the District.

The Board identified this species in its 2015-2025 BAP and the below targets and actions build upon these previous actions.

#### 5.3.1.1 Targets and Actions

The Board has agreed to three targets which will be delivered by five actions.

**Target 1.** Maintain and enhance suitable habitat for Water Vole within Board maintained watercourses.

**Actions:**

- Ensure appropriate habitat management of Board maintained watercourses through environmental best practice guidance 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 watercourse maintenance priority.

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

**Actions:**

- Provide training to Board Contractors on legislation pertaining to Water Vole, its habitat and best practice maintenance.

**Target 3.** Monitor populations of Water Vole within the drainage district.

**Actions:**

- Undertake monitoring of all key Water Vole populations within the drainage district. This should be completed by a suitably qualified ecologist.
- Submit all Water Vole records to local record centres.

### 5.3.1.2 Indicators and Reporting

Target 1 indicators will be represented by:

- Length (m) of watercourse assessed
- Length (m) of watercourse enhanced

Target 2 indicators will be represented by:

- The number of Contractor employees trained

Target 3 indicators will be represented by:

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

Reporting will be ongoing throughout the life of the BAP.

## 5.4 Herptiles

### 5.4.1 Grass Snake

Grass snake *Natrix natrix* is a Species of Principal Importance in England identified under the NERC Act 2006 and a UK BAP Priority Species.

#### 5.4.1.1 Targets and Actions

The Board has identified one target for Grass Snake which will be delivered by two actions:

**Target 1.** Maintain a compost heap at its station site.

#### **Actions:**

- Using piles of vegetation taken from the watercourse and left to dry. Compost heaps will be exposed to direct sunlight and left undisturbed from June-September.
- Where possible the heaps will remain over winter as hibernacula.

#### 5.4.1.2 Indicators and Reporting

The indicator for the above target will be represented by the number of compost piles established.

All reporting will be on completion of the work.

## 5.5 Fish

### 5.5.1 Eel

Eel is protected under the Eel (England and Wales) Regulations 2010. European Eel is Critically Endangered on the IUCN red list of threatened species. 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.

#### 5.5.1.1 Targets and Actions

The Board has identified one target for Eel which will be delivered by a single action.

**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.

#### 5.5.1.2 Indicators and Reporting

The indicator for the above target will be represented by the length of watercourse assessed.

All reporting will be on completion of the work.

## 5.6 Plants

Approximately 150 species of plants receive legal protection through Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). There are various levels of protection according to the rarity of the species.

#### 5.6.1.1 Targets and Actions

**Target 1.** Increase the diversity of plant species across the District.

#### **Actions:**

- Where re-seeding is required post works, use an appropriate diverse species mix, with a range of grasses and herbs and the inclusion of appropriate priority species.

#### 5.6.1.2 Indicators and Reporting

Indicators for Target 1 will be:

- The area of land appropriately re-seeded.

Reporting will be an ongoing action, as tasks are undertaken.

## 5.7 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) and under NERC Act (2006) to conserve and enhance biodiversity as part of function.

### 5.7.1 Targets and Actions

The Board has identified five targets for general biodiversity which will be delivered by seven actions.

**Target 1.** Promote environmental best practice when undertaking all drainage works

**Actions:**

- Publicise examples of environmental best practice.

**Target 2.** Control culverting of watercourses

**Action:**

- Review land drainage consents and advise appropriately taking into account non-culverting policy.

**Target 3.** Improve understanding of species populations present within the drainage district

**Actions:**

- Undertake surveys for species, specifically protected species/priority species, where appropriate.
- Submit all records to local biological records centre.

**Target 4.** Maintain biodiversity within the drainage district

**Action:**

- Provision of environmental consideration advice for any Board works.
- Adhere to Check-Clean-Dry to avoid the spread of invasive non-native species, provide toolbox talks to all site contractors.

**Target 5.** Encourage biodiversity improvements across the district.

**Action:**

- Adjust maintenance regime to improve bankside vegetation.

### 5.7.2 Indicators and reporting

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

- Number of articles released
- Number of consents reviewed
- Number of surveys and records
- Number of toolbox talks provided
- Number of watercourses where the maintenance regime was altered to improve bankside vegetation.

Reporting will be ongoing throughout the life of the BAP.



## 6 Implementation and Monitoring

The actions detailed in the habitat and species actions plans in the previous sections will be implemented predominantly through minor changes to IDB management and maintenance methods. As well as through additional ecological surveying and monitoring.

Monitoring of this BAP will be required to ensure that the actions detailed in the habitat and species action plans are being implemented. Monitoring of the indicators detailed in the action plans will be undertaken and recorded, generally on an annual basis.

Species and habitats vary naturally over time and monitoring will result in new information. Any new information will be incorporated into the IDB BAP as appropriate.

## 7 Reviewing and reporting

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

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