



**Yorkshire & Humber**  
Drainage Boards

# **Biodiversity Action Plan**

**2023**



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1.0	Draft for Approval	
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## Foreword

This Biodiversity Action Plan (BAP) has been prepared by Yorkshire and Humber Drainage Boards (YHDB) ('the 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 statutory duties to conserve and enhance biodiversity under the rules set out under primary legislation and its own policies, including, but not limited to, the Environment Bill (Act) 2020, the Natural Environment and Rural Communities Act 2006, the 25 Year Environment Plan and Water Framework Directive.

As far as practicable, the Board will undertake actions to support UK species and habitats, and the wider environment in general through its day to day activities, by setting 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.

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.

YHDB is a public sector management consortium that represents 8 Internal Drainage Boards (IDBs) across Yorkshire including:

- *Black Drain Drainage Board*
- *Cowick & Snaith Internal Drainage Board*
- *Danvm Drainage Commissioners*
- *Dempster Internal Drainage Board*
- *Ouse and Humber Drainage Board*
- *Rawcliffe Internal Drainage Board*
- *Reedness & Swinefleet Drainage Board*
- *Vale of Pickering Internal Drainage Board*

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*Cover page - Dikes Marsh Pumping Station, Black Drain Drainage District, Moorends, Thorne*

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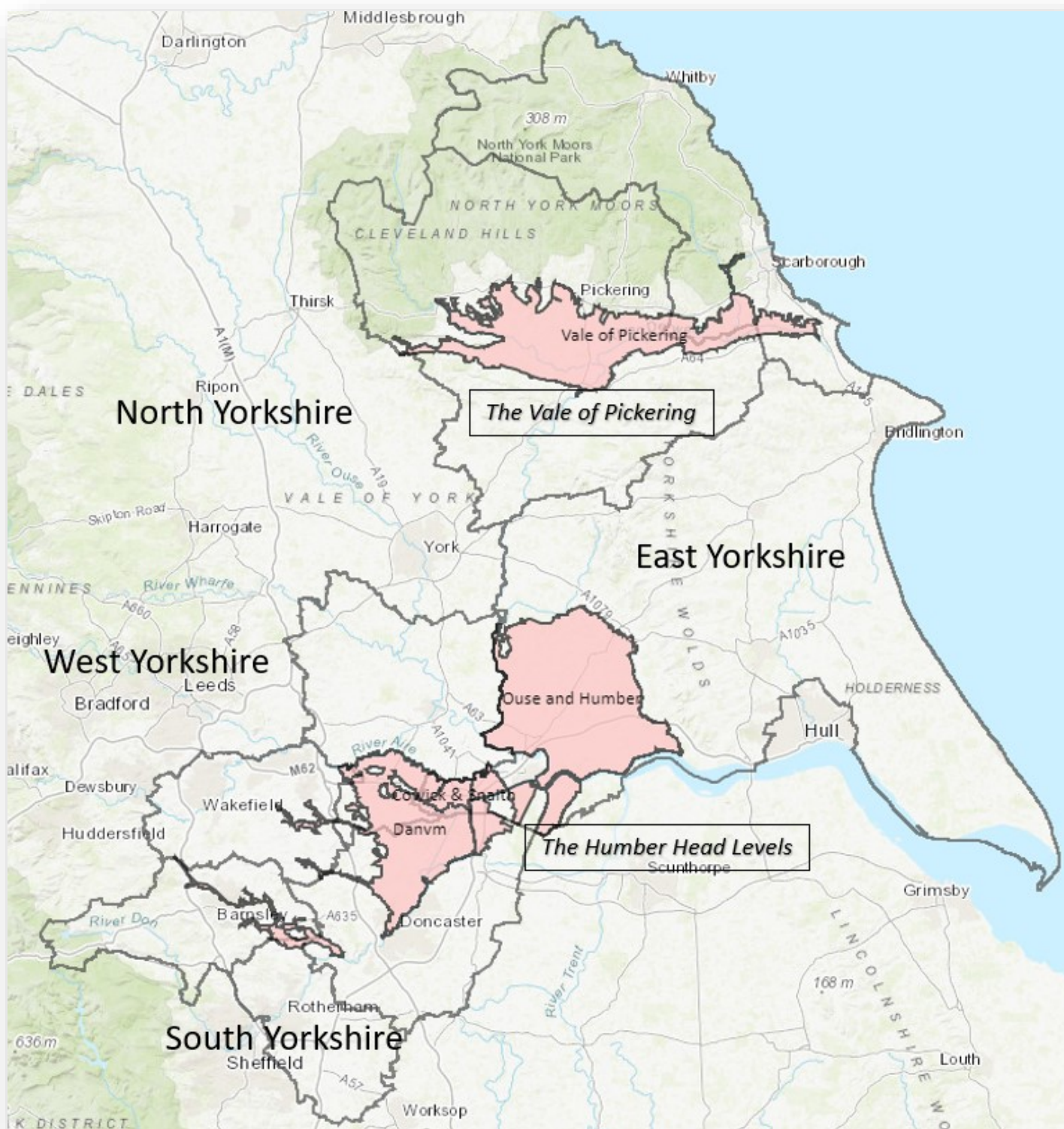


Figure 1. The Yorkshire and Humber Drainage Board Internal Drainage Districts (IDDs)

## 1. Introduction

- 1.1. Biodiversity can be defined simply as “the variety of life” and encompasses the whole spectrum of living organisms, including plants, birds, mammals, and insects. It includes both common and rare species, as well as the genetic diversity within species. Biodiversity also refers to the habitats and ecosystems that support these species.
- 1.2. Biodiversity is part of our natural capital, a vital resource providing:
  - *Life resources including food, medicine, energy and raw materials.*
  - *Flood mitigation, supply of ecosystem services including water, nutrients, climate change mitigation, carbon storage and pollination.*
  - *Improved health and well-being.*
  - *Landscape and cultural distinctiveness.*
  - *Direct economic benefits from biodiversity resources and ‘added value’ through local economic activity and tourism.*
  - *Educational, recreational and amenity resources.*
- 1.3. 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.
- 1.4. Legislative Background

When carrying out its functions, the Board must have regard to the effect on the environment. Some environmental legislation relates 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 Bill (Act) 2020, when enacted, extends the legal responsibility for IDBs to conserve and enhance biodiversity whilst carrying out their water level management responsibilities as well as periodically reporting on its actions. To meet these statutory requirement the Board must consider what action it can take, consistent 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 (not to be taken as exhaustive) relevant to the work of IDBs:

- *The Environment Bill (Act) 2020*
- *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 1991*
- *Wildlife and Countryside Act 1981 (as amended)*
- *The Countryside and Rights of Way Act 2000*
- *The Protection of Badgers Act 1992*
- *Flood and Water Management Act 2010*
- *Salmon and Freshwater Fisheries Act 1975*

#### 1.5. 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 to halt and reverse the declines seen in many threatened species and habitats. The report recommended ecological networks needed to be bigger, more frequent, better in quality, and more joined up 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 Bill (Act) 2020 and the development of Local Nature Recovery Strategies (LNRS) expands this concept by also taking 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 Board 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 is considered 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 Board can take to support climate resilience for biodiversity.

## 1.6. Purpose

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

While the IDB have statutory duties 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 may also 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 Board's 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.

## 1.7. 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 properly considered in the Board's activities, policies, and procedures such as annual maintenance programmes, capital works projects, training, and communications.

## 1.8. Vision

The Board's vision is:

**Sustainability through maintenance, delivered via efficient and effective flood and water-level management in a way that balances the needs of the human, economic and natural environment, aspiring to further the success of thriving natural habitats and wildlife".**

The aims of this BAP are:

- **To ensure that the Board complies with its statutory duties by ensuring conservation and enhancement of biodiversity are properly considered.**
- **Enable effective monitoring and reporting of measures and outcomes.**
- **To promote action for priority species and Habitats within the 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 to ensure that programmes and priorities for biodiversity conservation are aligned and maintained in the long term.**
- **To raise awareness locally of the need for biodiversity conservation.**
- **To communicate with the local and wider community what actions the Board are undertaking to support biodiversity.**



## **2. The IDB BAP Process**

### **2.1. The Biodiversity Audit**

The Board has conducted a biodiversity audit of its drainage district and identified those habitats and species that would benefit from its management or actions.

This BAP focuses on nationally important priority habitats and species, 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 and tables, has been used to develop this Biodiversity Action Plan.

### **2.2. 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.

For this BAP to be as effective as possible the targets and actions have been devised.

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.

### **2.3. Monitoring and Reporting**

Monitoring is the ongoing 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 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 Boards website and in accordance with the duty set out in the Environment (Bill) Act 2020.

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

## **3. The Biodiversity Audit**

### **3.1. The Yorkshire and Humber Drainage Boards Drainage Districts**

Geographically the drainage districts are located around the Humber Head Levels and the Vale of Pickering entirely within Yorkshire. The area covered by the drainage district of the IDB is shown below in Figure 1 (Above).

Key metrics:

- **Total area of the drainage district: 93,152 ha**
- **Catchment area draining to and including the district: 3,783,539,112 ha**
- **Area of agricultural land: 82,755 ha**
- **Area of other (non-agricultural) land: 10,397 ha**
- **Assets for which the Board has operational responsibility:**
- **Water level control structures: 1**
- **Watercourses (maintained): 1,329 km**
- **Reservoirs: 1.5 ha**
- **Sustainable drainage systems (SuDS): 3**
- **Pumping Stations: 83**
- **Culverts: 61 structures, ~ 15km**

### 3.2. Geology

The IDD's cover several of Natural England's National Character Areas which provide information on Geology and Landscape Character.

Under the National Character Area (**NCA**) profile for:

Vale of Pickering IDD largely matches the Vale of Pickering (Profile Number 26)

**Bedrock Geology** - 'The underlying bedrock consists of Kimmeridge Clay deposited in the Jurassic. There are some outcrops of Jurassic limestone to the north and west at the foot of the Tabular Hills and Howardian Hills respectively. The bedrock is covered by glacial and lake deposits and has little influence on the landscape'.

**Superficial Deposits** – 'Lake deposits from the post-glacial Lake Pickering include peat, silts and clays and give the area an almost level topography. Glacial deposits of boulder clay give the far eastern area low, undulating ground. Windblown sands, particularly along the southern slopes of the Vale'.

The remainder of the IDD's are mainly within the Humberhead Levels (Profile Number 39)

**Bedrock Geology** – 'The solid geology is poorly visible within the Humberhead Levels, being largely obscured by superficial glaciolacustrine, glaciofluvial and alluvial deposits. The underlying bedrock geology comprises Permian rocks in the west, and Triassic Sherwood Sandstone and Mercia Mudstone groups, with the Lias group in the extreme east. There are

significant aquifers in the Sherwood Sandstone group and Permian rocks. There are a few higher areas where ridges of the underlying sandstones or mudstones rise above the alluvium, notably the low ridge of the Isle of Axholme'

**Superficial Deposits** – 'North of the river Aire there are glacial Lake Humber deposits of glaciolacustrine clays and glaciofluvial sand and gravel, with some till. South of the River Aire, the superficial deposits are alluvium and river terrace gravels of the Humber Estuary and associated rivers, peat and blown sand, creating a largely flat landscape with local undulations. There are extensive areas of glaciofluvial and river terrace sands and gravels, which give rise to infertile free draining soils, some planted with conifers and others worked commercially, leaving a legacy of restored or partly restored gravel pits. Peat and peat soils occur along former river channels and flood areas, and Thorne and Hatfield Moors comprise the largest extent of lowland raised bog in England'. with the western edge covered by the Southern Magnesian Limestone (profile number 30)

**Bedrock Geology** – 'The solid geology of the NCA is predominantly Permian Magnesian Limestone of the Zechstein sequence, overlying Upper Carboniferous Coal Measures, which can be seen in places where river valleys have cut through the limestone. The limestone is made up of a lower Cadeby formation, which shows reef formations, and an upper Brotherton formation, separated by the Edlington formation which contains evaporite layers. The dolomitic limestone has been extensively worked for roadstone and aggregates, and the harder, deeper bedded layers have provided high quality building stone. A breakdown of the solid geology as a proportion of the total land area is: 53 per cent, dolomite, 13 per cent mudstone, siltstone and sandstone; 20 per cent sandstone and 12 per cent calcareous mudstone'.

**Superficial Deposits** – 'In the north of the NCA the drift is dominated by glacial deposits which almost obscure the underlying limestone topography. These thin to the south, and there are some alluvial deposits in the river valleys. Creswell Crags showcases evidence of sediment sequences accumulated over tens of thousands of years and the Nottinghamshire, Derbyshire and Yorkshire Coalfield (Profile Number 38)

**Bedrock Geology** – 'The geology of the area is Carboniferous Coal Measures of the Westphalian series, which form a complex layered geology, dipping to the east. Changes in the hardness of the different layers have created a series of relatively gentle escarpments, rising sharply on the west and sloping more gently to the east. Rivers form broad valleys, often overlooked by escarpments to the east. Significant seams of coal, ironstone and fireclay have been worked commercially in the past, although little current exploitation occurs. A breakdown of the solid geology as a proportion of the total land area is: 38 per cent sandstones and 59 per cent mudstones, siltstones and sandstone'.

**Superficial Deposits** – 'Superficial geology is dominated by alluvial soils in the broad river valleys. Glacial till deposits are found in the north of the NCA around Leeds and Bradford'.

### 3.3. Landscape Character

Natural England has divided the whole of England into several NCAs 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. The NCAs that cover the Yorkshire and Humber Drainage Board IDD are:

#### **Vale of Pickering National Character Area (Profile No. 26)**

‘The Vale of Pickering is a flat or gently undulating, low-lying basin, at the foot of the surrounding uplands of the North York Moors and Cleveland Hills to the north, the Howardian Hills to the west and the scarp of the Yorkshire Wolds to the south. This bowl-shaped vale, the location of the former Lake Pickering which occupied much of the area during, and subsequent to, the last glaciations, provides a complete contrast to these surrounding areas and has a unique sense of place.

The area is characterised by flat-lying glacial-lacustrine clay and sand, deposited in the former Lake; it is often the surrounding hills which dominate the landscape rather than the Vale itself. The Vale is drained in the west by the River Rye, and its tributaries the Riccal, Dove and Seven. In the north and east it is drained by the rivers Derwent and Hertford. The River Rye joins the Derwent just north of Malton. During the last ice age Scandinavian ice advance blocked the flow of the River Derwent into the North Sea, pushing its discharge to the south-west and creating the ice-dammed Lake Pickering.

This is a landscape of heavily modified drainage: the carrs, marshes, moors and wet meadows have largely been drained so that the landscape is now crossed by a network of canalised water courses, cuts and drainage dykes which regulate the water table. Drainage has enabled the cultivation of fertile soils, with about two-thirds of the area in arable cultivation and one-third under pasture.

There are flat, open pastures, areas of intensive arable production and more varied, undulating, enclosed landscapes which create diversity within the Vale as a whole. Woodland is sparse, the western area and the Vale fringes being the most wooded. Semi-natural habitat is limited, with flood plain grazing marsh in the lower-lying parts of the Vale and calcareous grassland along the coastal cliffs. These cliffs are recognised as being of international importance for birds and for the habitats they support, being designated respectively as a Special Protection Area and a Special Area of Conservation. There are subtle but discernible differences between the east and west of the Vale.

To the east of Malton, the valley floor is very flat and low lying with peaty soils and black peat fields in the carr areas south of Eastfield. Much of the landscape arises from the drainage and enclosure of the land during the 18th and 19th centuries. The resultant medium-to-large-sized rectilinear fields are mainly used for arable cropping and are bounded by low hedges, fences and drainage ditches and dykes. As a planned enclosure landscape in a flat vale, views are long and the landscape is generally open, with long, straight roads with wide verges and remote farmsteads. There are few river crossing points, making many of



these roads' cul-de-sacs, and many lanes terminate at the river, increasing a strong sense of remoteness characteristic of the central Vale.

Many watercourses have been straightened and embanked to provide flood protection for adjoining farmland but are not in themselves prominent features in the landscape. Settlement is nucleated, with villages occurring along the spring line and few isolated farmsteads which mostly date from the enclosure. Buildings are constructed of brick or imported stone, such as sandstone, many with pantile roofs, but many conceal evidence of earlier timber frame and cruck construction.

The former wetlands contain the remnants of many prehistoric settlements and remains of international significance for what they have revealed and potentially can reveal about human settlement over the last 11,000 years. Vale of Pickering Supporting documents National Character Area profile: To the west the underlying clays result in a more undulating topography, more tightly enclosed by the surrounding hills, where settlement is more dispersed, earlier settlements being associated with the higher ground. Arable remains the predominant land use here, but there is more pasture, fields being smaller than in the east and mainly bounded by thicker hedges and occasionally fences. The west is slightly more wooded with oak, ash and holly along field boundaries, alder and willow fringing watercourses, and some small copses and game coverts. The River Rye and its tributaries form a dense network of watercourses within the flood plain and are more natural in character than the rivers in the east.

At the coast, deposits of glacial till overlying clay have created a more hummocky, undulating landform inland from Filey Bay. From Filey Brigg to Osgodby the sequence of Jurassic sedimentary rocks meets the North Sea in high cliffs. There is significant coastal erosion here, caused by a combination of rock type, folding, faulting and drainage. Cayton Bay, Filey and the smaller communities in Filey Bay have among the highest rates of coastal erosion in England. North and south of Filey the influence of coastal tourism and recreation becomes much more apparent. Urban development, holiday villages, golf courses, and caravan and chalet sites combine with the presence of the sea, beaches, cliffs and short coastal stream valleys to create a distinctive coastal character.

Inland from Filey the landscape is still relatively rural, a mixture of arable fields and pasture enclosed by hedges, although tree cover is fairly limited. The Vale of Pickering provides a key transport route along the A64 from West Yorkshire and York to the coast and for travellers along the A1 and A19 from the north along the A170 to the coast. Settlements are strung out along these two routes, which follow the flat, slightly elevated ground along the spring lines on the southern and northern Vale sides respectively and enable passage into neighbouring hills. In the central Vale settlements tend to be post-enclosure while to the west are remnants of earlier medieval villages, moated sites and grange farms.

The most remote and tranquil areas of the Vale are found in the central and western areas away from the busy A64 and A170 corridors and the coastal strip. With the B1257 road skirting the south-western limits along the low ridge of the Howardian Hills, the Vale is more or less encircled by transport routes around its edges. The flat, open landscapes and the limited north-south through access contribute to the remoteness, tranquillity and sense of

place in the Vale of Pickering. This is further enhanced by our increasing understanding of early human occupation in this landscape.

### **Humberhead Levels National Character Area (Profile No. 39)**

‘The Humberhead Levels have a strong unity derived from their geological history. Over time the underlying mudstones and sandstones were eroded and then shaped by glacial lake sediments. This has created a very flat land enriched by alluvial deposits, making it one of the most productive cropping areas in Britain. It is flat and low-lying, with some land at or below the mean high water mark and encompasses the broad floodplains of several major navigable rivers which drain into the Humber Estuary.

The farmland is intensively farmed, generally high input cereals and root crops, in very large, open, geometric fields divided by ditches and dykes, with scattered and fragmented semi-natural habitats. The more recently reclaimed land is without trees or hedgerows, giving long views unbroken to distant horizons, with the sky playing an important part. The long history of drainage and water management is evident in many areas, with rivers contained by flood embankments and a network of ditches, dykes and canals, with associated brick bridges, pumphouses and sluices.

Underlying deposits of sand and gravel, along with local outcrops of sandstones and mudstones, create distinct but subtle variations in the landscape within the overall flat, farmed levels. In the north deposits of sand and gravel support remnants of heathland, which make significant contributions to the landscape and biodiversity of the area, notably Skipwith Common National Nature Reserve. The lowland heaths support species such as heather, bog rosemary and round leaved sundew, with purple moor grass found alongside cross leaved heath in wetter patches. Some deposits of sand and gravel have been extracted, in particular in the south, while some of the less fertile sandy soils have been planted up with conifers, which break up the expanses of large arable fields.

The low-lying central levels, around Goole and the Ouse and Trent levels, have very fertile soils although constant pumping is required to enable cultivation. Traditional management of floodplain grazing marshes alongside lowland hay meadows and fen vegetation creates variations in structure and habitats that support bird populations such as lapwing, curlew and teal, with local populations increasing during winter with birds arriving from northern Europe. The rivers are important corridors for migratory salmon and sea trout. Along with the rivers and wetlands, the network of ditches and dykes form important corridors for species, including water voles, dragonflies and butterflies, and otters have been recorded in the area.

The Lower Derwent Valley running south to join the Humber Estuary is a designated Special Area of Conservation and a Ramsar site, with a traditional riverine landscape with pastures, species-rich meadows and well vegetated just small rises in the landform, as here at Gringley on the Hill, looking north out over Misterton Carrs and across the Humberhead Levels, can provide long and expansive views, with big skies. Humberhead Levels Supporting documents National Character Area profile: field drains, framed by occasional small woodlands and waterside willows. Along with the nearby Pocklington Canal there is a strong sense of

tranquillity and serenity in these traditionally farmed areas. Other wetland habitats occur along the floodplains of the rivers Don, Idle, Torne, Ouse and Aire. The proximity of the Humber estuary, designated as a Special Protection Area, Special Area of Conservation and a Ramsar site for its bird populations, and inter-tidal and saline habitats, makes the area important for large numbers of over-wintering birds and wildfowl such as the ruff, bittern and marsh harriers.

The largest extent of remnant raised bogs in England occurs here, at Thorne and Hatfield Moors. These are of international ecological and historical importance, and the previously extensive commercial peat production has now been halted, and work is being undertaken to restore the damaged peat areas. These moor landscapes are important for their communities of bog mosses and rich invertebrate populations including several species of dragonfly, wolf spiders, water beetles and the mire pill beetle. Along with heather, it is possible to find cranberry, cross leaved heath, cotton grass, bog rosemary and bog myrtle. There are also belts of scrub and fen woodland amongst the lowland heath and bog. Over 200 species of birds feed or breed here, including the hobby and merlin, and the numbers of nesting nightjar is a significant proportion of the western European population. There is a very strong sense of remoteness and tranquillity on these moors, despite the proximity of motorways and towns.

Underlying mudstone forms the low ridge of the Isle of Axholme, which retains extensive evidence of medieval open strip fields, of international significance. Combined with the nearby turbaries (where common rights to cut peat exist) at Haxey and Epworth, these historic landscapes reveal the earlier interdependence of the cropped land and settlements with the marshes, which provided rights of seasonal grazing, fishing, and peat cutting. Other historic field patterns include the warps (land enriched by regular silting) near Goole and cables (long thin strip fields) around Thorne.

North of Doncaster, around Fishlake and Sykehouse, heavier clay soils have given rise to a smaller scale pastoral landscape, with more livestock rearing and relatively small fields enclosed by thick hedges, some with evidence of ridge and furrow. There are still some traditional orchards associated with farmsteads, and there are networks of small lanes, ditches, and several field ponds. Settlement is limited, with villages generally concentrated on slightly higher, drier ground. There are small market towns and more industrial centres like Doncaster, Goole and Selby. Building materials are red Barton brick and red pantiles, with slate being used in the north, but more recent development has used many different materials. Outside the villages there are dispersed large, relatively isolated farmsteads with brick and pantile farmhouses and other traditional farm buildings, along with large, sometimes industrial style, modern buildings reflecting the large scale arable agriculture. The horizons are punctuated by water towers, major power stations such as Eggborough and the iconic grouping of cooling towers at Drax, and more recently several windfarms.

The motorways M18 and M62 cut across the area, often on raised embankments, which increase their visibility but also provide views out across the open landscape. The strong traditions of angling and wildfowling remain popular'.

### **Southern Magnesian Limestone National Character Area (Profile No. 30)**

‘The underlying Permian Magnesian Limestone forms a distinct but low ridge of land running north to south, cut through by rivers following some dramatic gorges. Towards the north the limestone is largely covered by drift deposits, so that the ridge is less obvious, but the whole area is unified by the widespread use of the local limestone as a building material. The well-drained soils and low altitude have given rise to a landscape of rolling landform, fertile farmland and well-wooded estates. The ridge forms an escarpment with a steep scarp face to the west and a gentle slope dipping to the east, elevated enough to give long views out over the more industrialised lowlands to the west and the farmed lowlands to the east.

The soils are free draining and very fertile, giving rise to productive arable cropping. The fields are generally large and geometric, bounded by low, flailed hawthorn hedges, although stone walls do also occur, for example as estate boundaries and in villages. Hedgerow trees are infrequent, which adds to the open character of the farmed landscape, and the hedges often emphasise the rolling landform. This open, rolling farmland contrasts with the scattered woodlands and supports important populations of farmland birds including lapwing, grey partridge, yellow wagtail, tree sparrow and corn bunting. Woodland cover is reasonably high overall, often owing to the trees and woodlands in the grounds of the many large country houses that were established on the ridge plateau. Historical evidence suggests that woodland cover is currently higher than at the time of the Domesday Book records. Many are plantation woodlands, but oak, ash and lime typically form the canopy of deciduous woodlands.

The few remnants of ancient woodland in this area have a particular abundance of the nationally scarce large-leaved lime. A good example is Sprotbrough Gorge where the canopy consists of ash and wych elm and is the largest area of this woodland type in South Yorkshire. Where hazel forms the understory, woodland can be particularly important for dormouse, and this NCA has been identified as a priority area for its conservation. The woodlands support a wide range of birds including lesser spotted woodpecker, marsh tit, spotted flycatcher and hawfinch.

The designed parklands and gardens, supported by estates, are a major influence on the landscape. With their extensive areas of woodlands, plantations and game coverts, in places they give the feel of a well-wooded landscape. The estates include early monastic abbeys such as Fountains Abbey and Newstead Abbey, and later; country houses established with the wealth generated from the industrialisation of the coalfield to the west. Designed parklands include the internationally renowned gardens at Studley Royal, along with Newby Hall, Bramham Park, Lotherton Hall, Brodsworth Park, Hardwick Hall and Annesley Hall. Fountains Abbey is part of the Studley Royal and Fountains Abbey World Heritage Site and provides outstanding value to the area through the designed landscape and associated Cistercian abbey. Hetchell Woods provides a refuge for species of lowland calcareous grassland habitat and a mosaic of grassland, woodland and wetter habitats. Southern Magnesian Limestone Supporting documents National Character Area profile: Other semi-natural habitats are limited and fragmented. Of particular note are the small areas of Magnesian Limestone (calcareous) grassland, which is characteristic of this landscape.



It is a nationally scarce habitat, and has a number of rare specialist species such as Yorkshire broomrape and the brown argus butterfly which is associated with it. These grasslands tend to occur on steeper slopes or in the narrow valley bottoms, and some of the most significant stretches can be found around Maltby, west of Sprotbrough, and near Castleford, Mickelfield and Bramham. Where they are not actively managed, they are replaced by scrub, which forms a particularly varied mix, with hawthorn, blackthorn, guelder rose and dogwood, providing important habitat for birds and insects. The river valleys that cut through the limestone ridge are picturesque, with some dramatic gorges with overhanging woodlands. These include Nidd Gorge at Knaresborough, the Don Gorge near Conisbrough and Creswell Crags. In medieval times defensive castles were built on the high land of gorges such as these, giving them control over movements up and down the river valleys, and these castles – such as Knaresborough, Conisbrough, Mexborough and Tickhill – still remain as striking features in the landscape.

The rivers continue to play an important role in connecting the industrial towns to the west with the Humber and the North Sea to the east. Historically the rivers were important transport corridors. Along some valleys, such as the Aire, there are widespread industrial influences including evidence of mining spoil, power lines, railways, roads, subsidence depressions and pits where sand and gravel have been extracted. Areas in the south around Nottingham are more heavily settled where the limestone is more faulted, giving rise to more industrial activity as a result of the availability of coal and other materials.

Most of the settlements have more in common with the traditional former mining towns and villages lying to the west and grew up to service the large industrial towns. Only a few are rural limestone villages, with red pantile roofs. Limestone buildings can be found in towns such as Wetherby, Tadcaster, Boston Spa and Ripon, in the villages and isolated large farmsteads, and in estate boundary walls, as well as in the defensive castles such as at Conisbrough. These contrast with the later factories and terraces of workers' housing in urban areas which were built in brick with slate roofs. The importance of the limestone as a building material is reflected in the presence of a number of large limestone quarries, for example near Bolsover, while the quality of the water abstracted from the limestone aquifers has contributed to the development of breweries (for example at Masham and Tadcaster) and spas (Boston Spa). In the north, associated with the valleys of the Ure and Swale, deposits of sand and gravel have also been exploited, and wetlands created from the altered landforms. The limestone ridge has played an important role in connecting communities from prehistory, with a series of henges and other features running down the ridge from Thornborough to Ferrybridge.

There is evidence of Roman camps and settlements linked by the main north–south route which followed the drier, elevated land, and which now forms the A1. The M1, M18 and M62 all cross the ridge, linking west with east. These major roads introduce traffic noise and are often highly visible along their length. This accessibility by road and rail to routes running both north–south and east–west has given rise to a large number of warehousing sites over recent years. Access for people is less well established within the NCA with low levels of access routes. Formal access is provided by the established parks and gardens of the large estates such as the gardens at Newby Hall. The extent of parkland has reduced over recent decades, but as Registered Parks and Gardens cover 2.5 per cent of the area, they remain a

key influence on the character of the landscape, as well as being home to many veteran trees, important for the insects and lichens that they support. Many of the parklands are now open to the public, providing important access opportunities.

### **Nottinghamshire, Derbyshire and Yorkshire Coalfield National Character Area (Profile No. 38)**

‘Nottinghamshire, Derbyshire and Yorkshire Coalfield is a large area which embraces major industrial towns and cities as well as villages and wider tracts of countryside. The landscape is underpinned by generally low and variable hills, escarpments and broad valleys. It is dominated in the north and central part, and less so in the south, by extensive urban influences and industry. There has been constant change and development since the Industrial Revolution, when there was rapid expansion of housing, workshops, large factories and transport networks.

The result is a complex intermingling of rural and urban, of modern commerce with occasional industrial dereliction, the whole creating a mosaic of disparate land uses with fragmented semi-natural habitats dispersed throughout. The clays, sandstones and mudstones of the Carboniferous Coal Measures give rise to mainly poor soils which traditionally supported pasture, but now there is more mixed farming. Arable cultivation is more common on the better soils to the north and east, while permanent pasture is more frequent on the higher land to the west, with some stretches of relatively unspoilt pastoral landscape to the west of Barnsley and the Moss Valley between Sheffield and Chesterfield. One particular local speciality is early forced rhubarb, which is produced in the ‘rhubarb triangle’ between Rothwell, Morley and Wakefield.

Overall field size and pattern is very variable, reflecting medieval clearance from woodland, the piecemeal enclosure of medieval strip fields, the importance of miners’ and weavers’ subsistence plots and, in contrast, late 18th- and early 19th-century enclosure of commons. As a result of the expansion of farms (especially since 1950) and peri-urban influences, there are some areas where the field patterns remain intact, with thick hedges including oak and ash hedgerow trees, while elsewhere the field pattern has broken down, with more post and wire and rail fences and few trees. In urban fringes there are often small fields of degraded pasture, horse grazing and other varied uses.

The pressure of fragmentation and degradation in these areas can give an appearance of neglect. Sites that are left undisturbed can provide a refuge for wildlife, with areas of bare ground and rubble found in former quarries, clay pits associated with former brickworks, industrial sites and railway sidings supporting pioneer plant species and often an abundance of invertebrates as well as important exposures of the bedrock geology.

Semi-natural habitats, including woodland, grassland, important remnant lowland heaths, open water and river valley wetland habitats, tend to be fragmented and scattered, their scarcity giving them greater significance. The coal mining history of the area has resulted in areas of subsidence where low lying fields become inundated with water; ings are common and often support important species owing to their unusual water chemistry. The river valleys in rural areas provide corridors of wetland habitat and the creation of new habitat

within them offers important sites for wading birds and overwintering wetland birds such as goosander. Restored spoil heaps and open cast areas provide opportunities for creating new areas of habitat, such as heathland and grasslands, with tree planting often used to help stabilise sloped sites.

This also gives the opportunity to local communities to get involved in and learn about the restoration of their local environment. Tree cover is variable but generally low and present as small woodlands. In some areas broadleaved woodland creates a robust framework of calm, green backdrops to otherwise poor-quality development. Woodland is most notable on poorer soils on steeper slopes and in areas where concentrated planting has taken place, such as the planting around Barnsley and Sheffield by the South Yorkshire Forest Partnership and in West Yorkshire by the White Rose Forest Partnership. Several major rivers cut across the area, including the Aire, Calder, Dearne, Rother, Don and Erewash, but their courses tend to be obscured by the development that has grown up around them. The removal of weirs and introduction of fish passes are helping to increase biodiversity in these rivers and reinstate historical passages for a number of fish species such as salmon. Much of the area is dominated by the extensive towns and industrial activity, with mills and factories tending to be located along river courses. The once-active coal mining industry has now largely closed, with colliery sites and spoil tips graded out and restored to woodland and pasture, so that just a few tips are still in evidence. More recent engineering, manufacturing and light industrial uses, as well as commercial and retail sites, have extended out from the urban areas.

As a result, there is a dense network of roads, including the M1 running north–south and the M62 running east–west, railways and canals. Warehousing development around motorway junctions is a recent feature throughout and has a significant impact on the overall character of the landscape. Many of the larger cities and towns, notably Leeds, Wakefield, Sheffield and Nottingham, have striking urban centres, dominated by the grand 19th century architecture of their town halls, libraries, museums, schools and other municipal buildings, built with the wealth generated from mining, manufacturing and engineering. Industrial benefactors were responsible for many of these notable civic buildings, all constructed from local sandstones, as were some of the factories and mills.

Older traditional villages in the NCA were built of local stone, generally Coal Measures sandstones and Millstone Grit found to the west. The majority of settlements were, however, subject to rapid industrial expansion in the 19<sup>th</sup>. Nottinghamshire. The river valleys of former mining areas today provide opportunities for habitat creation and creating a new landscape such as here at Adwick. century when some completely new mining villages were also built. There are also areas with high densities of dispersed rural settlement owing to the mix of small scale farming and employment in industrial and service activities. Locally produced brick and Welsh slate, often transported by rail, quickly replaced stone as the local building material, and many of the brick-built mining villages and towns from that period still survive today.

Settlement expansion has continued and dominates the landscape over wide areas in the north of the NCA. Historic buildings such as castle ruins, old churches, country houses and follies associated with country estates, and built with local sandstones, remain as important

features and landmarks in the landscape. There are 34 Registered Parks and Gardens in the NCA including Victorian cemeteries but mainly parks associated with country houses built by wealthy industrialists. These also include the ring of parks around Leeds, notably Roundhay, the large estates overlooking the Doe Lea in north Derbyshire, including Hardwick Hall and Bolsover Castle, and the ruins of Codnor Castle overlooking the Erewash Valley.

These large areas of parkland and woodland provide a refuge for many species within more built-up areas and important access to open space for the local population. Country parks provide over 1,000 ha of accessible land within the NCA and are an important recreational asset, offering further opportunities to engage the local population. Reservoirs also provide opportunities for recreation, both active sites, for example Ulley, and inactive sites, such as Thrybergh. Recreational opportunities are provided by a large number of local walking initiatives, parks, reservoirs and canals, and links outside the NCA in the form of long-distance routes such as the Ebor Way. Further opportunities are afforded by closed mineral railway lines which have been developed into multi-user trails, such as the Trans Pennine Trail.

#### 3.4. Landscape Designations

There are no National Parks or Areas of Outstanding Natural Beauty (AONBs) in the drainage district.

#### 3.5. Sites and Monuments

Historic Environmental Records (HERs) are an important starting point for anyone interested in the archaeology, built heritage, and history of an area. They can provide information on a wide variety of buildings and sites, from finds of prehistoric flint tools to medieval castles and Second World War pillboxes.

HERs are a primary source of information for planning, development-control work, and land management.

HERs are information services that provide access to comprehensive and dynamic resources relating to the archaeology and historic built environment of a defined geographic area.

HERs contain details on local archaeological sites and finds, historic buildings and historic landscapes and are regularly updated. This information is usually held in a database with a digital mapping system (Geographic Information System).

The HERs for South Yorkshire is administered by South Yorkshire Archaeological Service and can be contacted on [syorks.archservice@sheffield.gov.uk](mailto:syorks.archservice@sheffield.gov.uk)

The HERs for West Yorkshire is administered by the West Yorkshire Archaeology Advisory Service and can be contacted on [wyher@wyjs.org.uk](mailto:wyher@wyjs.org.uk)

The HERs for North Yorkshire is administered by the North Yorkshire Council Historic Environment Record and can be contacted on [archaeology@northyorks.gov.uk](mailto:archaeology@northyorks.gov.uk)



The HERs for East Yorkshire is administered by the Humber HER and can be contacted on [andrew.dearlove@eastriding.gov.uk](mailto:andrew.dearlove@eastriding.gov.uk)

The range of information available includes:

The Sites and Monuments Record database and maps giving details of known archaeological sites, monuments and finds along with aerial photographs of selected archaeological sites, reports written by archaeologists on fieldwork, archaeological books, maps and journals.

There is usually a standard charge for commercial searches.

### 3.6. Tree Preservation Orders

Under the Town and Country Planning Act 1990 (as amended), The Council, as local planning authority, has specific powers to protect trees and woodlands in the interest of amenity. Tree protection practices are briefly summarised below. For more detailed explanations please refer to the central Government Planning Practice Guidance - Tree Preservation Orders and Trees in Conservation Areas.

A Tree Preservation Order (TPO) gives special protection to the tree or trees covered by the Order and an application for consent must be approved by the Council before any work is carried out. Any person contravening the provisions of a TPO by cutting down or pruning a tree without consent may be guilty of a criminal offence and liable on summary conviction to a heavy fine.

A TPO is used to protect selected trees and woodlands if their removal would have a significant negative impact on the local environment and its enjoyment by the public. It can be used to protect individual trees, trees within an area, groups of trees or whole woodlands. Protected trees can be of any size or species. Orders covering a woodland protect all the trees and saplings within the identified area, including those planted or growing naturally after the Order was made.

More information on TPOs can be found at:

<https://www.doncaster.gov.uk/services/planning/protected-trees-and-woodlands>

<https://www.barnsley.gov.uk/services/parks-and-open-spaces/tree-preservation-orders/>

<https://www.wakefield.gov.uk/planning/planning/tree-preservation/find-or-make-a-treepreservation-order>

<https://www.ryedale.gov.uk/resources/tree-preservation-orders-in-ryedale/>

<https://www.scarborough.gov.uk/home/planning/trees/tree-preservation-orders>

<https://www.eastriding.gov.uk/planning-permission-and-building-control/applications-forplanning-and-building-control/planning-constraints-map/planning-constraints-map-tool/>

<https://selby-dc.maps.arcgis.com/apps/webappviewer/index.html?id=def3546e04184c3a852d3ec02cd1d5d1>

### 3.7. Internationally Designated Sites

Internationally designated conservation sites, relevant to the water level management and/or maintenance activities of the IDB that are found within or adjacent to the drainage district are set out in **Table 1**.

### 3.8. Nationally Designated Sites

Nationally designated conservation sites, relevant to water level management and/or maintenance activities of the IDB found within the drainage district are set out in **Table 2**.

### 3.9. Local Nature Reserves

Local Nature Reserves are relevant to the activities of the IDB, found within the drainage district are set out in **Table 3**.

### 3.10. Non-statutory Nature Conservation Sites

Several 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 Local Planning Authority (LPA) in forming any decision. Relevant local wildlife Sites are to be found in the attached tables.

### 3.11. 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. (A list of relevant Priority habitats can be found at <https://jncc.gov.uk/our-work/uk-bap-priority-habitats/>).

### 3.12. Species Audit Summary

This species audit summary found at Table 6 includes 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. (A list of relevant Priority species can be found at <https://jncc.gov.uk/our-work/uk-bap-priority-species/>).

### 3.13. Invasive Non-native Species

At **Table 7** the IDB has identified 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.

### 3.14. 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 defence and conservation, can be balanced and integrated. Guidance to produce 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 water levels.

Table 8 provides further details of the Water Level Management Plans for which the IDB has some involvement within their drainage district.

## 4. Habitat Action Plans

### 4.1. 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.

N.B. Habitat and Species Action Plans are out of date and no longer supported by UK Government. For the purpose of this BAP they are being used as a guide until such time as the Local Nature Recovery Strategies are approved under The Environment Act (Bill) 2020.

### 5.2. Habitat Action Plans.

### 4.2. Ordinary Watercourses

Ordinary watercourses considered in various tables are an important part of flood risk management. Ordinary watercourses are channels through which water can flow and that do not form part of the classified main rivers network, such as streams, drains, open ditches, cuts, culverts, sluices, and dykes, that also support a varied and important wildlife resource and can act as a corridor for wildlife movement. IDB objectives and actions are set out in **Tables 10 and 11.**

#### 4.3. Ponds

Ponds, for the purpose of UK BAP priority habitat classification, are defined as permanent and seasonal standing water bodies up to 2ha in extent, which meet one or more of the criteria set out in **Table 12**. IDB objectives and actions are set out in **Tables 13 and 14**.

#### 4.4. Eutrophic Standing Waters

Eutrophic standing waters are highly productive because plant nutrients are plentiful, either naturally or as a result of artificial enrichment. These water bodies are characterised by having dense, long-term populations of algae in mid-summer, often making the water green. Their beds are covered by dark anaerobic mud, rich in organic matter, see **Table 15**. IDB objectives and actions are set out in **Tables 16 and 17**.

#### 4.5. Arable Field Margins

Arable field margins are herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. The arable field must be in a crop rotation which includes an arable crop, even if in certain years the field is in temporary grass, set-aside, or fallow. Arable field margins are usually sited on the outer 2–12m margin of the arable field, although when planted as blocks they occasionally extend further into the field centre, see **Table 18**. IDB objectives and actions are set out in **Tables 19 and 20**.

#### 4.6. Hedgerows

A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide (Bickmore, 2002). Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow., see **Table 21**. IDB objectives and actions are set out in **Tables 19 and 20**.

#### 4.7. Wet Woodland

#### 4.8. Wet woodland occurs on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species, but sometimes including ash, oak, pine and beech on the drier riparian areas. It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hill-side flushes, and in peaty hollows, see **Table 24**. IDB objectives and actions are set out in **Tables 24 and 26**.

#### 4.9. Lowland Meadows

A wide-ranging approach is adopted in this plan to lowland grasslands treated as lowland meadows. They are taken to include most forms of unimproved neutral grassland across the enclosed lowland landscapes of the UK. In terms of National Vegetation Classification plant communities, they primarily embrace each type of *Cynosurus cristatus*-*Centaurea nigra* grassland, *Alopecurus pratensis*-*Sanguisorba officinalis* floodplain meadow and *Cynosurus cristatus*-*Caltha palustris* flood-pasture. The plan is not restricted to grasslands cut for hay,

but also takes into account unimproved neutral pastures where livestock grazing is the main land use, see Table 27. IDB objectives and actions are set out in **Tables 27 and 28**. IDB objectives and actions are set out in **Tables 27 and 29**.

#### 4.10. Coastal and Floodplain Grazing Marsh

Grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water. The ditches are especially rich in plants and invertebrates. Almost all areas are grazed, and some are cut for hay or silage. Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities, but not extensive areas of tall fen species like reeds, although they may abut with fen and reed swamp communities, see **Table 30**. IDB objectives and actions are set out in **Tables 31 and 32**.

#### 4.11. Lowland Fens

Fens are peatlands which receive water and nutrients from the soil, rock and ground water as well as from rainfall: they are minerotrophic. Two types of fen can broadly be distinguished: topogenous and soligenous. Topogenous fens are those where water movements in the peat or soil are generally vertical. They include basin fens and floodplain fen. Soligenous fens, where water movements are predominantly lateral, include mires associated with springs, rills and flushes in the uplands, valley mires, springs and flushes in the lowlands, trackways, and ladder fens in blanket bogs and laggs of raised bogs, see **Table 33**. IDB objectives and actions are set out in **Tables 34 and 35**.

#### 4.12. Reedbeds

Reedbeds are wetlands dominated by stands of the common reed *Phragmites australis*, wherein the water table is at or above ground level for most of the year. They tend to incorporate areas of open water and ditches, and small areas of wet grassland and carr woodland may be associated with them, see **Table 36**. IDB objectives and actions are set out in **Tables 37 and 38**.

#### 4.13. Lowland Raised Bogs

Lowland raised bogs are peatland ecosystems which develop primarily, but not exclusively, in lowland areas such as the head of estuaries, along river flood-plains and in topographic depressions. In such locations drainage may be impeded by a high groundwater table, or by low permeability substrata such as estuarine, glacial or lacustrine clays. The resultant waterlogging provides anaerobic conditions which slow down the decomposition of plant material which in turn leads to an accumulation of peat. Continued accrual of peat elevates the bog surface above regional groundwater levels to form a gently- curving dome from which the term 'raised' bog is derived. The thickness of the peat mantle varies considerably but can exceed 12m, see Table 39. IDB objectives and actions are set out in **Tables 40 and 41**.

#### 4.14. Intertidal Mudflats

Mudflats are sedimentary intertidal habitats created by deposition in low energy coastal environments, particularly estuaries and other sheltered areas. Their sediment consists mostly of silts and clays with a high organic content. They commonly appear in the natural sequence of habitats between subtidal channels and vegetated saltmarshes. In large estuaries they may be several kilometres wide and commonly form the largest part of the intertidal area of estuaries, see **Table 42**. IDB objectives and actions are set out in **Tables 43 and 44**.

### 5. Species Action Plans

5.1. The species national targets, IDB objectives and IDB action plans are set out in the following tables.

Common Toad	<b>Tables 45,46,27</b>
Great Crested Newt	<b>Tables 48,29,50</b>
Skylark	<b>Tables 51,52,53</b>
Yellow Wagtail	<b>Tables 54,55,56</b>
Reed Bunting	<b>Tables 57,58,59</b>
Kingfisher	<b>Tables 60,61,62</b>
Nightjar	<b>Tables 63,64,65</b>
Marsh Harrier	<b>Tables 66,67,68</b>
Barn Owl	<b>Tables 69,70,71</b>
Water Vole	<b>Tables 72,73,74</b>
Otter	<b>Tables 74,75,76</b>
River Lamprey	<b>Tables 77,78,79</b>
Sea Lamprey	<b>Tables 80,81,82</b>
European Eel	<b>Tables 83,84,85</b>
Badger	<b>Tables 86,87,89</b>
Grass Snake	<b>Tables 86,87,89</b>
White-clawed Crayfish	<b>Tables 89,91,92</b>
Bats - General	<b>Tables 93,94,95</b>

## **6. Procedural Action Plan**

Several procedural targets and actions have been established to better integrate biodiversity considerations into IDB practices and procedures. Objectives, targets and IDB actions are set out in **Tables 96,97 and 98**

## **7. Implementation**

The actions within the BAP will be executed via the following means:

- **Actions which can be delivered through adaptations or inclusions to general maintenance programmes will be identified and integrated which could include integration into maintenance schedules.**
- **Actions which require independent and additional execution such as biodiversity enhancement work can be planned based on available resource which could include integration into maintenance schedules.**
- **Actions which can be executed through capital works programmes will be integrated into the relevant project plans.**
- **Actions which can be delivered through collaboration with partners will be formally agreed in writing with such partners with responsibilities, timescales and reporting requirements defined.**
- **Actions which can be delivered through developer or consented works will be identified and integrated into project plans.**

## **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 status of biodiversity and 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 monitor biodiversity actions using the indicators and measurables at appropriate reporting intervals.

The actions (including measurables and indicators) set out in this document and accompanying tables are dependant on the resources of the Board, balanced against other duties and responsibilities, and whilst the Board will always meet its legal requirements, no guarantee is given or should be inferred that non-statutory actions will be met.

The Board shall aim to update the BAP at least every 5 years but it is a dynamic document and impacted by national policy change so may be updated more or less frequently. The CEO may make changes to this policy document and appendices based on latest national government policy, legislative changes, cost neutral opportunities and operational and financial viability of the Board.



## **9. Reporting**

The Board should aim to report on progress against the BAP. The Board should also consider the natural environment at each full Board meeting.

Annual summary progress reports may be produced that 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.

- 9.1. 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 information about this policy available, especially to public sector partners who have associated reporting requirements. Information about how to contact the Board to request information is available on its website.