



East Suffolk Water Management Board

Biodiversity Action Plan

2023-2028

Cover Photo: Hollesley drain, taken by ESWMB

1. Statement

This Biodiversity Action Plan (BAP) has been prepared by the East Suffolk Water Management 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 (Bill) 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

Mrs Jane Marson

Chairperson 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:

East Suffolk Water Management Board

Pierpoint House
28, Horsley's Field
King's Lynn
Norfolk
PE30 5DD

Or via email:

info@wlma.org.uk

Further information is available on the Board's website: <https://www.wlma.org.uk/east-suffolk-idb/home/>

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Executive Summary:

Contributing to biodiversity is an important part of a Water Management Board's role as a modern public authority. Never has there been greater focus on protecting and enhancing our biodiversity as there is today. Through the East Suffolk Water Management Board (WMB) water level management activities, the Board is uniquely placed to conserve and improve freshwater and wetland habitats, and to forge partnerships with organisations and landowners, to ensure sustainable water level management in lowland areas is undertaken in line with the Natural Environment and Rural Communities Act (2006) and the Environment Act (2021).

Biodiversity Action Plans (BAPs) provide WMBs with a formal mechanism to demonstrate and record their biodiversity contributions. The WMB BAP approach remains the most suitable tool to help WMBs meet their statutory conservation duties under the legislation, where some new approaches are being undertaken to protect and enhance our natural environment.

The Biodiversity Action Plan 2023-2028 although very similar in many respects to its two predecessors, but it now also represents a document which has been reviewed and updated to contain the most up to date legislation and policy. New objectives and action targets have been set following an audit of species and habitats within the water management board district, (as provided by the local records centre), to conserve and enhance biodiversity, whilst contributing to the Government's 25 Year Environment Plan and meeting the new legislative requirements.

The Biodiversity Action Plan 2023-2028 summarises the targets, objectives and actions for the following habitats and species, respectively:

- *Coastal and Floodplain Grazing Marsh, Reedbed, Rivers, Canals and Drains.*
- *Barn Owl and Kestrel, Breeding Waders, European Eel, Grass Snake, Bats, Water Vole, Native Black Poplar and Non-Native Invasives.*

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, a WMB 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 WMBs 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 WMBs to conserve biodiversity. The Environment Act 2021, extends this duty on WMBs to also enhance biodiversity and report periodically on its actions. Therefore, as a public authority, every WMB 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 WMBs:

- 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 (Duties with respect to the environment)
- 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 Bill (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 WMB 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 WMB can take to support climate resilience for biodiversity.

2.4. Purpose

This BAP has been produced to demonstrate how the WMB 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 WMB 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 WMB 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 WMBs' 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 WMB 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 WMB'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 positively demonstrate that the Boards water course maintenance, water level management and capital works are undertaken in a manner that, whilst reducing flood risk and managing flows, also safeguards biodiversity and makes a positive contribution to the enhancement of the biodiversity and the natural environment;
- To ensure that opportunities for conservation and enhancement of biodiversity are fully considered throughout the WMB's operations;
- To ensure that Priority species and habitats receive effective action within defined targets 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 enable more effective monitoring and report on progress in biodiversity conservation.
- To contribute to local environmental partnerships such as the Local Nature Partnership 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 WMB and locally of the need for biodiversity conservation, and to communicate with the local and wider community what actions the WMB are undertaking to support biodiversity.
- To ensure that the East Suffolk WMB BAP document remains current and up to date as priority species and habitats change within the Water Management District and with regards to climate change. The board can agree changes more frequently when appropriate.

3. The WMB BAP Process

3.1. The Biodiversity Audit

The East Suffolk WMB has conducted a biodiversity audit of its drainage district (Map 1) and identified those habitats and species that would benefit from particular management or actions by the WMB.

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 WMB'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 WMB's website and in accordance with the duty set out in the Environment (Bill) 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 East Suffolk Water Management Board District

The East Suffolk WMB covers an area of 134.14km² and contains 103km of WMB maintained watercourses and is drained by 10 pumping stations. The East Suffolk WMB serves the low-lying land within the catchments of the Rivers Blyth, Minmere/Yox, Thorpeness Hundred, Alde/Ore, Deben and Gipping. It services a widely dispersed population and drains several towns and villages including Stowmarket, Woodbridge, Halesworth, Framlingham, Saxmundham, the outlying areas of Ipswich as well as small outlying villages and smallholdings. The area includes fine arable land and grazing marsh along with several important local, national and internationally designated wildlife sites; most notably the internationally acclaimed Minmere-Warberswick Heaths and Marshes. The area also falls within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty. Much of the prosperity of the area is derived from agriculture. It has a thriving local economy and is a hugely popular tourist destination.

The following outlines the key details of the District:

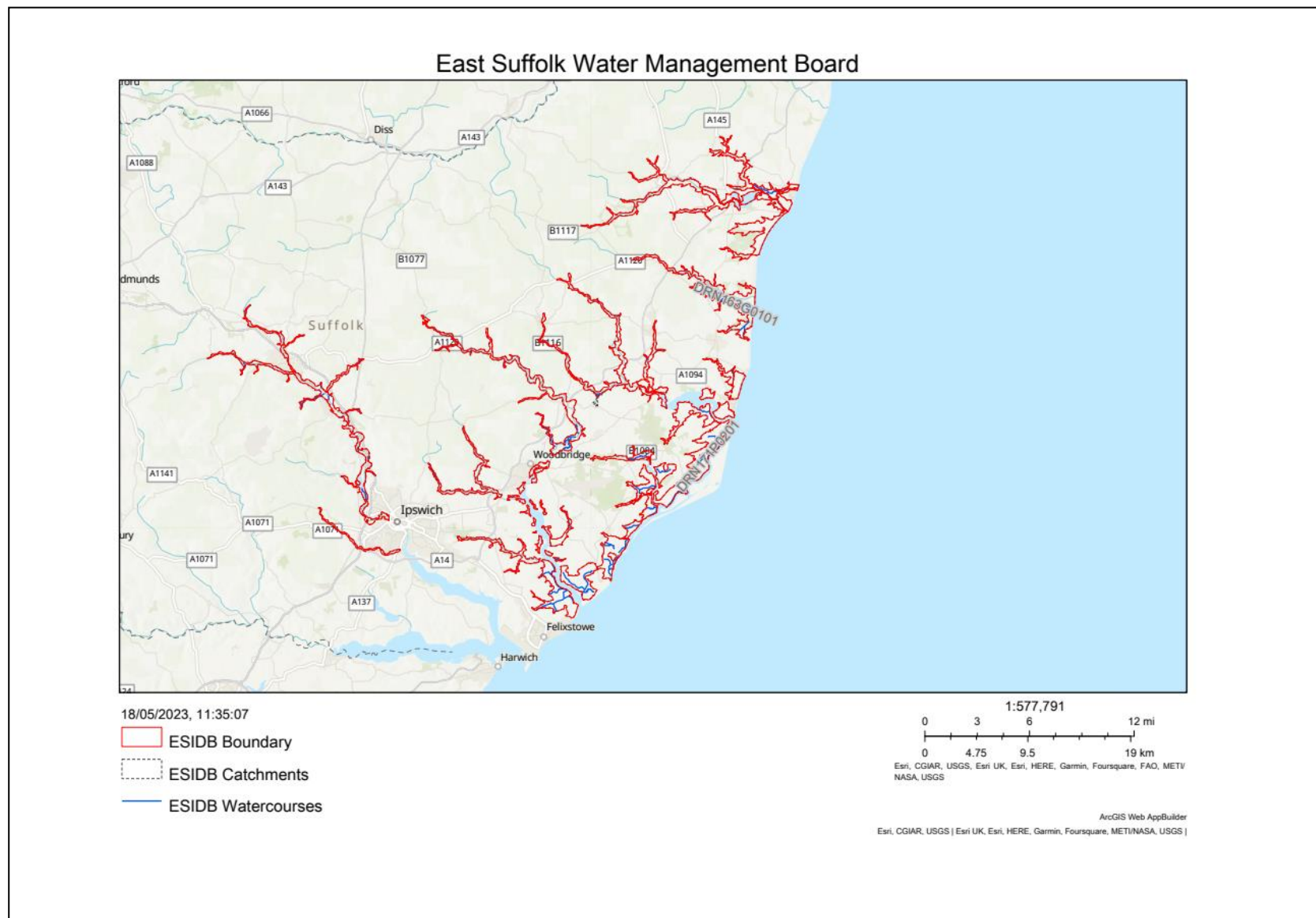
- Total area of the drainage district: **134.14km²**
- Catchment area draining to and including the District: **160,290ha**
- Area of agricultural land: **11,804ha**
- Area of Residential/Industrial and other Property (hectares): **1,610ha**
- Designated Wildlife Sites (hectares): **2,034ha**

Assets for which the Board has operational responsibility:

- Water level control structures: **2**
- Watercourses (maintained): **103 km**
- Raised embankments: **0**
- Reservoirs: **0 ha**
- Sustainable drainage systems (SuDS): **Unknown**
- Pumping Stations: **10**

4.2. Map of Audit Area (Drainage District)

Map 1. East Suffolk Water Management Board District (OS Licence : 100047016).



4.3. Geology

Much of Suffolk is founded on chalk, which is more obvious feature in the west of the county. It was formed as part of a sea bed between 70 and 100 million years ago. The chalk in this area has a pronounced effect on the kinds of wild plants that grow in this area and is the north-eastern extremity of the Southern England Chalk Formation. The chalk is less easily eroded than other geological features, and so forms the only significant hills in the county.

In East Suffolk, the chalk curves downwards and a wedge of younger deposits has formed on top of it. 50 million years ago Suffolk was part of a tropical sea. As the result of this, relicts of a soft sticky London clay can be found laid down in the south of the county, particularly round the Alde, Ore and Deben estuaries. Further north, the London Clay is overlain by a much younger material, known as Crag. Coralline Crag is the oldest, and found exclusively in Suffolk. It is a creamy-golden, sandy limestone full of fossil shells. Much of the coast and cliffs show part of the Norwich crag series. It extends from Orford northwards over much of eastern Suffolk and Norfolk with pale white sands.

Much of the landscape of Suffolk we see today, has been shaped by the last ice-age. The great ice-sheet reached into Suffolk, and diverted the course of an earlier river, which deposited the sands and gravels that make up so much of the soil along the coast. Ice age meltwaters eroded Jurassic clays from the area of fenland and chalk escarpment between Newmarket and Swaffham before fanning out toward the east and south-east to deposit its load of boulder clay on the county. Chalky boulder clay is a glacial deposit which forms Suffolk's gently rolling landscape and high quality farmland. Numerous chalk pebbles and scratched rocks from further a field can be found in gardens and fields on the boulder clay.

Over the past 2000 years, the coastline of Suffolk has retreated markedly. This is particularly noticeable round the village of Dunwich where an estimated 1 ½ miles of coast have been lost to the sea over the last millennium, engulfing the once thriving and prosperous medieval city and port of Dunwich.

4.4. Landscape Character

Natural England has divided the whole of England into a number of National Character Areas (NCA) based on characteristic landforms, wildlife and land use (see Map 2). They are not designations and are not confined by traditional administrative boundaries. For each NCA, Natural England has prepared a profile that characterises the wildlife and natural features, identifies the influences that act upon those features and sets objectives for nature conservation.

The Biodiversity 2020 strategy has the aspiration for the creation and restoration of 200,000ha of priority habitat by 2020 (Outcome 1b). This aspiration has come about by using the NCAs, with the aim of creating a linkage of natural features and land-use characteristics to determine potential habitat creation and restoration areas as defined by these National Character areas.

The East Suffolk WMB falls under two of these National Character Areas:

[Suffolk Coast and Heaths \(Area 82\)](#)

The Suffolk Coast and Heaths National Character Area (NCA) lies on the North Sea coast between Great Yarmouth in the north and the port town of Harwich in the south, forming a long,

narrow band that extends between 10 and 20 km inland. Its inland western boundary is with the South Norfolk and High Suffolk Claylands and South Suffolk and North Essex Claylands NCAs, with projections up many small river valleys.

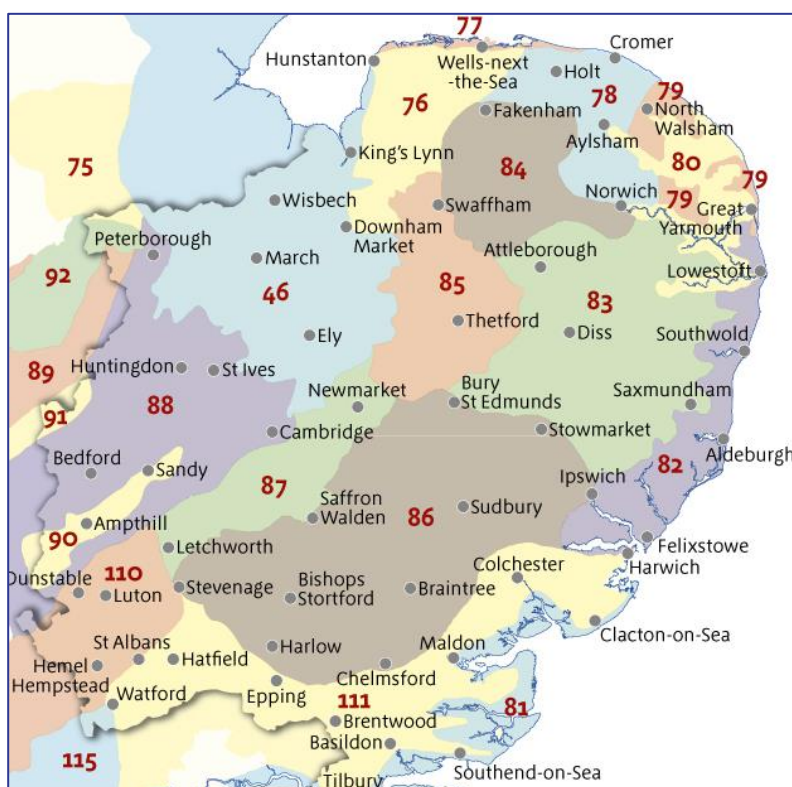
South Norfolk and High Suffolk Clayland (Area 83)

The South Norfolk and High Suffolk Claylands National Character Area (NCA) occupies a large area of central East Anglia stretching from just below Norwich in the north down to the River Gipping in the south. The area is bounded to the north by Mid Norfolk and The Broads NCAs and to the east by the sandy heathland of the Suffolk Coast and Heaths NCA.

South Suffolk and North Essex Clayland (Area 86).

The South Suffolk and North Essex Clayland National Character Area covers the four counties of Suffolk, Essex, Hertfordshire and Cambridgeshire. It stretches from Bury St Edmunds in the north-west to Ipswich in the north-east, roughly following the line of the A14 trunk road through the Gipping Valley. It then embraces the Colchester hinterland before encompassing the urban areas of Braintree and Chelmsford in the south and stretching to Bishop's Stortford and Stevenage in the west.

Map 2: NCA areas of the East of England



4.5. Landscape Designations

Much of the coastal area of the East Suffolk WMB falls within the Suffolk Coast and Heaths AONB (See Map 3)

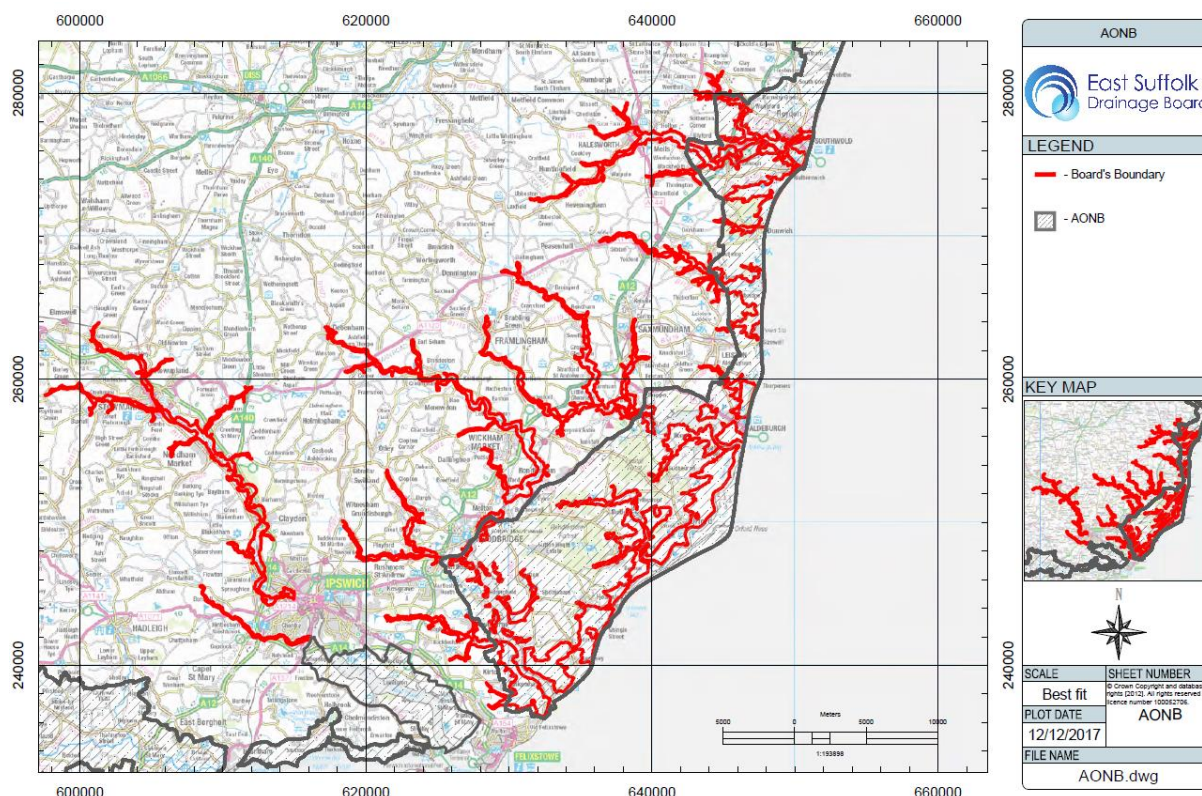
The Coast & Heaths Area of Outstanding Natural Beauty (AONB) is a distinctive area of legally protected countryside, towns and villages in East Suffolk and North Essex.

The area was designated in 1970 with the purpose of conserving and enhancing the protected landscape. A beautiful stretch of the Suffolk coast, from Kessingland in the north, to the River Stour Estuary in North Essex in the south.

Wildlife rich estuaries, shingle beaches and heathland characterise the area, together with important agriculture and forestry land and picture-postcard coastal towns.

Tourism is the foremost economy with visitors attracted by the authenticity of the area, its amazing environment, quality accommodation and local food and drink. It's cherished for its relatively undeveloped, tranquil landscape and stunning natural and cultural history.

Map 3: Suffolk Coast and Heaths AONB



4.6. Sites and Monuments

The Board holds some information on Sites and Monuments. The Board will continue to carry out searches prior to work, as required, to prevent any Sites or Monuments being missed. Relevant information on Sites and Monuments within the East Suffolk WMB catchment can be found on the Suffolk Heritage Explorer at <https://heritage.suffolk.gov.uk/map> and also in Appendix 1.

4.7. Tree Preservation Orders

The Board holds 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 East Suffolk WMB catchment can be found on the relevant District Council websites as follows:

East Suffolk Water Management Board – Biodiversity Action Plan

East Suffolk Council – [Tree Preservation Orders webpage](#)

West Suffolk Council – [Tree Preservation Orders webpage](#)

4.8. Statutory Nature Conservation Sites

Within the Boards area are a number of nationally designated nature conservation sites, some of which also have international designations.

The Board was required to produce a water level management plan for all the SSSIs within their area where their activities can affect the wildlife interest. In practice this means all SSSIs where the Board manages a main drain, a structure or a pumping station which may influence the site.

The WLMP documents provide a means by which the water level requirements for a range of activities within a particular area, including agriculture, flood risk management and conservation, can be balanced and integrated.

Table 1 gives a summary of all the nature conservation sites within the ES WMB area with their national and international designations, water level management plans and UK BAP habitat.

All maps of the nationally and internationally designated nature conservation sites are shown in Appendix III.

4.8.1 Internationally Designated Sites

The following internationally-designated conservation sites, relevant to the water level management* and/or maintenance activities of the WMB, are found within or adjacent to the drainage district. Maps displaying the internationally designated sites within the water management district can be found in Appendix 2.

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

Site name	Designation	Associated WLMP?*	Features Relevant to WMB
Alde–Ore Estuary	RAMSAR, SPA, SAC		Littoral sediment Neutral grassland - lowland Supralittoral sediment Fen, marsh and swamp – lowland Broadleaved, mixed and yew woodland - lowland
Deben Estuary	RAMSAR, SPA		Fen, marsh and swamp – lowland Littoral sediment
Minsmere-Walberswick Heaths and Marshes	SAC, RAMSAR, SPA	Minsmere-Walberswick	Neutral grassland – lowland Fen, marsh and swamp – lowland Broadleaved, mixed and yew woodland - lowland Dwarf shrub heath – lowland Littoral sediment Arable and horticulture Coastal lagoon Supralittoral sediment
Orwell Estuary	RAMSAR, SPA	Orwell Estuary	Littoral sediment Neutral grassland – lowland Standing open water and canals
Sandlings Forest	SPA		Coniferous woodland

*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 WMB, are found within the drainage district. Maps displaying the nationally designated sites within the water management district can be found in Appendix 3.

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 WMB
Alde–Ore Estuary	SSSI, NNR	RAMSAR, SPA SAC		Peat fen herb rich sedge fen carr scrub breeding wetland birds wintering wildfowl aquatic plants
Deben Estuary	SSSI	RAMSAR, SPA		Fen, marsh and swamp – lowland Littoral sediment
Fox Fritillary Meadow	SSSI		Fox Fritillary Meadow WLMP	Neutral grassland - lowland
Gromford Meadow	SSSI			Neutral grassland - lowland
Leiston - Aldeburgh	SSSI			Acid grassland – lowland Supralittoral sediment Fen, marsh and swamp – lowland Broadleaved, mixed and yew woodland - lowland Littoral sediment Standing open water and canals
Minsmere-Walberswick Heaths and Marshes	SSSI, NNR	SAC RAMSAR, SPA	Minsmere-Walberswick WLMP	Neutral grassland – lowland Fen, marsh and swamp – lowland Broadleaved, mixed and yew woodland - lowland Dwarf shrub heath – lowland Littoral sediment Arable and horticulture Coastal lagoon Supralittoral sediment
Orwell Estuary	SSSI	RAMSAR, SPA	Orwell Estuary	Littoral sediment Neutral grassland – lowland Standing open water and canals
Sandlings Forest	SSSI	SPA		Coniferous woodland
Sizewell Marshes	SSSI			Neutral grassland – lowland

				Fen, marsh and swamp – lowland
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4.8.3 Local Nature Reserves

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

Table 3. Local Nature Reserves within the drainage district

Site name	Associated WLMP?*	Features Relevant to WMB
Bramford Meadows		Grassland, scrub, wet ditches and forma water course, wetland flora within drains.
Needham Lake		Lake
Fen Alder Carr		Open water, alder carr woodland and tall fen.
The Haven, Aldburgh		Lagoons and reedbeds

4.8.4 Non-statutory Nature Conservation Sites

A large 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 Local Planning Authority in forming any decision. The following relevant Local Wildlife Sites are to be found within or bordering the drainage district. Appendix 4 shows County Wildlife Sites within the East Suffolk WMB catchment and lists all the sites found within or bordering the drainage district.

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 WMB to maintain, restore or expand its important habitats.

Table 4. Habitat Audit Summary

National Priority Habitat	National Status & Extent	Local Priority Habitat	Local Status and Extent	Habitat of Importance for WMB	Extent, status and Location of Habitat of Importance within drainage district	WMB Potential for Maintaining, Restoring or Expanding Habitat (high/medium/low)
Coastal and floodplain grazing marsh	The exact extent of grazing marsh in the UK is not known but it is possible that there may be a total of 300,000 ha. England holds the largest proportion with an estimate in 1994 of 200,000 ha.	Coastal and floodplain grazing marsh	The exact extent of wet coastal grazing marsh of nature conservation importance in Suffolk is not known but approximately 2,000ha of wet grassland occurs in SSSIs and County Wildlife Sites and livestock grazes most of this grassland.	Grazing marsh and associated ditch systems	Throughout District	High WMB potential to maintain condition through sensitive management, and landowner partnerships for extending areas.
Coastal Sand Dunes	There are approximately 11,897 ha of Coastal Sand Dunes across England.	Coastal Sand Dunes	Local There are 66 hectares of sand dunes in Suffolk (0.1% of the UK resource).	Coastal Sand Dunes	Minsmere	Low WMB potential to maintain or restore condition
Coastal Saltmarsh	Saltmarsh is a relatively rare habitat in the UK with only around 40 000 ha remaining. A variety of	Coastal Saltmarsh	Suffolk has 1107 ha of saltmarsh, which accounts for around 2% of the national resource. Between 1971 and 1998, 296ha of saltmarsh are	Coastal saltmarsh	Orford, Methersgate, Walderingfield, Chillesford, Iken, Dunwich, Blythburgh, Reydon,	Low WMB potential to maintain or restore condition

East Suffolk Water Management Board – Biodiversity Action Plan

	factors are leading to the loss of around 100 ha per year nationally.		known to have been lost around the Suffolk coast			
Coastal Vegetated shingle	In Britain, beaches with an important shingle component occur along approximately 19000km of shoreline, with pure shingle beaches forming almost 3500km.	Coastal Vegetated shingle	In Suffolk there are 859 ha of vegetated shingle which represents approximately 20% of the national resource.		Shingle street, Thorpeness, Sizewell,	Low WMB potential to maintain or restore condition
Good quality semi-improved Grassland					Minsmere, Saxmundham, Gromford, Parham, Snape, Brandeston, Framsdon, Easton, Gundisburgh, Little Bealings, Tuddenham, Brightwell, Pinewood, Bramford, Creting Hills, Stowmarket,	Low WMB potential to maintain or restore condition
Lowland Acid Grassland and Heathland	The UK has approximately 95,000 ha of lowland heathland, 58,000 ha of this is within England.	Lowland Heathland and Dry Acid Grassland	The loss of unimproved acid grassland mirrors the loss of other unimproved grassland types in Suffolk. Agricultural intensification, particularly the use of agrochemicals and irrigation has resulted in a substantial loss of acid grassland in the county.	Lowland heathland	Walberswick, Minsmere,	Low WMB potential to maintain or restore condition
Lowland calcareous grassland	There are no comprehensive figures, but a sample of chalk sites in England surveyed in 1966 and 1980 showed a 20% loss in that	Lowland Calcareous Grassland	Two important regions of lowland heathland are found in Suffolk: the Sandlings, along the coastal belt; and Breckland on the	Lowland Calcareous Grassland	Shrubland Park,	Low WMB potential to maintain or restore condition by encouraging landowners to

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	period. Current estimates put the amount of lowland calcareous grassland remaining in the United Kingdom at 40,594 ha.		Norfolk/Suffolk border. Heathland in Suffolk is largely confined to these areas although smaller areas can be found in the upper Waveney Valley at Wortham Ling and Redgrave and Lopham Fens.			manage appropriately.
Lowland Fens	The UK is thought to host a large proportion of fen surviving in Europe. As in other parts of Europe, fen vegetation has declined dramatically in the past century.	Fens	The area of fen in Suffolk is not known precisely but is thought to be less than 250ha (Beardall & Casey, 1994). There are a few large sites with a range of valley and floodplain fen communities, and probably the majority of fen habitat is within these few sites. Most are protected as Sites of Special Scientific Interest (SSSIs) and some also have international protection.	Lowland Fens	Walberswick, Darsham, Rattla Corner, Minsmere, Sizewell, Thorpeness, Iken, Little Bealings, Darmsden,	Low WMB potential to maintain or restore condition.
Lowland Meadows	It is estimated that only 10,521 ha of species-rich neutral grassland survive today in the UK.	Lowland meadows and pastures		Lowland Meadows	Wenhaston, Darsham, Sternfield, Gromford, Earl Soham, Framsdan, Creeping Hills, Dagworth, Foxhall,	Low WMB potential to maintain or restore condition
Lowland Mixed Deciduous Woodland	In the 1980s, the Nature Conservancy Council estimated the total extent of this type to be 250,000 ha. It is believed to have declined in extent by 30- 40% over the last 50 years.	Lowland Mixed Deciduous Woodland	The Forestry commission's NIWT (2002) estimates lowland mixed deciduous woodland in Suffolk at 15,466ha, of which 4,250ha is on ancient woodland sites although this figure does not include stands where	Deciduous Woodland	Throughout District	Low WMB potential to maintain or restore condition

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			deciduous is mixed with conifer woodland.			
Mudflats	The total UK estuarine resource has been estimated as c588,000ha, of which 55% is intertidal area, mostly mud and sandflats with a lesser amount of saltmarsh. Intertidal flats cover about 270,000ha. The UK has approximately 15% of the north-west European estuarine habitat.	Mudflats		Mudflats	Blythburgh, Bromeswell,	Low WMB potential to maintain or restore condition
Saline Lagoons	Saline lagoons are relatively rare in the UK with only around 5200ha remaining. A variety of factors, including coastal erosion and pollution, are leading to the loss or damage of saline lagoons. Saline lagoons are a priority habitat under the EU Habitats Directive.	Saline Lagoons	There are 188 saline lagoons in Suffolk, covering an area 133 hectares, which accounts for 2.6% of the UK resource	Saline Lagoons	Coastal	Low WMB potential to maintain or restore condition
Ponds, lakes and reservoirs	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.	Ponds	Suffolk has around 22,000 ponds in its heavily farmed landscape, around 70% of these have been shown to be neglected and undermanaged, a situation that has to change if we are to secure nature's recovery in Suffolk.	Ponds	Throughout District	Medium/Low – Ponds are not on our WMB owned land, so it will be inhibited by funding. The WMB will need to discuss with the board the idea of restoring ponds.

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Purple moor grass and rush pastures					Middleton, Darsham, Wangford, Grundisburgh, Earl Soham, Hollesley	Low WMB potential to maintain or restore condition
Reedbed	There are about 5000 ha of reedbeds in the UK, but of the 900 or so sites contributing to this total, only about 50 are greater than 20 ha, and these make a large contribution to the total area.	Reedbed	The RSPB Reedbed Inventory suggests over 840 ha of reedbeds in Suffolk - almost 15% of the UK resource	Reedbed	Reydon, Walberswick, Eastbridge, Thorpeness, Chillesford, Falkenham,	High WMB potential to maintain condition through maintaining condition through sensitive management, landowner partnership for extending area.
Rivers, Canals and drains	This habitat type includes a very wide range of types, encompassing all natural and near-natural running waters in the UK.	Rivers and Streams	Numerous Rivers and Streams flow through Suffolk	Rivers, streams and drains	Throughout District	High WMB potential to maintain condition through sensitive management, and landowner partnerships for extending areas
Wet Woodland	There are no precise data on the total extent of wet woodland in the UK, but in the late 1980s the Nature Conservancy Council estimated the total extent of this type in ancient semi-natural woodland to be about 25,000–30,000ha. Thus a crude estimate of the total wet woodland area in the UK is 50,000– 70,000ha	Alder Carr Weet Woodland	The commonest type of wet woodland in Suffolk is probably the alder woods, the bulk of which are to be found in the river valleys. These frequently have a history of being coppiced, but are now largely neglected. The strongholds for these woodlands are the Suffolk Broads, the Waveney and Little Ouse	Wet Woodland	Throughout District	Medium WMB potential to maintain or restore condition though sensitive management

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			It is estimated that in Suffolk there is less than 100 ha of W5 woodland and 170 ha of flood plain woodlands.			
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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 WMB to improve the status of the species in the drainage district.

Table 5. Species Audit Summary

Common & scientific name	National Status	Local Status	Location of Species of Importance within drainage district	WMB Potential for Maintaining or Increasing Species Population or Range (High/medium/low)
AMPHIBIANS				
Great Crested Newt (<i>Triturus cristatus</i>)	The British population of great crested newt is among the largest in Europe but has suffered a decline in recent years and is in unfavourable conservation status. The great crested newt is listed on Annexes II and IV of the EC Habitats Directive, Appendix II of the Bern Convention, and Schedule 5 of the Wildlife and Countryside Act 1981.	Suffolk is believed to be a stronghold for the Great Crested Newt, particularly in the north-east of the county where there is a higher percentage of ponds. At least 115 ponds in Suffolk have populations of Great Crested Newts but survey data is inadequate and the figure is likely to be much higher.	Huntingfield, Darsham, Rendham, Farnham, Framlingham Mere, Debenham, Iken	Low WMB Potential to benefit species from Habitat enhancement
BIRDS				
Barn Owl (<i>Tyto alba</i>)	Widely distributed across the UK, barn owl has suffered declines over the past fifty years. This decline, fortunately, has	The drainage district supports a significant population of barn owls, which use ditch banks, pastures and margins for foraging. The population may be	Throughout district	High WMB Potential to benefit species from habitat enhancement and partnerships

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	halted in many areas and the population may now be increasing. A survey completed in 1997, indicated a breeding population of 4,000 pairs. The Barn Owl is protected under Section 1 of the WCA 1981.	limited by lack of nest sites. Rough-grassland margins provided by the banks of watercourses were recognised in 1987 as a vital resource for Barn Owls.		
Bittern (<i>Botaurus stellaris</i>)	The bittern is rare and localised in the UK. It is listed on Annex I of the EC Birds Directive and Appendix II of the Berne Convention. It is protected in the UK under Schedule 1 of the WCA 1981.	Present in lowland wetlands across Suffolk, particularly on RSPB Reserves.	Hen Reedbeds, Dingle Marshes, Minsmere, Thorpeness, Snape, Sudbourne, Melton, Havergate Island, Boyton Marshes, Shottisham Creek, King's Fleet, Felixstowe	Medium WMB Potential to benefit species from Habitat Action Plans
Breeding Waders	In decline	Present in lowland wetlands across Suffolk, particularly on RSPB Reserves.		High WMB Potential to benefit species from Habitat enhancement and partnership with the Suffolk Wader Strategy
Dark-bellied Brent Goose (<i>Branta bernicla bernicla</i>)	Brent geese can be seen around estuaries and saltmarshes. Main concentrations of dark-bellied birds in the Wash, the North Norfolk coastal marshes, Essex estuaries, the Thames Estuary and Chichester and Langstone Harbours. Most light-bellied birds are found at Strangford Lough and Lough Foyle, N Ireland and at Lindisfarne, Northumberland.	Present around estuaries and saltmarshes in Suffolk	Dingle Marshes, Aldeburgh, Orford, Snape Marshes, Havergate Island, Hollesley Marsh, Shingle Street, Bawdsey, Felixstowe, Falkenham,	Low WMB Potential to benefit species from Habitat Action Plans

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Grasshopper Warbler (<i>Locustella naevia</i>)	In decline. Red List species Protected in the UK under the Wildlife and Countryside Act, 1981.	Throughout Suffolk	Westwood Marshes, Buss Creek, Dunwich, Dingle Marshes, Sizewell, North Warren, Thorpeness, Aldeburgh, Havergate Island, Boyton Marshes, Shingle Street, Felixstowe Ferry, Melton, Bromeswell,	Low WMB Potential to benefit species from Habitat Action Plans
Hen Harrier (<i>Circus cyaneus</i>)	Classified in the UK as Red under the Birds of Conservation Concern 4: the Red List for Birds (2021). Protected in the UK under the Wildlife and Countryside Act, 1981. The hen harrier lives in open areas with low vegetation. In the breeding season UK birds are to be found on the upland heather moorlands of Wales, Northern England, Northern Ireland and Scotland (as well as the Isle of Man). In winter they move to lowland farmland, heathland, coastal marshes, fenland and river valleys. Those found in eastern and south-east England are probably mostly visitors from mainland Europe.		Minsmere, North Warren, Snape, Sudbourne Marshes, Boyton Marshes, Hollesley Marsh, Shingle Street, Felixstowe, Falkenham, Shottisham Creek,	Low WMB Potential to benefit species from Habitat Action Plans
Kestrel (<i>Falco tinnunculus</i>)	The kestrel is included on the Amber List of Birds of Conservation Concern due to the moderate decline of the UK breeding population	Throughout East Suffolk	East Suffolk	High WMB Potential to benefit species from Habitat Action Plans
Reed Bunting (<i>Emberiza schoeniclus</i>)	The decrease of the reed bunting has occurred at the same time as	There are relatively limited records of reed bunting in	East and South West Suffolk within the drainage district.	Low WMB Potential to benefit species from Habitat Action Plans

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	decreases in the numbers and/or range of a suite of other farmland birds. Classified in the UK as Amber under the Birds of Conservation Concern 4: the Red List for Birds (2015) and a section 41 species. Protected in the UK under the Wildlife and Countryside Act, 1981.	drainage district, which use reed fringes along the rivers, drains and ditches. The restoration and careful management of these reed fringes that are addressed by the reedbed HAP offer the opportunity of enhancing the habitat for this species throughout the district.		
Skylark (<i>Alauda arvensis</i>)	One of the most widespread birds of the British Isles, with over 2 million breeding pairs, the resident population is joined in winter by a significant proportion of the northern European population - possibly up to 25 million individuals. The skylark is protected under the EC Birds Directive and the Wildlife and Countryside Act 1981.	Suffolk The Skylark is common and widespread in Suffolk as a breeding and wintering bird throughout the open countryside. However, numbers have declined rapidly in central Suffolk, the main cereal-growing areas and the population is has declined throughout the county since the 1980s.	East and South West Suffolk within the drainage district.	Low WMB Potential to benefit species from Habitat Action Plans
Stone-curlew (<i>Burhinus oedicnemus</i>)	The stone-curlew is a bird of dry, open places with bare, stony ground or very short vegetation. Its UK strongholds are in Wiltshire, around Salisbury Plain, and the Brecks, Norfolk.	They are also sometimes visible from special viewing areas at RSPB Minsmere reserve on the Suffolk Coast.	Dingle Marshes, Minsmere, Shingle Street	Low WMB Potential to benefit species from Habitat Action Plans
Tree Pipit (<i>Anthus trivialis</i>)	Widespread summer visitors to the UK, they occur in particularly high		Easton Bavents, Thorpeness, Aldeburgh, Shingle Street	Low WMB Potential to benefit species from Habitat Action Plans

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	densities in Western uplands. Their population has undergone declines over the past 25 years, especially in central and southern England.			
Tree Sparrow (<i>Passer montanus</i>)	The tree sparrow is patchily distributed on farmland across Britain and Ireland, being scarcer in the uplands, and the far north and west. The tree sparrow is protected under the Wildlife and Countryside Act 1981, Wildlife (Northern Ireland) Order 1985 and EC Birds Directive.		Dingle Marshes, Felixstowe,	Low WMB Potential to benefit species from Habitat Action Plans
FISH				
European Eel (<i>Anguilla Anguilla</i>)	Priority Species under the UK Post-2010 Biodiversity Framework. Listed as Critically Endangered on the global IUCN Red List of Threatened Species.	Declines in eel populations have been noted on rivers in the county but the cause is not known	Wangford (East), Bulcamp Marshes, Wenhaston-with-Mells Hamlet, Holton, Chediston, Dunwich, Badingham, Stratford St Andrew, Saxmundham, Snape, Blaxhall, Framlingham, Cretingham, Hoo, Letheringham, Wickham Market, Ufford, Great Bealings, Brightwell, Bramford, Sproughton	High WMB Potential to benefit species from Habitat enhancement, particularly Rivers and Drains

INVERTEBRATES				
Brown Hairstreak Butterfly (<i>Thecla betulae</i>)	Found in scattered locations in southern England and Wales.	Present in scattered locations in Suffolk.	Belstead Brook	Low WMB Potential to benefit species from Habitat enhancement
Butterflies: Grayling (<i>Hipparchia semele</i>), Wall (<i>Lasiommata megera</i>), White Admiral (<i>Limenitis camilla</i>), Small Heath (<i>Coenonympha pamphilus</i>)	Found in many locations in southern England and Wales.	Present in Suffolk.	Widespread in East Suffolk	Low WMB Potential to benefit species from Habitat enhancement
Silver-studded Blue Butterfly (<i>Plebejus argus</i>)	Most colonies are found in Southern England, but some colonies are present in Wales, the East of England and on Prees Heath Reserve in Shropshire.	Present in restricted locations in Suffolk.	Blackheath, Newdelight Covert, Westleton Common, Minsmere,	Low WMB Potential to benefit species from Habitat enhancement
White-letter Hairstreak Butterfly (<i>Satyrion w-album</i>)	Widespread in England and Wales, but rarer in the far west.	Present in Suffolk.	Dingle Marshes, Aldringham-cum-Thorpe, Sutton, Ipswich,	Low WMB Potential to benefit species from Habitat enhancement
Dragonflies (<i>Anisoptera spp.</i>)	Species richness has increased over time, especially in the northern half of Britain, but also in the south as new species arrive and colonize;	Present throughout	Throughout District	Low WMB Potential to benefit species from Habitat enhancement

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	increased recording intensity in recent years may explain some of these increases. A trend analyses show that 19 out of 46, just over 40%, of our resident and/or regular migrant dragonfly and damselfly species have increased in occupancy across both Britain and Ireland, while just 11%, five species, have shown significant decline.			
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.		Throughout District	Low WMB Potential to benefit species from Habitat enhancement
JAWLESS FISH				
River Lamprey (<i>Lampetra fluviatilis</i>)	Widespread in the UK, occurring in many rivers from the Great Glen in Scotland southwards, and populations are strong.	Present on East coast	Bucklesham	Low WMB Potential to benefit species from Habitat enhancement

MOLLUSCS				
Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>)	In the UK, Desmoulin's whorl snail is known from a series of sites stretching in a broad band from Dorset to Norfolk. This snail is listed on Annex II of the EC Habitats Directive, and is listed as rare in the GB Red List. National decline of this species is difficult to assess as targeted surveys over the last 15 years have resulted in many additional sites being discovered, but this is not considered to be due to the spread of the species.	Present in certain locations in South East Suffolk	Chillesford, Sutton,	Low WMB Potential to benefit species from Habitat enhancement
Large-mouthed Valve Snail (<i>Valvata macrostoma</i>)			Hen Reedbeds, Walpole, Snape	Low WMB Potential to benefit species from Habitat enhancement
Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>)	This species has a highly fragmented population over Britain. This localised European species is known in the UK from only eight sites in England and Wales, and one in Scotland. The snail is nationally and globally threatened and is included	Present in most of the Suffolk coastal strip	Widespread in East Suffolk	Low WMB Potential to benefit species from Habitat enhancement

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	on Annex II of the EC Habitats Directive. It is listed as vulnerable on the IUCN/WCMC red list and endangered on the GB Red List.			
Swollen Spire Snail (<i>Mercuria anatine</i>)			Butley	Low WMB Potential to benefit species from Habitat enhancement
Thames Ramshorn [<i>Gyraulus</i> (<i>Gyraulus</i>) <i>acronicus</i>]			Walpole	Low WMB Potential to benefit species from Habitat enhancement
REPTILES				
Adder (<i>Vipera berus</i>)	Found across the country, except for the Isles of Scilly, the Channel Islands, Northern Ireland and the Isle of Man.	Found across the county	East and coastal areas within the drainage district	Low WMB Potential to benefit species from Habitat Action Plans
Grass Snake (<i>Natrix helvetica</i>)	Grass snakes have become scarcer. There are still some areas where they are locally abundant, but nationally they are in decline. Protected in the UK under the Wildlife and Countryside Act, 1981. Priority Species under the UK Post-2010 Biodiversity Framework.	Found across the county	East Suffolk	High WMB Potential to benefit species from Habitat enhancement and restoration (i.e. grass snake pile construction)

TERRESTRIAL MAMMALS				
Bats (<i>Barbastella spp.</i> , <i>Myotis spp.</i> , <i>Eptesicus spp.</i> , <i>Nyctalus spp.</i> , <i>Pipistrellus spp.</i> , <i>Plecotus spp.</i>)	All bats and their roosts are protected by UK law and they are also covered by the EU Conservation of Habitats and Species Regulations 2010 as European Protected Species.	The distribution of bats is throughout the drainage district.	Throughout District	High WMB Potential to benefit species from Habitat enhancement through erecting bat boxes across the district
Brown Hare (<i>Lepus europaeus</i>)	The Brown Hare has declined substantially, by about 80% over the last 100 years with a sharper decline since the early 1960s. National surveys indicate that numbers have remained largely stable over the last 10 years. Current estimates are in the region of 800,000 animals.	Information supplied by The Game Conservancy Trust demonstrates that although numbers fluctuate from year to year, there is no evidence that populations have declined in East Anglia during the last five to ten years. The Brown Hare is still widespread in Suffolk and there is little evidence of any large decline in recent years.	Throughout District	Low WMB Potential to benefit species from Habitat enhancement
European Badger (<i>Meles meles</i>)	Very common UK species Protected in the UK under the Protection of Badgers Act (1992) and the WCA (1981)	In many areas of the county they remain scarce or absent.	Throughout District	Low WMB Potential to benefit species from Habitat enhancement
European Hedgehog (<i>Erinaceus europaeus</i>)	Protected in the UK under the Wildlife and Countryside Act, 1981. Priority Species under the UK Post-2010 Biodiversity Framework. IUCN Red List for British Mammals - vulnerable to	Hedgehogs were once widespread and common across Suffolk, however they are becoming a rare sight due to long-term decline due to changes in habitat.	Throughout District	Low WMB Potential to benefit species from Habitat enhancement

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	extinction.			
Harvest Mouse (<i>Micromys minutus</i>)	The harvest mouse is a native species. It is mainly found from central Yorkshire southwards. This species occurs in Scotland and Wales but increased survey effort is needed to improve our understanding of the species distributions in these countries as they may be seriously under recorded.	Suffolk, with its extensive lowland arable landscape and river valleys, has become a stronghold for the harvest mouse. Despite populations of the species declining by about 70% in other parts of the UK due to intensive farming, a recent Suffolk Wildlife Trust study revealed that the harvest mouse is still widespread in the county.	East coast, South West Suffolk within the district.	Low WMB Potential to benefit species from Habitat enhancement
Hazel Dormouse (<i>Muscardinus avellanarius</i>)	Dormice are thought to have disappeared from about half of their original range in 120 years and recent surveys confirm that it is now extinct from six counties. Within the southern counties they are still widespread but their distribution is patchy.	Suffolk is on the edge of the Dormouse's range and they have never been common in the county.	Copdock	Low WMB Potential to benefit species from Habitat enhancement
Otter (<i>Lutra lutra</i>)	An estimate population size of 11,000 individuals in Great Britain.. The otter is listed on Appendix 1 of CITES, Appendix 11 of the Bern Convention and Annexes 11 and IV of the Habitats Directive. It is protected under Schedule 5 of the Wildlife and Countryside Act 1981 and	Otters now use all major watercourses in Suffolk and populations appear to be recovering. There are significant records of otters throughout the drainage district.	Throughout District	High WMB Potential to benefit species from Habitat enhancement

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	Schedule 2 of the Conservation (Natural Habitats) Regulations 1994.			
Water Vole (<i>Arvicola amphibius</i>)	Long term decline. Declining, both in number of sites occupied and number of individuals per colony. An estimate population size of 132,000 individuals in Great Britain. GB populations are inferred to have declined very rapidly over recent years, equating to a 50% decline over 17 years. S41 species, Listed in WCA 1981	There are significant records of Water Vole throughout the drainage district.	Throughout District	High WMB Potential to benefit species from Habitat enhancement and appropriate management of watercourses & predator control
VASCULAR PLANTS				
Corn Buttercup (<i>Ranunculus arvensis</i>)	Formerly widespread throughout the south and east of England but has declined rapidly over the last 60 years, now with few viable populations. A strong-hold remains in the south-west Midlands, with other sites scattered from Devon to Suffolk.	Species are present on sites scattered in Suffolk.	Walpole	Low WMB Potential to benefit species from Habitat enhancement

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Divided Sedge (<i>Carex divisa</i>)	The distribution is mainly restricted to coastal areas in the South East of England.	Species are present on sites scattered in Suffolk.	Southwold,	Low WMB Potential to benefit species from Habitat enhancement
Fly Orchid (<i>Ophrys insectifera</i>)	The distribution is mainly situated in South East of England and Northern Wales.	Species are present on sites scattered in Suffolk.	Newbourne Springs	Low WMB Potential to benefit species from Habitat enhancement
Grass-wrack Pondweed (<i>Potamogeton compressus</i>)	The distribution is concentrated in central England, the Welsh borders and the Norfolk Broads. Isolated sites in Suffolk.	Species are present on sites scattered in Suffolk.	Westwood Marshes	Low WMB Potential to benefit species from Habitat enhancement
Man Orchid (<i>Orchis anthropophora</i>)	The distribution is restricted to the South East of England	Species are present on sites scattered in Suffolk.	Sizewell	Low WMB Potential to benefit species from Habitat enhancement
Marsh Stitchwort (<i>Stellaria palustris</i>)	Present in scattered locations across the UK, more common in East Anglia	Species are present on sites in East Suffolk.	Wang Marshes	Low WMB Potential to benefit species from Habitat enhancement
Native Black Poplar (<i>Populus nigra betulifolia</i>)	There are an estimated 7,000 native black poplars in Britain, chiefly occurring south of a line from the Mersey to the Wash.	Species are present on sites scattered in Suffolk.		Low WMB Potential to benefit species from Habitat enhancement
Red-tipped Cudweed (<i>Filago lutescens</i>)	It is mainly confined to southern and eastern England, being found on 16 sites scattered across, Hampshire, Sussex, Surrey, Essex, Suffolk, Cambridgeshire, Norfolk and Gloucestershire.	Species are present on sites scattered in Suffolk.	Minsmere	Low WMB Potential to benefit species from Habitat enhancement
Sea Barley (<i>Hordeum marinum</i>)	Scarce, restricted to scattered areas of the coastline	Species are present on sites scattered in East Suffolk.	Gedgrave Marshes	Low WMB Potential to benefit species from Habitat enhancement
Slender Hare's-ear (<i>Bupleurum tenuissimum</i>)	Scarce, restricted to scattered areas of the coastline	Species are present on sites scattered in East Suffolk.	Havergate Island, Boyton Marshes, Gedgrave Marshes, Orford, Sudbourne	Low WMB Potential to benefit species from Habitat enhancement

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Small Cord-grass (<i>Spartina maritima</i>)	Scarce, restricted to the coastline	Species are present on sites scattered in East Suffolk.	Havergate Island	Low WMB Potential to benefit species from Habitat enhancement
Tubular Water-dropwort (<i>Oenanthe fistulosa</i>)	It is still found in southern England and in places on the coast of Wales, it is a rapidly declining plant.	Species are present on sites scattered in Suffolk.	Dingle Marshes	Low WMB Potential to benefit species from Habitat enhancement

4.11. Invasive Non-native Species Summary

The WMB 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 6: High risk aquatic invasive non-native species summary

Common & scientific name	Location within WMB if known	Year first recorded	Local status / Extent within drainage district	WMB potential for controlling species population or range
American Mink (<i>Neovison vison</i>)	Throughout District	1979	Mink can be found in and around many Suffolk waterways, widespread distribution.	Partnership working with WLRE.
Australian Swamp-Stonecrop (<i>Crassula hemsii</i>)	Dunwich Heath Thorpeness Hollesley	2006	Australian swamp stonecrop is common East Suffolk within the district.	Control measures on a case by case basis, partnership working landowners, biosecurity measures, and recording.
Canadian Waterweed (<i>Elodea canadensis</i>)	Halesworth Wenhaston-with-Mells Hamlet Minsmere Leiston Brandeston Snape Farnham Gedgave Boyton Marshes Shingle street Bucklesham Great Blackenham Needham Market	2005	East Suffolk and South West Suffolk within the district.	Control measures on a case by case basis, partnership working with landowners, provide advice to landowners, biosecurity measures, and recording.

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Giant Hogweed (<i>Heracleum mantegazzianum</i>)	Blyford Thorpeness Bramford Needham Market Ipswich Sroughton	2005	East Suffolk and South West Suffolk within the district.	Control measures on a case by case basis, partnership working with landowners, provide advice to landowners, biosecurity measures, and recording.
Himalayan Balsam (<i>Impatiens glandulifera</i>)	Throughout district	2003	The plant is now widespread in Suffolk and is still expanding its range. It can be seen along the banks of rivers, in wet woodland and on waste ground, often growing in large dense clumps. Widespread distribution.	Working to provide advice to landowners, biosecurity measures, and recording.
Japanese Knotweed (<i>Fallopia japonica</i>)	Blyford Southwold Yoxford Saxmundham Stowmarket Needham Market Bramford Hadleigh Rd Industrial Estate	2007	North East Suffolk and South West Suffolk within the district.	Control measures on a case by case basis, partnership working with landowners, provide advice to landowners, biosecurity measures, and recording.
Nuttall's Waterweed (<i>Elodea nuttallii</i>)	Halesowrth Eastbridge Brandeston Brightwell Sroughton	2006	East Suffolk and South West Suffolk within the district.	Control measures on a case by case basis, partnership working with landowners, provide advice to landowners, biosecurity measures, and recording.
Signal Crayfish (<i>Pacifastacus leniusculus</i>)	Stowmarket Needham Market Bramford Creting St Mary	2008	South West Suffolk within the district.	Biosecurity measures and recording.
Water Fern (<i>Azolla filiculoides</i>)	Reydon Southwold Sizewell Thorpeness Needham Market	2007	North East Suffolk and South West Suffolk within the district.	Control measures on a case by case basis, partnership working with landowners, provide advice to landowners, biosecurity measures, and recording.

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

The table below provides further details of the Water Level Management Plans for which the WMB has some involvement within their drainage district. The full and detailed WLMPs can be found on the WMB's website.

Table 7: Water Level management plans in operation within the drainage district

Site Name & Designation	Reason for WLMP (state main species or habitat)	WLMP lead and other key partners	Favorable/ unfavorable condition (related to water level management)	WLMP Last Updated
Fox Fritillary Meadow, Framden SSSI,	Unimproved species-rich meadow. Snakes-head Fritillary <i>Fritillaria meleagris</i> , Meadow Foxtail <i>Alopecurus pratensis</i> , Red Fescue <i>Festuca rubra</i> , Creeping Bent <i>Agrostis stolonifera</i> , Yorkshire Fog <i>Holcus lanatus</i> , Crested Dog's-Tail <i>Cynosurus cristatus</i> and Rough-stalked Meadow-Grass <i>Poa trivialis</i> Meadowsweet <i>Filipendula ulmaria</i> , Cowslip <i>Primula veris</i> , Cuckooflower <i>Cardamine pratensis</i> and Ragged Robin <i>Lychnis flos-cuculi</i> .	Suffolk Wildlife Trust	Unfavourable Recovering	2012
Orwell Estuary SSSI, SAC, Ramsar and Shortly Marshes	Breeding avocet <i>Recurvirostra avosetta</i> , nine species of wintering waterfowl (including black-tailed godwit <i>Limosa limosa islandica</i>), an assemblage of vascular plants, and intertidal mud habitats.		Favourable 78.49% Unfavourable No change 9.73% Unfavourable Declining 11.78%	
Minsmere-Walberswick	Minsmere - reedbeds, grazing marsh and lowland heathland. Marsh Harrier	Environment Agency and	Favourable 55.1% Unfavourable Recovering 40.88%	1997

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Heaths & Marshes SSSI, SAC, RAMSAR, SPA		English Nature	Unfavourable No change 3.42% Unfavourable Declining 0.11% Partially destroyed 0.13% Destroyed 0.36%	
Minsmere- Walberswick Heaths & Marshes SSSI, SAC, RAMSAR, SPA Tinker's Marsh 1 & 2,	Neutral grassland - lowland	English Nature	Favourable	1996
Minsmere- Walberswick Heaths & Marshes SSSI, SAC, RAMSAR, SPA Westwood and Dingle Marshes,	Fen, marsh and swamp - lowland	English Nature	Favourable Unfavourable Recovering	No date
Minsmere- Walberswick Heaths & Marshes SSSI, SAC, RAMSAR, SPA Home Covert Marshes,	Home Covert Marshes comprise of areas of abandoned grazing marsh which are now Developing into fed reed bed, willow/alder carr and grazing marsh	Environment Agency	Favourable Unfavourable Recovering	1997
Minsmere- Walberswick Heaths & Marshes SSSI, SAC, RAMSAR, SPA Southwold Town Marshes	Neutral grassland - lowland	English Nature	Unfavourable Recovering	No date

East Suffolk Water Management Board – Biodiversity Action Plan

Sizewell Belts SSSI - Sizewell Marshes	Fen carr, reedbed, fen meadow and an extensive dyke system	Environment Agency	Favourable 100%	1998
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5. Habitat and Species Action Plans

5.1. Introduction

Action plans comprise the objectives, targets and actions that the ESWMB 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 ESWMB. The national and local targets listed in the below sections are the most up to date targets available, however, these targets will be updated as new targets are defined. The list of partners defined in the action plans includes current active partners but is not exhaustive to partners with potential involvement. A summary table of Biodiversity Action Plan Objectives can be found in Appendix 5 and a summary table of Habitat and Species Action Plans can be found in Appendix 6.

5.2. Habitat Action Plans

5.2.1 Coastal and floodplain grazing marsh

5.2.1.1 National and Local Targets

Table 8:

National Targets	Local Targets
<p>Maintain the existing habitat extent (300,000 ha) and quality.</p> <p>Rehabilitate 10,000 ha of grazing marsh habitat which has become too dry, or is intensively managed, by the year 2000. This would comprise 5,000 ha already targeted in ESAs, with an additional 5,000 ha.</p> <p>Begin creating 2,500 ha of grazing marsh from arable land in targeted areas, in addition to that which will be achieved by existing ESA schemes, with the aim of completing as much as possible by the year 2000.</p>	<p>Improve knowledge of extent and quality and encourage the restoration of coastal and floodplain grazing marsh.</p> <p>Maintain the existing extent of biologically important grazing marsh, ensure no net loss, take steps to restore and re-create 200ha of grazing marsh by 2018.</p> <p>Integrate grazing marsh restoration into initiatives for reedbed and fens creation.</p>

5.2.1.2 WMB Objectives

Table 9:

WMB Objectives	
1	Continue to maintain or enhance the existing extent and quality of Coastal and Floodplain Grazing Marsh within the boards area via the delivery of Capital Schemes and or watercourse enhancement.

5.2.1.3 WMB Actions

Table 10:

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
1	1a	Continue to work in partnership with stakeholders to look for opportunities, to enhance grazing marshes by appropriate water level management practice through maintenance or partnership working..	Area (ha) of grazing marsh enhanced	Ongoing	Environment Team	SWT, RSPB, NE, EA, Landowners
1	1b	Work in partnership with the Suffolk Wader Strategy Group	Number of meetings attended	Ongoing	Environment Team	Suffolk Wader Strategy Group
1	1c	Where funding opportunities arise, prioritise and undertake a review of WLMPs in ESWMB SSSIs over the next 5 year period.	WLMPs reviewed	Ongoing	Environment Team	NE
1	1d	Work in partnership via the Local Nature Recovery Strategy partnerships to look for opportunities to enhance grazing marshes through involvement in projects.	Area (ha) of grazing marsh enhanced	Ongoing	Environment Team	SCC

5.2.2 Reedbeds

5.2.2.1 National and Local Targets

Table 11:

National Targets	Local Targets
<ul style="list-style-type: none"> 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; linked with existing habitat wherever possible. 	<p>Maintain and enhance existing overall area and quality as a minimum, including the creation of at least 445 ha in the next 20 years to replace any losses through natural coastal processes.</p> <ul style="list-style-type: none"> Develop new reedbeds away from the coast, particularly broad reed dominated pool margins, ensuring newly created reedbeds are targeted to areas of most benefit.

5.2.2.2 WMB Objectives

Table 12:

WMB Objectives	
2	Implement restoration of reedbeds and WLMP objectives for designated sites within the boards area and identify opportunities elsewhere to restore or enhance reedbed.

5.2.2.3 WMB Actions

Table 13:

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

East Suffolk Water Management Board – Biodiversity Action Plan

2	2a	Continue to work in partnership with stakeholders to look for opportunities, to enhance reedbeds by appropriate water level management practice.	Area (ha) of reedbed habitat enhanced	Ongoing	Environment Team	RSPB, NE
2	2b	Identify potential sites for habitat restoration and expansion within the WMB area during WLMP and Capital Scheme delivery and consider future management planning on these sites during this process. .	Number of sites identified	Ongoing	Environment Team	NE, EA, SRT, SWT, Landowners
2	2c	Enhance and maintain reedbed fringe habitat on the Boards main drains.	Number of SMO audits achieved	Ongoing	WMB Ops	
2	2d	Explore opportunities to create new reedbeds and link with other reedbed projects to create corridors for wildlife.	Area (ha) of new reedbeds created	Ongoing	Environment Team	NE, EA, SRT, SWT, Landowners
2	2e	Work in partnership via the Local Nature Recovery Strategy partnerships to look for opportunities to enhance reedbeds through involvement in projects.	Area (ha) of reedbed enhanced	Ongoing	Environment Team	SCC
2	2f	Continue to maintain and enhance reedbed habitat through ensuring the appropriate management to water levels maintained by the board.	Water levels maintained appropriately	Ongoing	Environment Team, Ops	Landowners

5.2.3 Rivers, Canals and Drains

5.2.3.1 National and Local Targets

Table 14:

National Targets	Local Targets
Unknown	Unknown

5.2.3.2 WMB Objectives

Table 15:

WMB 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 watercourses.
6	Implement restoration of watercourses and WLMP objectives within the water management district.

5.2.3.3 WMB Actions

Table 16:

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	Review undertaken	2024	Environment Team	Planning Department
3	3b	Continue to maintain and enhance river and drain habitat through ensuring the appropriate management to water levels maintained by the board.	Water levels maintained appropriately	Ongoing	Environment Team, Ops	Landowners
4	4a	Record species present in watercourses managed by the board	Number of records	Ongoing	Environment Team	SBIS
4	4b	Work in partnership with the EA to report pollution incidents within the water management district	Partnership maintained	Ongoing	Environment Team	EA
5	5a	Review SMO when any material change occurs or otherwise every 5 years.	SMO reviewed	2023	Environment Team	NE
5	5b	Ensure compliance with the WMB 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.	Number of maintenance works audited	Annually	Environment Team, WMB Ops	
6	6a	Work in partnership via the Local Nature Recovery Strategy partnerships to look for opportunities to undertake watercourse restoration through involvement in projects.	Number of Restoration schemes delivered	Ongoing	Environment Team	SCC

5.3. Species Action Plans

5.3.1 Barn Owl and Kestrel

5.3.1.1 National and Local Targets

Table 17:

National Targets	Local Targets
Unknown	Unknown

5.3.1.2 WMB Objectives

Table 18:

WMB Objectives	
7	Continue to enhance the range and population of Barn Owls and Kestrels by maintaining or enhancing habitat availability and creating nesting opportunities, within the catchment area.

5.3.1.3 WMB Actions

Table 19:

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
7	7a	Investigate opportunity to work with Suffolk Community Barn Owl Project or WCP in East Suffolk	Communication and Partnership working	2024	Environment Team	Suffolk Community Barn owl Project, WCP

7	7b	Monitor nest boxes within the WMB area working in partnership with the Suffolk Community Barn Owl Project	Number of boxes monitored	Ongoing	Environment Team	
7	7c	Maintain, repair or replace nest boxes in the WMB area working in partnership with the Suffolk Community Barn Owl Project	Number of boxes maintained, repaired or replaced	Ongoing	Environment Team	Suffolk Community Barn Owl Project
7	7d	Continue to maintain sward height during bankside maintenance mowing of 150mm.	Areas maintained to sward height	Ongoing	WMB Ops	Staff, Contractors

5.3.2 Breeding Waders

5.3.2.1 National and Local Targets

Table 20:

National	Local
Unknown	Unknown

5.3.2.2 WMB Objectives

Table 21: WMB Objectives

WMB Objectives	
8	Work in partnership to enhance wet grassland for breeding waders within the Boards area.

5.3.2.3 WMB Actions

Table 22: Species action plan

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
8	8a	Attend the Suffolk Wader Strategy Group meetings	Number of meetings attended per year	Annually	Environment Team	Suffolk Wader Strategy Group
8	8b	Continue to maintain and enhance breeding wader habitats through ensuring the appropriate management to water levels maintained by the board.	Water levels maintained appropriately	Ongoing	Environment Team, Ops	Landowners

8	8c	Look at opportunities to create scrapes and foot drains whilst working with landowners.	Number of scrapes created	Ongoing	Environment Team, WMB Ops	RSPB, SWT, BTO
8	8d	Look for opportunities when undertaking Capital schemes to improve habitat for wading birds	Area (m) of habitat improved	Ongoing	Environment Team, WMB Ops	Suffolk Wader Strategy Group, RSPB, NE, SWT

5.3.3 European Eel

5.3.3.1 National and Local Targets

Table 23:

National	Local
UK BAP targets = Maintain the current range & achieve an increase in range (both across 10km ² areas)	Maintain and increase current range

5.3.3.2 WMB Objectives

Table 24: WMB Objectives

WMB Objectives	
9	Contribute toward the Eel Regulations legislative requirements (2009) and the Eel Management Plan.
10	Undertake EDNA water sampling for Eel

5.3.3.3 WMB Actions

Table 25: Species action plan

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
9	9a	Work in Partnership with the Environment Agency to access the current status of Eel populations at pumping stations within the Boards Area.	Number of pumping stations with Eel populations reviewed	Ongoing	Environment Team	EA, ZSL
9	9b	Work in Partnership with the Environment	Number of barriers to migration	Ongoing	Environment	EA, ZSL

		Agency to identify barriers to migration in the Boards area and assess options for overcoming these.	identified		Team, Project Delivery Team	
10	10a	Undertake EDNA water sampling at pumping stations for fish, including Eel (As part of pumping station replacement)	Number of samples collected	Ongoing	Environment Team	EA
10	10b	Report EDNA results to the SBIS	Results reported	Ongoing	Environment Team	SBIS

5.3.4 Grass Snake

5.3.4.1 National and Local Targets

Table 26:

National	Local
Unknown	Unknown

5.3.4.2 WMB Objectives

Table 27: WMB Objectives

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

5.3.4.3 WMB Actions

Table 28: Species action plan

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
11	11a	Determine the extent and distribution of the existing populations at the Board's pumping stations and on key drains using ESRI maps and working in partnership with ARG UK.	Maps produced with site locations	Ongoing	Environment team	SBIS
11	11b	Using the distribution data, develop Hibernacula and egg laying sites at pumping stations or key locations where appropriate.	Number of produced egg laying sites	Ongoing	Environment team	

5.3.5 Bats (All Species)

5.3.5.1 National and Local Targets

Table 29:

National	Local
Unknown	Unknown

5.3.5.2 WMB Objectives

Table 30: WMB Objectives

WMB Objectives	
12	Understand the status, distribution and ecology of bats in the WMB district
13	Maintain and enhance the current distribution and abundance of bats within the Board's area.

5.3.5.3 WMB Actions

Table 31: Species action plan

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
12	12a	Survey and monitor bat presence around WMB pumping stations as part of the BTO Bat Survey.	Number of surveys undertaken	Ongoing	Environment Team	BTO

12	12b	Ensure survey training is delivered to all environmental officers.	Number of officers trained	Ongoing	Environment Team	
13	13a	Install bat boxes for roosting and hibernation on suitable WMB structures.	Number of bat boxes installed	Ongoing	Environment Team	
13	13b	Continue to work with consultants for capital schemes involving bat mitigation and habitat enhancements.	Number of capital schemes delivered including bat mitigation and habitat enhancements	Ongoing	Environment Team, Project Delivery Team	Consultants, Landowners

5.3.6 Water Vole

5.3.6.1 National and Local Targets

Table 32:

National	Local
UK BAP targets = Maintain the current range & achieve an increase in range (both across 10km ² areas)	Maintain and increase current range

5.3.6.2 WMB Objectives

Table 33: WMB Objectives

WMB Objectives	
14	Control mink with the WMB catchment
14	Better understand population and extent of water voles within the Boards area.
15	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 WMB District.
16	Maintain and enhance the current distribution and abundance of the water vole in the WMB District

5.3.6.3 WMB Actions

Table 34: Species action plan

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

13	13a	Continue to contribute funding to the Water Life Recovery Trust.	Funding contributed	Annually	Environment team	WLRE, SWT
13	13b	Continue to work with the WLRT on mink eradication.	Number of steering group mink meetings attended each year	Annually	Environment team	WLRE, Suffolk Wildlife Trust
14	15a	Undertake yearly recording by operational staff and report to local biodiversity record centre.	Number and location records collected and submitted to local biodiversity records office	Annually	WMB Opps	SBIS
16	16a	Ensure compliance with the WMB 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	Annually	Environment team, WMB Opps	
17	17a	Take opportunities to enhance water vole habitat during Capital or river/wetland restoration schemes.	Area (ha) of habitat enhanced.	Ongoing	Environment team	NE, EA, NWT, RSPB, Landowners

5.3.7 Native Black Poplar

5.3.7.1 National and Local Targets

Table 35:

National	Local
Unknown	Unknown

5.3.7.2 WMB Objectives

Table 36: WMB Objectives

WMB Objectives	
18	Establish Black Poplar at appropriate sites within the WMB district

5.3.7.3 WMB Actions

Table 37: Species action plan

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
18	18a	Liaise with the Suffolk Black Poplar Working Group to identify suitable sites and opportunities for planting Native Black Poplar within the WMB district	Number of sites identified	Ongoing	Environment Team	SCC, Suffolk Black Poplar Working Group
18	18b	Plant young Black Poplar at suitable sites	Number of Black Poplar planted	Ongoing	Environment Team	SCC

5.3.8 Non Native Invasive Species

5.3.8.1 National and Local Targets

Table 38:

National	Local
Unknown	Unknown

5.3.8.2 WMB Objectives

Table 39: WMB Objectives

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

5.3.8.3 WMB Actions

Table 40: Species action plan

Action Plan						
Objective ref.	Action number	Action	Measurable / Indicators	Completion date	Action Lead	Partners
19	19a	Establish a partnership with the SBIS to receive up to date records of Invasives within the local area.	Partnerships established	Ongoing	Environmental Team	SBIS
19	19b	Continue to work in partnership with SWT and WLRT and look to work in partnership with other	Partnerships maintained	Ongoing	Environment	WLRE, ESRT, SWT

		organisations such as Essex and Suffolk Rivers Trust to continue the fight against Non-Native Species.			Team	
19	19c	Maintain records for all species of concern using the 'iRecord' app.	Number of reviews undertaken	Ongoing	Environment Team	Staff, Contactors
19	19d	Train staff regularly in key non-native species identification.	Number of staff trained	Ongoing	Environment Team	Staff, Contactors
19	19e	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
19	19f	Regularly review and ensure robust biosecurity measures are being maintained across the Board.	Number of reviews undertaken	Ongoing	Environment Team	Staff, Contractors
20	20a	To continue to work in partnership and contribute to the WLRT	Number of meetings per year	Ongoing	Environment team	WLRT

6. Procedural Action Plan

6.1. Introduction

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

6.2. Objectives and Targets

Table 41:

WMB Objectives	
1	Ensure compliance to standard for biodiversity and protected species surveys
2	Ensure compliance to Boards 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. WMB Actions

Table 42:

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	Ecologist	NE
1	1b	Environmental staff to undertake regular training to ensure competence (including survey, biosecurity and health and safety training)	Number of staff trained	Ongoing	Ecologist	NE, NWT
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 ISO 14001	Number of audits undertaken / QMS audit	Annually	Ecologist	WT
2	2b	Regular review on SMO to ensure compliance with updated guidelines and regulations	5 year review undertaken	Ongoing		LA's
3	3a	Through the application of Land Drainage Consents and Bylaws, seek to ensure that natural features of conservation interest and habitat importance are 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		
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 WMB priority species and habitats within the Board area, in conjunction with the Engineering team and watercourse surveys	iRecord reports	Ongoing		SBIS
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 articles / website blogs	Ongoing	ICT team, Environment 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 of species to help inform future works	Partnership established with NBIS and SBIS	Ongoing		SBIS

7. Implementation

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

- Panning for maintenance, capital and non-regular maintenance work will all take into consideration the Boards Biodiversity Action Plan targets.
- The Board, as 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 Norfolk Biological Record Centre and the Suffolk Biological Record Centre.
- Carbon Net Zero is a legislative commitment set out by the UK government to be achieved by 2050. The East Suffolk WMB 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 WMB's biodiversity actions. Indicators have been chosen which provide the WMB 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 WMB 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.

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 WMB will make the summary reports available externally in the following ways:

- In the public domain via the WMB'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) Act 2021 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.

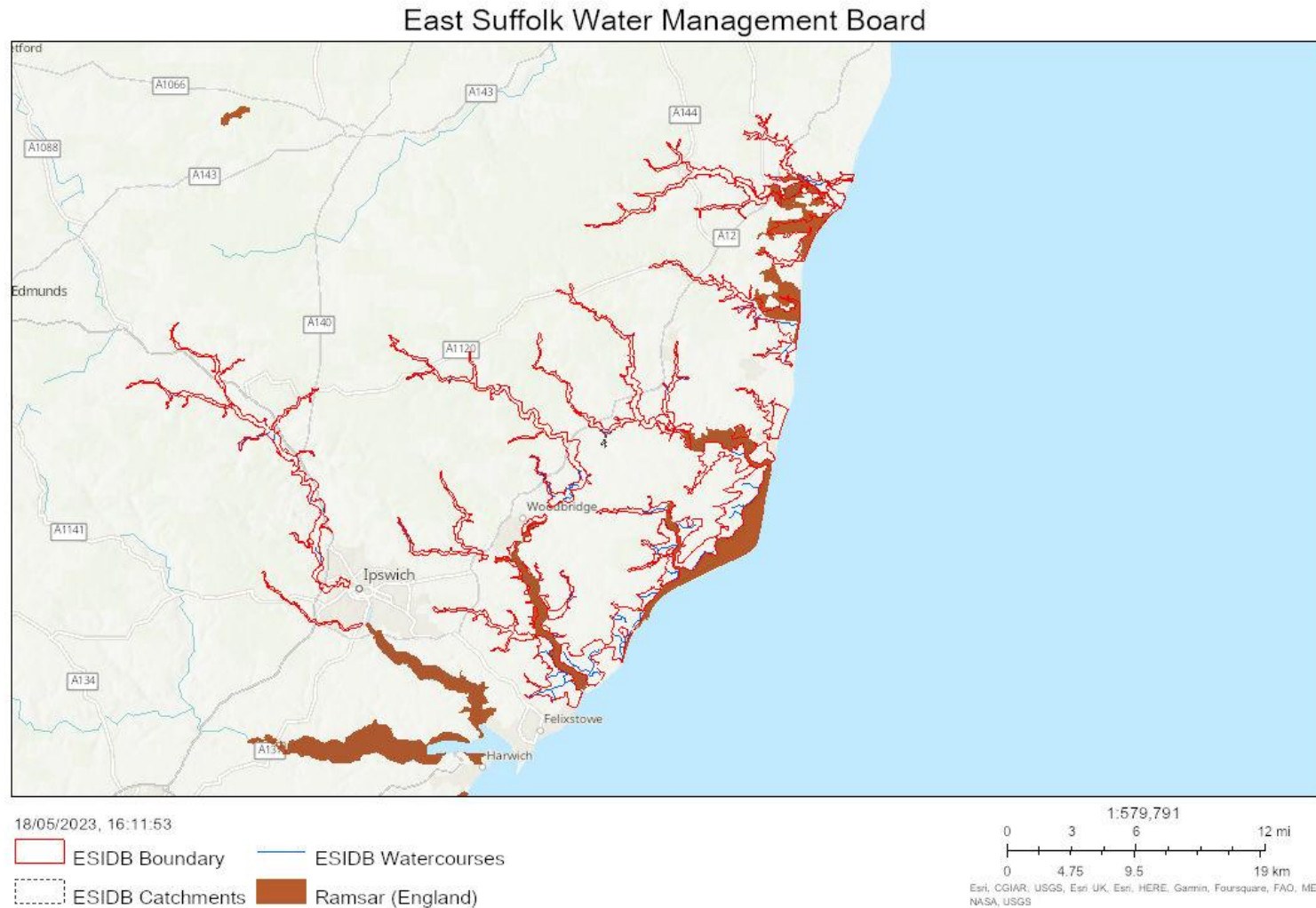
10. Appendices

10.1. Appendix 1: Sites and Monuments

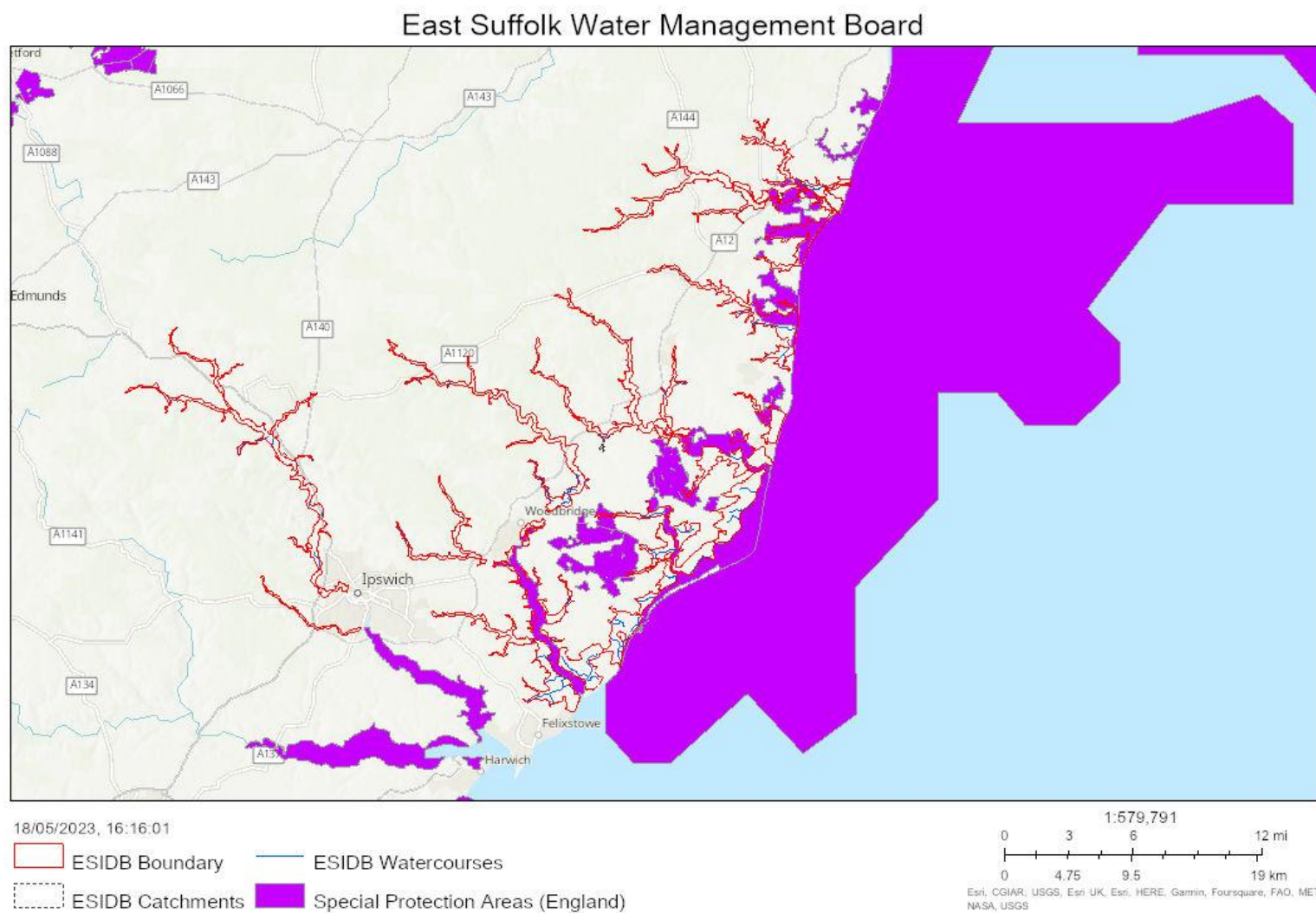
Scheduled Sites and Monuments		
SITE	LOCATION	PROTECTED STATUS
Moated site in Moatyard Covert (SF179)	TM 4501 7952 Wangford with Henham, Waveney, Suffolk,	Scheduled Ancient Monument
Framlingham Castle (SF3)	TM 2855 6382 Framlingham Suffolk Coastal	Scheduled Ancient Monument
Moat Farm, moated site (21296)	TM 2352 6137 Cretingham, Suffolk,	Scheduled Ancient Monument
Moated site at Letheringham Hall (21300)	Letheringham, Suffolk, TM 2796 5803	Scheduled Ancient Monument
Rectilinear Enclosures (SF160)	TM 3767 4589 Boyton, Suffolk	Scheduled Ancient Monument
Settlement Site E of the Cedars (SF178)	TM 3499 4283 Alderton, Suffolk	Scheduled Ancient Monument
Martello Tower at Shingle Street (SF98)	TM 3659 4254 Bawdsey, Suffolk	Scheduled Ancient Monument
Martello Tower by Bawdsey Beach (SF107)	TM 3585 4106 Bawdsey, Suffolk	Scheduled Ancient Monument
Baylam Rowman Site (SF89)	TM 1116 5319 Coddendam, Mid Suffolk	Scheduled Ancient Monument

10.2. Appendix 2: Internationally Designated Sites

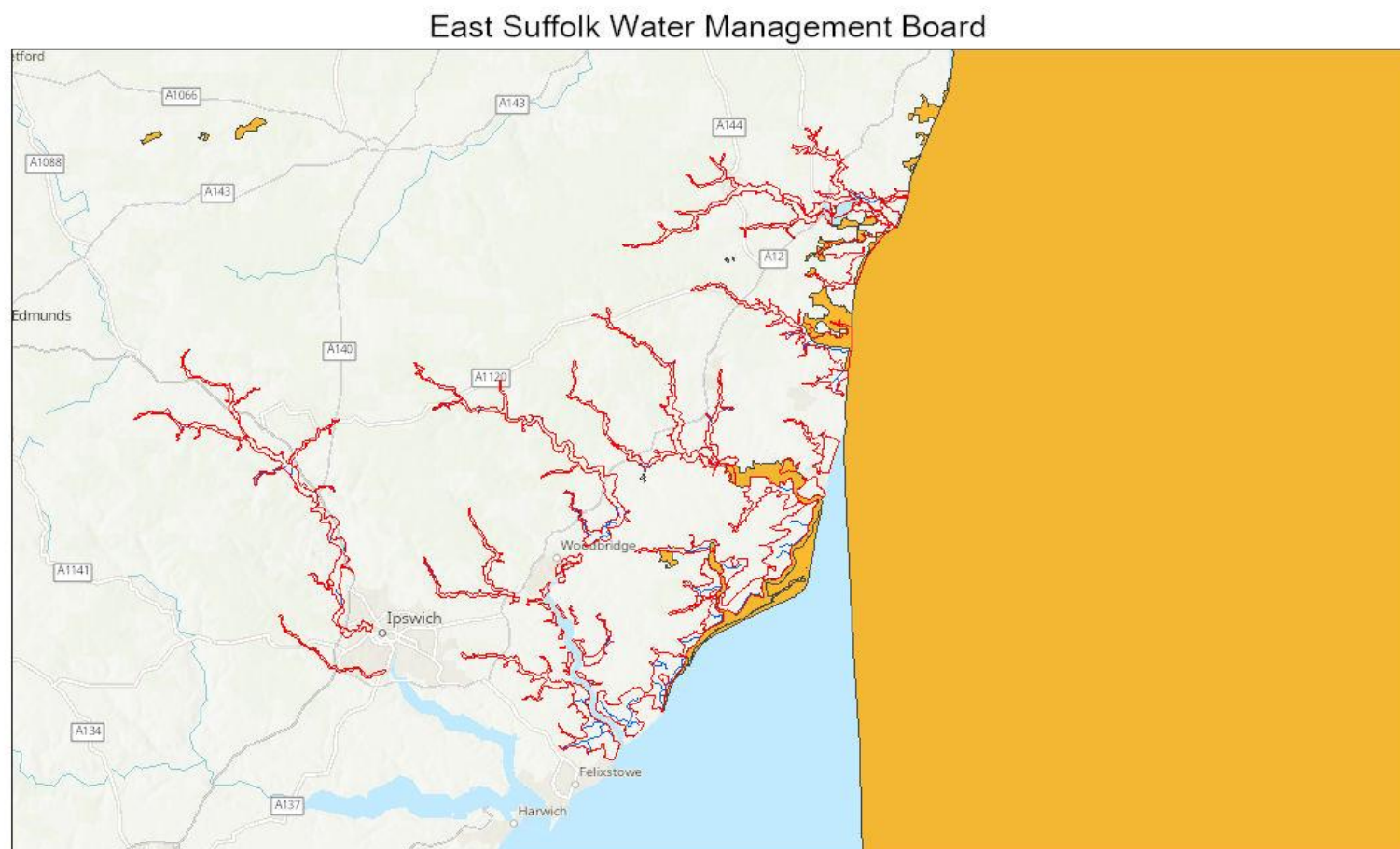
A map displaying Ramsar (England) sites within the ESWMB Boundary. (OS Licence : 100047016)



A map displaying Special Protection Areas (England) sites within the ESWMB Boundary. (OS Licence : 100047016)



A map displaying Special Areas of Conservation (England) sites within the ESWMB Boundary. (OS Licence : 100047016)



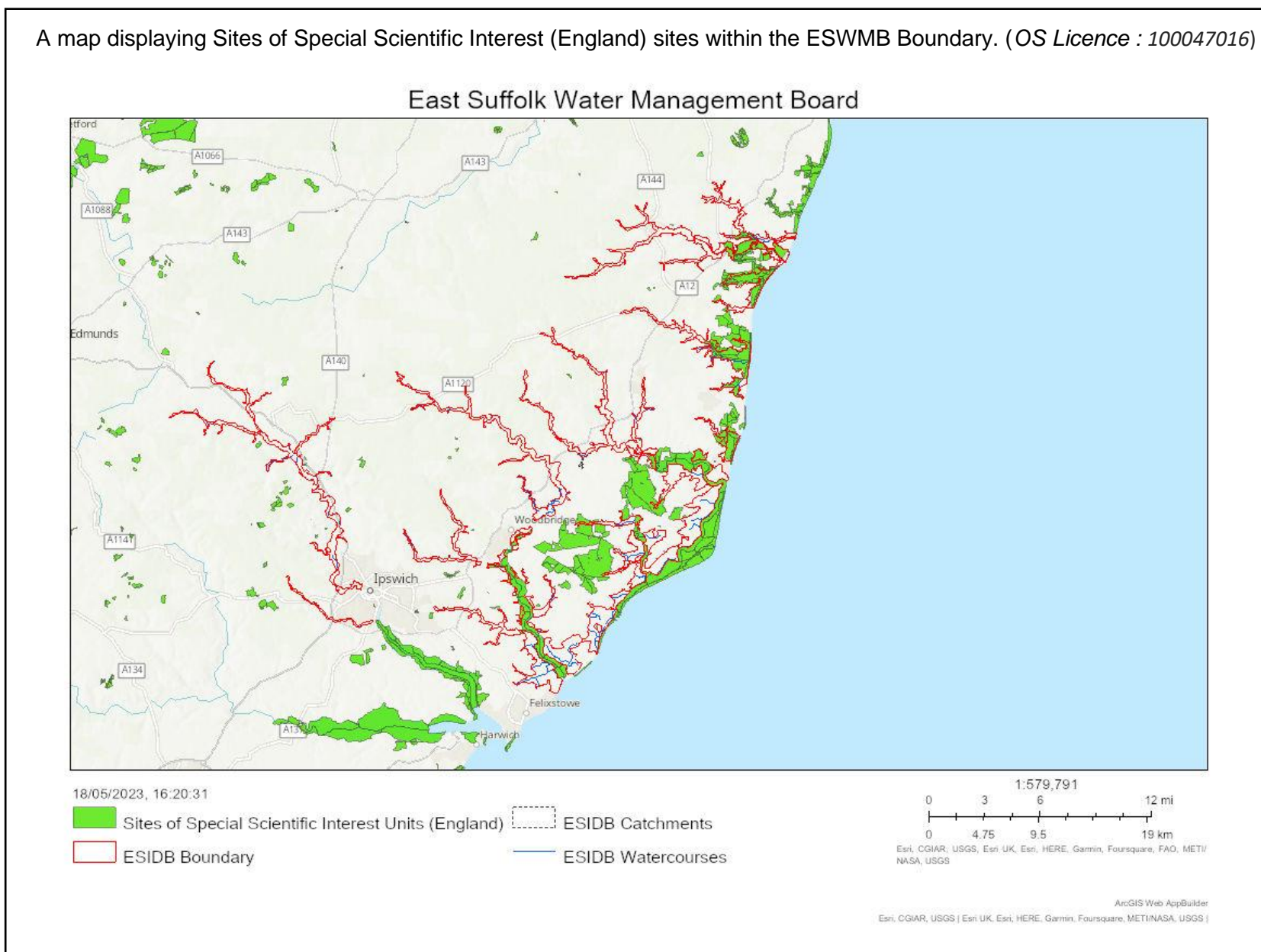
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- ESWMB Boundary
- ESWMB Catchments
- ESWMB Watercourses
- Special Areas of Conservation (England)



10.3. Appendix 3: Nationally Designated Sites

A map displaying Sites of Special Scientific Interest (England) sites within the ESWMB Boundary. (OS Licence : 100047016)



10.4. Appendix 4: Non-Statutory Nature Conservation Sites

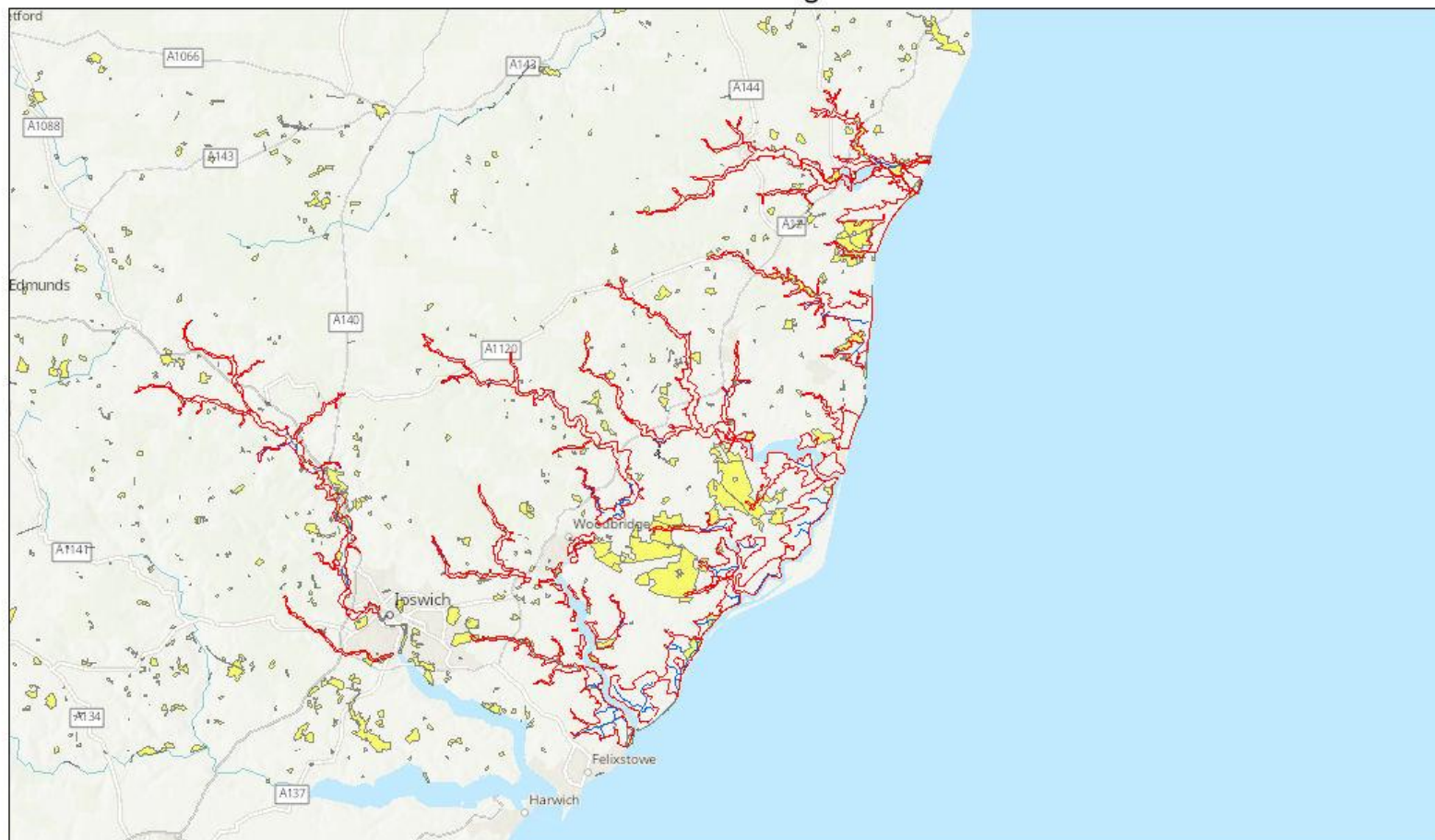
Non-Statutory sites within the ESWMB District – County Wildlife Sites			
Abbey Wood	Creeping St Mary Meadows	Maple Meadow	Sizewell Levels and Associated Areas
Aldeburgh Golf Course	Cubitts Pit	Martlesham Creek	Snape Marshes
Alderson Lake	Darsham Marshes	Martlesham Creek and Sluice Wood	Southern Minsmere Levels
Ashe Abbey Decoy Pond	Dennington Wood	Meadow Cottage Wood	Southwold Denes
Ashground Covert	Dodd's Wood	Minsmere Valley Eastbridge to Reckford Bridge	Spring and Millennium Woods and associated grassland
Ashground Covert and Bobbit's Lane Meadows	Dunwich Forest	Minsmere Valley Reckford Bridge to Beveriche Manor	Sproughton Churchyard
Barham Pits	Dunwich Valley Woods and Grassland	Needham Lake Erratic	Sproughton Park
Baylham Fishpond	Easton Marshes	New Reach River and Marsh	St Felix School Grounds
Belstead Brook Meadow	Egypt Wood	Newbourne Springs Meadows	Stonehill Covert
Benhall Green Meadows	England Covert	Oak Wood	Suffolk Shingle Beaches
Bicker's Heath	Eyke Meadows	Oxley Marshes & River Ore intertidal area	Suffolk Water Park
Birds Folly	Felixstowe Ferry	Playford Alder Carr	The Mount
Blackheath	Fen Alder Carr	Playford Mere	The Oaks
Blythburgh Marshes	Ferry Farm, Marshes	Potsford Wood	Thorington Road Meadows
Boon's Meadow	Greens Meadow	Pumping Station Meadow	Tunstall Forest
Bourne Park Reedbed	Grove Farm Golf Course	Ramsholt Marshes	Ubbeston Wood
Boyton Wood	Havenbeach Marshes	Ramsholt Marshes and Lodge Plantation	Walberswick Saltmarsh
Bramford Meadows	Hazel Wood	Rat River Meadows	Wangford Marshes
Brightwell Grazing Meadows	Henham Marshes	Reckham Pits Wood	Water Wood
Bulcamp Meadow	Holly Hills Wood	Rendlesham Forest	Westleton Common And Adjacent Habitat
Buss Creek	Hurricane Wood	Reves Hall Meadow	Wood Adjacent To River Deben
Buxhall Fen	Ipswich Golf Course	Reydon Fishing Lakes	
Captain's & Sudbourne	Kirton Reservoir	Reydon Marshes	

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Great Woods			
Carmen's Wood	Knodishall Common	River Deben (Sections)	
Cauldwell Hall Farm Marsh	Kyson Meadows	River Fromus Marshes	
Church Farm Meadows	Leiston Common	Rowanwood Cottage Marsh	
Church Meadow	Lion Inn Meadow And Chalk Pit	School Marshes	
Cliff Farm Meadows	Low Nursery	Sharmford Mere	
Cliff Farm Meadows & Nettle Hill Woo	Lower Hacheston Meadow	Shottisham Creek	
Corporation Marshes	Manor Farm Meadows	Shrubland Park	

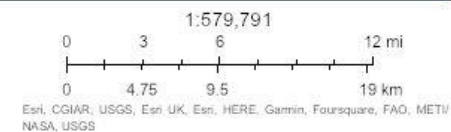
A map displaying Sites of County Wildlife Sites within the ESWMB Boundary. (OS Licence : 100047016)

East Suffolk Water Management Board



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- ESWMB Boundary
- ESWMB Catchments
- ESWMB Watercourses
- County Wildlife Sites



10.5. Appendix 5: Biodiversity Action Plan Objectives

East Suffolk WMB Biodiversity Action Plan Objectives	
1	Continue to maintain or enhance the existing extent and quality of Coastal and Floodplain Grazing Marsh within the boards area via the delivery of Capital Schemes and or watercourse enhancement.
2	Implement restoration of reedbeds and WLMP objectives for designated sites within the boards area and identify opportunities elsewhere to restore or enhance reedbed.
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 watercourses.
6	Implement restoration of watercourses and WLMP objectives within the water management district.
7	Continue to enhance the range and population of Barn Owls and Kestrels by maintaining or enhancing habitat availability and creating nesting opportunities, within the catchment area.
8	Work in partnership to enhance wet grassland for breeding waders within the Boards area.
9	Contribute toward the Eel Regulations legislative requirements (2009) and the Eel Management Plan.
10	Undertake EDNA water sampling for Eel
11	Maintain and where possible increase the range of Grass Snake within the Board's area.
12	Understand the status, distribution and ecology of bats in the WMB district
13	Maintain and enhance the current distribution and abundance of bats within the Board's area.
14	Control mink within the WMB catchment
15	Better understand population and extent of water voles within the Boards area.

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16	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 WMB District.
17	Maintain and enhance the current distribution and abundance of the water vole in the WMB District
18	Establish Black Poplar at appropriate sites within the WMB district
19	Promote the prevention, control and eradication of non-native invasive species within the Board's area.
20	Raise awareness of the presence and undertake control or eradication of mink in the catchment

10.6. Appendix 6: Habitats and Species Action Plans

East Suffolk WMB Biodiversity Action Plan Actions		Partners	Date
COASTAL AND FLOODPLAIN GRAZING MARSH			
1a	Continue to work in partnership with stakeholders to look for opportunities, to enhance grazing marshes by appropriate water level management practice through maintenance or partnership working	SWT, RSPB, NE, EA, Landowners	Ongoing
1b	Work in partnership with the Suffolk Wader Strategy Group	Suffolk Wader Strategy Group	Ongoing
1c	Where funding opportunities arise, prioritise and undertake a review of WLMPs in ESWMB SSSIs over the next 5 year period.	NE	Ongoing
1d	Work in partnership via the Local Nature Recovery Strategy partnerships to look for opportunities to enhance grazing marshes through involvement in projects.	SCC	Ongoing
REEDBEDS			
2a	Continue to work in partnership with stakeholders to look for opportunities, to enhance reedbeds by appropriate water level management practice	RSPB, NE	Ongoing
2b	Identify potential sites for habitat restoration and expansion within the WMB area during WLMP and Capital Scheme delivery and consider future management planning on these sites during this process.	NE, EA, SRT, SWT, Landowners	Ongoing
2c	Enhance and maintain reedbed fringe habitat on the Boards main drains.	WMB Ops	Ongoing
2d	Explore opportunities to create new reedbeds and link with other reedbed projects to create corridors for wildlife.	NE, EA, SRT, SWT, Landowners	Ongoing

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	Work in partnership via the Local Nature Recovery Strategy partnerships to look for opportunities to enhance reedbeds through involvement in projects.	SCC	Ongoing
	Continue to maintain and enhance reedbed habitat through ensuring the appropriate management to water levels maintained by the board.	Landowners	Ongoing
RIVERS, CANALS AND DRAINS			
3a	Work with the planning department to review the boards culverting policy	Planning Department	2024
3b	Continue to maintain and enhance river and drain habitat through ensuring the appropriate management to water levels maintained by the board.	Landowners	Ongoing
4a	Record species present in watercourses managed by the board	SBIS	Ongoing
4b	Work in partnership with the EA to report pollution incidents within the water management district	EA	Ongoing
5a	Review SMO when any material change occurs or otherwise every 5 years.	NE	2023
5b	Ensure compliance with the WMB 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.		Annually
6a	Work in partnership via the Local Nature Recovery Strategy partnerships to look for opportunities to undertake watercourse restoration through involvement in projects.	SCC	Ongoing
BARN OWL AND KESTREL			
7a	Investigate opportunity to work with Suffolk Community Barn Owl Project or WCP in East Suffolk	Suffolk Community Barn owl Project, WCP	2024
7b	Monitor nest boxes within the WMB area working in partnership with the Suffolk Community Barn Owl Project		Ongoing
7c	Maintain, repair or replace nest boxes in the WMB area working in partnership with the Suffolk Community Barn Owl Project	Suffolk Community Barn Owl	Ongoing

		Project	
7d	Continue to maintain sward height during bankside maintenance mowing of 150mm.	Staff, Contractors	Ongoing
BREEDING WADERS			
8a	Attend the Suffolk Wader Strategy Group meetings	Suffolk Wader Strategy Group	Annually
8b	Continue to maintain and enhance breeding wader habitats through ensuring the appropriate management to water levels maintained by the board.	Landowners	Ongoing
8c	Look at opportunities to create scrapes and foot drains whilst working with landowners.	RSPB, SWT, BTO	Ongoing
8d	Look for opportunities when undertaking Capital schemes to improve habitat for wading birds	Suffolk Wader Strategy Group, RSPB, NE, SWT	Ongoing
EUROPEAN EEL			
9a	Work in Partnership with the Environment Agency to access the current status of Eel populations at pumping stations within the Boards Area.	EA, ZSL	Ongoing
9b	Work in Partnership with the Environment Agency to identify barriers to migration in the Boards area and assess options for overcoming these.	EA, ZSL	Ongoing
10a	Undertake EDNA water sampling at pumping stations for fish, including Eel (As part of pumping station replacement)	EA	Ongoing
10b	Report EDNA results to the SBIS	SBIS	Ongoing
9b	Report EDNA results to the SBIS	SBIS	Ongoing
GRASS SNAKE			

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11a	Determine the extent and distribution of the existing populations at the Board's pumping stations and on key drains using ESRI maps and working in partnership with ARG UK.	SBIS	Ongoing
11b	Using the distribution data, develop Hibernacula and egg laying sites at pumping stations or key locations where appropriate.		Ongoing
BATS			
12a	Survey and monitor bat presence around WMB pumping stations as part of the BTO Bat Survey.	BTO	Ongoing
12b	Ensure survey training is delivered to all environment officers.		Ongoing
13a	Install bat boxes for roosting and hibernation on suitable WMB structures.		Ongoing
13b	Continue to work with consultants for capital schemes involving bat mitigation and habitat enhancements.	Consultants, Landowners	Ongoing
WATER VOLE			
14a	Continue to contribute funding to the Water Life Recovery Trust.	WLRE, SWT	Annually
14b	Continue to work with the WLRT on mink eradication.	WLRE, Suffolk Wildlife Trust	Annually
15a	Undertake yearly recording by operational staff and report to local biodiversity record centre.	SBIS	Annually
16a	Ensure compliance with the WMB SMO by auditing 4 jobs per year jobs, to ensure they are being carried out sensitively and to an agreed standard across the Board.		Annually
17a	Take opportunities to enhance water vole habitat during Capital or river/wetland restoration schemes.	NE, EA, NWT, RSPB, Landowners	Ongoing
NATIVE BLACK POPLAR			
18a	Liaise with the Suffolk Black Poplar Working Group to identify suitable sites and opportunities for planting Native Black Poplar within the WMB district	SCC, Suffolk Black Poplar Working Group	Ongoing

18b	Plant young Black Poplar at suitable sites	SCC	Ongoing
NON NATIVE INVASIVE SPECIES			
19a	Establish a partnership with the SBIS to receive up to date records of Invasives within the local area.	SBIS	Ongoing
19b	Continue to work in partnership with SWT and WLRT and look to work in partnership with other organisations such as Essex and Suffolk Rivers Trust to continue the fight against Non-Native Species.	WLRE, ESRT	Ongoing
19c	Maintain records for all species of concern using the 'iRecord' app.	Staff, Contractors	Ongoing
19d	Train staff regularly in key non-native species identification.	Staff, Contractors	Ongoing
19e	Ensure availability and regular review of identification guides developed for key non-native species to be used by officers, staff and contractors on site.	Staff, Contractors	Ongoing
19f	Regularly review and ensure robust biosecurity measures are being maintained across the Board.	Staff, Contractors	Ongoing
20a	To continue to work in partnership and contribute to the WLRT	WLRE	Ongoing