South Holland
Drainage Board

South Holland Internal Drainage Board

Biodiversity Action Plan

2022-2027

1. Statement

This Biodiversity Action Plan (BAP) has been prepared by the South Holland 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 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.

…… Date……..

Duncan Worth

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.

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

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2. Introduction

2.1. 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 Biodiversity Action Plan 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.

2.2. 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 Act 2006 places a duty on IDBs to conserve biodiversity. The Environment Act 2021, when enacted, 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 an exhaustive list) relevant to the work of IDBs:

- The Environment Act 2021
- Conservation of Habitats and Species Regulations 2017

- 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)
- The Environmental Impact Assessment (Land Drainage Improvement Works) (Amendment) Regulations 2017
- 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

2.3. Policy & Strategic Background

In 1992 at the United Nations Conference on the Environment and Development, commonly known as the Rio Earth Summit, the UK signed the Convention on Biological Diversity which pledged its commitment to contribute towards halting the worldwide loss of habitats and species and their genetic resources. At the 2010 biodiversity summit in Nagoya, Japan, the UK re-affirmed this commitment and the "Biodiversity 2020" white paper was developed setting out how those commitments would be put into action.

The 2010 report by Sir John Lawton "Making Space for Nature" set out that ecological networks were required in order to halt and reverse the declines seen in many threatened species and habitats. The report succinctly made clear that these ecological networks needed to be bigger, more frequent, better in quality, and more joined up in order to be successful in their ambitions.

The concept of Nature Recovery Networks featured in the Government's Biodiversity 2020 strategy (2011) and 25 Year Environment Plan (2018). The Environment Act 2021 and the development of Local Nature Recovery Strategies (LNRS) expands this concept by also take into account the value of the ecological services provided by non-priority species and habitats such as the carbon sequestration of wetlands, the flood alleviation of tree-planting in the uplands and the wellbeing benefits brought about by green space. As such, this BAP presents the actions planned by the IDB to support both priority and non-priority species.

International reports such as by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) have found that climate change in particular is considered to be one of the biggest threats to our biodiversity now, and in the future. Supporting the continuity, connectivity and quality of habitat through management, restoration and expansion may help even the less mobile species to adapt more easily to climate change. This BAP presents the actions the IDB can take to support climate resilience for biodiversity.

2.4. Purpose

This BAP has been produced to demonstrate how the IDB fulfils its legal obligations to conserve and enhance biodiversity and sets out targets and actions that contribute to local, national and international strategies and policies.

While the IDB has a statutory duty to have regard for the environment whilst carrying out their functions, for example on or within drainage assets such as watercourses and their banks, the IDB has also to give consideration to how they can contribute to the enhancement of the wider environment.

It is not within the scope of this document to set out the IDBs' objectives and actions in relation to wider environmental topics, such as reducing carbon emissions or reducing waste. However, strategies to address such topics may be mentioned in connection to the enhancement of habitats and species, such as peatland restoration and carbon sequestration.

The opportunity to work together to support and enhance biodiversity in partnership with other organisations is sought wherever possible, as the IDB recognises the additional value working in such ways can bring to the overall objectives.

The intention is that biodiversity is fully integrated into the Board's activities, policies and procedures such as annual maintenance programmes, capital works projects, training and communications.

2.5. Vision

The IDB's vision is:

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

2.6. Aims

The aims of this BAP are:

- To ensure that opportunities for conservation and enhancement of biodiversity are fully considered throughout South Holland IDB's operations;
- To enable more effective monitoring and reporting of progress and outcomes;
- To ensure that Priority species and habitats receive effective action within defined targets within the South Holland drainage district;
- To identify targets and appropriate actions for other habitats and species of local importance within the drainage district. This includes invasive non- native species;
- To contribute to local environmental partnerships such as the Greater Lincolnshire Nature

Partnership (GLNP) to ensure that programmes and priorities for biodiversity conservation are aligned and maintained in the long term;

- To contribute to the Local Nature Recovery Strategy and Local Nature Recovery Partnerships;
- To raise awareness within the IDB and locally of the need for biodiversity conservation, and to communicate externally regarding IDB actions to support biodiversity.

3. The IDB BAP Process

3.1. The Biodiversity Audit

The South Holland IDB has conducted a biodiversity audit of its drainage district (Figure 1) and identified those habitats and species that would benefit from particular management or actions by the IDB.

This BAP focuses on nationally important priority habitats and species, that is to say those that have been deemed of 'principal importance' in England under the NERC Act 2006. However, those that are not priority species or habitats, but may be locally significant for a variety of reasons have also been considered. Invasive non-native species have also been included.

The information gathered, which is presented in later sections, has been used to develop this IDB's Biodiversity Action Plan.

3.2. Objectives, Targets and Actions

For each relevant habitat and species, conservation objectives have been identified. The action plan then details individual actions required to achieve the objectives, and associated monitoring and reporting of progress and impact.

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).

Procedural targets and actions have also been considered allowing the Board 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.

3.3. 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.

4. The Biodiversity Audit

4.1. The South Holland Internal Drainage District

The drainage district location runs along the landward toe of the sea defence of the Wash and the district is bounded to the east and west by the Rivers Nene and River Welland, respectively. South Holland IDB infrastructure takes surface water from the market towns of Long Sutton and Holbeach and the many and various outlying villages and homesteads, draining a catchment of an estimated 60,000 individuals. Much of the arable land to the north of the catchment has been reclaimed from the sea and the drainage district as a whole includes some of the most fertile arable land in the country.

The following outlines the key details of the District:

- Total area of the drainage district: **38,468 ha**
- Catchment area draining to and including the District: **38,468 ha**
- Area of agricultural land: **35,336 ha**
- Area of other (non-agricultural) land: **3,132 ha**

Assets for which the Board has operational responsibility:

- Water level control structures: **9**
- Watercourses (maintained): **700km**
- High priority water courses by the Board: **416km**
- Raised embankments: 0 **km**
- Reservoirs: **0** ha
- Sustainable drainage systems (SuDS): **0** number
- Pumping Stations: **17**
- Tidal Sluices: 6

4.2. Map of Audit Area (Drainage District)

The area covered by the drainage district of the IDB is shown below in Figure 1.

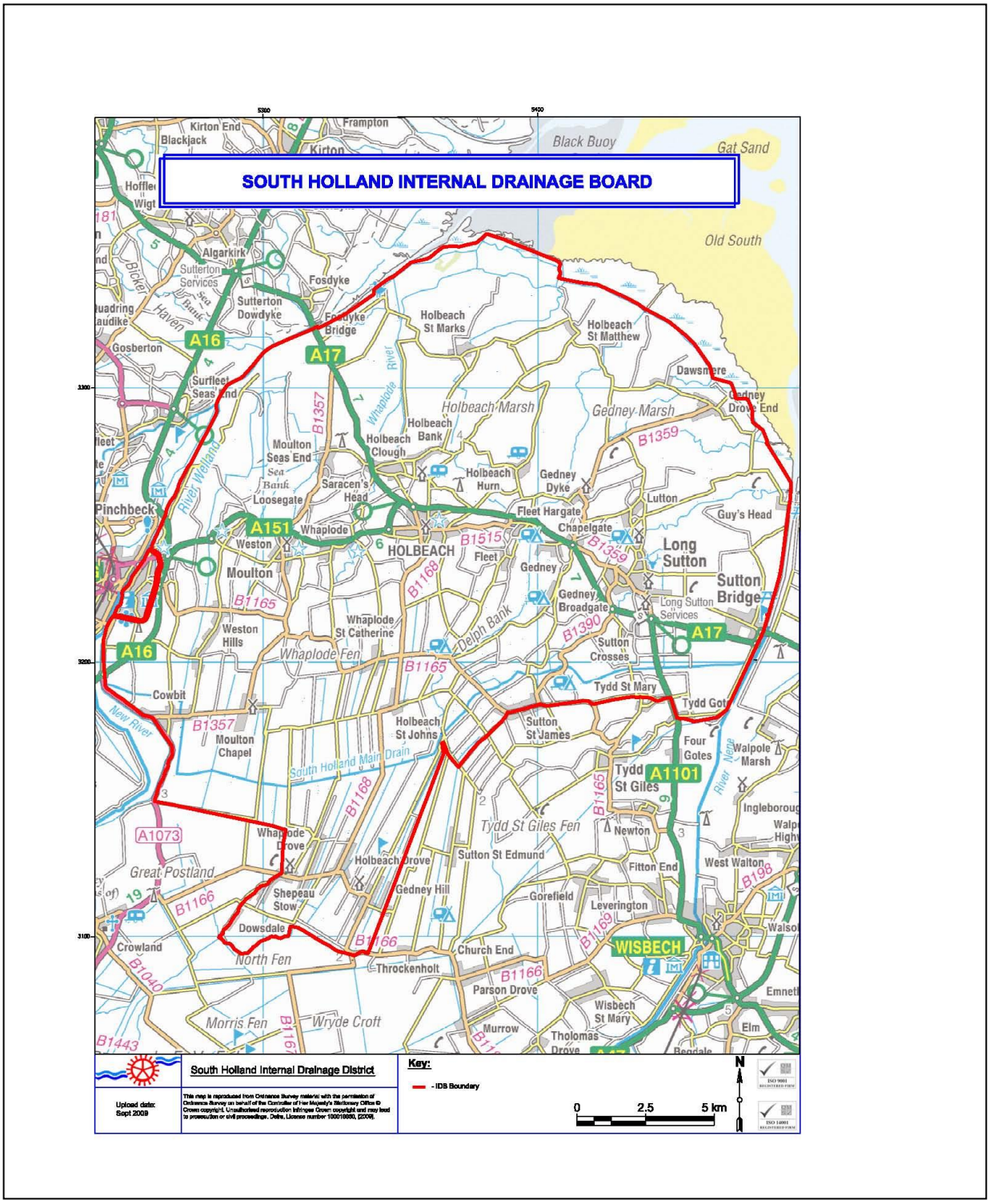


Figure 1. South Holland Internal Drainage District.

4.3. Geology

The Wash and the Fenland area, occupy a shallow clay vale, which through coming to lie close to sea level over the last 5,000 years, has become progressively filled with alluvium to a depth of around 20- 30 meters: marine alluvium to the north and east and over-riding freshwater alluvium and locally peat to the south and west. The alluvial plain was built up by several rivers with varying courses, but these deposits were later overwhelmed by the greater quantities of sediments brought from the sea, which now exhibits a significant tidal range. In the last two millennia the highest ground became increasingly settled. Drainage and reclamation works have extended out from the settlements, creating areas with a greatly reduced risk of flooding. The inland fenland is now almost completely reclaimed, and a series of artificial banks has established a boundary between land and sea. Where they can be drained, these alluvial deposits have been cultivated to produce fertile silt soils.

4.4. Landscape Character

Natural England has divided the whole of England into several National Character Areas (NCA) based on characteristic landforms, wildlife and land use. For each NCA, there is a prepared profile that characterises the wildlife and natural features, identifies the influences that act upon those features and sets objectives for nature conservation. South Holland IDB falls within an area defined as The Fens.

The key characteristics of the Fens are:

- Large-scale, flat, open landscape with extensive vistas to level horizons and huge skies.
- A hierarchy of rivers, drains and ditches provide a strong influence throughout the area. Embanked rivers and roddons create local enclosure and elevation. Banks provide good grazing and grassland habitats.
- Modestly elevated 'islands' within fens provide isolated higher ground for most settlement. A higher proportion of grassland, tree cover and hedgerows are associated with these areas.
- Settled Fens or 'Townlands', exhibit an ancient medieval and irregular field pattern. Typically smaller-scale with scattered farmsteads and dispersed ribbon settlements along the main arterial routes.
- Peaty Fens drained in 17th century comprise large rectilinear fields of black soil. A geometric road and drainage pattern with major high-level drains, washes and associated pumping stations. Roads and rail links are often on elevated banks.
- Area south of Lincolnshire Wolds is most recently drained, with Wolds providing marked 'Upland' horizon to the north.
- Woodland cover sparse. Occasional avenues to roads, elsewhere isolated field trees have marked significance. Shelter belts including poplar, willow and leylandii hedges found around farmsteads. Numerous orchards in Wisbech area.

- Fragments of relic wet fen areas at Wicken, Woodwalton and Holme.
- Built forms exhibit strong influence ranging from historic cathedrals and churches, like Ely and Boston to large agricultural and industrial structures. Domestic architecture displays a combination of elegant Georgian brick houses and bland 20th century bungalows.
- Marshes directly adjacent to the Wash exhibit an exceptionally open aspect, broken only by a series of sea walls. Associated river outfall structures, tidal saltmarshes and mudflats.
- Rich and varied intensive agricultural land use including wide range of arable crops, root crops, bulbs, vegetables and livestock. Field labourers prevalent at harvesting. Horticultural glasshouses and general agricultural clutter are a significant feature.
- Bronze Age, Iron Age and Roman landscapes emerging from below the falling peat. Very rich archaeology especially on fen margins.

4.5. Landscape Designations

There are no landscape designations within the IDB.

4.6. Sites and Monuments

Details of relevant records on Scheduled monuments within the South Holland IDB catchment can be found in appendix 1.

4.7. Tree Preservation Orders

The Board hold some information on Tree Preservation Orders (TPO's). The Board will continue to carry out searches prior to work, as required, to prevent any new Tree Preservation Orders being missed. Relevant information on TPO's within the South Holland IDB catchment can be found on the South Holland District Council website at https://www.sholland.gov.uk/mapping.

4.8. Statutory Nature Conservation Sites

4.8.1 Internationally Designated Sites

The following internationally-designated conservation sites, relevant to the water level management* and/or maintenance activities of the IDB, are found within or adjacent to the drainage district.

Maps of the internationally designated nature conservation sites are shown in Appendix 2.

Table 1. Internationally designated sites within or adjacent to the IDB boundary

Site name	Designation	Associated WLMP?*	Features Relevant to IDB
The Wash	The Wash & Norfolk Coast SAC The Wash RAMSAR, The Wash SPA,	No	• Littoral sediment

*Further information regarding Water Level Management Plans (WLMPs) are given later in the document

4.8.2 Nationally Designated Sites

The following nationally-designated conservation sites, relevant to water level management and/or maintenance activities of the IDB, are found within the drainage district.

Maps of the nationally designated nature conservation sites are shown in Appendix 2.

Table 2. Nationally designated sites within or adjacent to the drainage district

Site name	Designation	Component of an International Site	Associated WLMP?*	Features Relevant to IDB
The Wash	SSSI, NNR	Yes	No	• Littoral sediment

4.8.3 Local Nature Reserves

The following Local Nature Reserves are relevant to the activities of the IDB are found within the drainage district.

Table 3. Local Nature Reserves within the drainage district

Site name	Associated WLMP?*	Features Relevant to IDB
The Shrubberies Nature Reserve (Local Nature Reserve, Lincolnshire Wildlife Trust	N	Mature Lime, Oak and Walnut trees, various bird and butterfly species

Reserve, Site Of Nature Conservation Interest)		

4.8.4 Non-statutory Nature Conservation Sites

A number of sites have been identified locally as being important for wildlife. Whilst these designations do not have statutory status, the sites are important for their contribution to biodiversity and planning policy requires that they are given consideration by the LPA in forming any decision. The following relevant Local Wildlife Sites are to be found within or bordering the drainage district. Data was sourced from the GLNP.

Table 4. Non-Statutory sites within the drainage district

Site name	Designation	Features Relevant to IDB
Arnolds Meadow Nature Reserve TF 25900 21865	Site of Nature Conservation Interest, Lincolnshire Wildlife Trust Reserve	Early Marsh Orchid, Southern Marsh Orchid, Common Spotted Orchid, Green Winged Orchid, Greater Water Parsnip, Kingfisher, Water Vole, Toad, Frog and Grass Snake. Various songbird species Woodland, marsh pond pasture
Moulton Marsh Nature Reserve TF 33309 33037	Site of Nature Conservation Interest, Lincolnshire Wildlife Trust Reserve	Spiral Tassleweed, Strawberry Clover, Sea Milkwort, Pyramidal Orchid, Tits Finches, Whitethroats Reedbuntings, Grebe, Water Rail, Redshank, Little Eagret Reedbed, Saltmarsh, Lagoon
South Holland Main Drain Banks TF 47057 19878	Site of Nature Conservation Interest Area belongs to South Holland Drainage Board	Twayblade, Bee Orchid, Autumn Ladies Tresses, Common Spotted Orchid, Pyramidal Orchid, Early Marsh Orchid, Pipistrelle and Daubentons Bat Calcarous grassland **Managed by IDB**
Boatmere Creek TF 45943 27835	Site of Nature Conservation Interest	Greenshank, various other waders, Water Rail, Reedbunting, High tide roost site
Gedney Dyke Pits TF 41596 26396	Site of Nature Conservation Interest	Lake, pond, reservoir and pit Wading birds, water vole, otter
South Bank Fosdyke TF 30903 31765	Site of Nature Conservation Interest	EA Managed Calcareous grassland) Field, pasture and grassland
Guy Wells Pit TF 33588 23940	Site of Nature Conservation Interest	Lake, pond, reservoir and pit Wading birds, water vole, otter
South Holland Main Drain, West TF 27373 15956	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**
Moulton Park and River TF 30788 24313	Site of Nature Conservation Interest	Parkland and wood pasture Badgers

		River managed by IDB
Coronation Channel TF 26087 22770	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds
River Wellend in Spalding TF 24872 22581	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds
Wheatmere Drain TF 27110 17968	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**
New River TF 26045 15231	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds
Moulton River TF 33869 31582	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**
Slys Connection TF 34787 15427	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**
Little South Holland Drain TF 32080 19565	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**
Lambert Drain TF 32242 11470	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**
Lambert Drain to Highstock Drain Connection TF 33705 12236	Site of Nature Conservation Interest	Drain, river, canal, stream, ditch and spring Otter, water vole, eel, river lamprey Bats, grass snake, barn owl and wading birds **Managed by IDB**

4.9. Habitat Audit Summary

This habitat audit summary lists the UK priority habitats that occur within the drainage district and are identified as likely to be influenced by the Board's activities. 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.

Table 5. Habitat Audit Summary

National Priority Habitat	National Status & Extent	Local Priority Habitat	Local Status and Extent	Habitat of Importance for IDB	Extent, status and Location of Habitat of Importance within drainage district	IDB Potential for Maintaining, Restoring or Expanding Habitat (high/medium/low)
Arable Field Margins	There is an estimated 400,000km of cereal field margin in the UK and if all boundaries included a 6m managed margin, this would increase the conservation value for wildlife on farmland by 200,000 ha. Increasing	Arable Field Margins	Environmental Stewardship agreements are currently in place for over 7000ha of uncropped field margins and in-field plots and headlands.	Arable Field Margins	Arable field margins are within an intensive arable area which provide wildlife corridors which provide connectivity between fragmented or isolated habitats. The IDB has easement strips from different landowner's arable field margins. The arable strip is managed to create conditions that benefit key farmland species or minimise pesticide leakage or sediment runoff.	**Medium** – IDB potential to expand the habitat through using them to plant up pollinator strips. Will expand if we can encourage for landowners to use them for pollinators.
Rivers	The Water Framework Directive is focusing work to improve surface freshwaters (including lakes, streams and rivers).	Rivers, Canals and Drains	Rivers: 1412km main river (Lincolnshire county). Drains: IDB maintained > 5440 km.	Rivers, Canals and Drains	River, Canals and particularly drains are found throughout the entire drainage district. The habitat supports a vast proportion of wildlife; otter and water vole can be regularly found, and Barn owl are prolific hunters along the complex matrix of linear freshwater features.	**High** – The IDB have a high ability to be able to maintain this habitat.

Reedbeds	In UK it is estimated that there is 12,000 ha over 1000 sites with most sites being less than 20ha. Increasing	Reedbed and bittern	Rare - estimated reedbed resource in Lincolnshire is around 100ha. Most areas of reedbed are small and fragmented, however more extensive areas occur along the Humber Bank, from Barton to New Holland.	Reedbeds	Reedbeds are narrow fringes particularly found along the edges of drains and there are roughly 3.61ha of reedbeds within the IDB district. They are roughly 1-2m wide. They can be found along the lower reaches of the South Holland main drain and along the edges of the Little Holland drain and the coronation channel.	**High** – The IDB can maintain what's already within the district.
Ponds	The current number of ponds in the UK has been estimated around 400,000 (excluding garden ponds), with approximately 60% of these in lowland Britain. Declining slowly	Ponds, lakes and reservoirs	Roughly 2100ha of ponds in Lincolnshire. Many of the pits and ponds in Lincolnshire have come about as the result of clay extraction for brick and tile making, and for the manufacture of cement in the 19th and 20th centuries.	Ponds	The GLNP measured around 0.65ha of ponds in the IDB district. Ponds within the district are not owned by the IDB but are owned by landowners. Ponds provide a habitat for Newts, Common toad and Grass snake.	**Medium/Low** – Ponds are not on our IDB owned land, so it will be inhibited by funding. The IDB will need to discuss with the board the idea of restoring ponds in South Holland.
Lowland meadows	It is estimated that there is less than 15,000ha of species-rich neutral grassland left in the UK. Declining	Lowland meadows	724ha of lowland meadows in Lincolnshire. In the early part of the 20th century 34% of farmland in Lincolnshire was permanent pasture, dropping to 17% in 1965 and by 1996 this was estimated at 8%. Of this, only a fraction remains as species-rich habitat meeting the BAP definition for lowland meadows.	Lowland meadows	There are 23.94ha of lowland meadows within the IDB district. In South Holland there are two areas of the habitat owned by the IDB: South Holland main drain and Lutton Leam lowland meadow. Both are cut to maintain them. South Holland main drains meadow is at south bank, from the outfall and up to Sharps Bridge. Lutton Leam meadow is at the old outfall basin. The IDB are managing both as grassland.	**High** – The IDB has the potential to enhance the habitat via specific cutting measures. The IDB continuously maintain the lowland meadows.

4.10. Species Audit Summary

This species audit summary will include priority and other species including INNS that occur within the drainage district and are 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, brief notes are included on the potential for the IDB to improve the status of the species in the drainage district.

Table 6. Species Audit Summary

Common & scientific name	National Status	Local Status	Location of Species of Importance within drainage district	IDB Potential for Maintaining or Increasing Species Population or Range (High/medium/low)
Common Toad *Bufo bufo*	A UK BAP priority species Protected in the UK under the WCA (1981) Widespread and common across Britain	In Lincolnshire, toads are widespread but become scarcer in the Fens	Breeding in ponds during the spring and found feeding in woodland, gardens, hedgerows and grassland during the rest of the year. Found within most IDB drains. They hibernate over winter.	**Medium** - Maintain population by restoring ponds in the IDB area and maintain IDB drains
Common Frog *Rana temporaria*	A common species in the UK Protected in the UK under the WCA (1981) Colonises garden ponds Its numbers are thought to be in decline because its habitat is decreasing and the introduction of disease.	Locally Common frogs have been recorded around Pinchbeck, Spalding and Surfleet.	Breeding in ponds during the spring and found feeding in woodland, gardens, hedgerows and grassland during the rest of the year. Found within most IDB drains. They hibernate over winter.	**Medium** - Increase population by restoring ponds in the IDB area and maintain IDB drains
Great Crested Newt *Triturus cristatus*	A UK BAP priority species The great crested newt is the largest species of newt in the UK and is also the most threatened. The British population is among the largest in Europe.	Relatively widespread in the county (43 occupied 10km squares) Lack of data on the distribution and population size. A loss of ponds due to agricultural intensification and increasing	Breeding in ponds during the spring. Spend the rest of the year feeding on invertebrates in woodland, hedgerows, marshes and grassland.	**Low** - Increase population by restoring ponds in the IDB area

	Protected under annexes II and IV of the Habitats Directive and Schedule 5 of the WCA (1981) & listed under Appendix II of the Bern Convention.	development in the county - this can only result in less suitable wet habitat for newts. The terrestrial habitat required by the species is also suffering from development and changes in agriculture.		
Smooth Newt *Lissotriton vulgaris*	Most widespread newt species in the UK They colonise ponds. Smooth newts are protected under the WCA (1981)	Widespread and common in Lincolnshire; with records of smooth newts from 50 out of 91 10km squares. Status depends on the availability of inter-connected networks of ponds and terrestrial habitats.	Breeding in ponds during the spring. Spend the rest of the year feeding on invertebrates in woodland, hedgerows, marshes and grassland. Also found within most IDB drains.	**Medium** - Increase population by restoring ponds in the IDB area and maintain IDB drains
Kingfisher *Alcedo atthis*	Amber listed species in the 'Birds of Conservation Concern' & Schedule 1 WCA (1981) Formerly declining along linear waterways until the mid-1980s, since recovered. Current estimate 3,800-6,400 pairs Fairly widespread, becoming less common further north but following some declines last century, they are currently increasing	Fairly widespread in Lincolnshire	They are found by still or slow flowing water such as lakes, canals and rivers in lowland areas. Occasionally they may visit garden ponds if of a suitable size.	**Medium** - Monitor & maintain current nest site
Barn Owl *Tyto alba*	Decline in the species nationally up until the mid-1990's. The Barn owl is listed in Annexes II and IV of the EC Habitats Directive, Appendix I of the Berne Convention and is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (1994). Its protection is also covered in Schedule 1 & 9 of the WCA (1981)	Fairly common resident and partial migrant. The barn owl in Lincolnshire is a relatively successful and widespread	Occupied nest boxes found along South Holland IDB area	**High** - Monitor & maintain current nest box sites along drains
Kestrel *Falco tinnunculus*	The Kestrel has undergone an estimated 20% decline in numbers in the last 10-20 years. Protected under the WCA (1981) and	Fairly common resident in Lincolnshire and is a relatively successful and widespread	Occupied nest boxes found along South Holland IDB area	**High** - Monitor & maintain current nest box sites along drains

	listed in Annexes II and IV of the EC Habitats Directive, Appendix I of the Berne Convention and is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (1994)			
Sand martin *Riparia riparia*	Sand Martins and their nests are fully protected by the WCA (1981) They are summer visitors to the UK, arriving mid-March to mid-April, with late arrivals up until June. Found along rivers and other water bodies throughout the UK and gravel pits.	The Sand Martin is relatively common throughout Eastern England, however, the species is included in the list of Globally Threatened/Declining species.	Sand Martin nest site present in South Holland Main Drain HLS area along the bank face – very active	**High** - Monitor & maintain current nest site and potential to install artificial nest site along suitable drain
House martin *Delichon urbicum*	Protected by the WCA (1981) They are summer migrants to the UK. We have lost over half of our house martin population (-57%) since 1969, recent declines earn them a place on the Red List.	House martins are relatively common within Lincolnshire	Found around towns and villages, and most frequently seen in areas of mixed agriculture, near water and in the vicinity of woodland. The bird's mud nest is usually sited below the eaves of buildings.	**High** - potential to install house martin nest sites within the South Holland IDB area
Swallow *Hirundo rustica*	UK conservation status: Green Protected by the WCA (1981) Swallow numbers in the UK have fluctuated over the last 30 years with pronounced regional variation in trends.	Swallows are relatively common within Lincolnshire	Swallows prefer areas of open pasture with access to water and quiet farm buildings. Large reedbeds in late summer and early autumn can be good places to look for pre-migration roosts.	**High** - potential to install swallow nest sites within the South Holland IDB area
Reed Bunting *Emberiza schoeniclus*	A UK BAP priority species Reed buntings are a UK resident and a farmland and wetland bird. UK conservation status: Amber Protected by the WCA (1981)	Some decline in recent years. Resident in Lincolnshire all year although some breeding birds may move south, and some wintering birds may arrive from north-west Europe and Scandinavia. Most breeding birds are found near water with the preferred habitats being reedbeds and marshy birch/willow/alder scrub on the margins of rivers, drains, ponds and gravel pits.	They can be found in reedbeds along the lower reaches of the South Holland main drain and along the edges of the Little Holland drain and the coronation channel.	**Medium to High** – Maintain current reedbeds within the South Holland IDB area

Reed Warbler *Acrocephalus scirpaceus*	Widespread summer visitor to lowland central and southern England and Wales. Rarer in Scotland and Northern Ireland. Habitat: reedbeds UK conservation status: Green Protected by the WCA (1981)	It is a summer visitor to breed in the UK, with the largest concentrations in East Anglia and along the south coast	Found along the South Holland Main Drain Banks – west and east.	**High** – Maintain current reedbeds within the South Holland IDB area
Sedge warbler *Acrocephalus schoenobaenus*	UK conservation status: Green Protected by the WCA (1981) Sedge warblers are found across the UK and are a summer visitor	Sedge warblers are fairly common across Lincolnshire	Typically found near reedbeds, particularly near dawn and dusk when sedge warblers are most active. So may be popular along the South Holland Main Drain Banks along with Reed warblers.	**High** – Maintain current reedbeds within the South Holland IDB area
Skylark *Alauda arvensis*	A UK BAP priority species Skylarks are found everywhere in the UK. Likes open countryside, from lowland farmland to upland moorland. UK conservation status: Red Protected by the WCA (1981)	Resident in Lincolnshire all year, with numbers increased outside the breeding season by passage migrants and winter visitors from north-east Europe. Breeding skylarks have been recorded in almost every part of the county.	Found along easement strips and in grassland. Breeding skylarks prefer mixed farms, or at least those with a diversity of crops, which provide a series of nest-sites and food sources through the seasons.	**Medium to High** – Maintain current grassland and easement strips within the South Holland IDB area
Tree Sparrow *Passer montanus*	A UK BAP priority species The UK tree sparrow population has suffered a severe decline, estimated at 93% between 1970 - 2008. Main populations are now found across the Midlands, southern and eastern England. UK conservation status: Red Protected by the WCA (1981)	Common resident and migrant. Marked decline in past 20 years. Resident all year in Lincolnshire. Possible breeding concentration in the north-east, particularly the northern half of Middle Marsh and north-east margin of the Wolds. There is also a clear link with the major rivers, including the Witham, Steeping and Nene and particularly the Welland-Glen system.	Occupied tree sparrow nest boxes found along the South Holland Main Drain HLS area.	**High** - Monitor & maintain current nest box sites along drains and potentially have more nest box sites
European Eel *Anguilla anguilla*	A UK BAP priority species Huge economic and ecological significance to UK waters. Decline in eel recruitment by 70% in the UK	Eels are present in all Lincolnshire rivers, however numbers entering freshwaters from the sea have declined dramatically. It has been estimated that over 90% of recruitment to national	Eels are probably widespread through the Board's area.	**High** – Replace old pumps with new fish friendly equivalents as part of the refurbishment scheme when

	since the 1980's. The Eels (England and Wales) Regulations 2009 permit the Environment Agency to require an eel pass at locations where the passage of eels is impeded or likely to be impeded	stocks by elvers swimming up rivers has been lost in the last 20 years.		they are needed to be replaced
Spiny Mason Wasp *Odynerus spinipes*			Spiny Mason Wasp colony found along the South Holland Main Drain bank HLS area Was still active when observed in June of this year, but at much reduced numbers compared to previous years	**Medium** - Monitor and maintain the Spiny Mason Wasp colony on the South Holland Main Drain bank
Grass Snake *Natrix helvetica*	A UK BAP priority species Widespread in England and Wales but suffered from the loss of suitable habitat because of changes in farming practices and loss of land due to urbanisation Protected under Schedule 5 of the WCA 1981	Grass snakes are widespread in Lincolnshire	Two Grass Snake nesting piles were constructed in June 2021 at popular grass snake sites: South Holland Main Drain (near the old sluice) and Holbeach River.	**Medium** - Increase species range/population by creating more grass snake nesting piles along suitable drains and monitor previously made nesting piles
European Water Vole *Arvicola amphibius*	A UK BAP priority species Water voles are now S41 species and listed under schedule 5 of WCA 1981 Long term decline	The Lincolnshire population appears to be stable, with a widespread distribution. Two Regional Key Areas in Lincolnshire; one in the Lincolnshire Coastal Grazing Marshes and the other in the Welland and Deeping area.	Water Voles are widespread through the Board's IDB area.	**High** - Appropriate management of watercourses & predator control, plus ongoing monitoring
European Otter *Lutra lutra*	A UK BAP priority species Otters are now protected under Schedule 5 of WCA 1981 and Schedule 2 of the Conservation of Habitats and Species Regulations 2010 Listed on Appendix I of CITES, Appendix II of the Bern Convention	Otters are present in Lincolnshire and are thought to be present on nearly all catchments. Recent surveys suggest the population in the county is increasing.	Annual otter bridge surveys showed that otters are present at 7 bridges within the South Holland IDB district. An artificial otter holt made previously in South Holland is also used by otters.	**High** - Monitor current otter bridge locations via surveys Look for opportunities to create more artificial otter holts on suitable drains.

	and Annexes II and IV of the Habitats Directive 1994. It is listed in the national Red Data book Long term decline but now increasing			
Eurasian Badger *Meles meles*	Very common UK species Protected in the UK under the Protection of Badgers Act (1992) and the WCA (1981)	Very common within Lincolnshire, especially along drains	Some field signs have been recorded throughout the board's area whilst out surveying	**High** – Continue monitoring and recording any Badger setts seen in within the IDB district.
Bats *Myotis spp* *Nyctalus spp* *Pipistrellus spp* *Plecotus spp*	Noctule, Soprano pipistrelle & Brown long-eared are UK BAP priority species All species protected under Schedule 5 of WCA 1981 and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 Pipistrelle is listed in Appendix III of the Bern Convention Annex IV of the EC Habitats Directive and Appendix II of the Berne Convention. Current national trend (2009): Noctule - significant upward trend Soprano pipistrelle – stable Brown long-eared – stable	*Myotis spp*: Generally all common and some local. *Nyctalus spp*: Thought to be declining in some areas. *Pipistrellus spp*: Common and Soprano pipistrelles are common, Nathusius' pipistrelles are rare. A strongly migratory species. *Plecotus spp*: Common	Widespread throughout the board's area, using the watercourses for foraging and commuting. Buildings and old culverts may be used for roosting.	**Medium to High** – Monitor bat boxes and look at opportunities to provide more suitable roosting sites e.g. more bat boxes at each pumping station.
Pollinators	Many species of bee, moth, butterfly, hoverfly, fly and beetle pollinate £690 million worth of crops annually. The European Red List reported that one in ten species of wild bee face extinction, and over the past 50 years, half the bee, butterfly and moth species studied in the 2013 State of Nature Report have declined.	Easement strips, arable field margins and banks within Lincolnshire	Easement strips, arable field margins and banks within South Holland IDB	**High** – Increase species population and range by using pollinator seed mix to be sown on appropriate sites within the IDB district as part of a project being investigated by ADA.

4.11. Invasive Non-native Species Summary

The IDB has identified the following high risk aquatic and riparian invasive non-native species within the drainage district that are identified as likely to be influenced by, or impact upon the Board's activities.

Table 7: High risk aquatic invasive non-native species summary

Common & scientific name	Location within IDB if known	Year first recorded	Local status / Extent within drainage district	IDB potential for controlling species population or range
Floating pennywort *Hydrocotyl ranunculoides*	Not currently recorded	N/A	Not currently recorded	Work in partnership where we can with landowners, biosecurity measures, recording, partnership working and provide advice to landowners. Inform the EA.
Parrots Feather *Myriophyllum aquaticum*	F49 Moulton River (DRN197P4907 & DRN197P4905)	2013	Parrots Feather has spread on the Moulton River drain but the extent is unknown.	Biosecurity measures, recording a provide advice to landowners.
Australian Swamp Stonecrop *Crassula helmsii*	Arnolds Meadow Moulton River	2000	Australian Swamp Stonecrop has been located at multiple locations within Arnolds Meadow and Moulton River. There has also been a recording of it near Shepeau Stow. The extent of crassula within the drainage district is unknown.	Biosecurity measures, recording and provide advice to landowners.
Japanese Knotweed *Fallopia japonica*	M09 Middle Drain DRN203P0901 (Holbeach St Matthews) D12 Town Drain DRN195P1201 (Whaplode Drove)	2010	Japanese Knotweed on Middle drain has spread over 30-40m along the drain and is also on adjacent vegetation. Japanese Knotweed on Town drain is just present at the start of the drain but has spread over roughly 30m. The invasive can also be found on adjacent vegetation. The invasive has also been recorded within the Gedney	Biosecurity measures, recording and provide advice to landowners.

	Sutton Bridge Disused Railway Line		Drove End area and Fleet Hargate area, but the extent is unknown.	
Giant Hogweed *Heracleum mantegazzianum*	F53 Ogdens Drain DRN197P5301 (Spalding, Holbeach)	2021	Giant Hogweed along Ogdens drain was spread over 40m when the site was visited in 2021.	Provide advice to landowners, monitor and biosecurity measures.
Himalayan Balsam *Impatiens glandulifera*	F49 Moulton River DRN197P4908 (Spalding, Moulton)	2013	Himalayan Balsam has quickly spread along the full length of the Moulton River drain. Himalayan Balsam has been recorded within the Coronation Channel area, but the extent is unknown.	Work in partnership where we can with landowners, biosecurity measures, recording, partnership working and provide advice to landowners.
Water fern *Azolla filiculoides*	H38 South Holland main drain DRN199G3805, DRN””04, DRN””03 & DRN””02 H53 Wisbech Road Drain DRN199G5301	1990	Water fern has also been recorded in the Whaplode Drove area, in the Tydd Tributary (Nlmd) and within the North level main drain area. The extent of water fern within the IDB is currently unknown.	Biosecurity measures, recording and provide advice to landowners.
American mink *Neovision vision*	Throughout the IDB area	1997	Mink can be found throughout the South Holland IDB area and throughout Lincolnshire.	Partnership working with WLRE and provide advice to landowners.

4.12. Water Level Management Plans

Water Level Management Plans (WLMPs) provide a means by which the water level requirements for a range of activities in a particular area, including agriculture, flood defense and conservation, can be balanced and integrated. Guidance for the production of WLMPs by the operating authorities for sites of conservation interest was produced by MAFF/ Defra in 1992, 1999 and 2004. This guidance concentrated on SSSIs, especially those of international importance (SPA or SAC sites).

Where IDBs are the operating authority for sites, they may or may not actively manage the water levels.

There are no Water Level Management Plans for the South Holland Internal Drainage District.

5. Habitat and Species Action Plans

5.1. Introduction

Action plans comprise the objectives, targets and actions that the IDB has identified for each habitat and species to be included within the BAP. The following sections contain action plans for each of the habitats and species that have been prioritised by the IDB.

5.2. Habitat Action Plans

5.2.1 Arable Field Margins

5.2.1.1 National and Local Targets

Table 8:

National Targets	Local Targets
• Maintain, improve, and restore by management the biodiversity of some 15,000 ha of cereal field margins on appropriate soil types in the UK by 2010.	2011– 2020 Lincolnshire BAP targets: • 7000ha of arable field margins of a range of types managed for biodiversity in agri-environment schemes by 2015 (not including single-payment cross compliance margins). • Produce a report on scarce arable weeds with past and present distribution data for Lincolnshire by 2015.

5.2.1.2 IDB Objectives

Table 9:

IDB Objectives

1	Maintain and enhance the area of arable field margins for biodiversity, which are under the boards ownership.
2	Encourage landowners to put their IDB easement strips down to grass or a pollinator mix.

5.2.1.3 IDB Actions

Table 10:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
1	**1a**	Develop a management plan for easement strips under the boards ownership	Management plan produced	Ongoing	Environment team	BEESPOKE, Landowners
1	**1b**	Engage a botanical consultant to develop best manage practice for easement strips	Lengths of easement strips	Ongoing	Environment team	Botanical consultant
2	**2a**	Advise rate payers via the annual rate demand letter of the advantages of not cropping their strips	No. of rate payers contacted No. of rate payers responding	Ongoing	Environment team	BEESPOKE, Landowners

5.2.2 Rivers, Canals and Drains

5.2.2.1 National and Local Targets

Table 11:

National Targets	Local Targets
N/A – no national targets set	2011 – 2020 Lincolnshire BAP targets: • 31% of Lincolnshire's waterways achieving good or high ecological status/potential by 2021 (based on WFD objectives for Lincolnshire catchments). • Restore 150km degraded riparian habitat by 2020. • No net reduction in area of IDB managed drains (e.g. due to culverting) between 2011 and 2015.

5.2.2.2 IDB Objectives

Table 12:

IDB Objectives	
3	Enhance and maintain habitat and species diversity on watercourses maintained by the Board.
4	Enhance and maintain the flora and fauna of the watercourses maintained by the Board.
5	Ensure compliance to Boards Standard Maintenance Operations (SMO) to maintain rivers and drains.

5.2.2.3 IDB Actions

Table 13:

Action Plan

Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
3	**3a**	Work with the planning department to review the boards culverting policy	Reviews undertaken	2024	Environment team	Planning department
3	**3b**	Undertake annual pre-mudding surveys and report on the lengths of watercourses covered	Length of ecological surveys undertaken	Ongoing	Environment team	
3	**3c**	Identify opportunities to record amphibian species present in the watercourses managed by the Board	Amphibian species recorded	Ongoing	Environment team	
4	**4a**	Work in partnership with the EA to report pollution incidents within the IDD	Partnership maintained	Ongoing	Environment team	EA
4	**4b**	The SMO will be reviewed on a 5-year basis	SMO produced	2024	Environment team	
5	**5a**	Ensure compliance with the IDB SMO by auditing on identified number of maintenance works jobs annually, to ensure they are being carried out to an agreed standard across the whole board. (4 per year)	No. of audits undertaken	Annually	Environment team, Ops team	

5.2.3 Reedbeds

5.2.3.1 National and Local Targets

Table 14:

National Targets	Local Targets
• Identify and rehabilitate by the year 2000 the priority areas of existing reedbed (targeting those of 2 ha or more) and maintain this thereafter by active management. • Create 1200 ha of new reedbed on land of low nature conservation interest by 2010.This should be in blocks of at least 20 ha, in areas near to existing habitat and linked with existing habitat wherever possible.	2011 – 2020 Lincolnshire BAP targets: • Update the 2010 baseline for reedbeds by 2012 with details of condition, including extent of inland areas suitable for restoration or creation of breeding habitat for bittern. • Achieve favourable conservation management by 2015 for 95% of SSSIs and LWSs with reedbeds, and for sites newly created for bittern. • Increase the total area of reedbeds in Lincolnshire compared to 2010 figures – additional 500ha by 2020. • 50% of suitable sites with booming males or wintering birds by 2015. • Increase the breeding bittern population in Lincolnshire to at least 5 sites with breeding females, 3 of them inland, by 2020.

5.2.3.2 IDB Objectives

Table 15:

	IDB Objectives
6	Maintain the current extent of Reedbed within the Board's Area.

5.2.3.3 IDB Actions

Table 16:

Action Plan

Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
6	**6a**	Review current reed management policy	Produce reed management policy	2024	Karl	
6	**6b**	Maintain reedbed fringe habitat on the Boards drains where applicable to do so	No. of SMO audits achieved	Ongoing	Ops team	

5.2.4 Ponds

5.2.4.1 National and Local Targets

Table 17:

National Targets	Local Targets
• Identify where high-quality pond sites are and what features characterise them using PSYM (the Predictive System for Multimeric). • Maintain a net number of high-quality pond sites as identified using the PSYM. • Maintain the quality of flagship pond sites, a sub-set of approximately 1% of high-quality ponds, ensuring they are monitored and that their quality is maintained ensuring these flagship sites do not degrade. • Restore pond sites that are below high-quality status to deliver Species Action Plan targets. • Targets for pond restoration are based on ultimately restoring c1,000 sites/year; however, the target is staggered, starting at 50 sites/year, then rising progressively by 50 sites/year until the target of 1,000sites/year is reached in 2022. • Create new pond sites of high quality potential thus creating a new network of ponds with clean water and high biodiversity potential. Target ponds should be located in a wide range of landscape types to maximise regional biodiversity. Ponds cannot be counted against this target if they are created as mitigation for destruction of existing high quality ponds.	2011 – 2020 Lincolnshire BAP targets: • Update the 2010 baseline for waterbodies in Lincolnshire by 2014 to include details of site condition (as well as extent). • Achieve positive conservation management by 2020 for 95% of SSSIs and LWSs with ponds, lakes or reservoirs. • Create 200 new wildlife ponds and scrapes/flushes where appropriate in Lincolnshire by 2015. • Reduce diffuse input of nutrients and fertilisers to stillwater habitats by 2015 (compared to 2010).

5.2.4.2 IDB Objectives

Table 18:

IDB Objectives	
7	Restore ponds within the boards area that are not owned by the IDB.

5.2.4.3 IDB Actions

Table 19:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
7	**7a**	Understand ghost ponds in South Holland	Report undertaken	2026	Environment team	LWT
7	**7b**	Train key staff to advise on pond restoration	Staff trained	2022-23	Environment team	LWT
7	**7c**	Identify opportunities to record amphibian species present in ponds	iRecord, survey data and Ops responses	Ongoing	Ops team, Environment team	
7	**7d**	Restore 1 pond a year	No. of ponds restored	Annually	Environment team	Landowners

5.2.5 Lowland meadows

5.2.5.1 National and Local Targets

Table 20:

National Targets	Local Targets
• Maintain the current extent of lowland meadows in the UK. (Target represents no loss of BAP habitat). • Maintain at least the current condition of lowland meadows. • Achieve favorable or recovering condition for 7,088ha of lowland meadow by 2010. • Restore 1,736 ha of lowland meadow from semi-improved or neglected grassland, which no longer meets the priority habitat definition by 2010. • Re-establish 345 ha of grassland of wildlife value from arable or improved grassland, by 2010. • 260 ha (75%) of re-established area to be adjacent to existing lowland meadows or other semi-natural habitat by 2010. • 170 ha (50%) of re-established area to contribute to resultant habitat patches of two ha or more of lowland meadow by 2010.	2011 – 2020 Lincolnshire BAP targets: • Update the 2010 baseline by 2015 to include details of condition (as well as extent) of lowland meadow in Lincolnshire. • No net loss of lowland meadow in Lincolnshire between 2010 and 2015 (based on 2010 figures). • Achieve positive conservation management on all lowland meadow SSSIs by 2015. • Achieve positive conservation management for 90% of lowland meadow LWSs by 2020. • Expand the extent of lowland meadow habitat by 65ha by 2015 through restoration and creation at suitable sites.

5.2.5.2 IDB Objectives

Table 21:

	IDB Objectives
8	Enhance and maintain the Lowland meadow sites on South Holland main drain and Lutton Leam lowland meadow.

5.2.5.3 IDB Actions

Table 22:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
8	**8a**	Ensure appropriate habitat management for lowland meadow species on the South Holland main drain and Lutton Leam lowland meadow, through the development of a long-term management plan (ELMS or Countryside Stewardship Scheme)	Management plan produced	Ongoing	Environment team	NE, RPA, Botanical consultant
8	**8b**	Ensure there are specific cutting methods followed on the South Holland main drain and Lutton Leam lowland meadow to obtain a suitable condition.	Area maintained	Ongoing	IDB Ops, Landowner	Botanical consultant

5.3. Species Action Plans

5.3.1 Kingfisher

5.3.1.1 National and Local Targets

Table 23:

National Targets	Local Targets
Unknown	Unknown

5.3.1.2 IDB Objectives

Table 24:

IDB Objectives	
9	Protect and maintain existing kingfisher populations and related habitats, particularly nest sites.

5.3.1.3 IDB Actions

Table 25:

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners

9	**9a**	Ensure that any sightings of kingfishers are recorded during environmental surveys and by the ops team	Database present and populated and up to date	Ongoing	Environment team, Ops team	
9	**9b**	Paint white paint on the wall underneath the current kingfisher holes at Lords and Lawyers drain to mimic kingfisher droppings	Activity undertaken	January - February	Environment team	
9	**9c**	Monitor the current kingfisher holes at Lords and Lawyers drain	Record hours monitored	Annually	Environment team	

5.3.2 Barn Owl and Kestrel

5.3.2.1 National and Local Targets

Table 26:

National Targets	Local Targets
Unknown	2011 – 2020 Lincolnshire BAP targets: • Identify monitoring methods for barn owls and implement by 2012. • Stabilise populations at 2000 levels or above by 2015 and 1990 levels by 2020.

5.3.2.2 IDB Objectives

Table 27:

IDB Objectives	
10	Continue to enhance the range and population of Barn Owls and Kestrels through habitat enhancement and creating nesting opportunities, within the catchment area.

5.3.2.3 IDB Actions

Table 28:

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners

10	**10a**	Continue to monitor nest boxes within the South Holland IDB area	Number of boxes monitored	Ongoing	Environment team	WCP
10	**10b**	Continue to maintain, repair or replace nest boxes in the South Holland IDB area	Number of boxes maintained, repaired or replaced	Ongoing	Environment team	WCP
10	**10c**	Adhere to SMO guidelines regarding Barn Owl and Kestrel	No. of IDB audits	Ongoing	Ops team	

5.3.3 Sand martins, House martins and Swallows

5.3.3.1 National and Local Targets

Table 29:

National Targets	Local Targets
Unknown	• Local targets for Sand martins, House martins and Swallows are unknown.

5.3.3.2 IDB Objectives

Table 30:

IDB Objectives	
11	Continue to enhance, monitor and maintain the current Sand martin nest sites within the South Holland IDB catchment.
12	Enhance the species population and range by installing an artificial nest site or towers along suitable drains or near suitable pumping stations.

5.3.3.3 IDB Actions

Table 31:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
11	**11a**	Continue to manage Sand martin nest site	Nest site usage recordings	Ongoing	Environment team	

11	**11b**	Continue surveying the Sand martin nest site	Nest site usage recordings	Annually	Environment team	
12	**12a**	Explore options for Sand martin artificial nesting sites within the South Holland IDB area	No. of artificial nesting sites	2026	Environment team	
12	**12b**	Create a number of artificial nesting habitats where opportunities arise for House martins and Swallows at pumping stations	No. of artificial nesting sites	2026	Environment team	

5.3.4 Tree Sparrow

5.3.4.1 National and Local Targets

Table 32:

National Targets	Local Targets
• In the short term, halt or reverse the decline in numbers of the tree sparrow by the year 2003 so that the Breeding Bird Survey index is at least at 1996 levels. • In the long term, see a sustained recovery, so that the BBS index is at least 50% higher than 1996 levels, and a measurable increase in range is achieved, by 2008. • Expand the range from that of 1996, as measured by the frequency in random BBS squares, by 2008.	2011 – 2020 Lincolnshire BAP targets: • Identify monitoring methods for Tree Sparrow and implement by 2012. • Stabilise Tree Sparrow populations at 2000 levels or above by 2015 and 1990 levels by 2020.

5.3.4.2 IDB Objectives

Table 33:

IDB Objectives	
13	Continue to monitor and maintain the current nest box sites along drains within the South Holland catchment.
14	Enhance the Tree sparrow population and range by increasing potential nest site availability within the South Holland catchment.

5.3.4.3 IDB Actions

Table 34:

Action Plan

Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
13	**13a**	Monitor the existing nest boxes sites	Monitor activity at known nest sites	Annually	Environment team	GLNP, Landowners
13	**13b**	Report nesting activity and nest box sites to the GLNP	No. of nest boxes and no. of used nest boxes per year	Annually	Environment team	GLNP, Landowners
14	**14a**	Install more nest boxes at suitable sites within the IDB district	No. of new nest boxes installed	Ongoing	Environment team	Landowners

5.3.5 European Eel

5.3.5.1 National and Local Targets

Table 35:

National Targets	Local Targets
Unknown	2011 – 2020 Lincolnshire BAP targets: • Maintain all known populations of these fish species in Lincolnshire: no losses between 2011 and 2015. • Develop projects for adaptation of barriers for migratory fish: remove barriers to migration or install 5 fish passes and 10 eel passes by 2015. • Increase habitat quantity by 15km (and quality) for BAP priority fish species by 2015.

5.3.5.2 IDB Objectives

Table 36:

IDB Objectives	
15	Contribute to the Eel Regulations legislative requirements and the Eel Management Plan.
16	Undertake eDNA water sampling for Eel.

5.3.5.3 IDB Actions

Table 37:

Action Plan

Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
15	**15a**	Work in Partnership with the Environment Agency to assess the current status of eel populations at pumping stations within the Board's area	No. of pumping stations where eel populations reviewed	Ongoing	Environment team	EA
15	**15b**	Work in Partnership with the Environment Agency to identify barriers to migration in the Board's Area and assess options for overcoming these	Barriers to migration identified	Ongoing	Environment team	EA
16	**16a**	Undertake eDNA water sampling at pumping stations for fish, including Eel (As part of pumping station replacement)	No. of water samples collected	Ongoing	Environment team	EA
16	**16b**	Report eDNA results to the GLNP	Results reported	Ongoing	Environment team	GLNP

5.3.6 Grass Snake

5.3.6.1 National and Local Targets

Table 38:

National Targets	Local Targets
Unknown	Unknown

5.3.6.2 IDB Objectives

Table 39:

IDB Objectives	
17	Maintain and where possible increase the range of Grass Snake within the Board's area.

5.3.6.3 IDB Actions

Table 40:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
17	**17a**	Determine the extent and distribution of the existing populations at the Board's pumping stations and on key drains using ESRI maps	Produce map with site locations	Ongoing	Environment team	GLNP

17	**17b**	Using the distribution data, develop Hibernacula and egg laying sites at pumping stations or key locations where appropriate	No. of produced egg laying sites	Ongoing	Environment team	
17	**17c**	In partnership with ARG UK (The Amphibian and Reptile groups of the UK), monitor the status of this species in certain key areas	No. of sightings during the survey	Ongoing	Environment team	ARG UK

5.3.7 Water Vole

5.3.7.1 National and Local Targets

Table 41:

National	Local
UK BAP targets = Maintain the current range & achieve an increase in range (both across 10km2 areas) • To arrest the decline and maintain the current distribution and status of the water vole. • To restore water voles to their pre 1970 range by 2010. • To ensure management of watercourses and wetlands in order to maintain the restore population.	2011 – 2020 Lincolnshire BAP targets: • Maintain or increase the current (2010) distribution of the water vole in Lincolnshire by 2015.

5.3.7.2 IDB Objectives

Table 42:

IDB Objectives	
18	Control mink within the IDB catchment.
19	Better understand population and extent within the Boards area.
20	Ensure the appropriate sensitive management of watercourses which will facilitate the maintenance and enhancement of the current distribution and abundance of the Water Vole in the IDB District.

5.3.7.3 IDB Actions

Table 43:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
18	**18a**	Maintain 10 remoti traps within the IDB district	Catch per unit effort, No. of mink caught per year	Yearly	Environment team	WLRE, GLNP
18	**18b**	Continue to work with the WLRE project on mink eradication	No. of steering group/GLNP mink meetings attended each year	Yearly	Environment team	WLRE, GLNP
19	**19a**	Continue yearly recording by operational staff	Number and location records collected and submitted to local biodiversity records office	Yearly	IDB Ops	
19	**19b**	Report annual sightings to the GLNP	No. and variety of sightings recorded	Ongoing	Environment team	GLNP
20	**20a**	Ensure compliance with the IDB SMO by auditing 4 jobs per year jobs, to ensure they are being carried out sensitively and to an agreed standard across the Board	Number of maintenance works audited	Yearly	Environment team, IDB Ops	

5.3.8 European Otter

5.3.8.1 National and Local Targets

Table 44:

National Targets	Local Targets
• Maintain and expand existing populations. • By 2010 restore breeding otters to all catchments where they have been recorded since 1960.	No specific actions have been identified - present in most Lincolnshire River catchments and is likely to continue to spread provided that watercourse management continues to offer suitable habitat.

5.3.8.2 IDB Objectives

Table 45:

IDB Objectives	
21	Maintain and enhance the range and population of otter within the Board's area.

5.3.8.3 IDB Actions

Table 46:

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners

21	**21a**	Carry out annual surveys at the artificial otter holt and at the 7 bridge survey sites within the Boards' Area	No. of signs found	Annually	Environment team	
21	**21b**	Investigate the potential to undertake further bridge surveys at more sites	No. of sites identified	Ongoing	Environment team	
21	**21c**	Report otter survey findings to the GLNP	No. and variety of findings reported	Ongoing	Environment team	GLNP
21	**21d**	Identify potential sites for artificial otter holt creation within the Board's area and investigate potential sources of funding	No. of sites identified	Ongoing	Environment team	

5.3.9 Bats

5.3.9.1 National and Local Targets

Table 47:

National Targets	Local Targets
No national targets have been set.	2011 – 2020 Lincolnshire BAP targets: • Establish and publish by 2012 a current baseline, using data available to the end of 2010, for the status and distribution of bats in Lincolnshire. • Update this baseline using new survey and monitoring data, by the end of 2015, and five-yearly thereafter. • Continue to implement an annual program of talks, walks, demonstrations, local press releases and attendance at local and regional fairs, shows etc., aimed at widening understanding of bats among the general public and professional land and buildings managers. • By 2012 bat survey reports are submitted with felling license and Tree Preservation Order applications where indicated necessary by best practice guidelines. • By 2012 bat survey reports accompany planning or listed building consent applications for any building or structure with the potential for use by bats

5.3.9.2 IDB Objectives

Table 48:

IDB Objectives	
22	Maintain and enhance the current distribution and abundance of bats within the Board's area.

5.3.9.3 IDB Actions

Table 49:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
22	**22a**	Monitor current bat boxes within the IDB District	No. of bat boxes monitored	Ongoing	Environment team	
22	**22b**	Look for further opportunities to install bat boxes at pumping stations within the IDB district	No. of bat boxes installed	Ongoing	Environment team	
22	**22c**	Liaise with partners for the potential to monitor bats in Lincolnshire with fixed or mobile bat detector	No. of surveys undertaken	Ongoing	Environment team	LWT, BTO

5.3.10 Pollinators

5.3.10.1 National and Local Targets

Table 50:

National Targets	Local Targets
Unknown	Unknown

5.3.10.2 IDB Objectives

Table 51: IDB Objectives

IDB Objectives	
23	Enhance IDB easement strips to encourage an improved diversity of insect pollinators.

5.3.10.3 IDB Actions

Table 52:

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
23	**23a**	Encourage farmers to participate in the BEESPOKE trials	No. of farmers participating	Ongoing	Environment team	BEESPOKE, Landowners
23	**23b**	Work with partners to encourage farmers to put their IDB easement strips down to grass or a pollinator mix	No. of easement strips put down to grass/pollinator mix	Ongoing	Environment team	ADA, BEESPOKE, Landowners

5.3.11 Non-native Invasive Species

5.3.11.1 National and Local Targets

Table 53:

National Targets	Local Targets
Unknown	2011-2015 Targets (no further updated targets): • Develop an invasive non-native species web resource by 2013 to increase awareness and provide information and guidance. • Determine population/ distribution trends for invasive non-native species in Lincolnshire by 2014. • Implement by 2015 nine control projects (at least one per local authority).

5.3.11.2 IDB Objectives

Table 54: IDB Objectives

IDB Objectives	
24	Promote the prevention, control and eradication of non-native invasive species within the Board's area.
25	Raise awareness of the presence and undertake control or eradication of mink in the catchment.

5.3.11.3 IDB Actions

Table 55:

Action Plan

Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
24	**24a**	Maintain the partnership with the GLNP to receive up to date records of Invasives within the local area	New records added to esri maps	Ongoing	Environment team	GLNP
24	**24b**	Train staff regularly on key non-native invasive species identification in order to report invasives	Training sessions	Ongoing	Environment team	Staff, Contractors
24	**24c**	Maintain records for all species of concern using the 'iRecord' app or timesheets	No. of reviews undertaken	Ongoing	Environment team, Ops team	Staff, Contractors
24	**24d**	Prevent the spread of Non-Native Invasive Species by regularly reviewing and ensuring robust biosecurity measures are being maintained across the Board	Biosecurity measure undertaken	Ongoing	Environment team	Staff, Contractors
24	**24e**	Encourage and providing advice to landowners to undertake control or eradication on their land	Control/eradication measure undertaken	Ongoing	Environment team	Landowners
24	**24f**	Ensure availability and regular review of identification guides developed for key non-native species to be used by officers, staff and contractors on site	Number of reviews undertaken	Ongoing	Environment team	Staff, Contactors
25	**25a**	Continue to work in partnership with Mink control/eradication groups	No. of meetings per year	Ongoing	Environment team	WLRE, LMSG
25	**25b**	Maintain 10 IDB traps within the catchment	No. of traps maintained in the catchment	Ongoing	Environment team	
25	**25c**	Report catches to the WLRE	No. of catches per year, Catch per unit effort	Ongoing	Environment team	WLRE

6. Procedural Action Plan

6.1. Introduction

A number of procedural targets and actions have been established to better integrate biodiversity considerations into IDB practices and procedures.

6.2. Objectives and Targets

Table 56:

	IDB Objectives
1	Ensure compliance to standard for biodiversity and protected species surveys
2	Ensure compliance to Board's Standard Maintenance Operations
3	Land Drainage Consent and Bylaws
4	Attend Local Biodiversity Forums and Meetings
5	Raising awareness
6	Recording
7	Communication
8	Monitoring

6.3. IDB Actions

Table 57:

Action Plan						
Objective ref.	**Action number**	**Action**	**Measurable / Indicators**	**Completion date**	**Action Lead**	**Partners**
1	**1a**	All works assessed using agreed standards of information to ensure that appropriate mitigation is delivered for capital/maintenance works and projects to enhance biodiversity.	License returns to NE / Number of audits undertaken	Ongoing	Environment team	NE, EA
1	**1b**	Environmental staff to undertake regular training.	Number of staff trained	Ongoing	Environment team	
2	**2a**	Assess an annual agreed percentage of maintenance works, to be carried out to an agreed standard and delivered across the whole board and integrated within the Quality Management System ISO14001.	Number of audits undertaken / QMS audit	Annually	Environment team	NE, EA
2	**2b**	Regular review on SMO to ensure compliance with updated guidelines and regulations.	5 year review undertaken	Ongoing		
3	**3a**	Through the application of Land Drainage Consents and Bylaws, seek to ensure that natural features of conservation interest and habitat importance are maintained or enhanced.	Review Planning and Bylaw strategy	2024		
4	**4a**	Communication and network opportunities with other organisations to facilitate actions for BAP Species and Habitats.	Meetings attended	Ongoing	Environment team	
4	**4b**	PR and lifting profile of Board.	Newspaper/magazine articles / website blogs	Ongoing		
5	**5a**	Biodiversity training days organised for staff and Board members.	Number of training days organised	Ongoing		
6	**6a**	Develop and populate a recording system for IDB priority species and habitats within the South Holland Board area, in conjunction with the Engineering team watercourse surveys.	iRecord reports	Ongoing	Environment team	GLNP, LERC
7	**7a**	A new environment and biodiversity section on the website.	Environment section produced	Ongoing		
7	**7b**	Share successes with media and promote public awareness.	Social media reaches, Newspaper/magazine	Ongoing	ICT team, Environment	

			articles / website blogs		Team, Ops Team	
8	**8a**	Continue to develop the WMA's record base and continue to work internally and in partnership with other organisations to ensure that we have up to date information on species to help inform future works.	Partnership established with NIBIS and SBIS	Ongoing		GLNP, LERC

7. Implementation

Planning for maintenance, capital and non-regular maintenance work will all take into consideration the Boards Biodiversity Action plan targets.

The Board, has part of the Water Management Alliance, has adopted the Environmental Management System ISO 14001, which also helps to integrate the Biodiversity Action Plan within the systems and work of the organisation.

A simple process will be put into place to record actions and help with the reporting. Any new data on habitats and species will be shared with the Greater Lincolnshire Nature Partnership.

Carbon Net Zero is a legislative commitment set out by the UK government to be achieved by 2050. The South Holland IDB will be instigating a carbon baselining exercise with a view to setting a target for achieving Carbon Net Zero on or before this date for all its operational and day to day activities.

8. Monitoring

Appropriate indicators have been set for each of the IDB's biodiversity actions. Indicators have been chosen which provide the IDB with ways of measuring both the current status of biodiversity and also ways of measuring achievements in delivering biodiversity objectives and targets. The individual action plans set out the indicators and measurables which will be used to assess progress and execution against the plan. The IDB will routinely monitor biodiversity actions using the indicators and measurables and will review actions and indicators at least annually.

The overall plan will be updated at least every 5 years but is a dynamic document so may change more frequently for example in the light of monitoring outcomes.

9. Reporting

The Board is responsible for ensuring that progress against the Plans' targets are routinely reported, at least annually, at Board meetings to allow the Board to discuss and review BAP activity and to modify the BAP and actions to meet the objectives where necessary.

A comprehensive review of the plan will take place after five years. The Board, through the Water Management Alliance, will continue to be a partner in the Greater Lincolnshire Nature Partnership to ensure the targets and objectives are attained.

Annual summary progress reports will detail which actions have been progressed according to the plan, any new opportunities identified, risks and issues affecting the objectives or actions, and the contribution actions have made towards achieving the objectives. Recommendations will be made in the light of the monitoring outcomes.

Making this information available to a wider audience is important in increasing the understanding

of the importance of the Boards' actions regarding biodiversity and inspiring people about biodiversity. As such, the IDB will make the summary reports available externally in the following ways:

- In the public domain via the IDB's website;
- Provided to conservation partners to assist with further local biodiversity conservation planning;
- Provided to local authorities in order to contribute towards their legislative biodiversity reporting requirements including the NERC 2006 Act, Habitats Directive, Environment Bill and the Local Nature Recovery Strategies;
- The Local Biological Records Centre.
- To the Board through a comprehensive review of the plan that will take place after five years.

10. Appendices

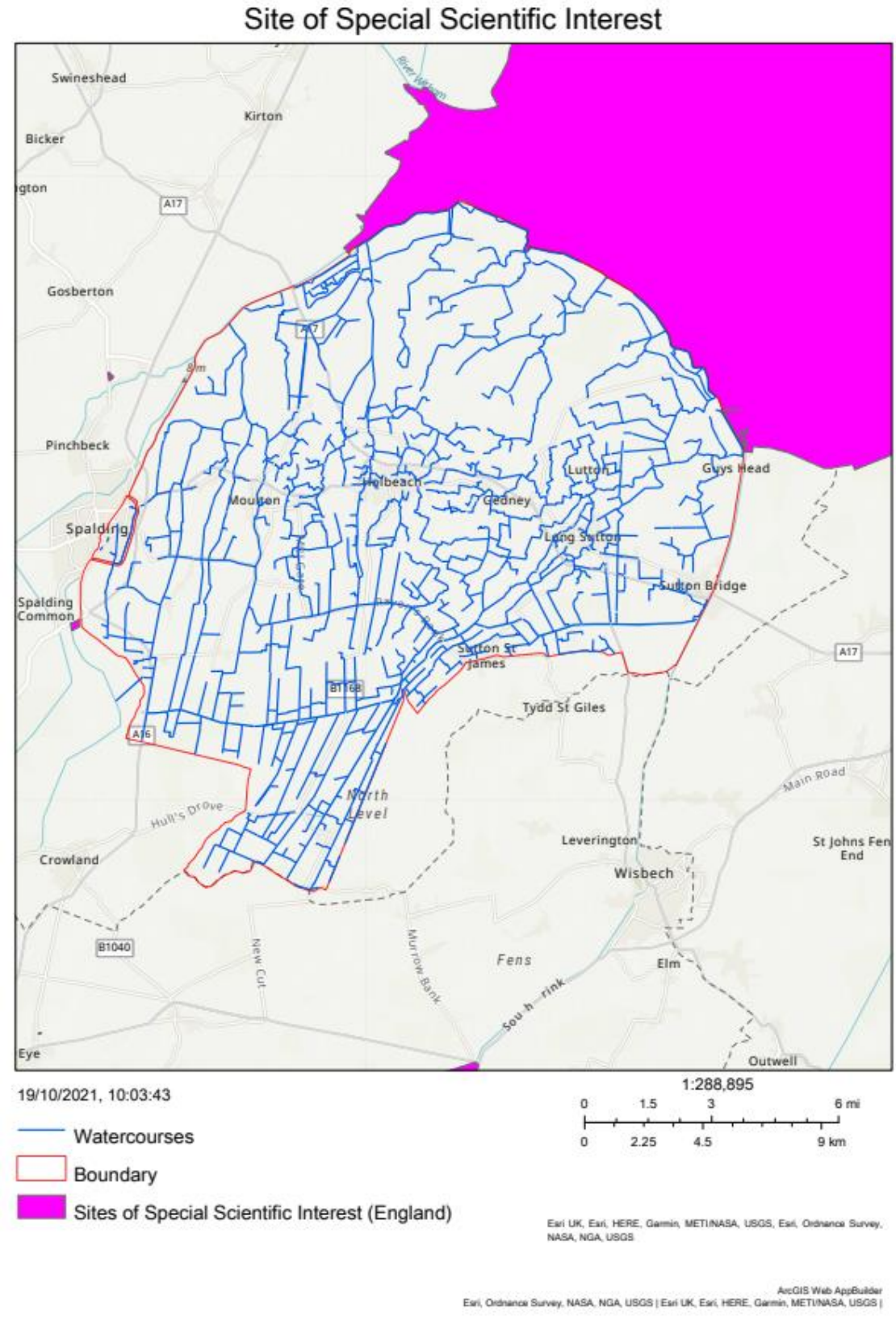
10.1. Appendix 1: Scheduled Monuments within the South Holland IDB Catchment

10.1.1 Table of Scheduled Monuments within the South Holland IDB Catchment

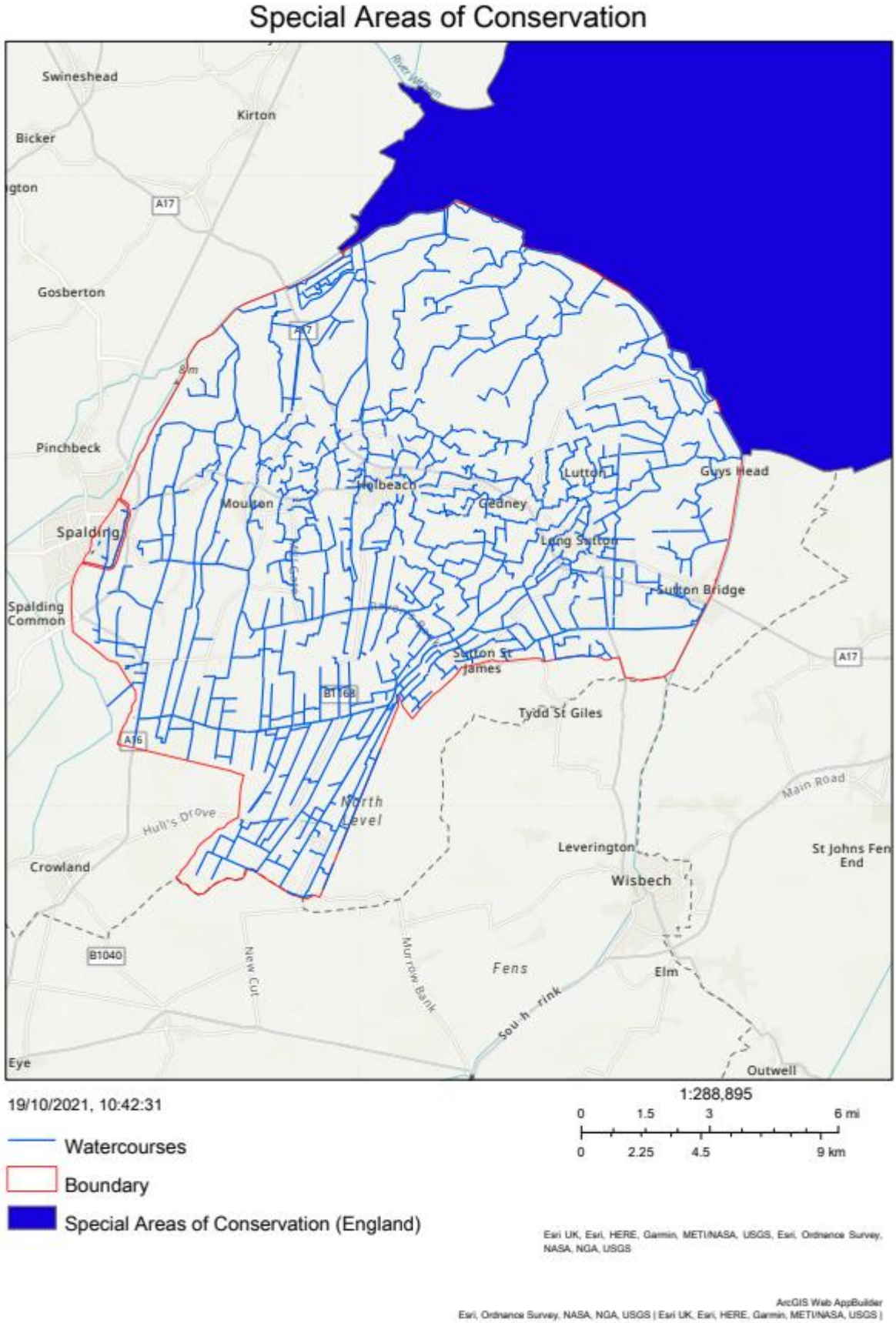
SITE	LOCATION
Fleet settlement site near Lambert Drain (1004950)	TF 32151 10277 FLEET, SOUTH HOLLAND, LINCOLNSHIRE
Elloe Stone	TF 31558 24826 WHAPLODE, SOUTH HOLLAND, LINCOLNSHIRE
Wykeham Chapel: a moated monastic grange and retreat house	TF 27600 26386 WESTON, SOUTH HOLLAND, LINCOLNSHIRE
St Ives Cross	TF 38906 18153 SUTTON ST JAMES, SOUTH HOLLAND, LINCOLNSHIRE
White Cross, 80m north of Poultry Farm	TF 41872 18579 TYDD ST MARY, SOUTH HOLLAND, LINCOLNSHIRE
Settlement between Broadgate Farm and Lower Delgate Farm	TF 27642 16892 WESTON, SOUTH HOLLAND, LINCOLNSHIRE
Settlement SE of Lower Delgate Farm	TF 28015 16663 WESTON, SOUTH HOLLAND, LINCOLNSHIRE
Churchyard cross, St Mary's churchyard	TF 29228 25149 WESTON, SOUTH HOLLAND, LINCOLNSHIRE
King's Hall moated site, 480m east of Broadwater House Farm	TF 31256 21303 MOULTON, SOUTH HOLLAND, LINCOLNSHIRE
Medieval boundary earthworks at Queen's Bank, 100m south east of Providence House	TF 29926 14146 MOULTON, SOUTH HOLLAND, LINCOLNSHIRE
Settlement in Moulton West Fen	TF 29271 14931 MOULTON, SOUTH HOLLAND, LINCOLNSHIRE
Romano-British settlement S of Shell Bridge	TF 34012 15941 HOLBEACH, SOUTH HOLLAND, LINCOLNSHIRE
Boundary cross, Old Fen Dike	TF 38103 17293 SUTTON ST JAMES, SOUTH HOLLAND, LINCOLNSHIRE

10.2. Appendix 2: Nationally, Internationally Designated Nature Conservation Sites

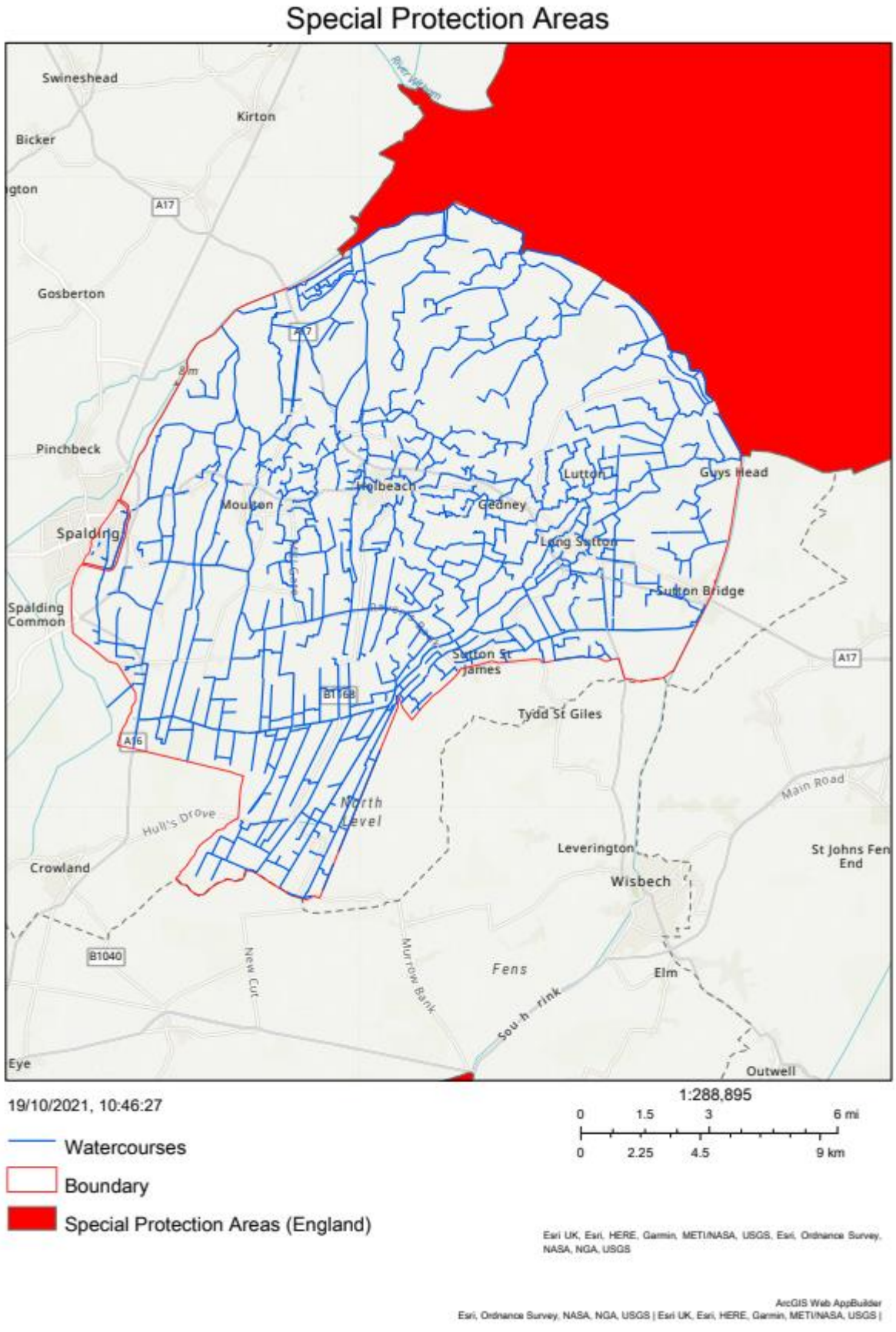
10.2.1 **Map of Sites of Special Scientific Interest within the SHIDB boundary.** (OS Licence: 100047016)



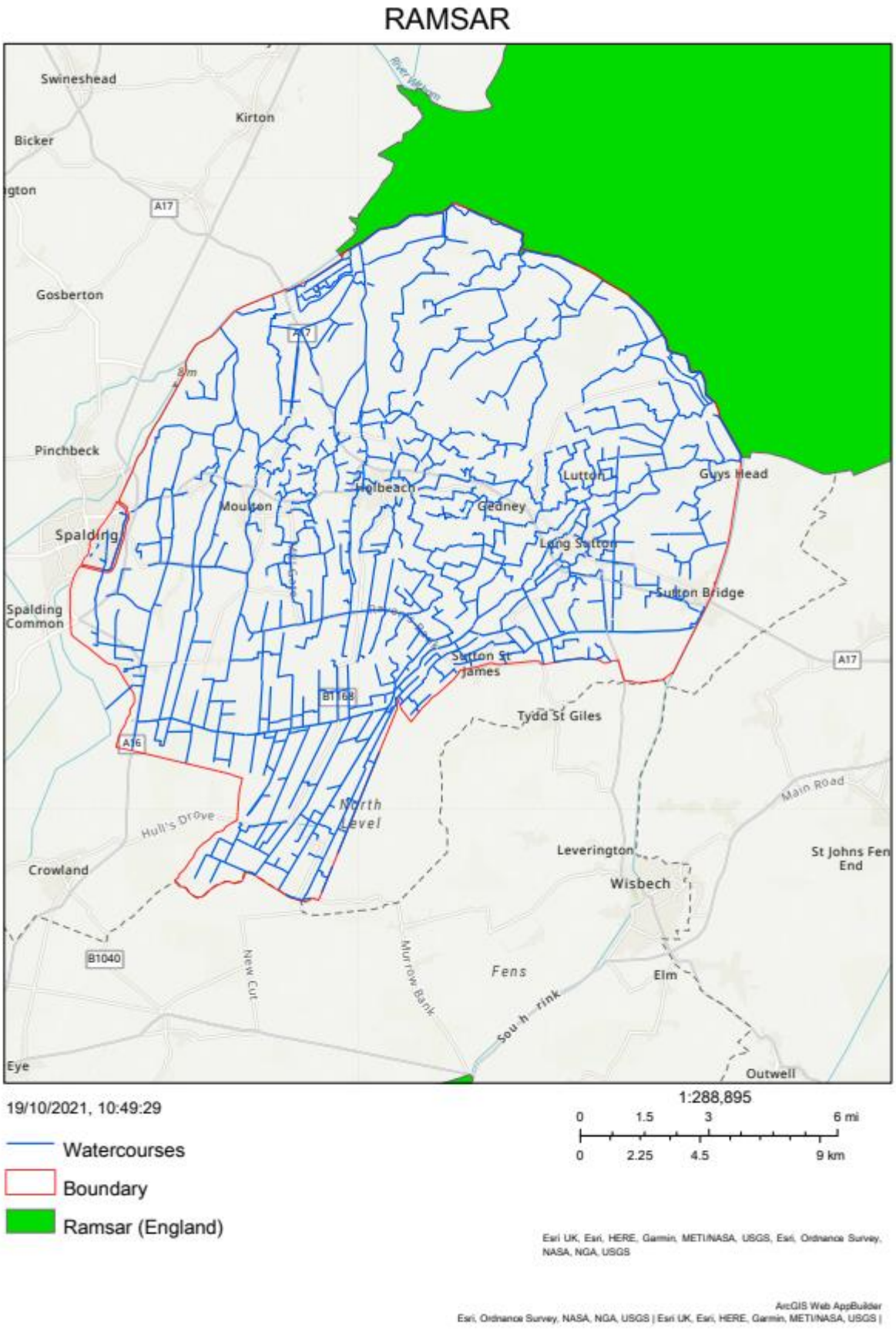
10.2.2 Map of Special Areas of Conservation within the SHIDB boundary. (OS Licence: 100047016)



10.2.3 **Map of Special Protection Areas within the SHIDB boundary.** (OS Licence: 100047016)



10.2.4 Map of RAMSAR sites within the SHIDB boundary. (OS Licence: 100047016)



10.3. Appendix 3: South Holland IDB Biodiversity Action Plan Objectives

10.3.1 Habitats and Species Action Plan Objectives

South Holland IDB Biodiversity Action Plan Objectives	
1	Maintain and enhance the area of arable field margins for biodiversity, which are under the boards ownership.
2	Encourage landowners to put their IDB easement strips down to grass or a pollinator mix.
3	Enhance and maintain habitat and species diversity on watercourses maintained by the Board.
4	Enhance and maintain the flora and fauna of the watercourses maintained by the Board.
5	Ensure compliance to Boards Standard Maintenance Operations (SMO) to maintain rivers and drains.
6	Maintain the current extent of Reedbed within the Board's Area.
7	Restore ponds within the boards area that are not owned by the IDB.
8	Enhance and maintain the Lowland meadow sites on South Holland main drain and Lutton Leam lowland meadow.
9	Protect and maintain existing kingfisher populations and related habitats, particularly nest sites.
10	Continue to enhance the range and population of Barn Owls and Kestrels through habitat enhancement and creating nesting opportunities, within the catchment area.
11	Continue to enhance, monitor and maintain the current Sand martin nest sites within the South Holland IDB catchment.
12	Enhance the species population and range by installing an artificial nest site or towers along suitable drains or near suitable pumping stations.
13	Continue to monitor and maintain the current nest box sites along drains within the South Holland catchment.
14	Enhance the Tree sparrow population and range by increasing potential nest site availability within the South Holland catchment.
15	Contribute to the Eel Regulations legislative requirements and the Eel Management Plan.
16	Undertake eDNA water sampling for Eel.
17	Maintain and where possible increase the range of Grass Snake within the Board's area.
18	Control mink within the IDB catchment.
19	Better understand population and extent within the Boards area.
20	Ensure the appropriate sensitive management of watercourses which will facilitate the maintenance and enhancement of the current distribution and abundance of the Water Vole in the IDB District.
21	Maintain and enhance the range and population of otter within the Board's area.

22	Maintain and enhance the current distribution and abundance of bats within the Board's area.
23	Enhance IDB easement strips to encourage an improved diversity of insect pollinators.
24	Promote the prevention, control and eradication of non-native invasive species within the Board's area.
25	Raise awareness of the presence and undertake control or eradication of mink in the catchment.

10.3.2 Habitats and Species Action Plan Actions

	ACTION	PARTNERS	DATE
Arable Field Margins			
1a.	Develop a management plan for easement strips under the boards ownership	BEESPOKE, Landowners	Ongoing
1b.	Engage a botanical consultant to develop best manage practice for easement strips	Botanical consultant	Ongoing
2a.	Advise rate payers via the annual rate demand letter of the advantages of not cropping their strips	BEESPOKE, Landowners	Ongoing
Rivers, Canals and Drains			
3a.	Work with the planning department to review the boards culverting policy	Planning department	2024
3b.	Undertake annual pre-mudding surveys and report on the lengths of watercourses covered		Ongoing
3c.	Identify opportunities to record amphibian species present in the watercourses managed by the Board		Ongoing
4a.	Work in partnership with the EA to report pollution incidents within the IDD	EA	Ongoing
4b.	The SMO will be reviewed on a 5-year basis		2024
5a.	Ensure compliance with the IDB SMO by auditing on identified number of maintenance works jobs annually, to ensure they are being carried out to an agreed standard across the whole board. (4 per year)		Annually
Reedbeds			
6a.	Review current reed management policy		2024

	ACTION	PARTNERS	DATE
6b.	Maintain reedbed fringe habitat on the Boards drains where applicable to do so		Ongoing
Ponds			
7a.	Understand ghost ponds in South Holland	LWT	2026
7b.	Train key staff to advise on pond restoration	LWT	2022-23
7c.	Identify opportunities to record amphibian species present in ponds		Ongoing
7d.	Restore 1 pond a year	Landowners	Annually
Lowland meadows			
8a.	Ensure appropriate habitat management for lowland meadow species on the South Holland main drain and Lutton Leam lowland meadow, through the development of a long-term management plan (ELMS or Countryside Stewardship Scheme)	NE, RPA, Botanical consultant	Ongoing
8b.	Ensure there are specific cutting methods followed on the South Holland main drain and Lutton Leam lowland meadow to obtain a suitable condition.	Botanical consultant	Ongoing
Kingfisher			
9a.	Ensure that any sightings of kingfishers are recorded during environmental surveys and by the ops team		Ongoing
9b.	Paint white paint on the wall underneath the current kingfisher holes at Lords and Lawyers drain to mimic kingfisher droppings		January - February
9c.	Monitor the current kingfisher holes at Lords and Lawyers drain		Annually
Barn Owl and Kestrel			
10a.	Continue to monitor nest boxes within the South Holland IDB area	WCP	Ongoing
10b.	Continue to maintain, repair or replace nest boxes in the South Holland IDB area	WCP	Ongoing
10c.	Adhere to SMO guidelines regarding Barn Owl and Kestrel		Ongoing
Sand martins, House martins and Swallows			
11a.	Continue to manage Sand martin nest site		Ongoing
11b.	Continue surveying the Sand martin nest site		Annually

	ACTION	PARTNERS	DATE
12a.	Explore options for Sand martin artificial nesting sites within the South Holland IDB area		2026
12b.	Create a number of artificial nesting habitats where opportunities arise for House martins and Swallows at pumping stations		2026
Tree Sparrow			
13a.	Monitor the existing nest boxes sites	GLNP, Landowners	Annually
13b.	Report nesting activity and nest box sites to the GLNP	GLNP, Landowners	Annually
14a.	Install nest boxes at suitable sites within the IDB district	Landowners	Ongoing
European Eel			
15a.	Work in Partnership with the Environment Agency to assess the current status of eel populations at pumping stations within the Board's area	EA	Ongoing
15b.	Work in Partnership with the Environment Agency to identify barriers to migration in the Board's Area and assess options for overcoming these	EA	Ongoing
16a.	Undertake eDNA water sampling at pumping stations for fish, including Eel (As part of pumping station replacement)	EA	Ongoing
16b.	Report eDNA results to the GLNP	GLNP	Ongoing
Grass Snake			
17a.	Determine the extent and distribution of the existing populations at the Boards pumping stations and on key drains using ESRI maps	GLNP	Ongoing
17b.	Using the distribution data, develop Hibernacula and egg laying sites at pumping stations or key locations where appropriate		Ongoing
17c.	In partnership with ARG UK (The Amphibian and Reptile groups of the UK), monitor the status of this species in certain key areas	ARG UK	Ongoing
Water Vole			
18a.	Maintain 10 remoti traps within the IDB district	WLRE, GLNP	Yearly
18b.	Continue to work with the WLRE project on mink eradication	WLRE, GLNP	Yearly
19a.	Continue yearly recording by operational staff		Yearly
19b.	Report annual sightings to the GLNP	GLNP	Ongoing

	ACTION	PARTNERS	DATE
20a.	Ensure compliance with the IDB SMO by auditing 4 jobs per year jobs, to ensure they are being carried out sensitively and to an agreed standard across the Board		Yearly
European Otter			
21a.	Carry out annual surveys at the artificial otter holt and at the 7 bridge survey sites within the Boards' Area		Annually
21b.	Investigate the potential to undertake further bridge surveys at more sites		Ongoing
21c.	Report otter survey findings to the GLNP	GLNP	Ongoing
21d.	Identify potential sites for artificial otter holt creation within the Board's area and investigate potential sources of funding		Ongoing
Bats			
22a.	Monitor current bat boxes within the IDB District		Ongoing
22b.	Look for further opportunities to install bat boxes at pumping stations within the IDB district		Ongoing
22c.	Liaise with partners for the potential to monitor bats in Lincolnshire with fixed or mobile bat detector	LWT, BTO	Ongoing
Pollinators			
23a.	Encourage farmers to participate in the BEESPOKE trials	Ongoing	BEESPOKE, Landowners
23b.	Work with partners to encourage farmers to put their IDB easement strips down to grass or a pollinator mix	Ongoing	ADA, BEESPOKE, Landowners
Non-native Invasive Species			
24a.	Maintain the partnership with the GLNP to receive up to date records of Invasives within the local area	Ongoing	GLNP
24b.	Train staff regularly on key non-native invasive species identification in order to report invasives	Ongoing	Staff, Contractors
24c.	Maintain records for all species of concern using the 'iRecord' app or timesheets	Ongoing	Staff, Contractors
24d.	Prevent the spread of Non-Native Invasive Species, by regularly reviewing and ensuring robust biosecurity measures are being maintained across the Board	Ongoing	Staff, Contractors

	ACTION	PARTNERS	DATE
24e.	Encourage and providing advice to landowners to undertake control or eradication on their land	Ongoing	Landowners
24f.	Ensure availability and regular review of identification guides developed for key non-native species to be used by officers, staff and contractors on site	Ongoing	Staff, Contactors
25a.	Continue to work in partnership with Mink control/eradication groups	Ongoing	WLRE, LMSG
25b.	Maintain 10 IDB traps within the catchment	Ongoing	
25c.	Report catches to the WLRE	Ongoing	WLRE