Pevensey and Cuckmere
Water Level Management Board

# BIODIVERSITY ACTION PLAN

April 2018






Front cover images (L-R) Kestrel ©Heather Smithers; Barn Owl; Floating Pennywort; Fen Raft Spider ©Charlie Jackson; Water Vole; Otter

## FOREWORD

This Biodiversity Action Plan has been prepared by the Pevensey and Cuckmere Water Level Management Board in accordance with the commitment in the Implementation Plan of the DEFRA Internal Drainage Board Review for IDB's, to produce their own Biodiversity Action Plans by April 2010. This aims to align this BAP with the Sussex Biodiversity Action Plan.

The document also demonstrates the Board's commitment to fulfilling its duty as a public body under the Natural Environment and Rural Communities Act 2006 to conserve biodiversity.

Many of the Board's activities have benefits and opportunities for biodiversity, not least its water level management and ditch maintenance work. It is hoped that this Biodiversity Action Plan will help the Board to maximise the biodiversity benefits from its activities and demonstrate its contribution to the Government's UK Biodiversity Action Plan targets as part of the Biodiversity 2020 strategy.

The Board has adopted the Biodiversity Action Plan as one of its policies and subject to available resources is committed to its implementation. It will review the plan periodically and update it as appropriate.

Bill Gower
Chairman of the Board

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## ABBREVIATIONS AND ACRONYMS USED WITHIN THIS DOCUMENT

| | |
|---|---|
| **AONB** | Area of Outstanding Natural Beauty |
| **BA** | Broads Authority |
| **BAP** | Biodiversity Action Plan |
| **CWS** | County Wildlife Site |
| **DEFRA** | Department for the Environment, Food and Rural Affairs |
| **EA** | Environment Agency |
| **FWAG** | Farming and Wildlife Advisory Group |
| **GIS** | Geographic Information Systems |
| **Ha** | Hectare |
| **LA** | Local Authority |
| **LBAP** | Local Biodiversity Action Plan |
| **LNR** | Local Nature Reserve |
| **NCA** | National Character Areas |
| **NE** | Natural England |
| **NERC** | Natural Environment and Rural Communities |
| **NNR** | National Nature Reserve |
| **PCWLMB** | Pevensey and Cuckmere Water Level Management Board |
| **RAMSAR** | Wetland of International Importance (after Ramsar Convention 1971) |
| **SAC** | Special Area for Conservation |
| **SBIS** | Sussex Biological Information Services |
| **SBRC** | Sussex Biological Records Centre |
| **SAP** | Species Action Plan |
| **SMART** | Specific, Measurable, Achievable, Relevant and Time limited |
| **SMO** | Standard Maintenance Operations |
| **SPA** | Special Protection Area |
| **SSSI** | Site of Special Scientific Interest |
| **SWT** | Sussex Wildlife Trust |
| **WMA** | Water Management Alliance |
| **WLMP** | Water Level Management Plan |

# 1. WLMB BIODIVERSITY – AN INTRODUCTION

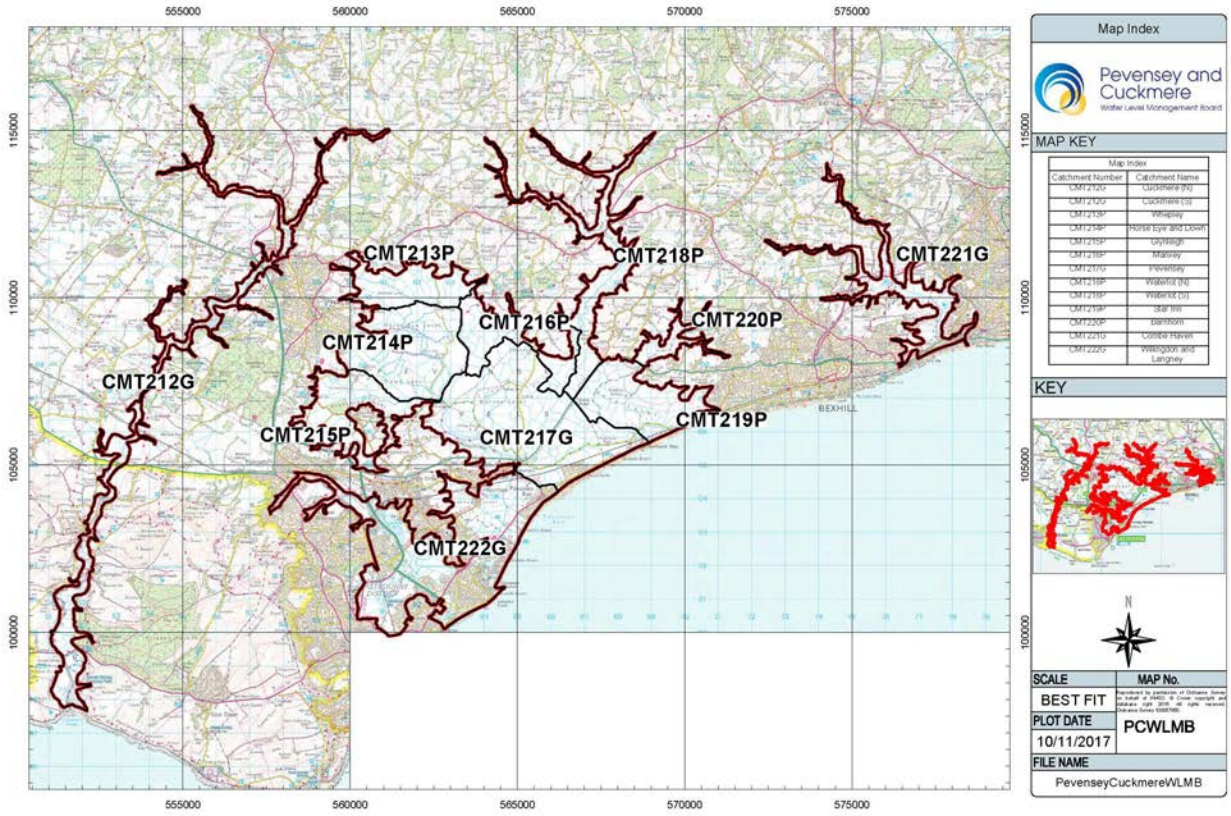
## 1.1 Introduction

The Pevensey and Cuckmere Water Level Management Board has conducted a biodiversity audit of its district and identified those habitats and species that would benefit from particular management or actions by the WLMB. Using this information, which is presented in later sections, the Pevensey and Cuckmere WLMB's Biodiversity Action Plan has been developed. The Plan identifies objectives for the conservation and enhancement of biodiversity within the drainage district, and goes on to describe targets and actions that will hopefully deliver these objectives. The intention is to integrate, as appropriate, biodiversity into the Board's activities, such as annual maintenance programmes and capital works projects, subject to available resources which can lead to habitat improvements and population enhancement for many different species within a catchment.

The action plan will help to safeguard the biodiversity of the drainage district now and for future generations. In particular, it is hoped that implementing the plan will contribute to the achievement of local and national targets for BAP priority species and habitats, now incorporated into S41 of the Natural Environment and Rural Communities Act 2006. For consistency they are referred to as BAP habitats and species. Species and habitats which are not listed in S41 but may be locally significant for a variety of reasons have also been considered.

The Plan is an evolving document that will be reviewed and updated on a regular basis. It covers the entire drainage district of the WLMB, as shown in Map 1.

*Map 1: Pevensey and Cuckmere Water Level Management Board*



### 1.2 What is Biodiversity?

The Convention on Biodiversity agreed at the Earth Summit in Rio de Janeiro in 1992 defined biodiversity as:

*"The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."*

Biodiversity can be defined simply as "the variety of life" and encompasses the whole spectrum of living organisms, including plants, birds, mammals, and insects. It includes both common and rare species, as well as the genetic diversity within species. Biodiversity also refers to the habitats and ecosystems that support these species.

### 1.3 The Importance of Conserving Biodiversity

Biodiversity is a vital resource and it is essential to acknowledge its importance to our lives along with the range of benefits that it produces:

- Supply of ecosystem services – water, nutrients, climate change mitigation, pollination
- Life resources – food, medicine, energy and raw materials
- Improved health and well-being
- Landscape and cultural distinctiveness
- Direct economic benefits from biodiversity resources and 'added value' through local economic activity and tourism
- Educational, recreational and amenity resources

### 1.4 Biodiversity – The International Context

The international commitment to halt the worldwide loss of habitats and species and their genetic resources was agreed in 1992 at United Nations Conference on the Environment and Development, commonly known as the Rio Earth Summit. Over 150 countries, including the United Kingdom, signed the Convention on Biological Diversity, pledging to contribute to the conservation of biodiversity at the global level. These states made a commitment to draw up national strategies to address the losses to global biodiversity and to resolve how economic development could go hand in hand with the maintenance of biodiversity.

The Rio Convention included a global commitment to achieve by 2010 a significant reduction in rate of loss of biodiversity at the global, regional and national level.

A World Summit on Sustainable Development in Johannesburg in 2002 subsequently endorsed this target and in 2010, over 190 countries signed an historic global agreement in Nagoya, Japan to take urgent and effective action to halt the alarming global declines in biodiversity.

### 1.5 Biodiversity – The National Context

Before 2010, the UK Biodiversity Action Plan (UK BAP) was the UK commitment to Article 6A of the Rio Convention on Biological Diversity. It described the UK's priority species and habitats, and sought to benefit specific priority habitats and species. It also identified other key areas for action such as the building of partnerships for conserving biodiversity and gathering vital biodiversity data.

Following on from UK BAP and the outcomes delivered by Biodiversity 2010 and the previous biodiversity strategy for England, 'Working with the grain of nature' (2002) ,it was decided that each UK country should have its own biodiversity strategy, as this allows for conservation approaches to be tailored to the varying conditions within different areas of the UK.

The most recent England biodiversity strategy, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra in 2011. 'Biodiversity 2020' provides a picture of how England is implementing its international and EU commitments toward biodiversity, setting out a strategic direction for biodiversity policy for land and sea and builds on the successful work achieved by Biodiversity 2010. The England Biodiversity Strategy is chaired by Defra.

The 'Biodiversity 2020' document sets out to deliver outcomes through action in four areas:

- A more integrated large-scale approach to conservation on land and at sea
- Putting people at the heart of biodiversity policy
- Reducing environmental pressures
- Improving our knowledge

Water Management is considered to be one of a series of key sectors for the positive influence on biodiversity.

### 1.6 The Biodiversity Action Plan Framework and the Local Context

The Pevensey and Cuckmere WLMB Biodiversity Action Plan is part of a much larger biodiversity framework that encompasses international, national and local levels of biodiversity action planning and conservation. For the Biodiversity Action Plan to be implemented successfully it requires some means of ensuring that the national strategy is translated into effective action at the local level. The targets for the management, enhancement, restoration, and creation of habitats and species populations have therefore been translated into targets in Local Biodiversity Action Plans (LBAPs), which tend to operate at the county level. The principle aim of the PCWLMB Biodiversity Action Plan is that it reflects the biodiversity targets of the local Biodiversity Action Plan for Sussex as well as incorporating, where appropriate, the S41 habitats and species.

### 1.7 Internal Drainage Boards and Biodiversity

The Natural Environment and Rural Communities Act 2006 places a duty on IDBs to conserve biodiversity. As a public body, every IDB must have regard in exercising its functions, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

The Act states that conserving biodiversity includes restoring or enhancing a population or habitat. In so doing, an IDB should have regard to the list published by the Secretary of State of living organisms and types of habitat that are of principal importance for the purpose of conserving biodiversity. In effect, this list comprises the Biodiversity Action Plan priority species and habitats for England.

In 2007, the Government's IDB Review Implementation Plan established a commitment that IDBs should produce their own Biodiversity Action Plans.

Since This PCWLMB Biodiversity Action Plan has been produced to help fulfil these requirements and seeks to set out targets and actions that complement the UK Biodiversity Action Plan (S41) and Local Biodiversity Action Plans.

### 1.8 The Aims of the WLMB Biodiversity Action Plan

The aims of this WLMB 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, wherever possible, makes a positive contribution to the enhancement of the biodiversity and the natural environment.
- To ensure that priority habitat and species targets from the UK Biodiversity Action Plan and the local LBAP are translated into effective action within the drainage district.
- To identify targets for other habitats and species of local importance within the drainage district.
- To develop effective local partnerships to ensure that programs for biodiversity conservation are maintained in the long term.
- To raise awareness within the PCWLMB and locally of the need for biodiversity conservation, and to provide guidance to landowners, occupiers and their representatives on biodiversity and inland water management.
- To ensure that opportunities for conservation and enhancement of biodiversity are fully considered throughout the WLMB's operations, and
- To monitor and report on progress in biodiversity conservation.

## 2. THE WLMB ACTION PLAN PROCESS

### 2.1 The Biodiversity Audit

To produce this WLMB Biodiversity Action Plan, information on the habitats and species present in the catchment was first obtained. This "Biodiversity Audit" involved the collation of existing data held by the PCWLMB and by other biodiversity partners, notably the Sussex Biological Records Centre.

### 2.2 Evaluating and Prioritising Habitats and Species

The Biodiversity Audit identified those priority habitats and species listed in the NERC Act, the UK Biodiversity Action Plan and the Local Biodiversity Action Plan that can be found in the drainage district, together with protected species. Additional non-BAP habitats and species deemed to be important within the drainage district were also identified.

Further habitats and species, together with revised targets and actions, may be made in the future, as knowledge is improved and delivery of the Pevensey and Cuckmere WLMB BAP is reviewed.

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

This Pevensey and Cuckmere Biodiversity Action Plan aims to deliver benefits to a range of species by means of the consideration and implementation of appropriate management, enhancement and protection of important habitats within the Board's area.

### 2.3 Setting Objectives, Actions and Indicators

For each habitat and species identified as being important to the WLMB, conservation objectives and actions have been drawn up and set out in the Plan; this includes the identification of certain species which may benefit from the Plan. The objectives express the WLMB's broad aims for benefiting a particular habitat or species. The related actions have been set to focus Pevensey and Cuckmere WLMB programmes of action and to identify outcomes that can be monitored to measure achievement. For each action an indicator has been set – a measurable feature of the action that, when monitored over time, allows delivery to be assessed.

In order for this BAP to be as effective as possible the actions have been devised to be SMART (Specific, Measurable, Achievable, Relevant and Time-limited). These actions are considered to be proportionate and practicable given the resources available.

Procedural targets have also been considered. These are targets that the Board will use to measure the way in which it considers and incorporates biodiversity across the whole range of its operations. These may involve changes to administrative, management and operating procedures.

### 2.4 Implementation

Once objectives have been set for habitats and species, it is important that the actions to deliver the Biodiversity Action Plan are described and carried out. The Plan sets out how the Board intends to implement the actions in the plan, often in partnership with other organisations or individuals.

### 2.5 Monitoring

Achievement of the Plan actions will be measured by a programme of monitoring which the Board will undertake, in some instances with assistance from its partners, and the methods to be used are described in the Plan.

### 2.6 Reporting and Reviewing Progress

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

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

# 3. CURRENT ECOLOGICAL AND GEOLOGICAL STATUS

## 3.1 The Drainage District

The Pevensey and Cuckmere WLMB district has a total catchment of approximately 53100 ha and with approximately contains 103 km of PCWLMB-maintained watercourses. It includes the rural areas of the High and Low Weald to the north of the catchment and the South Downs to the south. At the downstream end of the catchment are the towns of Eastbourne, Pevensey, Bexhill and Hastings. The district may be considered in three sections, each reflecting catchments, Cuckmere (7.2 km drains), the Pevensey levels (95.5 km drains) and Combe Haven (0.45 km drains).

The Cuckmere River rises near Heathfield and flows to reach the Channel at Cuckmere Haven. The PCWLMB does not manage the main channel, but manages the Freshwater Stream and Milton Hide Stream.

The Pevensey Levels is grazing marsh with internal ditches which covers 4300 hectares between Eastbourne and Bexhill-on-Sea and outfalls to the sea at Pevensey. Management is shared with the Environment Agency. Levels are controlled via structures and pumping stations.

Much of Combe Haven is a rural catchment which discharges to the sea west of St Leonards. The Powdermill and Watermill Streams drain to the Combe Haven merging with the Hollington Stream just before it discharges to the sea.

## 3.2 Geology

The Pevensey and Cuckmere WLMB district is bordered by the chalk of the South Downs to the west and the sandstones of the High Weald to the north and east with the coast to the south.

In the west, the Cuckmere valley has a distinctive shape, being very narrow with a variety of geological cover. The catchment covers the cross-section of Wealden geology from Ashdown Sandstone in the north through Weald Clay to chalk. The middle and lower reaches of the catchment within the Drainage district are floored by Weald Clay with small tracts of Upper and Lower Greensand, Gault Clay and Chalk.

The Pevensey Levels in the centre of the of the Pevensey and Cuckmere WLMB district comprise the low-lying area between Eastbourne and Bexhill-on-Sea, East Sussex and their formation was dominated by the changing relationship between land and sea. The Levels themselves are a complex inter-bedded sequence of marine silts and clays with a fragmented peat layer of variable thickness. This is generally overlain by at least one and a half metres of clay. The soils developed upon these substrates are described as "deep stoneless, mainly calcareous clayey soils of the Newchurch series of the Wallasea sub-group" (British Geological Survey, 1987). The wetland catchment is delimited by the Chalk of the South Downs to the south-west, the foothills of the Weald to the North, composed mainly of Tunbridge Wells Sands, and outcrops of Wadhurst and Weald Clays to the east and west. The southern boundary is formed by a shingle barrier beach which isolates the wetland from the sea.

Combe Haven lies on geology of sandstone (Lower Tunbridge Wells), siltstone and mudstone.

## 3.3 Landscape

### 3.3.1 Landscape Designations

The Waterlot North catchment component, to the extreme north of the Pevensey Levels drainage district, falls within High Weald Area of Outstanding Natural Beauty.

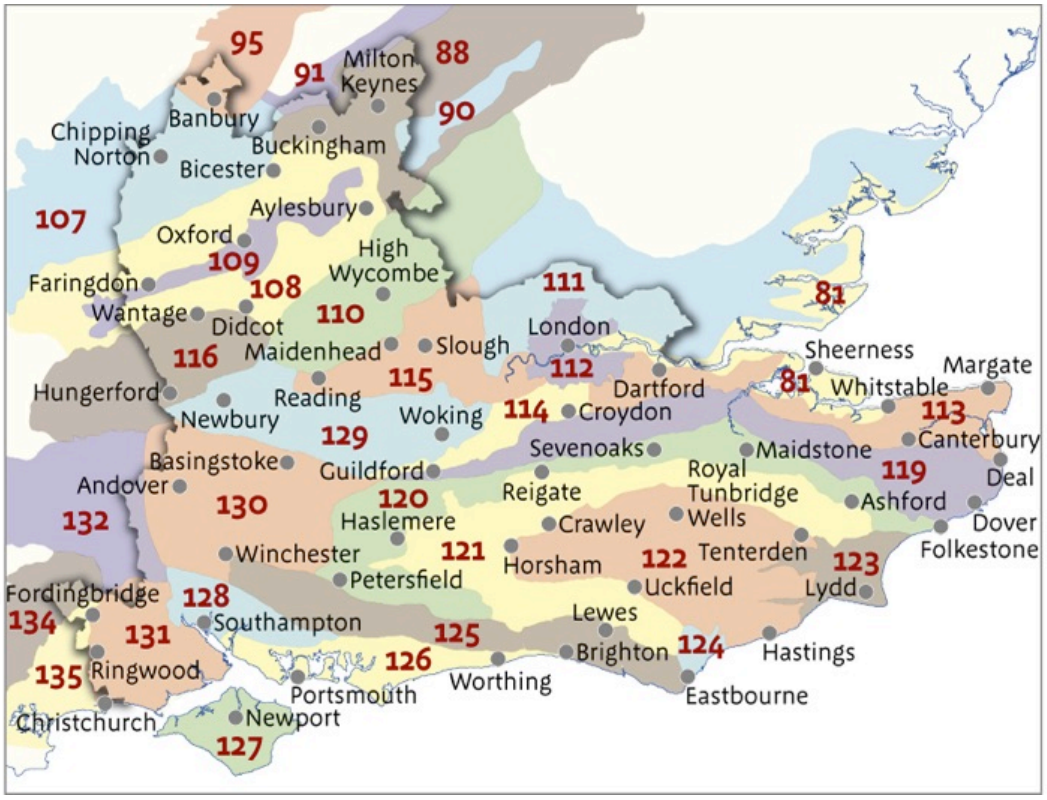
### 3.3.2 Landscape Character

Natural England has divided the whole of England into a number of National Character Areas (NCA) based on characteristic landforms, wildlife and land use (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 area within Pevensey and Cuckmere WLMB falls under three of these National Character Areas, High Weald (Area 122), Pevensey Levels (Area 124) and South Downs (Area 125).

*Map 2: NCA areas of the South East of England*




### 3.3.3 Sites and Monuments Records

No information for sites and monuments was obtained as part of the audit. The Board consults with English Heritage and the Sussex County Council Archaeology Service prior to Capital works taking place or where ground breaking in areas other than general maintenance is required.

### 3.3.4 Tree Preservation Orders

The Board will continue to carry out searches prior to tree works, as required, to prevent any new Tree Preservation Orders being missed.

## 3.4 Statutory Nature Conservation Sites

### 3.4.1 Nationally, Internationally Designated Nature Conservation Sites and Water Level Management Plans

Within the Boards area are a number of nationally designated nature conservation sites, some of which also have international designations. Table 1 as follows, gives a summary of all the statutory nature conservation sites in and adjacent to the PC WLMBs' area, with their national and international designations and UK BAP habitat.

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

*Table 1: Nationally, Internationally Designated Nature Conservation Sites and Water Level Management Plans*

| Site name | National Designation | International Designation | WLMP | UK BAP Priority Habitat Description |
|---|---|---|---|---|
| ***Cuckmere*** | | | | |
| Arlington Reservoir | SSSI | | | Open water |
| Milton Gate Marsh | SSSI | | | Grazing marsh/ valley fen |
| Seaford to Beachy Head | SSSI | | | River meanders |
| ***Pevensey*** | | | | |
| Pevensey Levels | SSSI, NNR | SAC, Ramsar | Yes | Grazing marsh, ditches, reedbed, wet woodland |
| Ashburnham Park | SSSI | | | |
| ***Combe Haven*** | | | | |
| Combe Haven | SSSI | | | Grazing meadows, reedbed, ditches |

### 3.4.2 Local Nature Reserves

The following Local Nature Reserves, which are designated by local authorities under Section 21 of the National Parks and Access to the Countryside Act 1949, are found within the district:

*Table 2: Local Designations*

| Site name | Local Designation |
|---|---|
| Arlington Reservoir | LNR |
| Seaford Head | LNR |
| Filsham Reedbed | LNR |

### 3.5 Non-statutory Local Sites

A number of sites have been identified locally as being important for wildlife. Whilst these designations do not have statutory status, the sites themselves are important for their contribution to biodiversity and planning policy requires that they are given consideration. Table 3 shows those local sites found within or bordering the drainage district. Appendix IV shows non statutory local sites within or bordering the WLMB drainage district.

*Table 3: County Wildlife Sites*

| **County Wildlife Sites** | | |
|---|---|---|
| Woodland Complex at Buckholt Farm | Cooden Cliffs | Beatons Wood |
| Marshy Grassland and Reedbed, Glyne Gap | Brays Hill Meadow | Friston Forest |
| Disused Railway, Bexhill | Fore Wood | Michelham Priory |
| Shingle Beach at Normans Bay | Rough Wood and Whites Wood, Ninfield | Abbots & Wilmington Wood & Milton Hide |
| Langney Levels | Crumbles Sewer | Leeds Avenue Reed Bed |
| Langney Sewer | Langney Centre Pond | Hampden Park and Ham Shaw |
| Prince William Parade | Horsey Sewer | Sovereign Harbour Beaches |
| Langney Crematorium | Highfield Industrial Estate | Old Filsham Golf Course |
| Bulverhythe Shingle Beach and Cliffs | Wishing Tree | South Saxons |
| Glyne Gap | Filsham Reedbed | |

# 4. HABITATS

## 4.1 Introduction and Rational

The broad aim of the latest version of the Pevensey and Cuckmere WLMB Biodiversity Action Plan is to shift the emphasis toward a more habitat focused plan. The rational is that by managing and enhancing habitats, there is an increased potential to provide a broad benefit to a wide range of species. The species that could potentially benefit from these Habitat Action Plans are included within the sections covering each Habitat Action Plan.

## 4.2 Habitat Audit Summary

This habitat audit summary lists the broad habitat types and UK BAP priority habitats that occur within the PCWLMB district as identified by the information gathering exercise. Habitats that are of potential importance for the PCWLMB, where water level management or other PCWLMB activities may be of benefit, are identified.

*Table 4: Habitat Audit Summary*

| Broad Habitat Types | UK BAP Priority Habitat | Local BAP Habitat | Habitat of Importance for WLMB | | | Comment |
|---|---|---|---|---|---|---|
| | | | Cuckmere | Pevensey Levels | Combe Haven | |
| Broad-leaved Mixed & Yew Woodland | Wet woodland | | Yes | Yes | Yes | Small areas |
| | Lowland Mixed Deciduous Woodland | | Yes | Yes | Yes | |
| | Wood pasture and parkland | | | Yes | | |
| | Traditional Orchard | | Yes | | | |
| | | Ghyll Woodland | Yes | Yes | Yes | Limited to head of catchment |
| Rivers & Streams | Chalk River | | | Yes | | |
| Standing Open Water & Canals | Ponds | | Yes | Yes | Yes | Isolated |
| | Eutrophic standing water | | Yes | Yes | Yes | |
| Fen, Marsh and Swamp | Reedbed | | Yes | Yes | Yes | Small areas |
| | Fen | | Yes | Yes | Yes | Small areas |
| Improved Grassland | Coastal and floodplain grazing marsh | | Yes | Yes | Yes | Dominant Priority Habitat |
| Littoral sediment | Saline lagoon | | Yes | Yes | | |
| | Coastal saltmarsh | | Yes | | | |

## 4.3 Habitats of Importance for the IDB

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

- Wet woodlands
- Coastal and Floodplain Grazing Marsh
- Reedbed
- Fens

The PCWLMB have considered the actions proposed in the Sussex LBAP and have used this as guidance in the synthesis of WLMB objectives and targets for action. WLMB actions are formalised within the tables below:

### 4.3.1 Wet Woodlands

Wet woodland occurs on waterlogged or seasonally waterlogged soils. They are frequently associated with river valleys, flood plains flushes and plateau woodlands.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
|---|
| **A.** Work closely with Sussex Wildlife Trust and Natural England and members of the Catchment Partnership to ensure Wet Woodland is considered within the consultation process prior to maintenance and other works. |

*Table 5: PC WLMB Wet Woodland Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **1.** Carry out a desk study audit of wet woodland and record locations in the WLMB area. | | 2018 -19 |

#### *4.3.1.1 Current Status*

The habitat type has been poorly recorded nationally and within Sussex. However, it is estimated that nationally there is between 50,000 - 70,000 ha of wet woodland. Sussex is considered to hold in the region of 570 ha of deciduous woodland in frequently flooded areas. Only present in small patches within the PCWLMB district. The locations of this habitat are shown on plans in Appendix V.

#### *4.3.1.2 Priority Species benefiting from Wet Woodland Habitat Action Plan (Table 5)*

- Otter
- All Bat species
- Spotted Flycatcher
- Song Thrush
- BAP invertebrates including weevil, beetle, cranefly and hoverfly
- BAP Liverwort - Veilwort

#### *4.3.1.3 Threats in Sussex*

- Succession causing woodland to change and become drier. This may be brought about by the accumulation of silt, cessation of management and or changes in water levels.
- Inappropriate or no management of the wet woodland, causing changes in the structure and flora, leading toward the poor regeneration and changes in floristic diversity.
- Poor water quality- leading to changes in flora and invertebrate communities.
- Changes in the flow patterns in the land drainage systems causing changes to woodland hydrology.
- Colonisation of woodland by non-native species eg. Himalayan Balsam, Giant Hogweed.
- Disease: a fungus *Phytophthora* is killing alder trees along several of the UK's major river systems. This may be exacerbated by the onset of climate change.

#### *4.3.1.4 Legal Status*

None. Many other non-statutory sites and the wider countryside also support wet woodland.

### 4.3.2 Coastal and Floodplain Grazing Marsh

Grazing marsh is defined as a periodically inundated pasture, or meadow with ditches which maintain the water level, containing standing brackish or fresh water. The ditches are often especially rich in plants and invertebrates. Grazing marshes are also of importance for both breeding and wintering bird populations.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
|---|
| **B.** To contribute to maintaining or enhancing the existing habitat extent and its quality though appropriate watercourse and structure management. |

*Table 6: PC WLMB Coastal and Floodplain Grazing Marsh Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **2.** Continue to work in partnership with stakeholders to look for opportunities, where appropriate, to reconnect rivers to their floodplain. | NE, EA, Landowners & via the Facilitation Fund | Ongoing |
| **3.** Seek to ensure that sufficient water is delivered at Milton Gate to the Freshwater Stream. | EA | Ongoing |
| **4.** Seek to ensure the satisfactory operation of the outflows from the Freshwater Stream to the Cuckmere. | EA | Ongoing |
| **5.** Prepare an operating manual for the Cuckmere Catchment. | EA, NE | 2019-20 |

#### *4.3.2.1 Current Status*

The exact extent of grazing marsh in the UK is not fully known but it is estimated that there may be 300,000ha in the UK with England having 200,000 ha. However, only a small proportion of this is semi-natural supporting a high diversity of native plant species (an estimated 5000 Ha in England). Grazing marsh is an extensive habitat in Sussex, estimated at 11,400 ha. Much of this resource is found in the Cuckmere valley, Pevensey Levels, and in the catchments of the rivers Arun, Adur and Ouse.

#### *4.3.2.2 Priority Species benefiting from the Lowland and Floodplain Grazing Marsh Habitat Action Plan (Table 6)*

- Water Vole
- Barn Owl
- Kestrel
- Lapwing
- Dark Bellied Brent Goose
- Yellow Wagtail
- Reed Bunting
- Little Ramshorn Whirlpool Snail

#### *4.3.2.3 Threats in Sussex*

- Drainage and water abstraction.
- Eutrophication - via diffuse and point source means.
- Pollution of ground and surface waters, including pesticides.
- Changes to more brackish or coastal sites due to sea level rise.
- Alien species
- Change of agricultural use.

Localised effects arise from:

- Implementation of flood management works.
- Lack of functioning of flood plain through river management, such as canalization and flood banks.
- Neglect in the form of decline in traditional grazing management.
- Land take by industrialisation and urbanisation.
- Agricultural intensification, including conversion to arable.

*Image opposite: Grazing sheep at Cuckmere Valley © Patrick Metzdorf*

#### *4.3.2.4 Legal Status*

Within the PCWLMB district there are extensive areas of grazing marsh in the Cuckmere valley, the Pevensey levels and the Combe Valley. That within the Pevensey Levels is partially included within the designated SSSI and NNR and the Ramsar/ SAC. The grazing marsh within the Combe Haven Catchment is predominantly within the Combe Haven SSSI.

#### *4.3.2.5 Actions to Date*

The PCWLMB has participated in the development of the Operating Manual for the Pevensey Levels under the Water Level Management Plan so as to ensure the correct function of the water control system.

The PCWLMB is participating in trials to try to reduce the spread of alien species (see Section 5.3.6).

### 4.3.3 Reedbed

Reedbed is a rare habitat and dominated by stands of Common Reed *Phragmites australis*, where the water table is at or above ground level for most of the year. They also incorporate areas of open water or ditches. Reedbeds are of great conservation value, supporting birds such as bittern and the marsh harrier.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
|---|
| **C.** To provide assistance in the management of reedbeds by others. |

*Table 7: PC WLMB Reedbed Habitat Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **6.** Identify potential sites for habitat restoration and expansion within the PCWLMB area and consider future management planning of these sites during this process. | NE, EA, Landowners & via the Facilitation Fund | Ongoing |

#### *4.3.3.1 Current Status*

In the UK it is estimated that there are 12000 ha over 1000 sites, with the majority of sites being less than 20ha. In Sussex there is around 260 ha of reedbed, mostly small and under 5 ha (as in the Pevensey Levels and Cuckmere valley) but the largest is present at Filsham in the Combe Haven SSSI at 17 ha. (see Appendix V).

#### *4.3.3.2 Priority Species benefiting from the Reedbed Habitat Action Plan (Table 7):*

- Birds - Bittern, Bearded Tit, Marsh Harrier, Savi's Warbler
- Mammals - Otter, Water Shrew, Harvest Mouse
- Moths - Small Dotted Footman, Fenn's Wainscot, Reed Leopard
- Other invertebrates-including BAP species such as the Diving Beetle (*Bidessus unistriatus*)

#### *4.3.3.3 Threats in Sussex*

- Lack of appropriate management of some existing reedbeds leading to drying and scrub encroachment and unsympathetic cutting regimes.
- Lack of hydrological information.
- Water abstraction leading to concern over freshwater supplies.
- Inappropriate water level management.
- Pollution

#### *4.3.3.4 Legal Status*

Reedbed habitat is legally protected within the nationally and internationally protected sites within the catchment. The Filsham reedbeds is protected by its designation within the SSSI.

### 4.3.4 Fens

Fens are wetland areas developed on peat soils and are often dominated by reeds, rushes and sedges. If not managed by grazing or cutting, they would develop into woodland. They are complex systems which support a wide variety of plant and animal species, including many BAP Priority Species.

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 are peatlands, which receive water and nutrients from rock, soil and ground water, as well as from rainfall.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
|---|
| **D.** To provide assistance in the management of fens by others. |

*Table 8: KL IDB Fens Habitat Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **7.** Consider opportunities for Fen rehabilitation and management during maintenance works. | NE, EA Landowners & via the Facilitation Fund | Ongoing |

#### *4.3.4.1 Current Status*

There is considered to be approximately 8000 ha of lowland fen in England. This habitat has shown considerable decline and the largest proportion of the major fen areas are found in eastern England. In Sussex, there is approximately 60 ha of this habitat but the areas of fen tend to be small and isolated. Areas are found in each of the Cuckmere, Pevensey and Combe Haven catchments and the locations of this habitat are shown on plans in Appendix V.

#### *4.3.4.2 Priority Species benefiting from the Fens Habitat Action Plan (Table 8)*

- Birds - Bittern, Bearded Tit, Marsh Harrier, Reed Bunting
- Mammals - Water Vole, Otter, Water Shrew
- Priority Invertebrates - Butterflies, moths, numerous species of dragonflies and damselflies

#### *4.3.4.3 Threats in Sussex*

- Land drainage and land use, local and within catchments, affects water quality and quantity within and around fen sites.
- Excessive water abstraction from aquifers and surface sources reduces spring flows and lowers water tables.
- Lack of appropriate management remains an issue, both the restoration of past neglect and maintaining systems of sustainable, ongoing management post-restoration.
- Fens, particularly those of the valley type, are susceptible to run off of poor quality water, and drainage from agricultural land and afforestation within the catchment.
- Enrichment or hyper-trophication resulting in changing plant communities.
- Isolation and fragmentation

#### *4.3.4.4 Legal Status*

Fen habitat is legally protected where it is present within the SSSI within the board area.

# 5. SPECIES

## 5.1 Introduction and Rationale

The Pevensey and Cuckmere WLMB area supports many species of local and national conservation value. As previously discussed, appropriate habitat management plans can fulfil the requirements of many of these species. A small number of species have particular importance within the drainage boards' area and these species have dedicated Species Action Plans. The following section provides more information on the status and location of these species that are of importance for the Pevensey and Cuckmere WLMB, and may benefit from water level management or other WLMB activities. The information is taken for the most part, from the Sussex Biodiversity Action Plan and has the PCWLMB objectives and actions identified for each species.

## 5.2 Species Audit Summary

This species audit summary identified 147 S41 species, protected species and species deemed to be of local importance and/or identified in the county Local Biodiversity Action Plan that occur in the Pevensey and Cuckmere WLMB district. Species that are of potential importance for the WLMB, where water level management or other PC WLMB activities may be directly or indirectly of benefit, were identified and are show on Table 9 (overleaf).

## 5.3 Species of Importance for the WLMB

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

The Pevensey and Cuckmere WLMB has identified the following species where they believe they could make a positive contribution through its activities.

- Water Vole
- European Eel
- Barn Owl
- Otter
- Kestrel
- Fen Raft Spider
- Aquatic Molluscs
- Non Native Invasive Species (most important)

The Pevensey and Cuckmere WLMB have considered the actions proposed in the Sussex LBAPs and by the Sussex Biodiversity Partnership and have used this as guidance in the synthesis of WLMB actions. A summary of the Sussex LBAP for the key species follows with WLMB actions formalised and highlighted in green. Where there is no LBAP then information on species has been obtained from other sources and WLMB actions formulated as appropriate.

*Table 9: Summary of species which may benefit directly or indirectly by action of the WLMB*

| Common Name | Group | Scientific Name |
|---|---|---|
| Common Toad | Amphibian | *Bufo bufo* |
| Great Crested Newt | Amphibian | *Triturus cristatus* |
| Bittern | Bird | *Botaurus stellaris* |
| Grey Partridge | Bird | *Perdix perdix* |
| Osprey | Bird | *Pandion haliaetus* |
| Hobby | Bird | *Falco subbuteo* |
| Kestrel | Bird | *Falco tinnunculus* |
| Little Ringed Plover | Bird | *Charadrius dubius* |
| Lapwing | Bird | *Vanellus vanellus* |
| Avocet | Bird | *Recurvirostra avosetta* |
| Curlew | Bird | *Numenius arquata* |
| Barn Owl | Bird | *Tyto alba* |
| Kingfisher | Bird | *Alcedo atthis* |
| Cetti's Warbler | Bird | *Cettia cetti* |
| Grasshopper Warbler | Bird | *Locustella naevia* |
| Sand Martin | Bird | *Riparia riparia* |
| Yellow Wagtail | Bird | *Motacilla flava* |
| Dunnock | Bird | *Prunella modularis* |
| Bearded Tit | Bird | *Panurus biarmicus* |
| Willow Tit | Bird | *Poecile montana* |
| Marsh Tit | Bird | *Poecile palustris* |
| Reed Bunting | Bird | *Emberiza schoeniclus* |
| European Eel | Bird | *Anguilla anguilla* |
| Bullhead | Fish | *Cottus gobio* |
| Brown/Sea Trout | Fish | *Salmo trutta* |
| Water Vole | Fish | *Arvicola amphibius* |
| Otter | Mammal | *Lutra lutra* |
| Brown Hare | Mammal | *Lepus europaeus* |
| Daubenton's Bat | Mammal | *Myotis daubentonii* |
| Common Pipistrelle | Mammal | *Pipistrellus pipistrellus* |
| Soprano Pipstrelle | Mammal | *Pipistrellus pygmaeus* |
| Little Whirlpool Ramshorn Snail | Mammal | *Anisus (Disculifer) vorticulus* |
| Shining Ramshorn Snail | Mollusc | *Segmentina nitida* |

### 5.3.1 Water Vole

This is the largest of the British vole species. It is not particularly well adapted to the aquatic environment, but it rarely ventures far from the waterside. It is herbivorous and eats a huge variety of emergent plant species. They are a colonial species and breeding occurs between March – September. They do not hibernate as such in winter, but they do spend a large proportion of time below ground within a series of burrows. Water Voles show a preference for steep grassy banks rising from margins fringed with reeds and other emergent plants along slow to moderately flowing watercourses.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVES |
|---|
| **E.** To maintain and where possible, enhance the current distribution and abundance of the water vole in the WLMB District.<br><br>**F.** To ensure the appropriate sensitive management of watercourses and wetlands which will facilitate the maintenance and enhancement of the current distribution and abundance of the Water Vole in the WLMB District. |

*Table 10: PC WLMB Water Vole Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **8.** Ensure compliance with the PCWLMB SMO by auditing an identified number of maintenance works jobs annually, to ensure they are being carried out sensitively and to an agreed standard across the Board. | | Ongoing |
| **9.** Send Water Vole survey records to the Sussex Biodiversity Records Centre. | SBIS | Ongoing |
| **10.** Develop a mink control project with the aim of putting out at least ten traps on a regular basis. | Landowners | 2018 onwards |
| **11.** Take opportunities to enhance Water Vole habitat where appropriate during Capital or river/wetland restoration schemes. | NE, EA, Landowners, SWT | Ongoing |

#### *5.3.1.1 Current Status*

Once a common species, the Water Vole has suffered a long-term decline since 1900 with an estimated decline in the UK population in 1998 estimated as 89% decline when looking at areas where they had previously been recorded in 1989-90 (Strachan et al, 2000). This decline is representative of a declining number of sites and numbers of individuals per colony.

It is thought that the current strongholds for the species are in Eastern England. A report by the Environment Agency Ryland (1988) considered that the species was on the brink of county-wide extinction in Sussex. The habitat within the Pevensey Levels and the Cuckmere is apparently ideal for this species which shows a preference for steep grassy banks rising from margins fringed with reeds and other emergent plants along slow to moderately flowing watercourses.

#### 5.3.1.2 Priority Habitats within the PC WLMB area beneficial to Water Vole

- Coastal and Floodplain Grazing marsh
- Chalk River
- Ponds
- Reedbed
- Fen

#### 5.3.1.3 Threats in Sussex

- Damage to and loss of habitats due to insensitive routine maintenance of the channel and bankside, culverting or piling.
- Development within the floodplain that result in direct loss of habitat.
- Fluctuation in water level, where burrows are set during the active winter months can leave entrances wide open as water levels are lowered during winter. This leaves the hole open to predation.
- Population fragmentation leaves colonies remote from their neighbours and results in genetic restriction and susceptibility to disease.
- Predation particularly by Mink.
- Persecution Water Voles are often mistaken as a brown rat.

#### 5.3.1.4 Legal Status

It has legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 9 where it is an offence to kill, injure or take (section 9 (1)); intentionally damage, destroy, or obstruct access to any structure or place that water voles use for shelter or protection and to disturb Water Voles whilst they are using this place (Section 9 (4)). The displacement of Water Vole for flood defence works is now a Natural England licenced activity for IDBs.

*Above image: Water Vole © Peter Trimming*

### 5.3.2 European Eel

The European Eel travels to freshwater as a glass Eel from its spawning site in the Sargasso Sea in the Atlantic Ocean. On arrival into freshwater in the summer, the tiny unpigmented Eel must travel upstream to find appropriate habitat where it will feed and mature through the elver and yellow Eel stage, living in some cases up to 15 years, before changing physiologically and returning to the ocean from which it spawned, as a Silver Eel.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
|---|
| **G.** To maintain and where possible, enhance the current distribution and abundance of the European eel in the WLMB District. |

*Table 11: PC WLMB Eel Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **12.** Send European Eel records to the Sussex Biodiversity Records Centre. | SBIS | Ongoing |
| **13.** Maintain access to and from watercourses by identifying obstructions and at time of replacement seek to ensure | Landowners | 2018 onwards |
| **14.** To ensure the appropriate management of structures. | | Ongoing |

#### *5.3.2.1 Current Status*

The eel was once a common species around Britain, being present in most rivers, streams and lakes that are accessible from the sea. Commercial eel fisheries were the most valuable inland fisheries in England and Wales and provided significant benefits to the rural economy. However, there is considerable concern about the status of eel stocks in the UK and Europe. Since the 1980s the numbers of young elvers returning to European rivers has declined to around 1% of historic levels. EA research in Sussex shows a continuing decline.

#### *5.3.2.2 Priority Habitats within the PC WLMB area beneficial to European Eel*

- Coastal and Floodplain Grazing marsh
- Chalk River
- Reedbed
- Fen

#### *5.3.2.3 Threats*

- Problems with Glass Eel recruitment, due to the blockage of Glass Eel passage into watercourses by means of tidal flaps, sluice gates and pumping stations.
- Problems with Silver Eel escapement into main river and the sea by means of tidal flaps, sluice gates and pumping stations.

- Parasites – *Anguillicolloides crassus* a nematode worm effects the ability of the Eel to alter buoyancy during swimming by attaching to the swim bladder of the animal.
- Water quality.
- Illegal commercial fishing.

#### *5.3.2.4 Legal Status*

This species is listed on Appendix II of the CITES Convention. The Eels (England and Wales) Regulations 2009 establish measures for the recovery of the stock of European Eel.

### 5.3.3 Barn Owl

The Barn Owl is a much loved and charismatic bird, being distinctive with its white heart-shaped face, white underparts and golden-brown upperparts. It is an iconic bird of open countryside hunting rough grassland, particularly along the banks of watercourses, field margins and road verges, using its acute hearing to detect its small-mammal prey. It usually nests in dark chambers within buildings, large cavities in old trees, and purpose made nest boxes.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
|---|
| **H.** To maintaining and increase Barn Owl populations within the district. |

*Table 12: KL IDB Barn Owl Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **15.** Encourage rough margins to ditches with grassy corridors. | Landowners | Ongoing |
| **16.** Provide artificial nest sites at about 2.5 km intervals along ditch lines. | Landowners | Ongoing |

#### *5.3.3.1 Current Status*

Formerly declining, largely attributed to a decrease in its food, following conservation action, partly under the BAP process, the population is rising once more and nationally the species is no longer considered to be under threat. In Sussex, there were an estimated 140 pairs in 1975, this has increased but the population shows significant fluctuations annually.

#### *5.3.3.2 Priority Habitats within the PC WLMB area beneficial to Barn Owl*

- Coastal and Floodplain Grazing marsh

#### *5.3.3.3 Threats in Sussex*

- Food shortages including fluctuating rodent populations
- Decrease in availability of nesting sites as hollow trees felled or farm buildings are lost to decay or conversion.
- Increasing urbanisation, resulting in a rapid expansion of Britain's road network and increased vehicle speeds, causing high levels of road mortality in Barn Owls.

#### *5.3.3.4 Legal Status*

The Barn Owl is listed in Annexes II and IV of the EC Habitats Directive, Appendix I of the Berne Convention and is protected under Schedule II of the Conservation of Natural Habitats and Species Act (2010).

The Barn Owl is protected under Section 1 of the WCA 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or intentionally to destroy its nest, eggs or young, or intentionally or recklessly disturb it whilst preparing to nest or is at the nest with eggs or young or to disturb their dependent young.

*Above image: Barn Owl*

### 5.3.4 Otter

Otters are large mammals, approximately 1.2 metres long. They are widely spread across Britain in marine as well as in inland waters and are capable of travelling long distances over land. Generally solitary, the size of the territory depends on the position in the hierarchy and cubs share the mother's territory for around a year. Breeding may occur at any time of the year and between 2-3 young are typically born in a holt lined with vegetation

| PEVENSEY AND CUCKMERE WLMB OBJECTIVE |
| --- |
| **I.** To maintaining and where possible, enhance the current distribution and abundance of the Otter within the District |

*Table 13: PC WLMB Otter Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **17.** Send otter records to the Sussex Biodiversity Records Centre. | SBIS | Ongoing |
| **18.** Create 3 artificial holts annually and negotiate fencing of 2 field corners annually | Landowners | 2018 onwards |

#### *5.3.4.1 Current Status*

Increasing in numbers across the UK, there are few records available for the PCWLMB district and numbers in Sussex are generally low.

#### *5.3.4.2 Priority Habitats within the PC WLMB area beneficial to Otter*

- Coastal and Floodplain Grazing marsh
- Chalk River
- Reedbed
- Fen

#### *5.3.4.3 Threats in Sussex*

- Loss of habitat, lack of food resources
- Effect of pollutants eg PCBs and heavy metals
- Accidental mortality including road kills.
- Persecution
- Isolation

#### *5.3.4.4 Legal Status*

Otters and their resting places are fully protected in England by the Wildlife and Countryside Act 1981 and as amended and under the Conservation (Natural Habitats, etc.) Regulations 1994. It is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places and to disturb them in their breeding or resting places. The otter is listed on Appendix 1 of CITES and Appendix II of the Bern Convention Schedule 2 of the (Regulation 38).

Licences issued by Natural England may be available to undertake actions that would normally be unlawful.



*Opposite image: Otter © William Warby*

### 5.3.5 Fen Raft Spider

The fen raft spider is one of the largest spiders in the United Kingdom with a restricted distribution of three sites, one of which is the Pevensey Levels where it is found in the network of ditches crossing the grazing marsh. Nursery webs are built in emergent marginal vegetation.

#### 5.3.5.1 Current Status

The fen raft spider is classified as 'Vulnerable' by IUCN. It is also Red Listed by several European countries, including the UK where it is currently classified as Endangered (Merrett and Bratton, 1991). Its distribution is isolated. In Pevensey, survey in 1992 in the areas of best habitat, primarily on gravity-drained marshes, found densities were often very high: nursery web densities averaged one per 2m of bank. Away from this core area, however, the pump-drained marshes supported a much lower population density and the population appeared to be very fragmented. On the basis of nursery web counts, the total adult female population in the levels was estimated to be in the order of 3000.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVES |
|---|
| **J.** Maintain the present distribution and maintain appropriate habitat conditions of the Fen Raft Spider. |

*Table 14: PC WLMB Fen Raft Spider Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **19.** Ensure compliance with the PC WLMB SMO by auditing an identified number of maintenance works jobs annually, to ensure they are being carried out sensitively and to the agreed standard across the whole board. | Contractors | Ongoing |
| **20.** Ensure that there are areas of open unshaded water with no common reed. | Staff, Contractors | Ongoing |
| **21.** Manage non-native species. | Staff, NE, EA | Ongoing |

#### 5.3.5.2 Priority Habitats within the PC WLMB area beneficial to the Fen Raft Spider

- Coastal and Floodplain Grazing marsh

#### 5.3.5.3 Threats in Sussex

- Abstraction- resulting in low water levels.
- Pollution
- Scrub encroachment and common reed dominance resulting in shading
- Non-native species

#### 5.3.5.4 Legal Status

This spider is fully protected by UK law under Schedule 5 of the Wildlife and Countryside Act 1981 and is the subject of a Species Action Plan (Section 42 NERC Act 2006). A licence is required under the Wildlife and Countryside Act 1981 for any activity that is likely to cause disturbance to this species.

*Above image: Fen Raft Spider © Michael Kilner*

### 5.3.6 Aquatic Molluscs

The Pevensey Levels is probably the best site in the UK for aquatic molluscs. These include the Little Whirlpool Ramshorn Snail, Shining Ramshorn, the Large-Mouthed Valve Snail and the False Orb Pea Mussel. Little is known about the ecology of these species.

#### *5.3.6.1 Current Status*

Shining Ram's-Horn was once widespread but now the Pevensey Levels are now one of four strongholds for this species. The Large-Mouthed Valve Snail is a species that is chiefly confined to the Somerset Levels, Broadland, the Pevensey Levels and the Lower Avon valley In the United Kingdom. The False Orb Pea Mussel is a locally distributed species found principally in southern and Eastern England: the Somerset Levels, Pevensey Levels, Romney Marsh, Kent Levels, East Anglian Broads and Marshes, and occasionally elsewhere. The Little Whirlpool Ramshorn Snail has always been a very local species in Britain. It formerly occurred at around 15 sites in South-East England, but has declined and is now restricted to a few locations in Norfolk, Suffolk and Sussex.

| PEVENSEY AND CUCKMERE WLMB OBJECTIVES |
| --- |
| **K.** Maintain the present diversity and abundance and maintain appropriate habitat conditions of the mollusc fauna. |

*Table 15: PC WLMB Aquatic Molluscs Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **22.** Ensure compliance with the PC WLMB SMO by auditing an identified number of maintenance works jobs annually, to ensure they are being carried out sensitively and to the agreed standard across the whole board. | Contractors | Ongoing |
| **23.** Ensure compliance with the operating manual for the Pevensey levels. | Staff, Contractors | Ongoing |
| **24.** Manage non-native species. | Staff, NE, EA | Ongoing |
| **25.** Ensure that there are areas of open unshaded water with no common reed. | Staff, Contractors | Ongoing |

#### *5.3.6.2 Priority Habitats within the PC WLMB area beneficial to Aquatic Molluscs*

- Coastal and Floodplain Grazing marsh

*Above image: Little Whirlpool Ramshorn Snail*

#### *5.3.6.3 Threats in Sussex*

- Abstraction- resulting in low water levels.
- Pollution
- Eutrophication
- Non-native species

#### *5.3.6.4 Legal Status*

The Little Whirlpool Ramshorn Snail is fully protected by UK law under Schedule 5 of the Wildlife and Countryside Act 1981 and is the subject of a Species Action Plan (Section 42 NERC Act 2006). A licence is required under the Wildlife and Countryside Act 1981 for any activity that is likely to cause disturbance to this species. The Little Whirlpool Ramshorn Snail is the feature for which the Pevensey Levels SAC is designated. The Ramsar designation is given in part for the outstanding mollusc fauna.

### 5.3.7 Non Native Invasive Species

A non-native invasive species is a species which has been moved outside its natural range with the aid of humans, is spreading rapidly and is causing problems for the local environment and economy. At a global level, invasive non-native species are now believed to be one of the most significant causes of biodiversity loss. The impacts particularly of freshwater and riparian non-native plant species are of concern at a local level to the hydrological engineer, due to the ease and speed at which many plants can spread and grow, causing major problems by blocking watercourses. The low-lying nature of the PCWLMB's district in Sussex and its abundance of watercourses and wetland habitats means that it is particularly at risk from colonisation by these plants.

The two non native invasive aquatic or riparian plants of particular concern in Sussex are:

- Australian Swamp Stonecrop (*Crassula helmsii*)
- Floating Pennywort (*Hydrocotyle ranunculoides*)

*Table 16: Non-native Invasive Species of Significance to Sussex*

| Common Name | Group | Scientific Name |
|---|---|---|
| American Mink | Mammal | *Mustella vision* |
| Grey Squirrel | Mammal | *Sciurus carolinensis* |
| Signal Crayfish | Crustacean | *Pacifastacus leniusculus* |
| Japanese Knotweed | Vascular plant | *Fallopia japonica* |
| Floating Pennywort | Vascular plant | *Hyrochotyl ranunculoides* |
| Giant Hogweed | Vascular plant | *Heracleum mantegazzianum* |
| Himalayan Balsam | Vascular plant | *Impatiens glandulifers* |
| Australian Swamp Stonecrop | Vascular plant | *Crassula helmsii* |
| Parrots Feather | Vascular plant | *Myriophyllum aquaticum* |
| Azolla | Vascular plant | *Azolla filiculloides* |

| PEVENSEY AND CUCKMERE WLMB OBJECTIVES |
|---|
| **L.** To prevent the spread of Non Native Invasive Species during IDB operations and promote the prevention, control and eradication of Non Native Invasive Species. |

*Table 17: PL WLMB Non Native Invasive Species Action Plan*

| ACTION | PARTNERS | DATE |
|---|---|---|
| **26.** Continue to contribute to and work in Partnership with all agencies to control non-native species. | EA, NE, CABI | Ongoing |
| **27.** Maintain records for all species of concern using "That's Invasive!" app. | Staff, Contractors | Ongoing |
| **28.** Train staff regularly in key non-native species identification. | Staff, Contractors | Ongoing |
| **29.** Encourage the trial of weevils, herbicides and heat to control floating pennywort. | EA, NE, CABI | Ongoing |
| **30.** Regularly review and ensure robust biosecurity measures are being maintained across the Board. | Staff, Contractors | Ongoing |

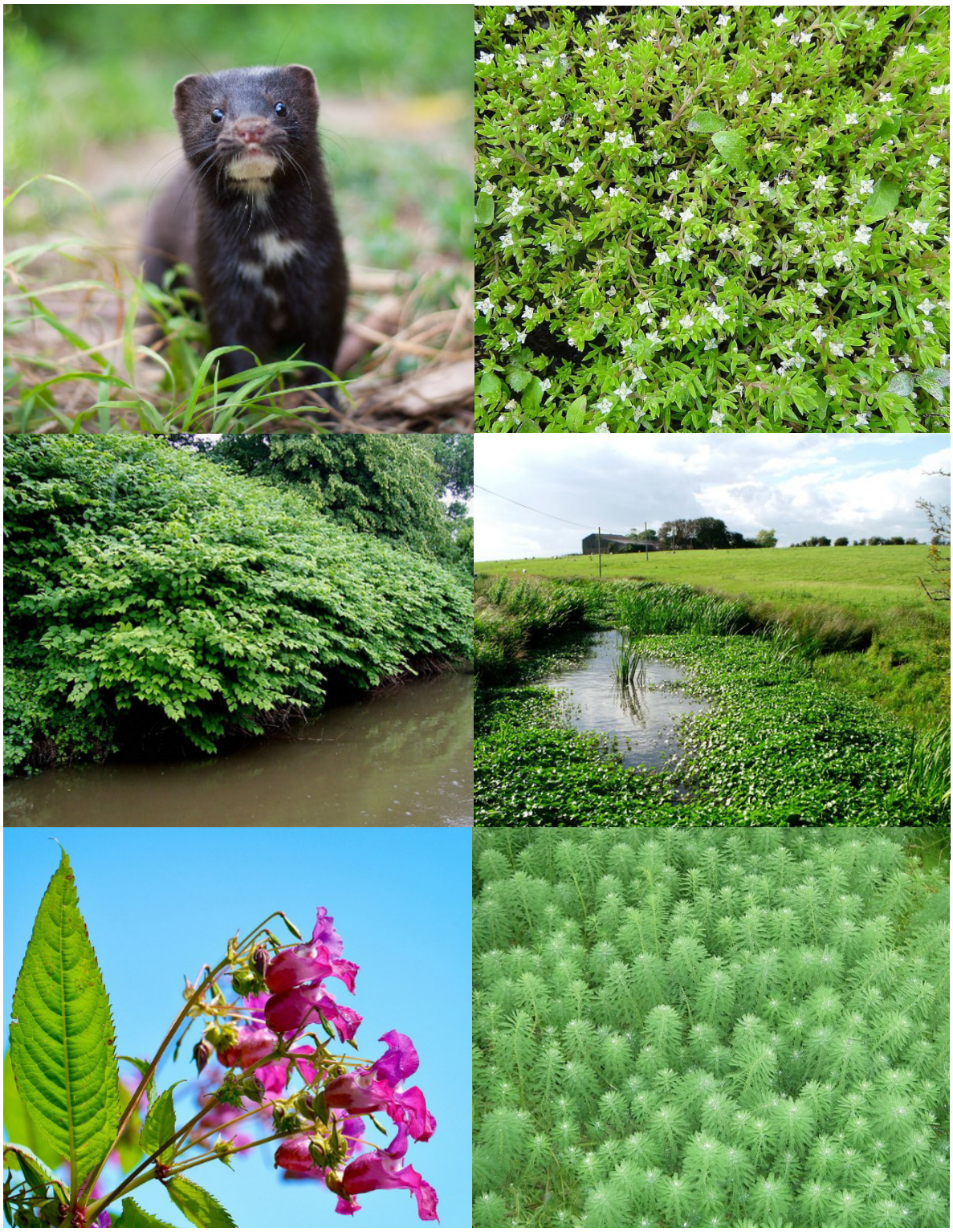
#### *5.3.7.1 Priority Habitats benefiting from Non-Native Invasive Species Action Plan (Table 17)*

- Wet woodland
- Chalk rivers
- Ponds
- Reedbed
- Fen
- Coastal and floodplain grazing marsh

#### *5.3.7.2 Financial Risk*

There is no doubt that if an infestation, particularly of the aquatic non-native invasive species, is left to grow the cost to the board will be considerable. The Board has a duty under the Wildlife and Countryside Act (1981) to prevent the spread of non-native invasives and therefore it would not simply be a matter of removing large areas of invasives during the maintenance period, as often the processes of flailing strimming or mowing of the species will subsequently result in its continual spread. This will occur particularly with Floating Pennywort, Australian Swamp Stonecrop, Parrots Feather and Japanese Knotweed, as they all reproduce via an asexual, vegetative means. It is likely that the problem will continue on site from small pieces of material left behind from the mechanical operation, but will result in an additional problem of waterborne material causing a further infestation downstream.

The approach to the invasive problem should definitely be one of reaction when the species is manageable and relatively cheap to control. This should hopefully prevent the problem from manifesting into a much larger more expensive control strategy. The key to this is communication and knowing where the invasives are on PCWLMB land or on landowner controlled land, so that an integrated partnership approach may be established.



*Above images clockwise: American Mink; Australian Swamp Stonecrop; Japanese Knotweed © Roger Kidd; Floating Pennywort; Himalyan Basalm; Parrots Feather*

# 6. PROCEDURAL ACTION PLAN

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

| ACTION | OUTPUTS / OUTCOME | DATE | PARTNERS |
|---|---|---|---|
| Ensure compliance to standard for biodiversity and protected species surveys | All works assessed using agreed standards of information to ensure that appropriate mitigation is delivered for capital / maintenance works and projects to ensure no net loss of biodiversity. | Ongoing | NE, EA |
| Ensure compliance to Boards Standard Maintenance Operations | Assess 5 % of maintenance works are being carried out to an agreed minimum standard of operations across the whole board.<br>Regular review on SMO to ensure compliance with updated guidelines and regulation. | Ongoing | NE, EA |
| Land Drainage consent and Bylaws | Through the application of Land Drainage Consents and Bylaws, seek to ensure that natural features of conservation interest and habitat importance are maintained or enhanced. | Ongoing | |
| Attend Local Biodiversity Forums and Meetings | Communication and network opportunities with other organisations to facilitate actions for BAP Species and Habitats.<br>PR and lifting profile of Board | Ongoing | SBIS, NE |
| Raising awareness | Biodiversity training days organised for staff and board members | Ongoing | |
| Recording | Develop and populate a recording system for BAP species and habitats within Sussex | Ongoing | SBIS |
| Communication | A new Environment and Biodiversity section on the website.<br>Share successes with media and promote public awareness. | Ongoing<br>Ongoing | |
| Monitoring | Continue to develop the WMA's record base and continue to work internally and in partnership with other organisations to ensure that we have up to date information on species to help inform future works. | Ongoing | SBIS |

## 7. IMPLEMENTATION AND MONITORING

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

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

A simple process will be put into place to record actions and help with the reporting. Any new data on habitats and species will be shared with the Sussex Biological Record Centre and the Sussex Biodiversity Partnership.

## 8. REVIEWING AND REPORTING PROGRESS

The Board recognises the importance of reviewing the implementation of the Biodiversity Action Plan to assess changes in the status of habitats and species and the overall feasibility of objectives and actions. In addition, they recognise the benefit of recording successful achievements and reporting on those achievements.

The Board's Biodiversity Action Plan was developed with the help of a working group made up of Board members and it is hoped that the working group will continue to meet annually to review progress. A comprehensive review of the plan will take place after five years.

The Board, through the Water Management Alliance, will continue to work in partnership with other organisations to ensure the targets and objectives are attained.

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**Sussex Biodiversity Partnership (2002).** Archived BAP - Barn owl

**Sussex Biodiversity Partnership (2002**). Archived BAP - Otter

**Sussex Biodiversity Partnership (2002).** Archived BAP - Water vole

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**Sussex Biodiversity Partnership (undated).** www.biodiversitysussex.org.uk/habitats/reedbeds

**Sussex Biodiversity Partnership (undated).** www.biodiversitysussex.org.uk/landscapes/hastings-borough

# 10. APPENDICES

## Appendix I: Biodiversity Action Plan Objectives

| PEVENSEY AND CUCKMERE WLMB ACTION PLAN OBJECTIVES | |
|---|---|
| A. | Work closely with Sussex Wildlife Trust and Natural England and members of the Catchment Partnership to ensure Wet Woodland is considered within the consultation process prior to maintenance and other works. |
| B. | To contribute to maintaining or enhancing the existing habitat extent and its quality though appropriate watercourse and structure management. |
| C. | To provide assistance in the management of reedbeds by others. |
| D. | To provide assistance in the management of fens by others. |
| E. | To maintain and where possible, enhance the current distribution and abundance of the water vole in the WLMB District. |
| F. | To ensure the appropriate sensitive management of watercourses and wetlands which will facilitate the maintenance and enhancement of the current distribution and abundance of the Water Vole in the WLMB District. |
| G. | To maintain and where possible, enhance the current distribution and abundance of the European eel in the WLMB District. |
| H. | To maintaining and increase Barn Owl populations within the district. |
| I. | To maintaining and where possible, enhance the current distribution and abundance of the Otter within the District. |
| J. | Maintain the present distribution and appropriate habitat conditions of the Fen Raft Spider |
| K. | Maintain the present diversity and abundance and maintain appropriate habitat conditions of the mollusc fauna. |
| L. | To prevent the spread of Non Native Invasive Species during IDB operations and promote the prevention, control and eradication of Non Native Invasive Species. |

## Appendix II: Habitats and Species Action Plan

| | ACTION | PARTNERS | DATE |
|---|---|---|---|
| **WET WOODLANDS** | | | |
| **1.** | Carry out a desk study audit of wet woodland and record locations in the WLMB area. | | 2018 -19 |
| **COASTAL AND FLOODPLAIN GRAZING MARSH** | | | |
| **2.** | Continue to work in partnership with stakeholders to look for opportunities, where appropriate, to reconnect rivers to their floodplain. | NE, EA Landowners & via the Facilitation Fund | Ongoing |
| **3.** | Seek to ensure that sufficient water is delivered at Milton Gate to the Freshwater Stream. | EA | Ongoing |
| **4.** | Seek to ensure the satisfactory operation of the outflows from the Freshwater Stream to the Cuckmere. | EA | Ongoing |
| **5.** | Prepare an operating manual for the Cuckmere Catchment. | EA, NE | 2019-20 |
| **REEDBED** | | | |
| **6.** | Identify potential sites for habitat restoration and expansion within the PCWLMB area and consider future management planning of these sites during this process. | NE, EA Landowners& via the Facilitation Fund | Ongoing |
| **FENS** | | | |
| **7.** | Consider opportunities for Fen rehabilitation and management during maintenance works. | NE, EA Landowners& via the Facilitation Fund | Ongoing |

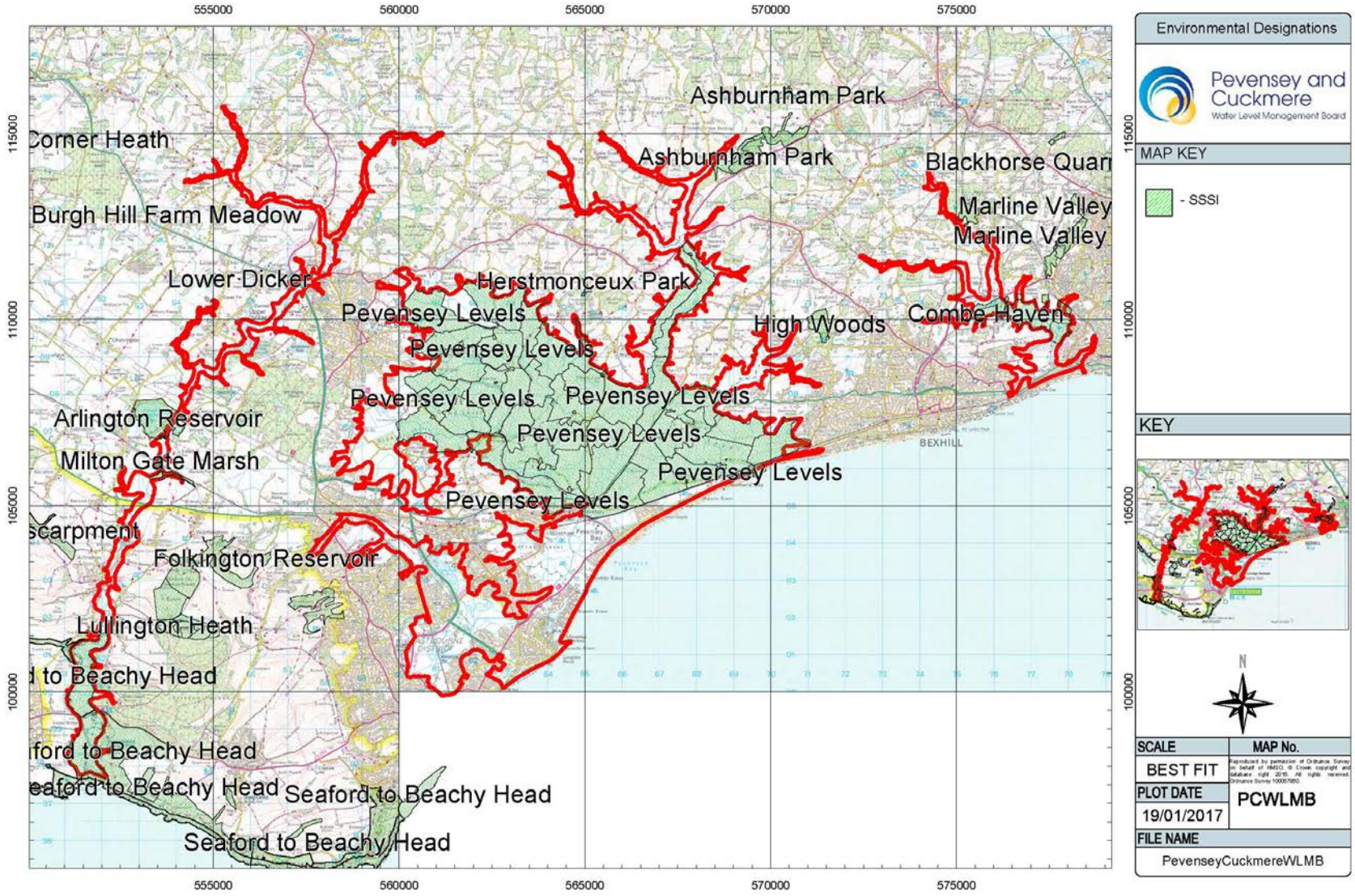
| | ACTION | PARTNERS | DATE |
|---|---|---|---|
| **WATER VOLE** | | | |
| **8.** | Ensure compliance with the PCWLMB SMO by auditing an identified number of maintenance works jobs annually, to ensure they are being carried out sensitively and to an agreed standard across the Board. | | Ongoing |
| **9.** | Send Water Vole survey records to the Sussex Biodiversity Records Centre. | SBIS | Ongoing |
| **10.** | Develop a mink control project with the aim of putting out at least ten traps on a regular basis. | Landowners | 2018 onwards |
| **11.** | Take opportunities to enhance Water Vole habitat where appropriate during Capital or river/wetland restoration schemes. | NE, EA, Landowners, SWT | Ongoing |
| **EEL** | | | |
| **12.** | Send European Eel records to the Sussex Biodiversity Records Centre. | SBIS | Ongoing |
| **13.** | Maintain access to and from watercourses by identifying obstructions and at time of replacement seek to ensure | Landowners | 2018 onwards |
| **14.** | To ensure the appropriate management of structures. | | Ongoing |
| **BARN OWL** | | | |
| **15.** | Encourage rough margins to ditches with grassy corridors. | Landowners | Ongoing |
| **16.** | Provide artificial nest sites at about 2.5 km intervals along ditch lines. | Landowners | Ongoing |
| **17.** | Encourage rough margins to ditches with grassy corridors. | Landowners | Ongoing |
| | | | |

| | ACTION | PARTNERS | DATE |
|---|---|---|---|
| **OTTER** | | | |
| **18.** | Send otter records to the Sussex Biodiversity Records Centre. | SBIS | Ongoing |
| **19.** | Create 3 artificial holts annually and negotiate fencing of 2 field corners annually | Landowners | 2018 onwards |
| **FEN RAFT SPIDER** | | | |
| **20.** | Ensure compliance with the PC WLMB SMO by auditing an identified number of maintenance works jobs annually, to ensure they are being carried out sensitively and to the agreed standard across the whole board. | Contractors | Ongoing |
| **21.** | Ensure that there are areas of open unshaded water with no common reed. | Staff, Contractors | Ongoing |
| **22.** | Manage non-native species. | Staff, NE, EA | Ongoing |
| **AQUATIC MOLLUSCS** | | | |
| **23.** | Ensure compliance with the PC WLMB SMO by auditing an identified number of maintenance works jobs annually, to ensure they are being carried out sensitively and to the agreed standard across the whole board. | Contractors | Ongoing |
| **24.** | Ensure compliance with the operating manual for the Pevensey levels. | Staff, Contractors | Ongoing |
| **25.** | Manage non-native species. | Staff, NE, EA | Ongoing |
| **26.** | Ensure that there are areas of open unshaded water with no common reed. | Staff, Contractors | Ongoing |

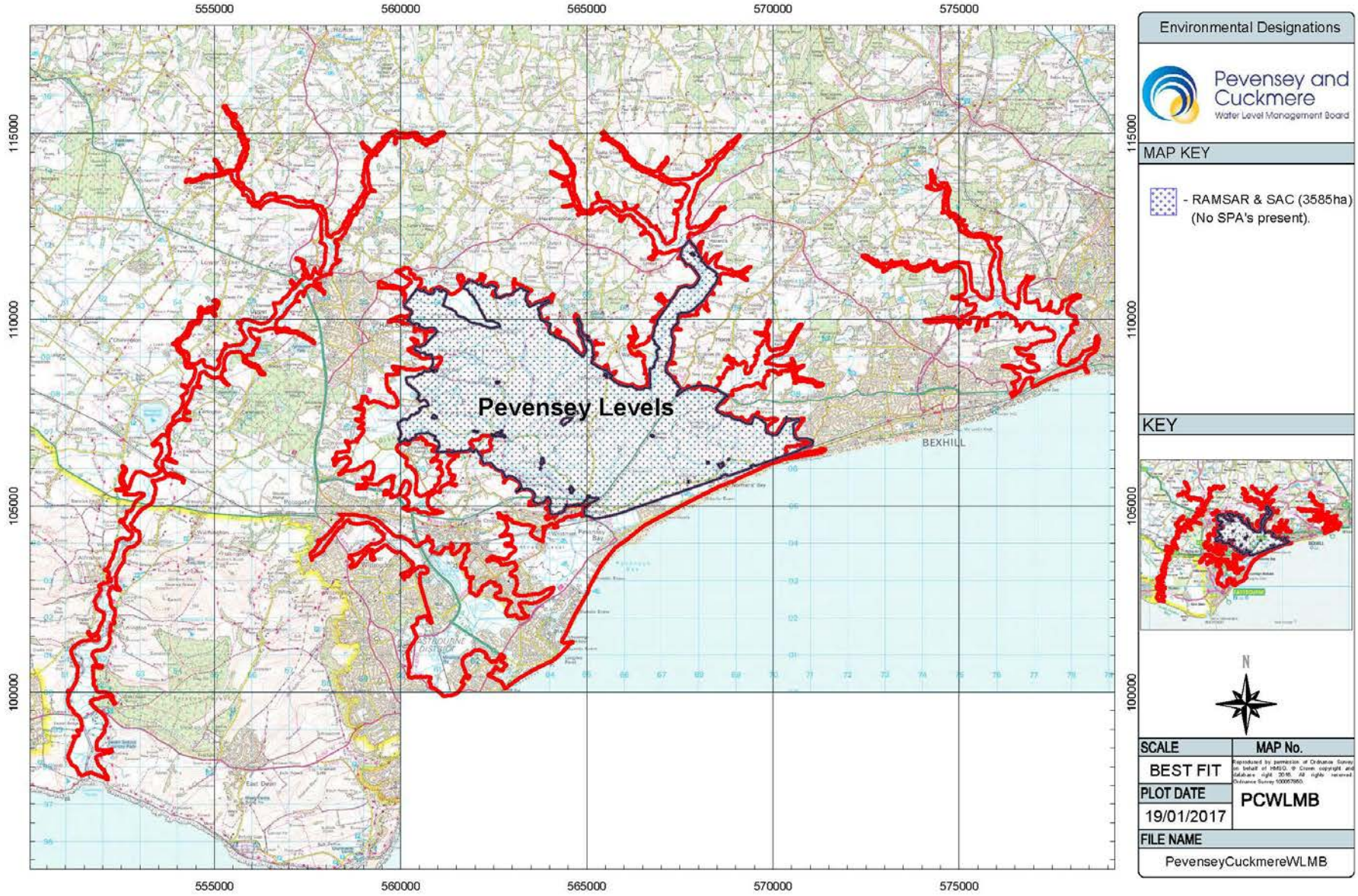
| | ACTION | PARTNERS | DATE |
|---|---|---|---|
| **NON NATIVE INVASIVE SPECIES** | | | |
| **27.** | Continue to contribute to and work in Partnership with all agencies to control non-native species. | EA, NE, CABI | Ongoing |
| **28.** | Maintain records for all species of concern using "That's Invasive!" app. | Staff, Contractors | Ongoing |
| **29.** | Train staff regularly in key non-native species identification. | Staff, Contractors | Ongoing |
| **30.** | Encourage the trial of weevils, herbicides and heat to control floating pennywort. | EA, NE, CABI | Ongoing |

## Appendix III: Nationally and Internationally Designated Nature Conservation Sites

i. Map of Sites of Special Scientific Interest.

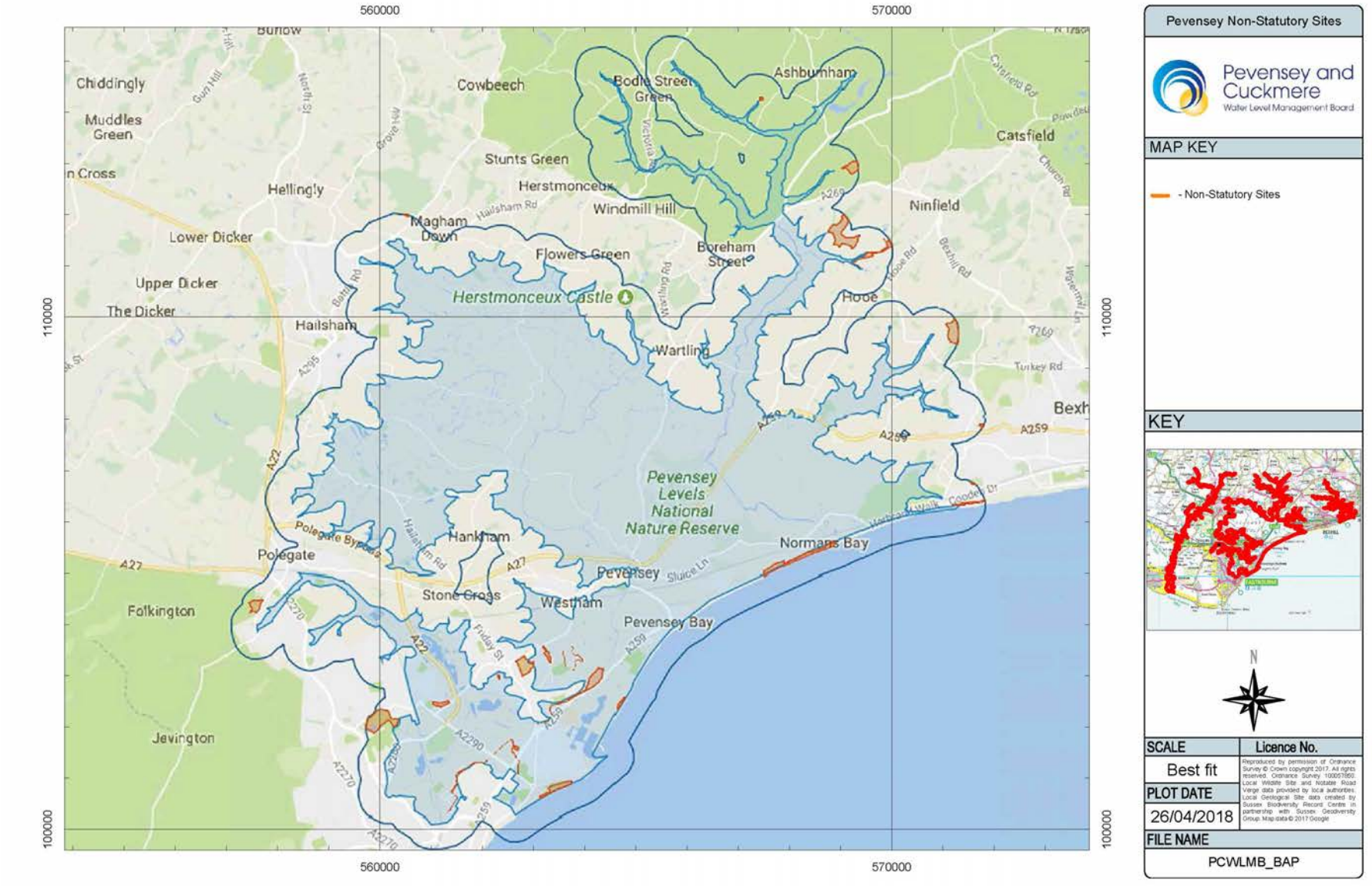


## ii. Map of RAMSAR sites

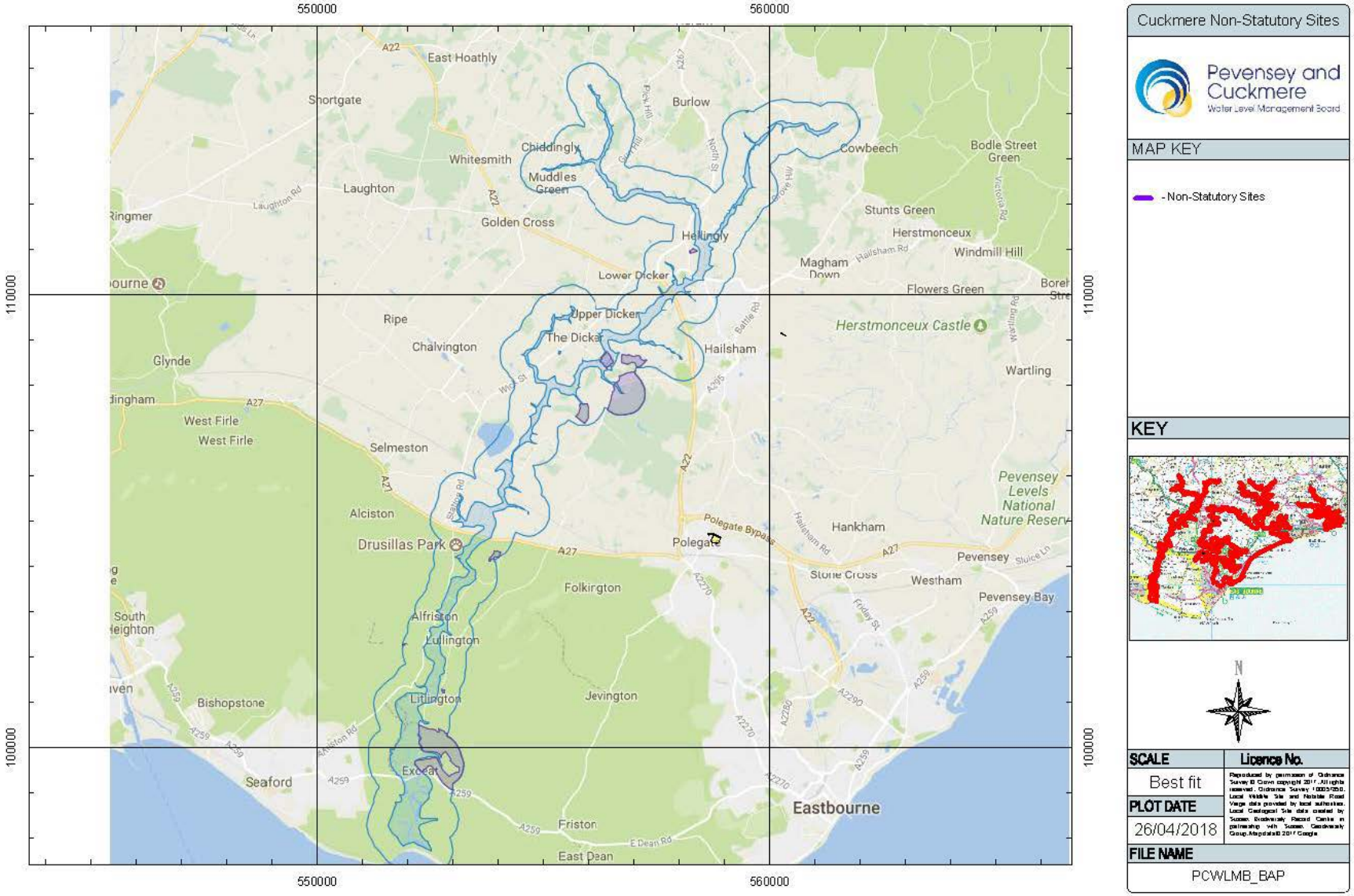


## APPENDIX IV: NON-STATUTORY LOCAL WILDLIFE SITES

### i. Map of Pevensey Non-Statutory Local Sites



## ii. Map of Cuckmere Non-Statutory Local Sites




Cuckmere Non-Statutory Sites

Pevensey and Cuckmere Water Level Management Board

MAP KEY

- Non-Statutory Sites

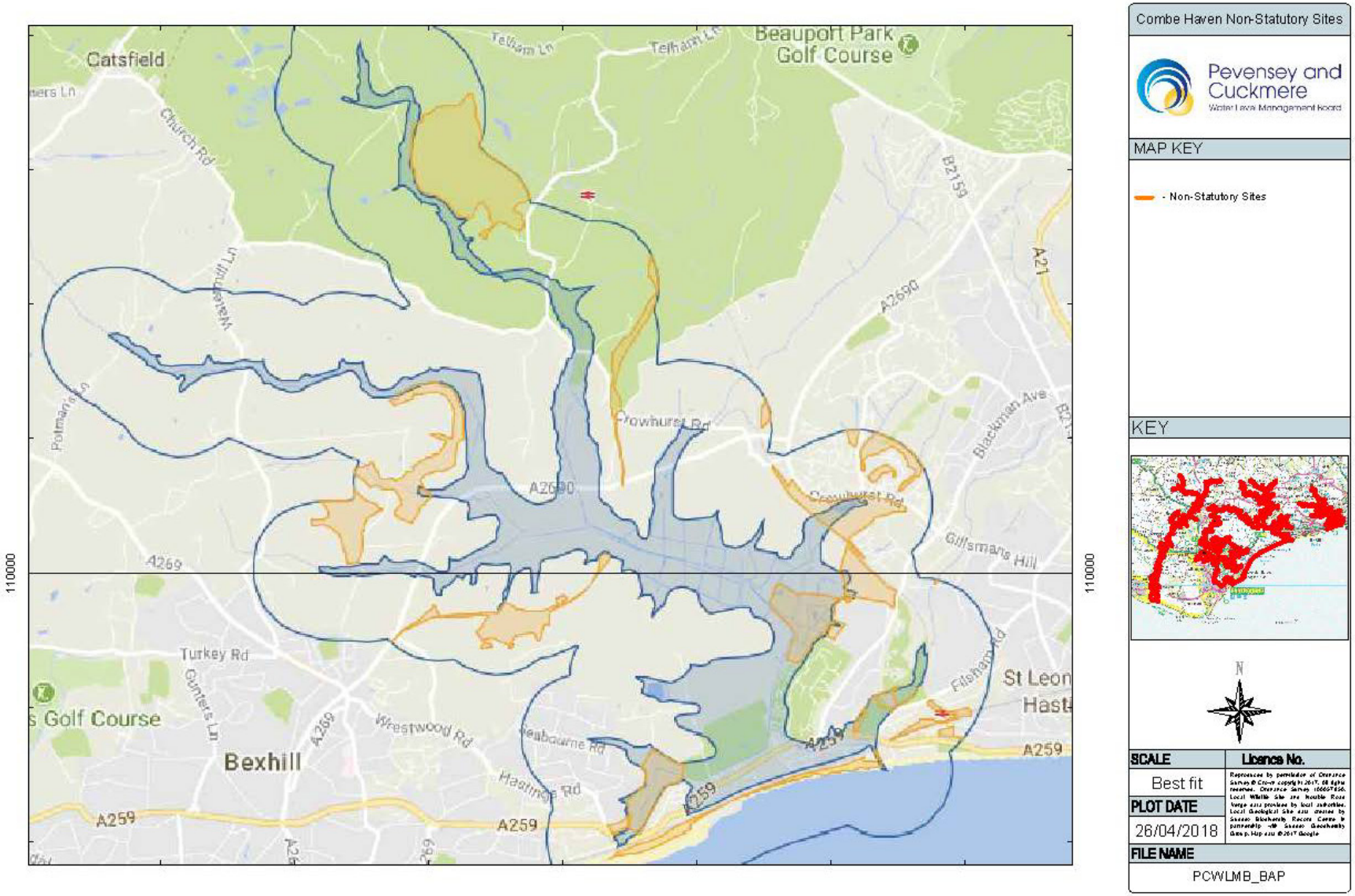
KEY



N

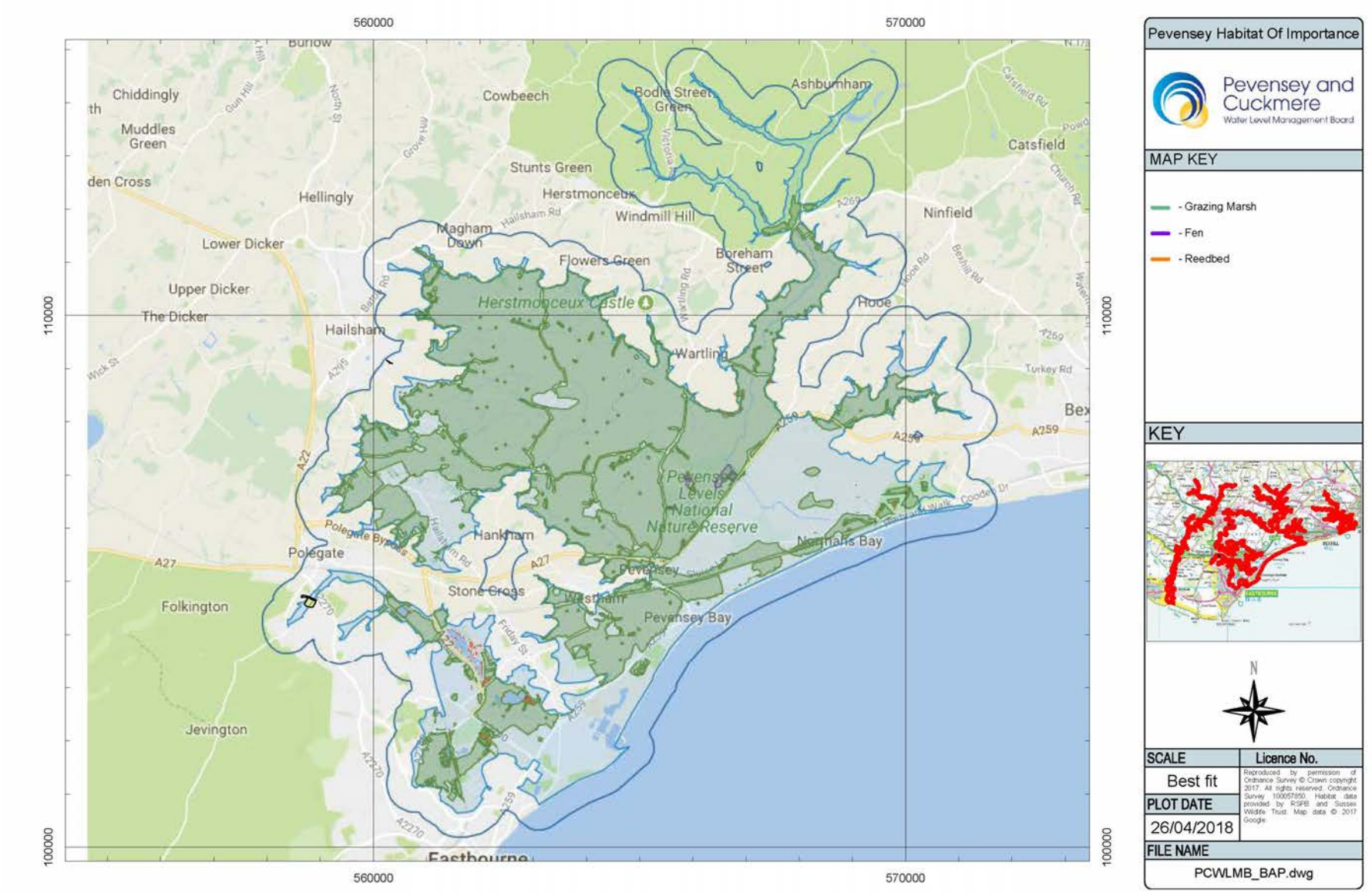
| SCALE | Licence No. |
|---|---|
| Best fit | Reproduced by permission of Ordnance Survey © Crown copyright 2017. All rights reserved. Ordnance Survey 100051290. Local Wildlife Site and Notable Road Verge data provided by local authorities. Local Geological Site data created by Sussex Biodiversity Record Centre in partnership with Sussex Geodiversity Group. Mapdata© 2017 Google |
| PLOT DATE | |
| 26/04/2018 | |
| FILE NAME | |
| PCWLMB_BAP | |

## iii. Map of Combe Haven Non-Statutory Local Sites

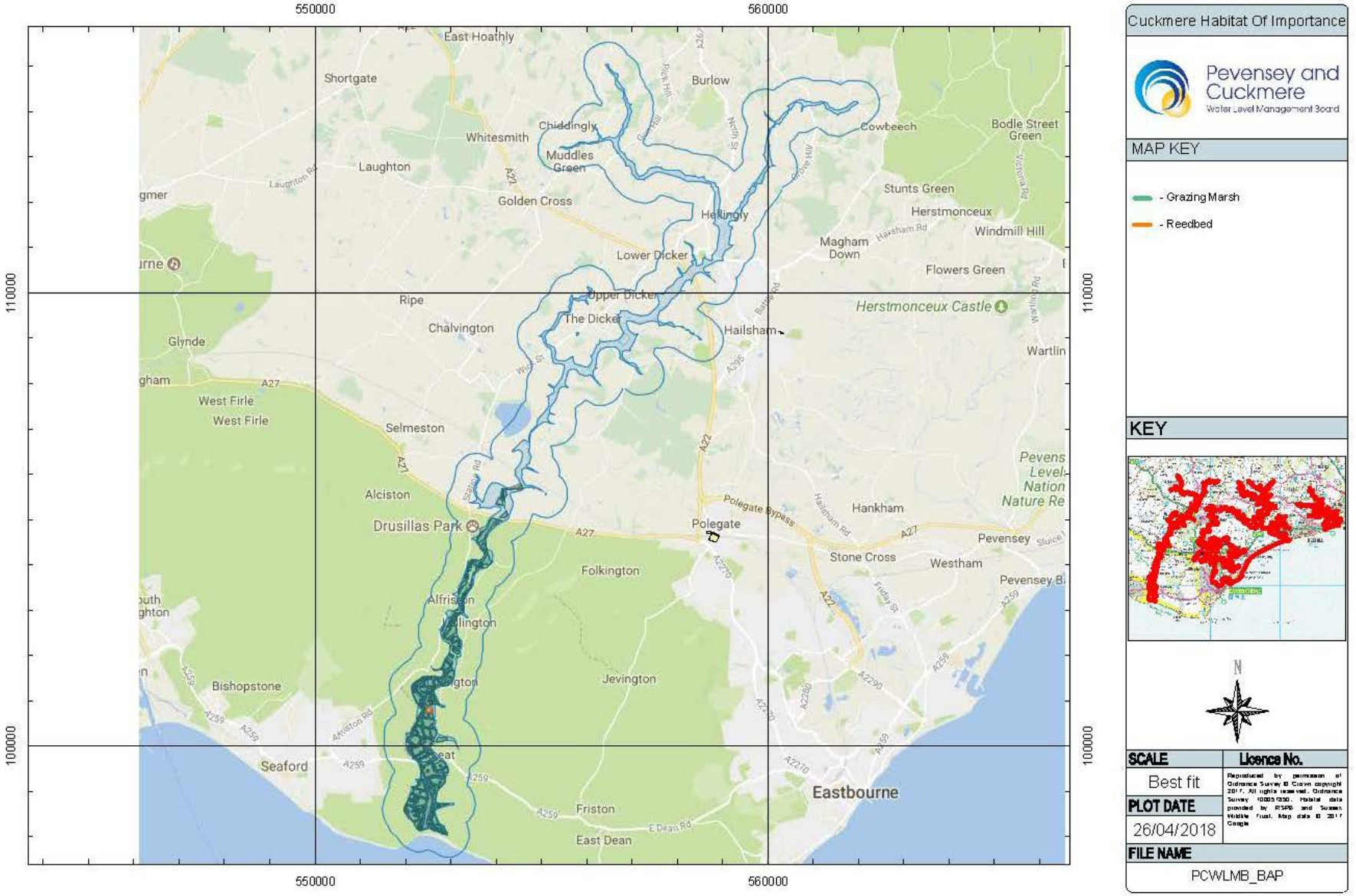


## APPENDIX V: MAP SHOWING UK BAP HABITATS OF PARTICULAR IMPORTANCE TO THE PEVENSEY AND CUCKMERE WLMB

### i. Map of Pevensey BAP Habitats



## ii. Map of Cuckmere BAP Habitats




Cuckmere Habitat Of Importance

Pevensey and Cuckmere Water Level Management Board

MAP KEY

- Grazing Marsh
- Reedbed

KEY



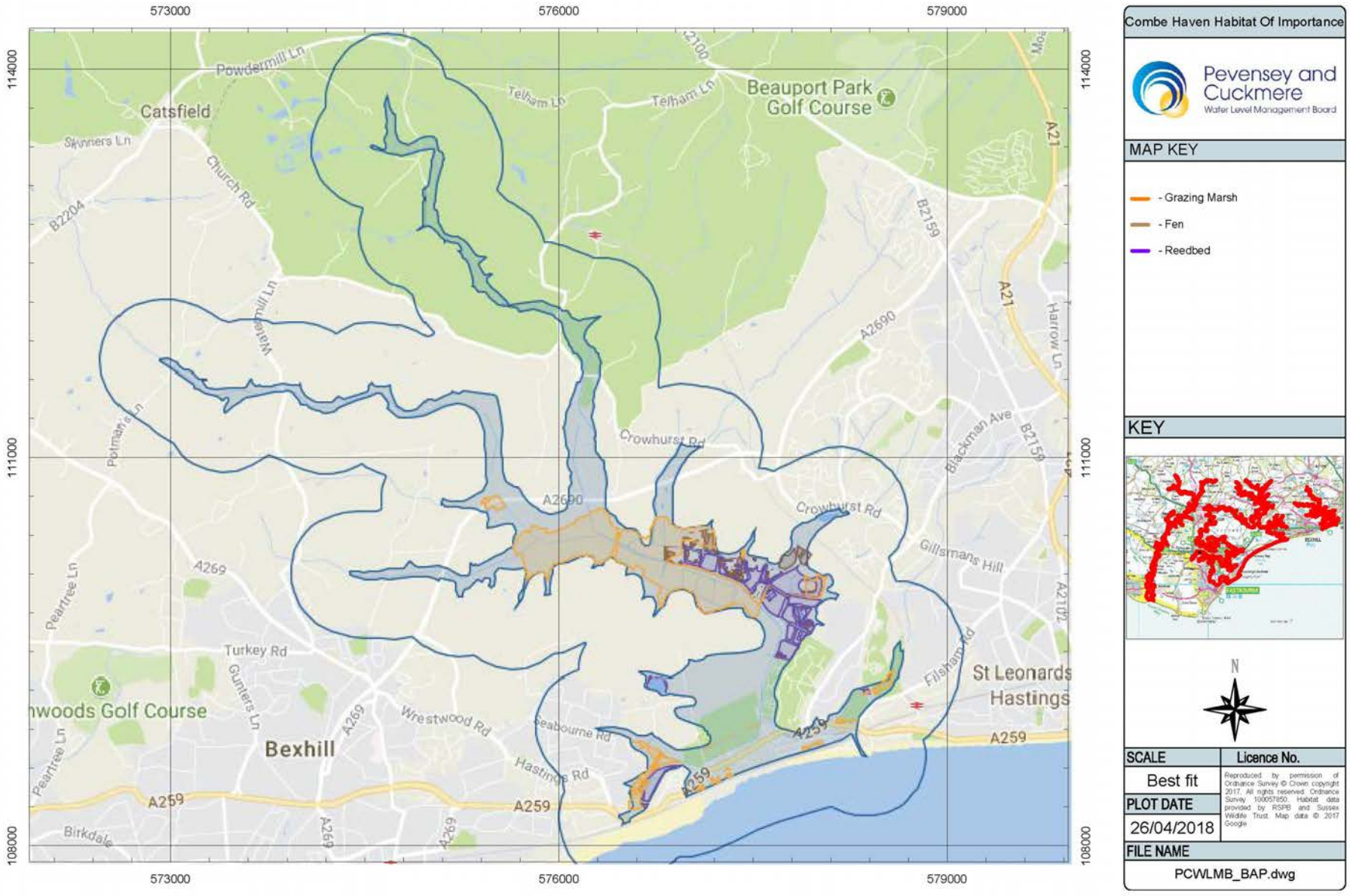
N

| SCALE | Licence No. |
|---|---|
| Best fit | Reproduced by permission of Ordnance Survey © Crown copyright 2017. All rights reserved. Ordnance Survey 100057350. Habitat data provided by RSPB and Sussex Wildlife Trust. Map data © 2017 Google |
| PLOT DATE | |
| 26/04/2018 | |

FILE NAME

PCWLMB_BAP

## iii. Map of Combe BAP Habitats



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 emailing info@wlma.org.uk or writing to the following address:

Pevensey and Cuckmere Water Level Management Board
Kettlewell House
Austin Fields Industrial Estate
Kings Lynn
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PE30 1PH

Further information is available on the Board's website: www.wlma.org.uk

Water Management Alliance

## CONTACT US

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