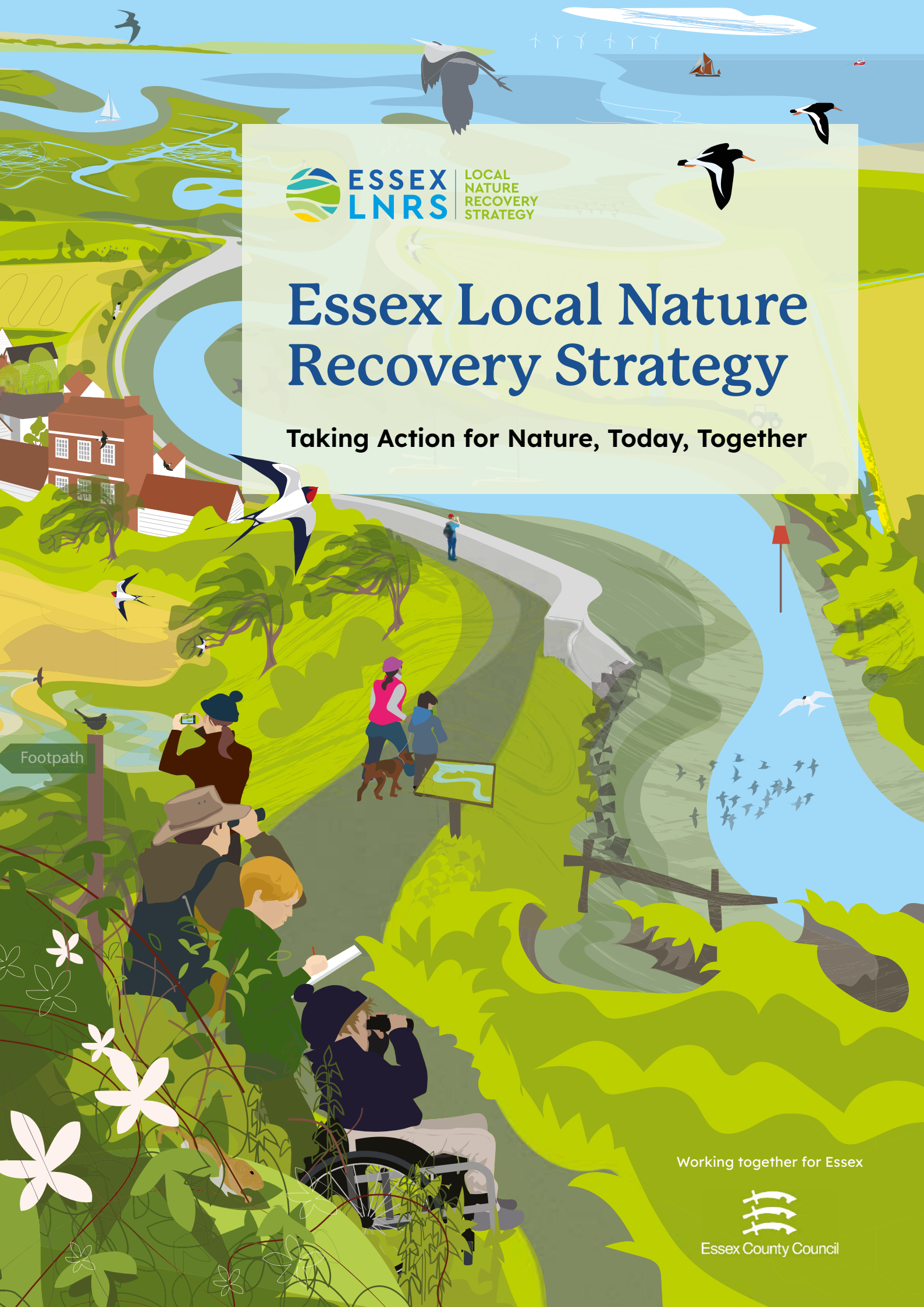


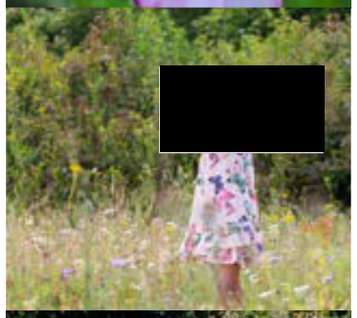
Essex Local Nature Recovery Strategy

Taking Action for Nature, Today, Together

Working together for Essex

Essex County Council

Contents



All illustrations created by Artist Nik Pollard

Left, top to bottom: Little Egret © Paul Starr; White Tailed Bumblebee © Paul Starr; Girl with binoculars © Jon Hawkins; Tiptree Cows © Paul Starr; Runwell, Essex © Paul Starr

1. Foreword

This is an exciting moment for nature in Essex. The UK is the first country in the world to require by law that its much depleted nature be enhanced[1]. Essex is among the first counties in the UK to show how nature recovery can be done locally. After much hard work and collaboration among a wide variety of stakeholders, I am delighted to welcome the Essex Local Nature Recovery Strategy (LNRS).

The key word is recovery. No longer is trying to reduce further loss of nature enough. As we all know, nature in Essex, as elsewhere, has undergone alarming decline in the last century, with habitats and species common to our forebears now gone or seriously depleted. Intensive agriculture, development, pollution and invasive species are just some of the factors behind this decline, and now there is the added threat of climate change.

We also know we cannot live without nature – it is essential to the air we breathe, the water we drink, the food we eat, our health and wellbeing, and our economic prosperity. So our task is vitally important.

It is sometimes said you can't meet human needs and have nature. It's either food or turtle doves, houses or great crested newts. Not true. Human needs and nature recovery CAN go hand in hand. Some Essex farmers are proving it, producing food and enhancing nature by the way they farm. Our two main reservoirs, Abberton and Hanningfield, provide us with clean water to drink, and are also two of the best sites for wildlife in Essex. Housebuilders are now required to deliver "net gain" for biodiversity as a condition of new housebuilding. Some local communities are doing amazing jobs balancing human needs and nature recovery at parish level – Manningtree and Brightlingsea are two outstanding examples.

The key for nature recovery, and the essence of the LNRS, is to provide more space for nature and ensure it is better connected – "bigger, better and more joined up", as Professor John Lawton has called it[2]. The LNRS contains "opportunity maps", showing where and how to deliver the Lawton principles for our most important habitats.

Every square inch of Essex represents an opportunity for nature recovery, and anything anyone can do to help nature anywhere in the county is to be welcomed and encouraged. We all can, and should, try to make a difference wherever possible. But we also know that our current "good" sites for nature are fragmented, and

Above: Urban trees in Maldon © Paul Starr

if we expand and better connect them, the impact on nature recovery will be greater, and the purpose of the opportunity maps is to give a focus to our nature recovery efforts.

The LNRS is grounded in science but also recognises the importance of collaboration and inclusivity. By harnessing the collective wisdom and resources of our diverse population, we can achieve far greater impact than any one organisation or entity alone.

Huge thanks to all those who have contributed to the LNRS so far — it's been an amazing collaborative effort. And, as we embark on the journey towards delivering a greener future for Essex and give all our citizens a better opportunity to reconnect with nature, thanks to each of you for your future efforts to make it a success.

Dr Simon Lyster,
Chair, Essex Local Nature Partnership

Image © Paul Starr

2. Executive Summary

Nature in Essex has suffered significantly over the last century, and continues to suffer, from species loss, habitat loss and increased habitat fragmentation. There are multiple causes for this, including land use change, invasive species, pollution, overexploitation and climate change. Therefore, it is crucial to place nature recovery at the centre of future action for the environment, to create new habitats and recover and enhance space for nature that has been lost or degraded.

The role of Local Nature Recovery Strategies (LNRS) is to provide a county-wide, practical solution for nature recovery. The Government has established a nationwide network of 48 Responsible Authorities, each being required to create a LNRS for its area. Essex County Council is the Responsible Authority for the Greater Essex LNRS.

The primary purpose of the LNRS is to identify locations to create or improve habitat most likely to provide the greatest benefit for nature and the wider environment.

The Essex LNRS identifies where new habitats — such as woodlands, grasslands, freshwater areas, river buffers, coastal and marine zones, and urban habitats — can be created. Opportunity maps highlight these areas and suggest actions for nature recovery within them. These actions will help connect and expand important natural areas. The Essex LNRS provides guidance for organisations and individuals on where to focus their efforts and what actions to take, and incentivises these actions to achieve nature recovery.

The actions identified in the Essex LNRS, for each habitat type, are categorised under three habitat priority statements which are aimed at connecting, enhancing and expanding existing natural spaces. Following the Lawton Principles of nature recovery, the three main categories are designed to make habitats:

- **Bigger:** Increasing the size of existing habitats.
- **Better:** Improving the quality and health of existing habitats.
- **More connected:** Enhancing connections between habitats to support wildlife movement and ecological processes.

The Essex LNRS identifies the top 10 biodiversity priorities for Essex. Two of the top 10 priorities, which set out the vision for nature recovery in Essex, are:

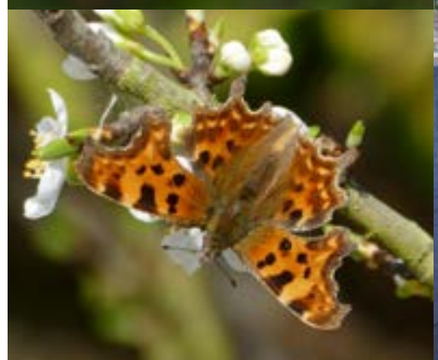
1. To create networks of bigger, better, more connected habitats.
2. To have green and blue habitats covering 25% of the county by 2030, with an ambition to achieve 30%, compared with 14% coverage today[3].

The Essex LNRS emphasises that every area in the county could be a potential opportunity for habitat creation or biodiversity enhancement. To illustrate this, the “all creation opportunity” maps showcase all potential areas for biodiversity creation. Within this broader scope, the “strategic creation opportunity” maps highlight the top 15% of locations for nature recovery, indicating where efforts will be most beneficial for nature and the wider environment. While the strategic opportunity maps focus on these priority areas, actions to create or enhance nature outside these areas are also encouraged.

Habitat creation, including the expansion of existing habitats, is a key focus of the opportunity maps which link to the priorities related to bigger habitats identified in the Essex LNRS, such as:

- Create 18,000 hectares of new woodland across Essex.
- Create 22,000 hectares of new grassland across Essex.
- Create 3,100 hectares of new habitats in urban areas in Essex. This can be achieved by creating new green and blue spaces in the heart of our local communities, for example, in gardens, balconies and windowsills; and by developing more green roofs and walls, street trees and community gardens.

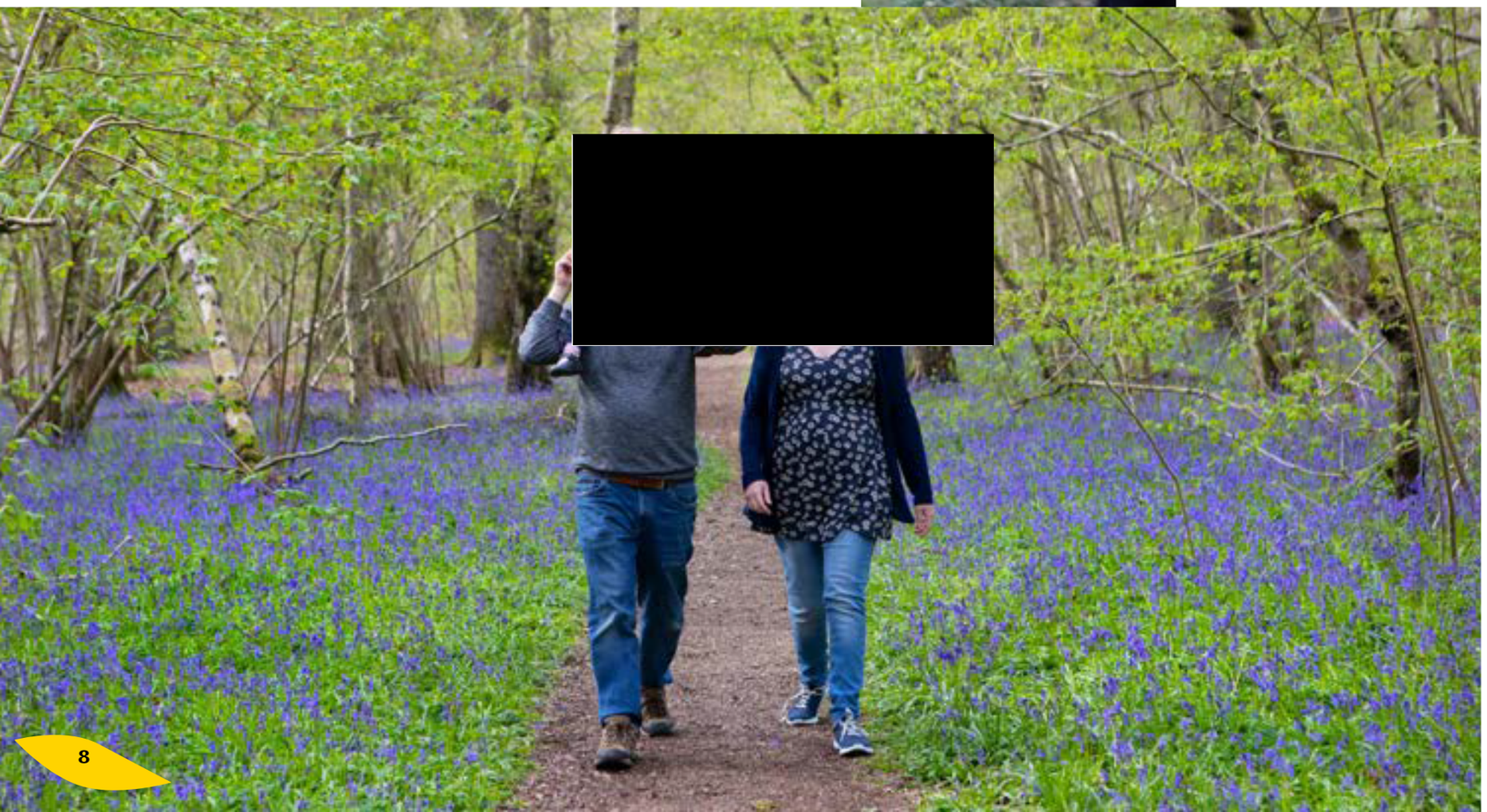
Below, left to right: Spotted Flycatcher © Charlie O; Comma butterfly © Essex Wildlife Trust; Trust Links Garden Westcliff © Paul Starr



- Create 22,000 hectares of new freshwater habitats to enhance the water quality of our river network, by creating 6,000 hectares of new river buffer habitat.
- Create 4,000 hectares of new coastal habitat and 1,000 hectares of new marine habitat to support the creation of a dynamic, resilient ecosystem.

Environmental Land Management Schemes (ELMS), such as Countryside Stewardship schemes and Sustainable Farming Incentive, are available to assist farmers and landowners in implementing nature recovery initiatives, by offering payments for a wide range of actions that support the local natural environment. Another important mechanism to support the delivery of LNRSs is Biodiversity Net Gain (BNG). BNG provides developers and landowners the opportunity to contribute positively to the implementation of the Essex LNRS. The sites shown on the strategic opportunity maps offer an uplift of 15% on biodiversity units compared with other sites.

Below: Family walking in the forest © Jon Hawkins



The state of nature today

Essex's landscape is rich and diverse, with a wide variety of habitats, some of which have suffered more damage and depletion than others.

- **Urban Areas:** Urban areas make up 11% of Greater Essex. Growing populations put green spaces and urban wildlife under pressure. Enhancing nature in urban areas is crucial for county-wide connectivity.
- **Woodland:** Woodland covers 7% of the county (about 5 million trees) with rich and varied scrub, mosaic, and hedgerows. Enhancing woodlands through new tree planting and natural regeneration is needed to restore woodland connectivity across Essex.
- **Grasslands:** Grasslands have declined more than any other habitat in the past century. Outside nature reserves, few meadows are in good condition, leading to restricted and fragmented plant distributions. Restoring these grasslands is essential.

Opposite, from top: Barn Owl at Walton on Naze © Andrew Armstrong; Speckled Wood butterfly © Essex Wildlife Trust; Badger © Essex Wildlife Trust

- **Farmland:** Two-thirds of Essex is farmland. Balancing agriculture with environmental needs is key for ecosystem health and sustainable food production. The yield and quality of food production is dependent upon pollination by invertebrates, which are essential for biodiversity and wider environmental benefits.
- **Freshwater and Wetlands:** These habitats support diverse species and connect communities, linking freshwater and marine ecosystems. Only 5% of Essex's water bodies have good ecological status, with 20% in poor status. Improving water quality through river buffer creation could be one solution to reversing this downward decline in water quality.
- **Coastal and Marine Habitats:** Vital for wetland birds and migration routes, but 91% of intertidal saltmarsh has been lost in 400 years. Restoring coastal areas is crucial for this habitat's recovery.

The Essex LNRS presents a key opportunity to reverse the declines of our species and habitats, by giving us all the direction needed to create a biodiversity-rich environment where wildlife and humans mutually benefit from nature's recovery.

3. Introduction

3.1 Purpose

Essex, like the whole of the UK, has suffered extreme biodiversity loss in the last 50 years, with many habitats and species now vulnerable or seriously threatened. Once common species in our county such as Turtle Doves, European Eels and Hedgehogs are now seriously depleted and at risk. Habitats are now left largely fragmented and isolated, causing significant declines in biodiversity and ecological quality. Human life, too, is affected by these changes.

As a result, the Government has made a commitment to halt and reverse biodiversity decline. The Environment Act 2021 requires 48 “Responsible Authorities” across England to each produce a Local Nature Recovery Strategy (LNRS), which work collaboratively together to form a nation-wide Nature Recovery Network. Each LNRS should describe the area’s current biodiversity and the opportunities and priorities for enhancing biodiversity in terms of habitats and species.

In the case of Essex, Essex County Council (ECC) is the Responsible Authority, and this document represents the first LNRS for Essex[4].

The primary purpose of the LNRS is **to identify locations to create or improve habitat most likely to provide the greatest benefit for nature and the wider environment.**

This Essex LNRS describes (Section 4) the problems we face with biodiversity loss and how they can be addressed. This includes information (Section 4.4) about some of the mechanisms available to help support developers, landowners, farmers and others to improve biodiversity.

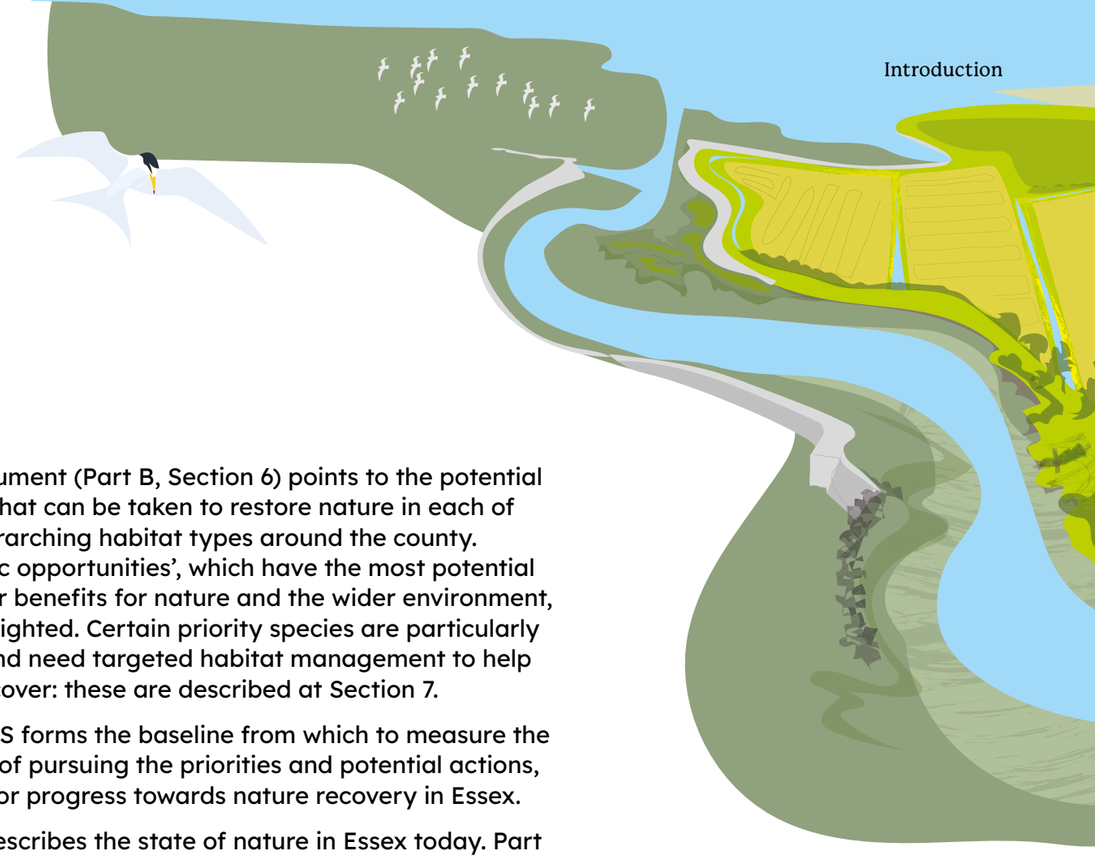
The maps (Section 5) indicate where actions could be carried out that will create, expand and connect existing spaces for nature. In accordance with a key principle[5] of nature recovery known as the Lawton Principles, these actions come under three main headings, designed to make habitats:

- Bigger
- Better
- More connected

Below: Abbots Hall Farm © Paul Starr

In Essex, our top 10 aims for nature recovery are:

1. To create networks of bigger, better, more connected habitats.
2. To have green and blue habitats covering 25% of the county by 2030, with an ambition to achieve 30%, compared to 14% coverage today[6].
3. To encourage farmers to leave more space for nature in less productive areas and to increase usage of nature-friendly farming practices in productive areas.
4. To encourage local communities across Essex to actively engage in restoring, managing and protecting nature in their areas.
5. To boost the use of nature-friendly practices in urban areas across the county, to improve spaces for biodiversity and people, and to create a greener and healthier environment for all.
6. To ensure that new development of all kinds, of all scales and in all locations prioritises the incorporation of green spaces in its planning and management strategies and is consistent with the Essex LNRS.
7. To prioritise the creation of new native woodland in ways that link with existing native woodland, to consider both new planting and natural regeneration, and to improve the management of existing woodland to enhance biodiversity.
8. To increase the size, scale and connectivity of species-rich grasslands by restoring and recreating those that have been lost or damaged.
9. To strengthen the resilience of coastal and marine environments against the effects of climate change, including rising sea levels, coastal erosion and warmer conditions, as well as human pressures including disturbance, development and pollution.
10. To enhance the water quality of freshwater, coastal and marine habitats.



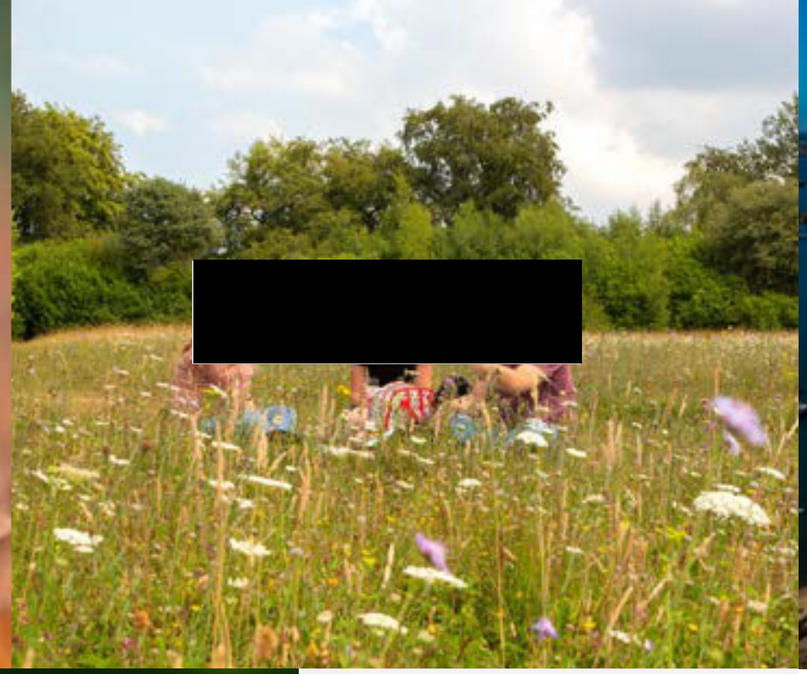
This document (Part B, Section 6) points to the potential actions that can be taken to restore nature in each of nine overarching habitat types around the county. ‘Strategic opportunities’, which have the most potential to deliver benefits for nature and the wider environment, are highlighted. Certain priority species are particularly at risk and need targeted habitat management to help them recover: these are described at Section 7.

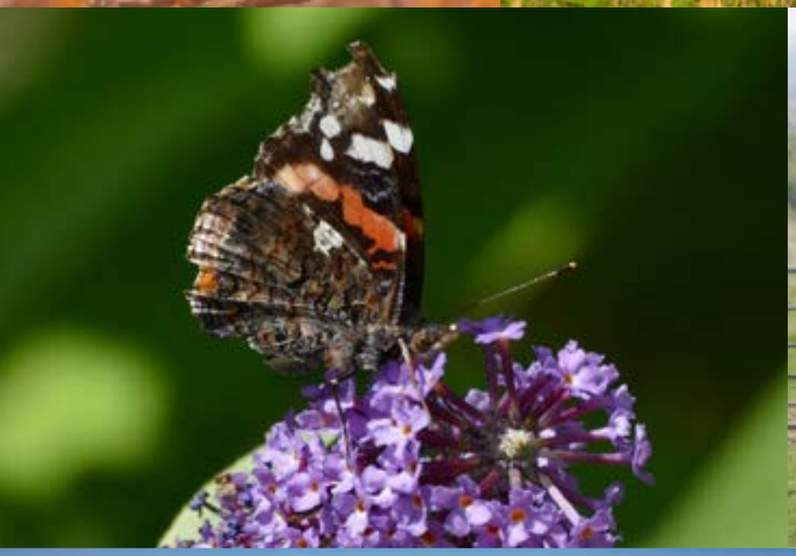
This LNRS forms the baseline from which to measure the impacts of pursuing the priorities and potential actions, to monitor progress towards nature recovery in Essex.

Part C describes the state of nature in Essex today. Part D sets out actions you can take to help nature recovery and how to respond to this consultation.

The appendices contain a glossary, together with more detailed information and references.

Below: Braxted Park, Essex © Paul Starr





Clockwise, from bottom left: Girls on bikes by beach © Essex Wildlife Trust; Red Admiral © Essex Wildlife Trust; House Sparrow © Jon Hawkins; Group in a wildflower meadow © Jon Hawkins; Sheep at Blue House Farm © Essex Wildlife Trust

3.2 What the LNRS offers

Above: Mersea Island © Paul Starr

For landowners and farmers, the LNRS:

- Identifies the highest priority opportunity areas for habitat creation and connectivity.
- Aids in pinpointing habitat opportunities across farmland, offering initial guidance on the most suitable habitat types for those areas.
- Provides guidance on actions to take forward on farmland to achieve nature recovery and to transition towards more sustainable farming practices.
- Could provide a focus for environmental schemes under ELMS[7] such as Landscape Recovery Schemes and Countryside Stewardship.

For community groups and individuals, the LNRS:

- Assists in pinpointing areas within the local community to prioritise for nature recovery efforts.
- Provides guidance for focusing on habitat creation and enhancement initiatives.
- Aids in aligning neighbourhood plans with its objectives.
- Can support funding applications for nature recovery projects.
- Aids in the establishment of new local community groups dedicated to nature recovery efforts.

For local authorities, the LNRS:

- Helps in determining locations for off-site potential for Biodiversity Net Gain (BNG)[8].
- Assists in aligning local plan green and blue infrastructure delivery with LNRS goals, contributing to an Essex-wide, collaborative plan between local authorities.
- Aids in planning and site allocation decisions through data-driven site identification for nature recovery.
- Helps in identifying sites for green and blue space delivery, assisting in meeting local targets.

For environmental non-governmental organisations (NGOs), the LNRS:

- Helps prioritise areas for nature recovery
- Aids in advancing the delivery of their projects.
- Fosters collaborative efforts across the county, generating greater ambition for nature recovery.
- Supports funding schemes such as landscape recovery schemes, enabling large-scale positive changes for nature.
- Furthers the promotion of their efforts for nature and wildlife recovery.
- Facilitates the connection of long-term goals for nature's recovery.
- Will help conservation organisations to put '30 by 30' and '1 in 4'[9] into practice.

For developers, the LNRS:

- Provides guidance on biodiversity priorities and measures to be incorporated into development projects.
- Provides support with delivering biodiversity net gain[10] (BNG), by highlighting key land for nature recovery delivery, which could also be suitable sites for off-site BNG.
- Provides a series of potential measures for embedding nature into urban infrastructure which can have multiple benefits for new developments such as stormwater management, climate resilience, urban cooling, and overall enhancing the quality and sustainability of built environments.

3.3 Collaboration

This LNRS was developed in partnership with the people of Essex and through support, advice and guidance from an extensive range of experts and stakeholders across Essex between August 2022 and March 2024. Essex County Council (ECC) worked closely with the Essex Local Nature Partnership (LNP) to canvass views from farmers and landowners, Greater Essex local authorities, environmental organisations, parish and town councils, and members of the public and community groups. Submissions of data and opinion have been welcomed from all interested parties.

The Essex LNP board, whose members represent up to 20 public, private and voluntary sector organisations, has had oversight of the development of the LNRS and has been crucial to providing a holistic overview at key stages throughout its progression.

The data and mapping subgroup has been led by Ground Control, to whom ECC and the LNP are very grateful. The LNRS mapping and data subgroup collectively helped to guide and advise on the development of the maps.

In developing this strategy, all available existing green spaces plans and strategies across the county have been reviewed, to ensure consistency across Greater Essex's aims for nature, and to complement existing goals.

Essex County Council would like to thank all those who have contributed to this important strategy to restore nature.

Below: Bee Leafcutter
© Jon Hawkins

PART A

4. Biodiversity loss and nature recovery

4.1 The problem

Species loss

The UK is one of the most nature-depleted countries on Earth and, like many countries worldwide, has suffered extreme biodiversity loss. On average, species abundance in England has fallen by about one-third (32%) since 1970[11].

Among UK species in Essex that are classified as critically endangered (meaning that they face an extremely high risk of extinction in the wild) are such well-known creatures as:

- European Eel
- Turtle Dove

Among those on the endangered list in Essex (very likely to become extinct in the near future) are well-known species such as:

- Lesser Spotted Woodpecker
- Native Oyster
- Swift

Lots more are ‘vulnerable’ (threatened with extinction) or ‘near threatened’ (close to being endangered in the near future) – see Appendix 5 for further details.

Habitat loss and fragmentation

The UK has seen significant habitat loss, with only 1 in 7 habitats for wildlife reported to be in a good condition[12].

Habitat loss often results in fragmentation of remaining habitats, leading to isolated pockets of ecosystems. Fragmentation disrupts ecological processes including species movement and nutrient cycling.

In the UK, only
1 in 7 habitats
reported to be in good condition

Left: Girl with binoculars © Jon Hawkins

4.2 Causes of the problem

There are five main causes for the loss of biodiversity[13]:

1. Habitat change and loss

Habitat change and loss, have been driven primarily by intensive agricultural practices and urban expansion. 44% of land globally is used for agriculture[14]. Some food production systems can be unsustainable or damaging to the environment, largely due to intensive agricultural systems and poorly managed land. The fragmentation of habitats means that wildlife is unable to move to more favourable areas, access vital resources such as food, shelter or mates, or escape threats.

2. Invasive species and pathogens

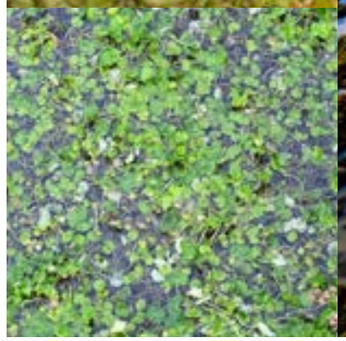
Invasive non-native species (INNS) – including Mink, Zebra Mussel, Japanese Knotweed, Himalayan Balsam, New Zealand Pigmyweed and Floating Pennywort – are a major driver of biodiversity decline in Essex. Novel diseases and INNS represent a continuing threat to biodiversity and the wider economy, which need continuous control and management.

3. Pollution

Air and water pollution are the two main sources of pollution that are most damaging to human health and the functioning of ecosystems[15]. Activities such as transport, industrial processes, farming, energy generation and domestic heating release greenhouse gas emissions into the atmosphere, which cause global warming[16]. Pollution in water can stem from a whole range of industrial and agricultural processes[17], which can be harmful to wildlife and humans, causing physical illness and negative impacts on health[18]. In Essex, there are three main sources of water pollution including household sewage and storm overflows, agricultural land use and built environment and transport[19]. Pollution for agriculture and rural land use is responsible for around 40% of the reasons why water bodies fail good status in England, and 37% in Essex[20].

4. Overexploitation

Overexploitation of biological resources due to increasing human demand threatens the environment[21] – including UK seas and the marine environment surrounding Essex. One of the most significant threats to water availability is the abstraction of water for agricultural purposes and the high demand and use of water from Essex Rivers. Both activities prevent stable river levels, which can have a negative impact on wildlife.



Above, left to right: Mink; Floating Pennywort; Maldon Estuary © Paul Starr; Hylands Park, Writtle © Paul Starr

Overfishing can drastically affect the ecosystem, impacting on both fish and seabird populations[22]. It can disrupt food chains and migratory patterns and cause certain species to shift their ranges. Humans are also overexploiting other natural resources – including forests, water and space for agriculture – making unsustainable demands on our natural world.

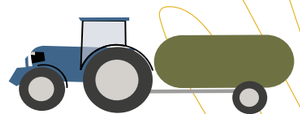
5. Climate change

Climate change, caused by global warming, is expected to cause mean annual temperatures to rise by 2-5% by 2100[23]. This means that heatwaves are likely to become more frequent and intense. These changes are likely to have a variety of impacts on wildlife, including increased rates of diseases, degraded habitats, increased likelihood of extinction of threatened species, migratory pattern disruption and genetic changes[24].

In turn, the decline of species, through climate change, can accelerate the rates of climate change, creating a negative feedback loop that is disastrous for all[25].

These drivers of biodiversity decline are often related to each other and are themselves a consequence of “indirect” drivers such as population and economic growth, land use change, social and political change, and technological developments.

With Greater Essex being home to 1.8 million people, and a further 300,000 forecast to live in the area within 20 years[26], it is crucial that humans make changes to reduce the rate of biodiversity decline.



4.3 Solving the problem

National legislation has been introduced to help in nature recovery, addressing the serious decline in biodiversity.

The Environment Act 2021 states that public authorities in England must consider what they can do to conserve and enhance biodiversity. It requires Responsible Authorities to prepare and implement Local Nature Recovery Strategies (LNRSs) to map out the action needed to restore, enhance and create spaces for nature. Across the country, 48 LNRSs will together comprise a national Nature Recovery Network.

The primary purpose of the LNRS is to identify locations to create or improve habitat most likely to provide the greatest benefit for nature and the wider environment.

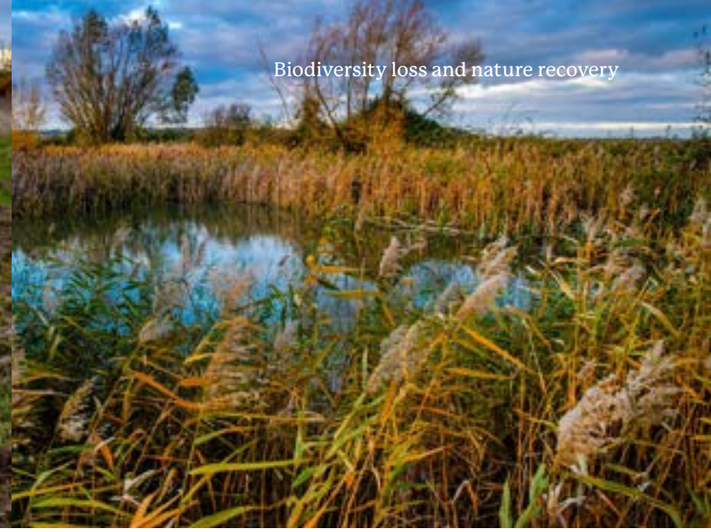
The Essex LNRS (one of the 48) outlines agreed Biodiversity Priorities for nature recovery in Essex and a series of proposed actions, also known as potential measures, to achieve the priorities outlined. It proposes **where actions could be carried out that will connect and expand existing spaces for nature**. In accordance with a key principle of nature recovery, these actions come under three main headings, designed to make habitats:

Bigger Better More connected

The habitat types, which are examined in greater detail in Parts B and C of this document, are:

- Trees and woodlands
- Grasslands and meadows
- Scrub and mosaic
- Hedgerows
- Farmland
- Urban
- Freshwater and wetlands
- Coastal and marine
- Geology and soils

The strategy has been designed to guide any organisation or individual who wants to work towards county wide nature recovery, by pointing them to locations targeted for support, potential actions to take in these locations and mechanisms to incentivise action.



4.4 Support mechanisms

Above: Fobbing, Stanford Le Hope © Paul Starr

Environmental Land Management Schemes (ELMS)

Environmental Land Management Schemes (ELMS) represent an important mechanism to help farmers and landowners contribute to the delivery of the LNRS.

ELMS provide financial incentives, grants, subsidies or payments to landowners and managers who implement nature-friendly practices on their land.

There are three schemes available to pay for environmental and climate goods and services:

Sustainable Farming Incentive (SFI)

SFI rewards farmers for farming practices that help produce food sustainably and protect the environment. Many of the actions under SFI help farmers reduce their costs and improve their efficiency, as well as help make improvements to the natural environment and reduce carbon. The LNRS will help to identify suitable areas to enter SFI agreements.

Countryside Stewardship (CS)

CS rewards farmers for looking after and improving the natural environment, which includes increasing biodiversity, improving habitat, expanding woodland areas, improving water quality, improving air quality and improving natural flood management. The LNRS will help to identify suitable areas to enter CS agreements.

Landscape Recovery Scheme

Landscape Recovery Schemes will pay for bespoke, longer term, larger scale projects to enhance the natural environment. The identification of multiple projects to enter a landscape recovery scheme may be aided by the LNRS, which identifies larger scale opportunities for habitat connectivity.

Biodiversity Net Gain (BNG)

An important mechanism to support the delivery of Local Nature Recovery Strategies (LNRS) is Biodiversity Net Gain (BNG). This was made mandatory on 12th February 2024 for major developments and mandatory for small sites on 2nd April 2024.

BNG is an approach to development, land and marine management that leaves biodiversity in a measurably better state than before the development took place. It aims to create new habitats as well as enhance existing habitats, ensuring the ecological connectivity they provide for wildlife is retained and improved.

For the purposes of BNG, biodiversity value is measured in standardised biodiversity units[27].

A habitat will contain a number of biodiversity units, depending on things like its:

- size
- quality
- location
- type

Biodiversity units can be lost through development or generated through work to create and enhance habitats.

Developers must deliver at least a 10% gain in biodiversity units – that is, 10% BNG – as measured by the statutory biodiversity metric.

There are three ways a developer can achieve BNG[28].

1. They can create biodiversity on-site (within the red line boundary of a development site).
2. If developers cannot achieve all of their BNG on-site, they can either deliver through a mixture of on-site and off-site, or just off-site. Developers can buy off-site biodiversity units on the market.
3. If developers cannot achieve on-site or off-site BNG, they must buy statutory biodiversity credits from the government. This should be a last resort. The government will use the revenue to invest in habitat creation in England.

Local Nature Recovery Strategies (LNRS) play a key role in BNG by providing a county wide strategic approach to off-site BNG delivery. BNG provides developers and landowners the opportunity to contribute positively to the delivery on the ground of the Essex LNRS, by generating measurable biodiversity enhancement and creation as part of development projects, whilst meeting the housing and business needs of residents.

Below: Anglia Ruskin University, Great Wigborough and Chelmsford © Paul Starr

On-site BNG delivery enhances any lost or damaged biodiversity habitats directly impacted within a development area, promoting greater climate resilience and connecting urban and natural environments. The Essex LNRS outlines the required actions for habitat creation in villages, towns, and cities whilst also identifying key opportunities for nature recovery of these urban areas, further identifying and prioritising areas for **BNG** delivery through on-site biodiversity creation and enhancement. When off-site compensation is required, it should be located as close to the development site as possible

The LNRS contains **strategic opportunity maps**, showing the locations identified as having "strategic significance" due to their high potential to deliver benefits for nature and the wider environment. Sites of strategic significance includes sites selected by Local Authorities. All strategically significant sites (collectively identified on Map 3) offer up to a **15% uplift in biodiversity units** compared with other sites. Therefore, developers and land managers can produce or sell more biodiversity units on sites of strategic significance within the LNRS. In order to qualify for high strategic significance within the LNRS, a landowner or developer must carry out the appropriate actions and follow correct procedures related to BNG policy.

BNG ensures that nature recovery efforts are sustainable and long-term, as agreements to deliver new or improved habitat through BNG are in place for 30 years. This enables the priorities of the LNRS to be delivered over a long period of time, achieving lasting gains for nature, beyond the lifetime of individual development projects.

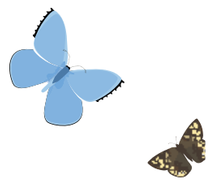
Woodland Carbon Code

The Woodland Carbon Code, developed by the UK government, provides a framework for certifying woodland creation projects that absorb or 'sequester' carbon dioxide from the atmosphere. Farmers and landowners can participate in this scheme by establishing new woodlands or managing existing woodlands in a way that increases carbon storage. They can generate carbon credits by demonstrating the amount of carbon sequestered and then sell these credits to companies or organisations seeking to offset their carbon emissions.

Other payment schemes

There are a range of other funding schemes available to farmers and land managers to deliver improvements to the environment, including the Water Restoration Fund which provides funding for projects that are used to restore and enhance the water environment.

Details of existing and new funding schemes are available at:
www.gov.uk/guidance/funding-for-farmers



Below, left to right: Two Tree Island, Southend © Paul Starr; Rain gardens in Canvey Island © Paul Starr; Education Sign, Canvey Island rain gardens © Paul Starr; Hanningfield Reservoir © Paul Starr

4.5 Wider Environmental Benefits and Co-benefits of Nature Recovery

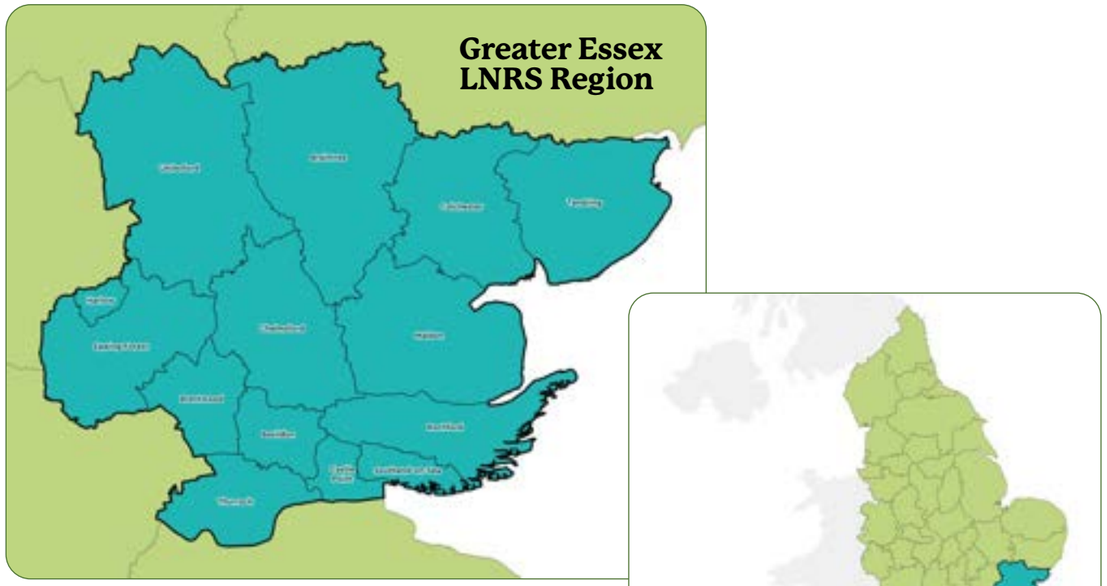
Nature recovery efforts significantly enhance ecosystem services and resilience. Restoring natural habitats boosts biodiversity, which supports essential functions like pollination, water purification, and soil fertility. This biodiversity creates stronger ecosystems capable of withstanding environmental stressors such as climate change and pollution. In addition, diverse plant communities sequester more carbon, helping to mitigate climate change, regulate water cycles to reduce flood and drought risks, reduce soil erosion which maintains productivity of farm businesses and improve air quality, benefiting overall environmental health and human well-being.

Revitalizing degraded landscapes through nature recovery transforms them into more biodiversity-rich multifunctional spaces. These restored areas provide natural buffers against extreme weather and reduce urban heat island effects with increased vegetation. They also offer recreational and educational opportunities, fostering community connections with nature and raising conservation awareness. Greater access to nature also has significant health benefits, ranging from reduced stress to improvements in physical health. By enhancing aesthetic and recreational values, nature recovery promotes ecotourism, generating economic benefits while encouraging sustainable land use. Overall, nature recovery supports more resilient ecosystems and communities, addressing critical global environmental challenges.

5. Maps

5.1 How to use the maps

The DEFRA defined Greater Essex LNRS boundary has a total area of 394,888.40 hectares.



Two principal types of map are presented below:

- **Areas of particular importance for biodiversity (APIB) maps.** APIBs identify national conservation sites, local nature reserves, local wildlife sites and areas of irreplaceable habitat in Essex. Areas of particular importance for biodiversity have a total area cover of 56,226.27 hectares, which is 14% of Essex.
- **Opportunity maps** identify areas in Essex that could become of particular importance for biodiversity and, if created, would help to connect existing habitats. These are the areas in which the potential measures should be carried out to help Essex to achieve **bigger, better and more joined up** habitat, as set out in the biodiversity priorities.

The opportunity maps themselves are of two types:

- **"All creation opportunities" maps** present **all** locations of particular importance for biodiversity. Areas of overlap with areas of particular importance for biodiversity (APIB) have not been removed from the all opportunities maps.
- **"Strategic creation opportunities"** maps identify the top locations, within all available opportunities, that hold the greatest potential to deliver benefits for nature and the broader environment. Strategic creation opportunities are presented together on Map 3 which includes strategic sites selected by Local Authorities. These locations are eligible for an uplift of 15% on standard biodiversity units, as calculated in the biodiversity metric, and are therefore of particular interest in relation to biodiversity net gain (BNG) (see section 4.4). In line with the DEFRA LNRS data standards, which states that "areas that could become of importance [for biodiversity] must not overlap with areas that are already of particular importance for biodiversity", the **strategic creation opportunity** maps do not contain areas of particular importance for biodiversity.
  - Nature recovery opportunities within urban areas do not form part of the strategic creation opportunity areas.
  - The total coverage of strategic creation opportunity areas covers 119,172.53 hectares, which is 30.18% of Essex.
  - The coverage of strategic creation opportunities is ambitious, to deliver the overarching priority of the Essex LNRS, which is to increase green and blue infrastructure to cover 25% of Essex by 2030.

Whilst the strategic creation opportunity maps show where action for nature recovery will have the most benefit for nature and the wider environment, any efforts to create or enhance space for nature outside of these areas should not be deterred but rather encouraged, wherever it is.

It is recommended that advice and guidance is sought by an ecologist when planning to create or enhance habitat, to determine the most appropriate action that will have the most benefit for nature and the surrounding environment. It is also recommended to gain appropriate advice and consents where required. Where there are multiple habitat opportunities on one site, the landowner may work with an expert and/or ecologist to help determine the most appropriate habitat to be created in this location. The habitat created also depends upon availability of resources to carry out works.

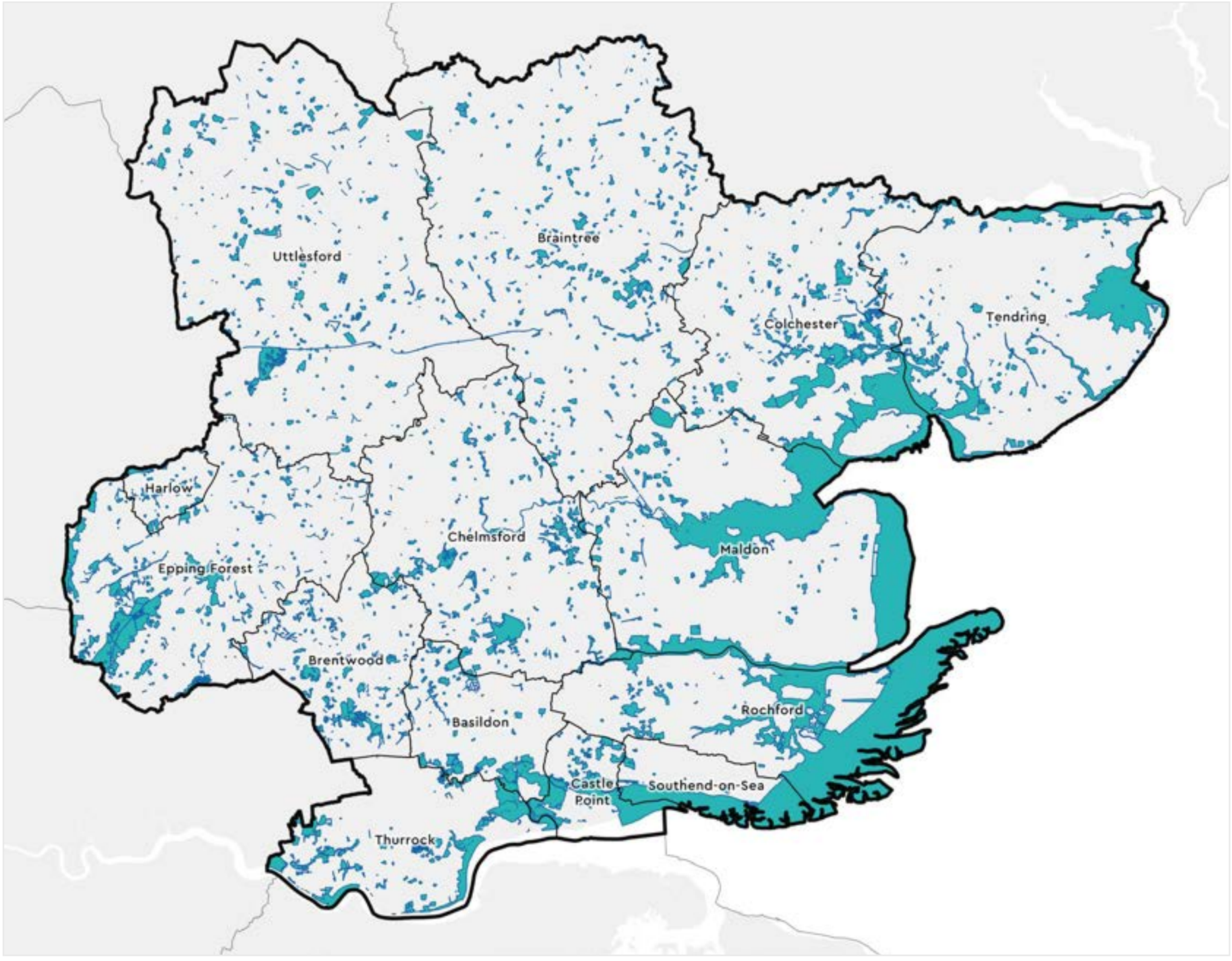
All opportunity areas are subject to existing land use and ownership. Therefore, inclusion in the opportunity maps does not automatically guarantee habitat creation in these areas. Any potential habitat creation schemes will need thorough investigation and appropriate consents. Land identified in the opportunity maps is not immediately available for habitat creation or delivery.

Production of the Essex LNRS maps took place between 2022 and 2024 and was a collaborative effort, led by Ground Control. For more detail on how these maps were created, see mapping methodology in appendix 2.

Ground Control

Explore the LNRS interactive maps, and respond to the LNRS consultation today: consultations.essex.gov.uk/c-e/lnrs-public-consultation

5.2 Areas of Particular Importance for Biodiversity (APIBs)

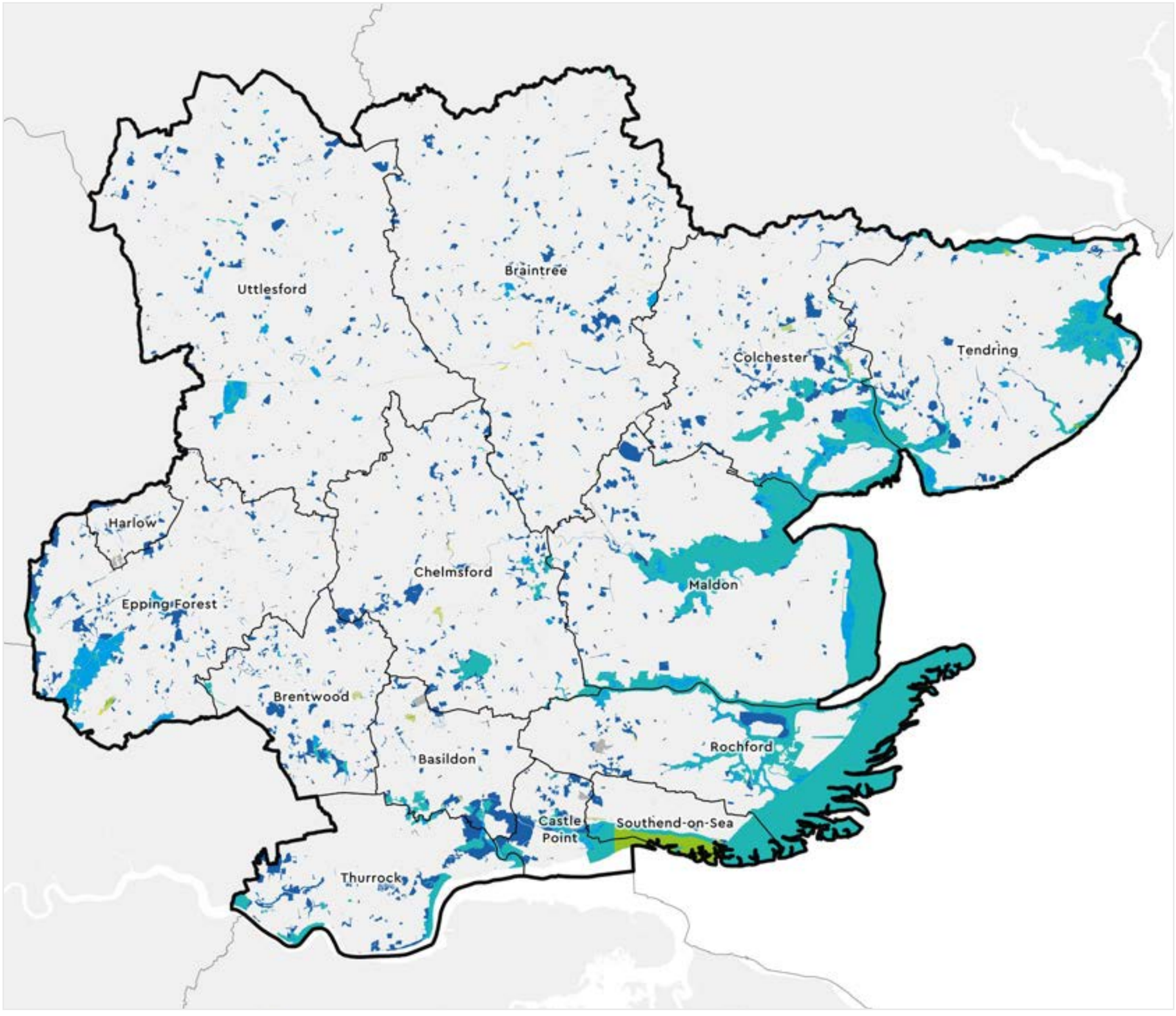


Map 1:
Areas of particular importance for biodiversity (APIBs)

Areas of particular importance for biodiversity (APIBs) include: national conservation sites; local nature reserves; and 'other areas of particular importance for biodiversity'. The APIB map presents the current situation of natural spaces in Greater Essex. APIBs cover 14% of the Greater Essex LNRS region in total. All input datasets correct as of February 2024.

Key

- Area of particular importance for biodiversity



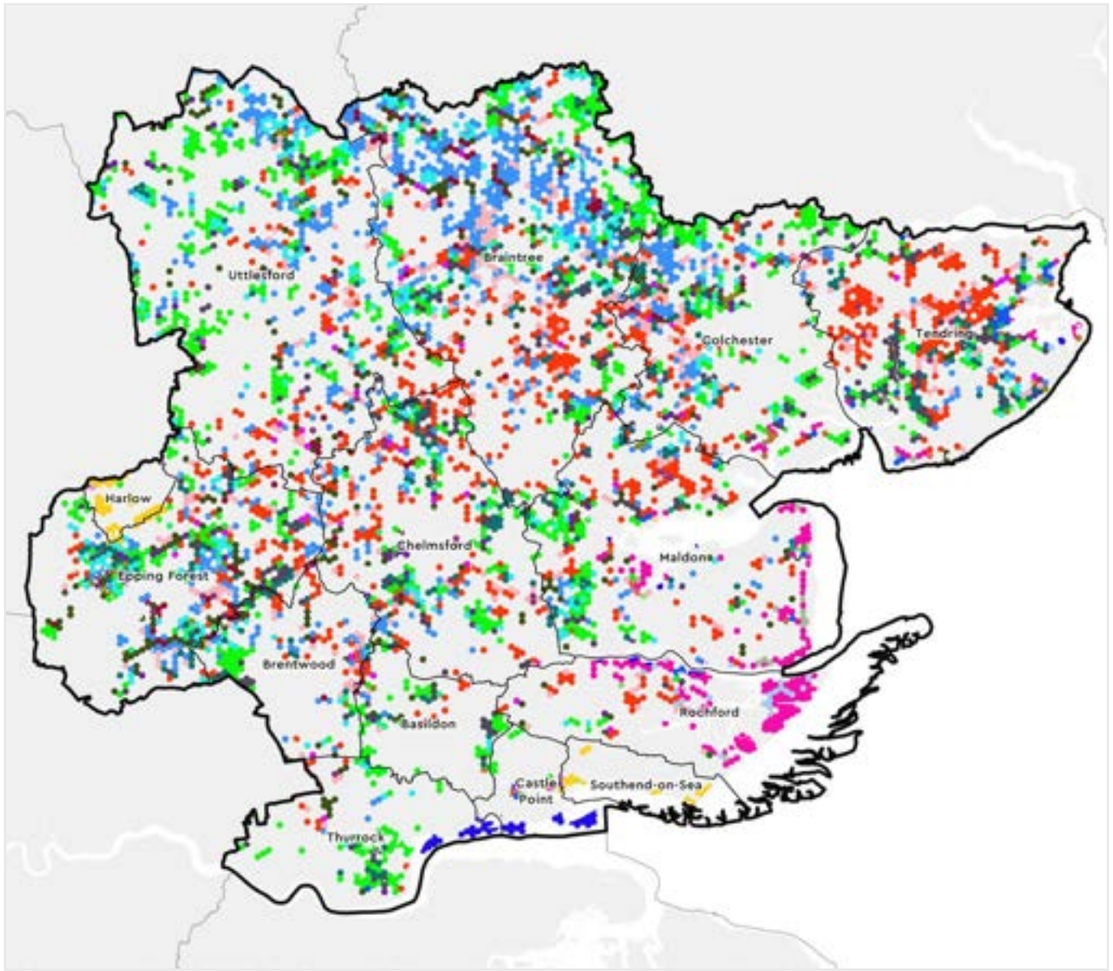
Map 2:
Areas of particular importance for biodiversity (APIBs)

Areas of particular importance for biodiversity (APIBs) include: national conservation sites; local nature reserves; and 'other areas of particular importance for biodiversity'. The APIB map presents the current, designated spaces for nature in Greater Essex. APIBs cover 14% of the Greater Essex LNRS region in total. All input datasets correct as of February 2024.

Key

- National Conservation Site Only
- Local Nature Reserve Only
- Other Area of Particular Importance Only
- National Conservation Site and Local Nature Reserve
- National Conservation Site and Other Area of Particular Importance
- Local Nature Reserve and Other Area of Particular Importance
- National Conservation Site, Local Nature Reserve and Other Area of Particular Importance

5.3 Opportunity maps



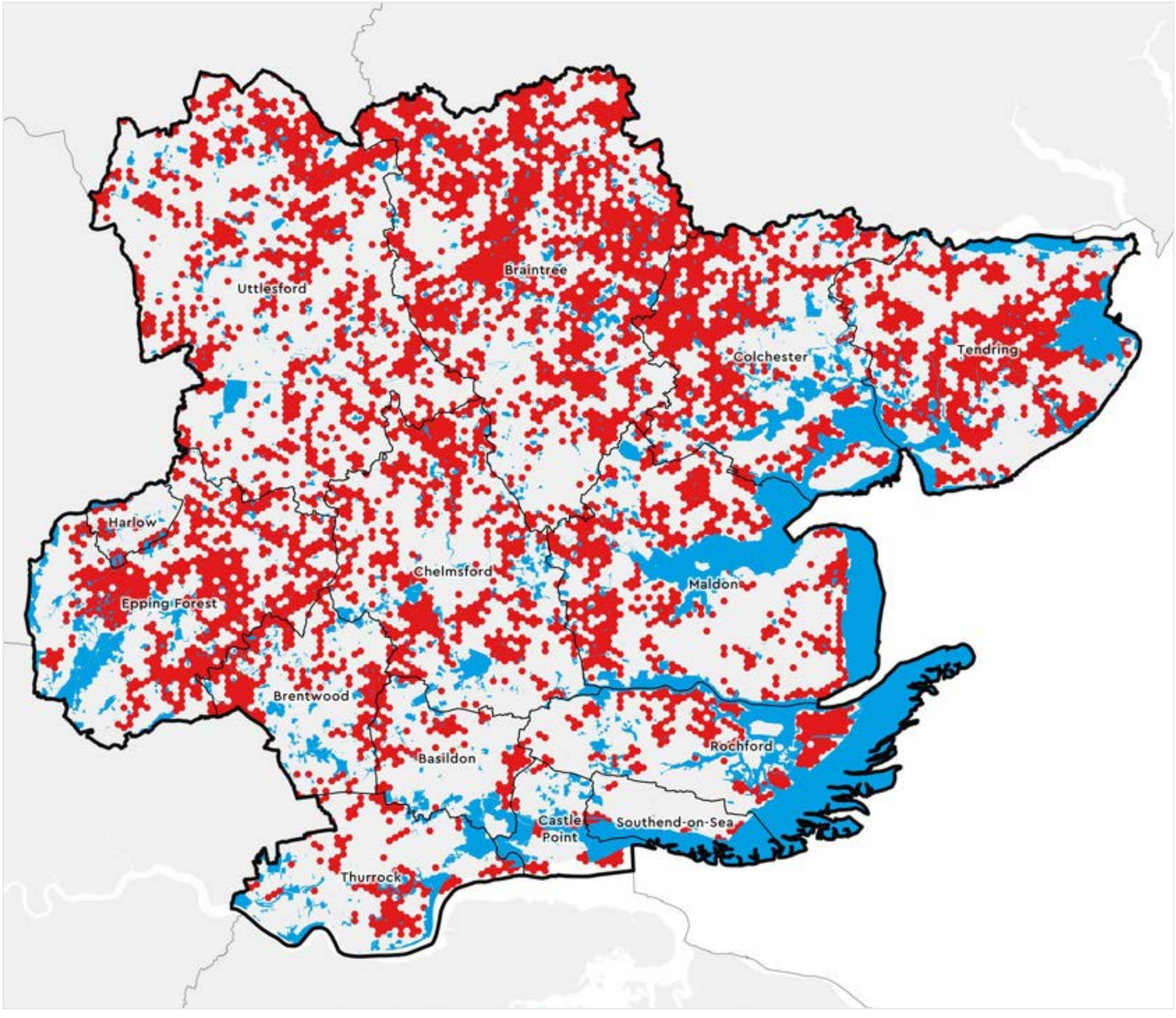
Map 3: **Combined Strategic Creation Opportunities**

Areas that could become of particular importance – 'strategic' combined habitat creation opportunities.

Analysis results presented as a generalised 0.25km² hexagonal grid and categorised by habitat type. All combined 'strategic' habitat creation opportunities cover 30% of the Greater Essex LNRS region. APIBs removed. ABIPS removed from all categories, apart from 'Strategic Sites selected by Local Authority'.

Key

- Woodland Only (1)
- Grassland Only (1)
- Freshwater Standing Water Only (1)
- Freshwater River Buffer Only (1)
- Coast Only (1)
- Marine Only (1)
- Strategic sites selected by Local Authority only (1)
- Woodland and Grassland (2)
- Woodland and Freshwater Standing Water (2)
- Woodland and Freshwater River Buffer (2)
- Woodland and Coast (2)
- Grassland and Freshwater Standing Water (2)
- Grassland and Freshwater River Buffer (2)
- Grassland and Coast (2)
- Grassland and Strategic sites selected by Local Authority (2)
- Freshwater Standing Water and Freshwater River Buffer (2)
- Freshwater Standing Water and Coast (2)
- Freshwater River Buffer and Coast (2)
- Marine and Strategic sites selected by Local Authority
- Woodland, Grassland and Freshwater Standing Water (3)
- Woodland, Grassland and Freshwater River Buffer (3)
- Woodland, Grassland and Coast (3)
- Woodland, Freshwater Standing Water and Freshwater River Buffer (3)
- Woodland, Freshwater Standing Water and Coast (3)
- Grassland, Freshwater Standing Water and Freshwater River Buffer (3)
- Grassland, Freshwater Standing Water and Coast (3)
- Grassland, Freshwater River Buffer and Coast (3)
- Grassland, Coast and Marine (3)
- Freshwater Standing Water, Freshwater River Buffer and Coast (3)
- Woodland, Grassland, Freshwater Standing Water and Freshwater River Buffer (4)
- Woodland, Grassland, Freshwater Standing Water and Coast (4)
- Woodland, Grassland, Freshwater River Buffer and Coast (4)
- Woodland, Freshwater Standing Water, Freshwater River Buffer and Coast (4)
- Grassland, Freshwater Standing Water, Freshwater River Buffer and Coast (4)
- Grassland, Freshwater Standing Water, Freshwater River Buffer and Strategic sites selected by Local Authority (4)
- Woodland, Grassland, Freshwater Standing Water, Freshwater River Buffer and Coast (5)



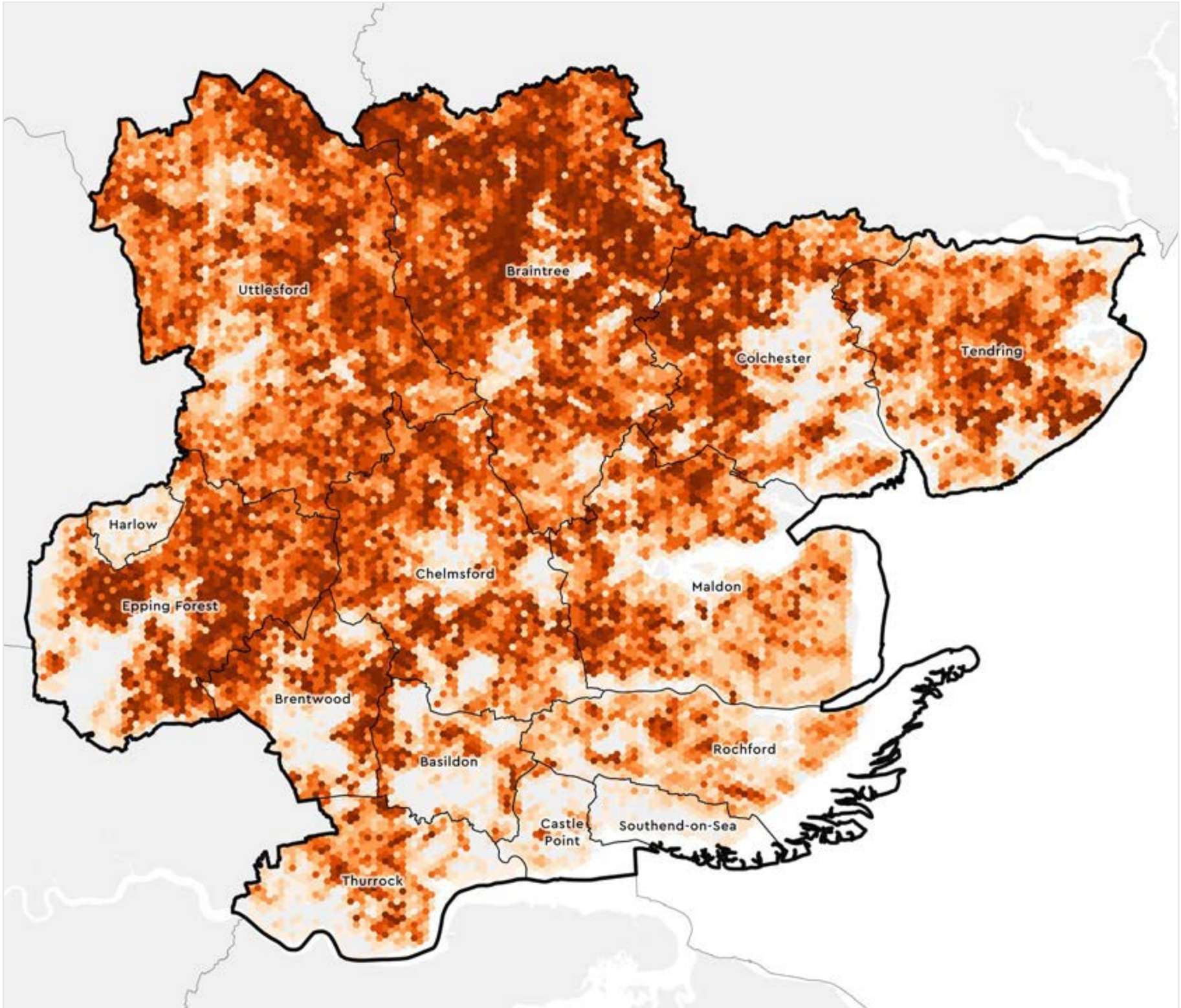
Map 4:
Combined Strategic Creation Opportunities and Areas of particular importance for biodiversity (APIBs)

Areas of particular importance for biodiversity (APIBs) and areas that could become of particular importance – combined 'strategic' habitat creation opportunities.

Areas of particular importance for biodiversity (APIBs) include national conservation sites; local nature reserves; and 'other areas of particular importance for biodiversity'. APIBs cover 14% of the Greater Essex LNRS region in total. All input datasets correct as of February 2024. Areas that could become of particular importance – combined 'strategic' habitat creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by habitat type. All combined 'strategic' habitat creation opportunities cover 30% of the Greater Essex LNRS region.

Key

- Area of Particular Importance for Biodiversity
- Strategic Combined Opportunities

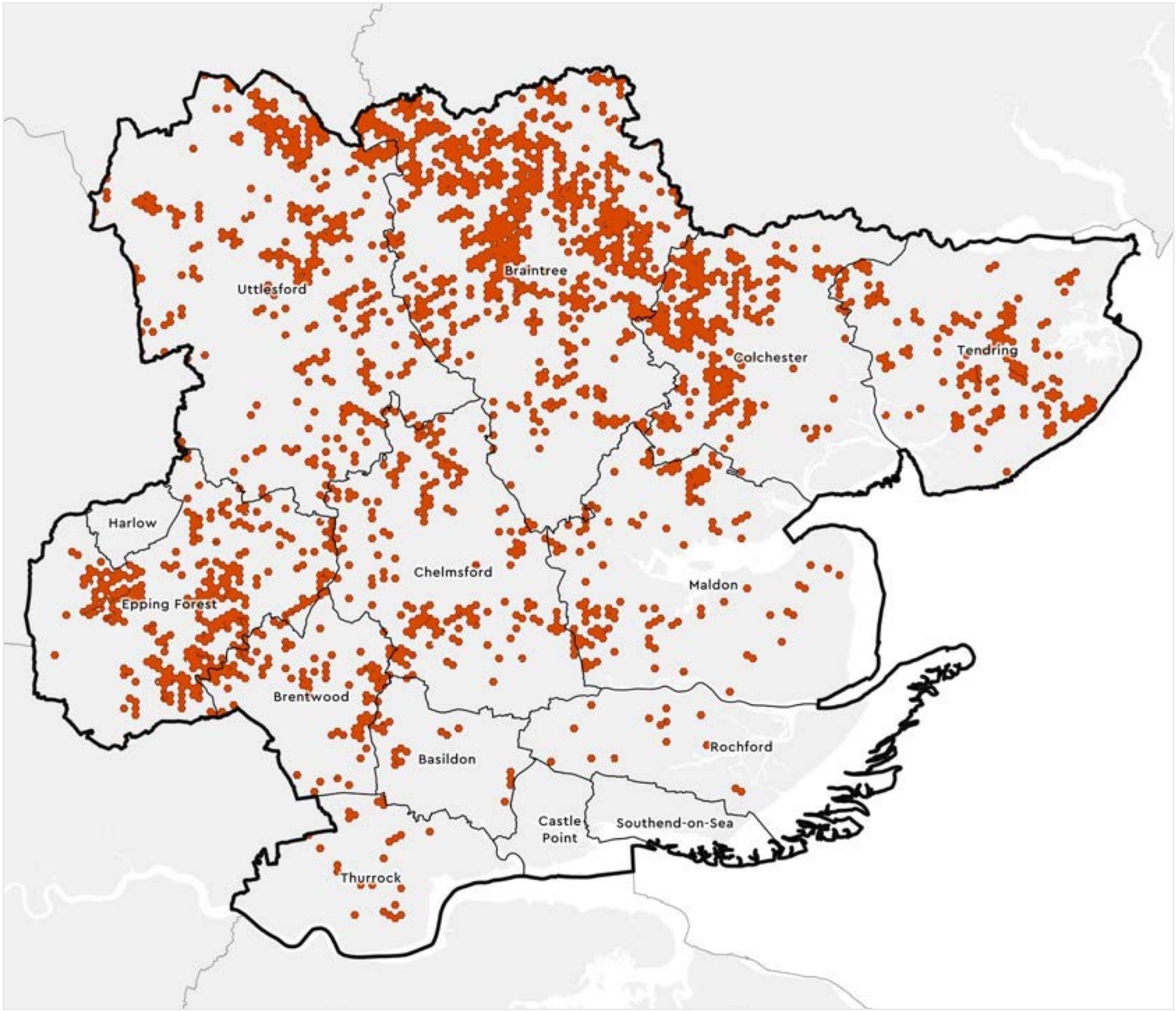


Map 5:
Areas that could become of particular importance – 'all' woodland creation opportunities

All woodland creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by the 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for woodland creation. APIBs not removed.

Key

Increasing value

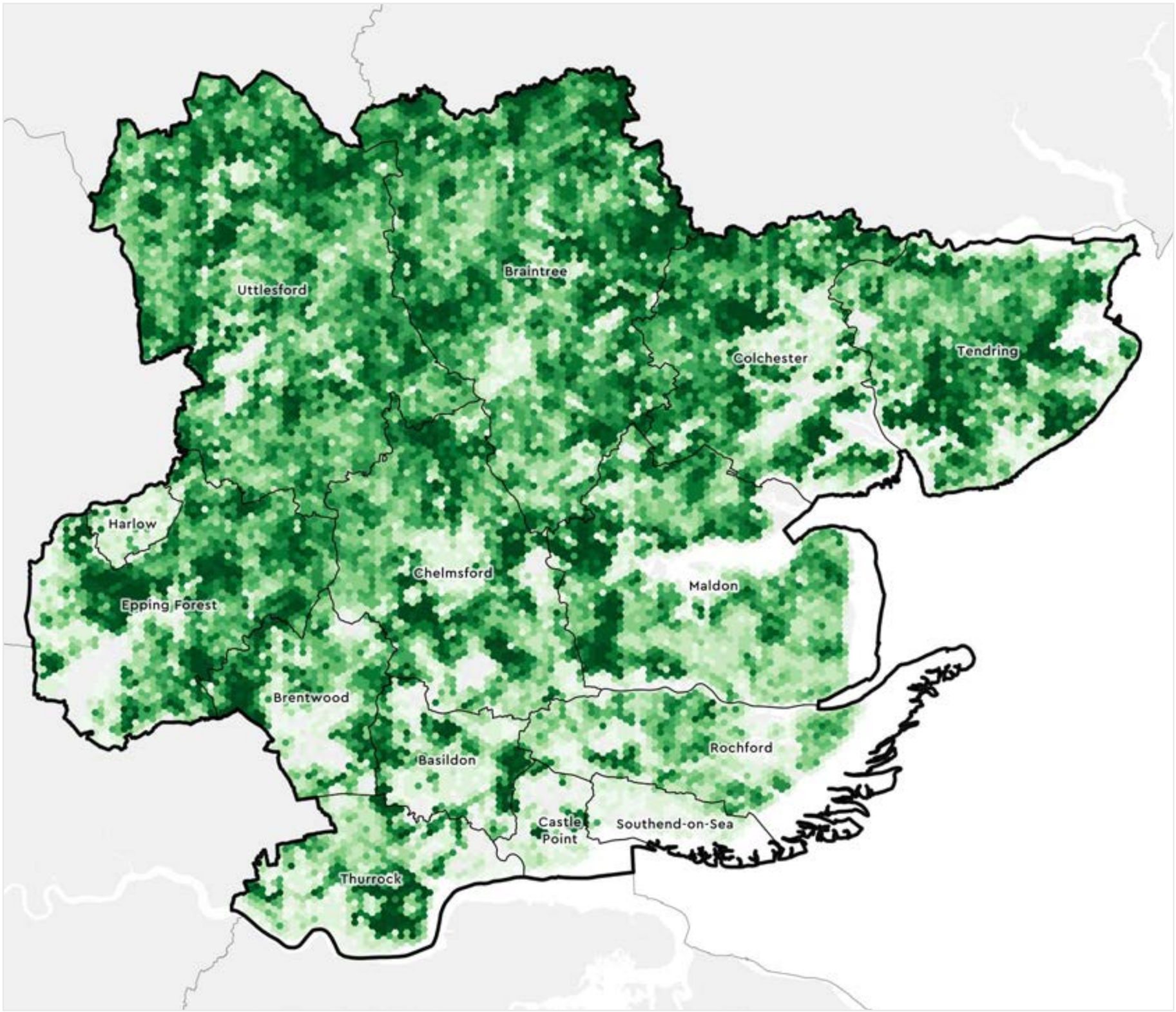


Map 6:
Areas that could become of particular importance for biodiversity – 'strategic' woodland creation opportunities

'Strategic' woodland creation opportunities defined as the 'top' (greatest quality) 15% of 'all' woodland creation opportunities, covering 12.8% of the Greater Essex LNRS region in total. APIBs removed.

Key

- Strategic Opportunities

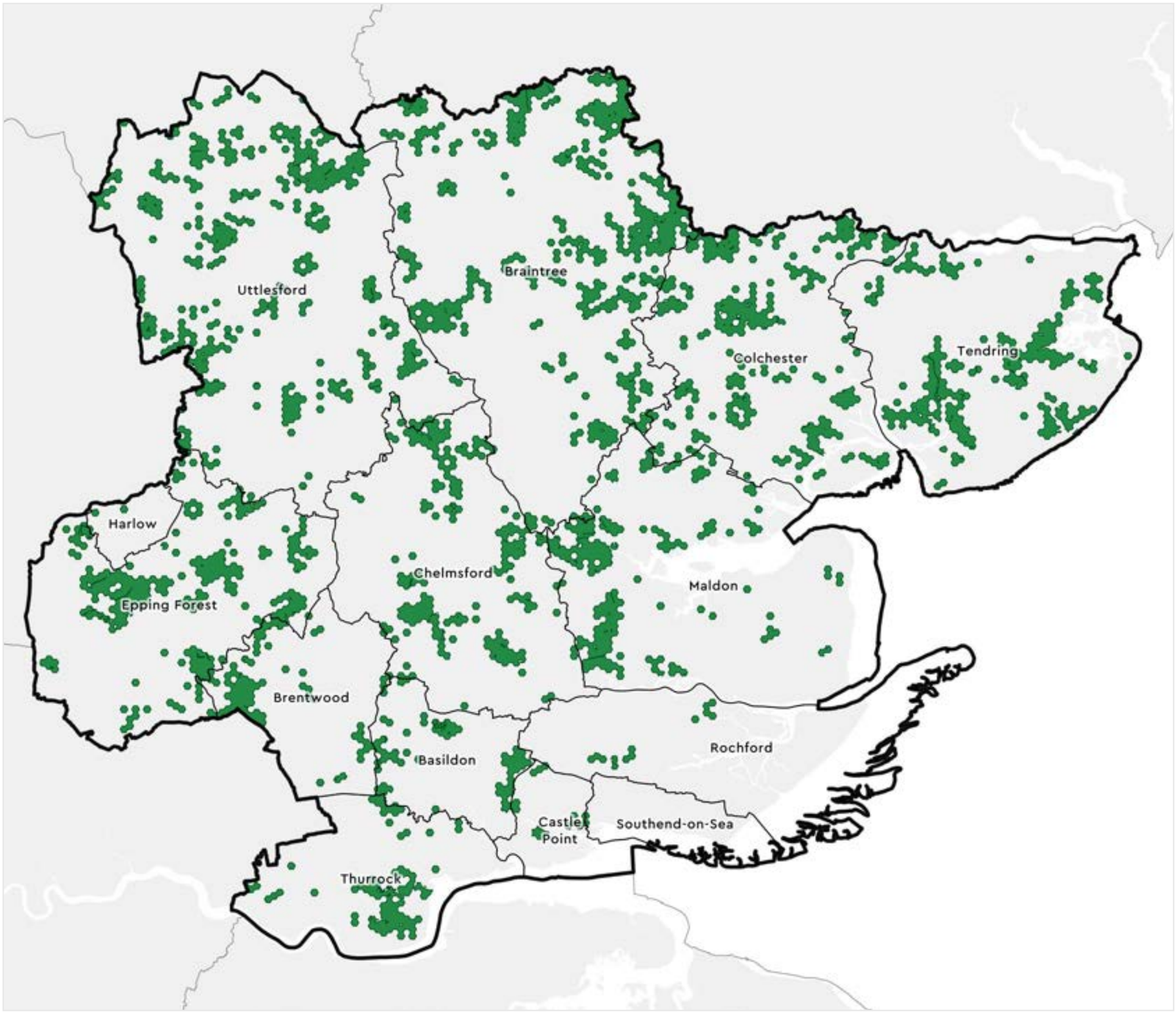


Map 7:
Areas that could become of particular importance – 'all' grassland and heathland creation opportunities

All grassland and heathland creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by the 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for grassland and heathland creation. APIBs not removed.

Key

Data acknowledgements: Contains: OS data © Crown Copyright and database rights 2024 Ordnance Survey AC0000823868; data from the Office for National Statistics licensed under the Open Government Licence v3.0.; contains, or is based on information supplied by Natural England; contains Forestry Commission information licensed under the Open Government Licence v3.0. Contains OS data © Crown copyright and database right 2024; data based on digital spatial data licensed from the UK Centre for Ecology & Hydrology, © UKCEH and contains Ordnance Survey data © Crown Copyright 2007, Licence number 100017572; data from Downforce Technologies © 2023; data from Buglife – The Invertebrate Conservation Trust; public sector information licensed under the terms of the Open Government Licence v3.0.

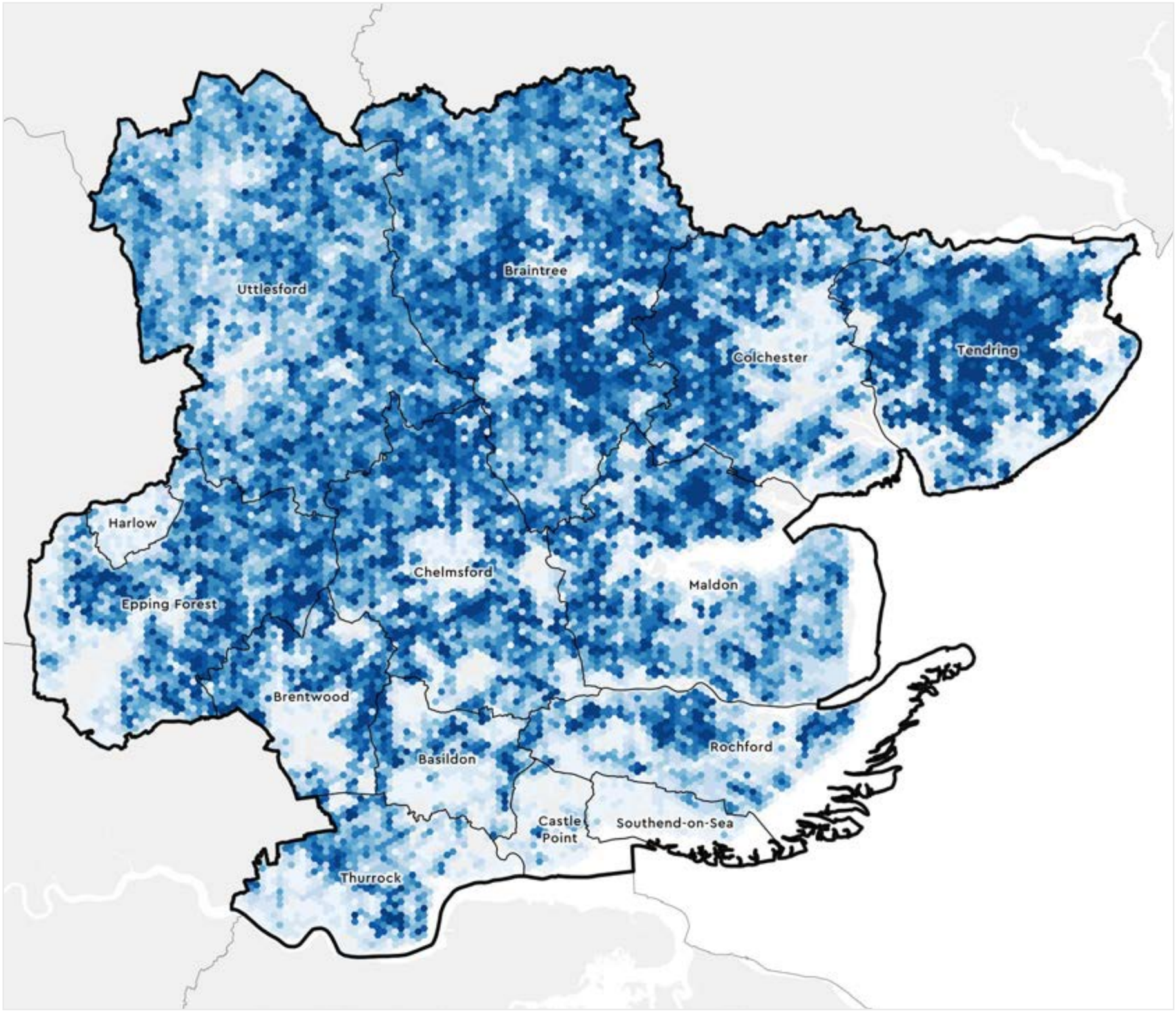


Map 8:
Areas that could become of particular importance for biodiversity – 'strategic' grassland habitat creation opportunities

'Strategic' grassland habitat creation opportunities defined as the 'top' (greatest quality) 15% of 'all' grassland habitat creation opportunities, covering 13.2% of the Greater Essex LNRS region in total. APIBs removed.

Key

Strategic Opportunities

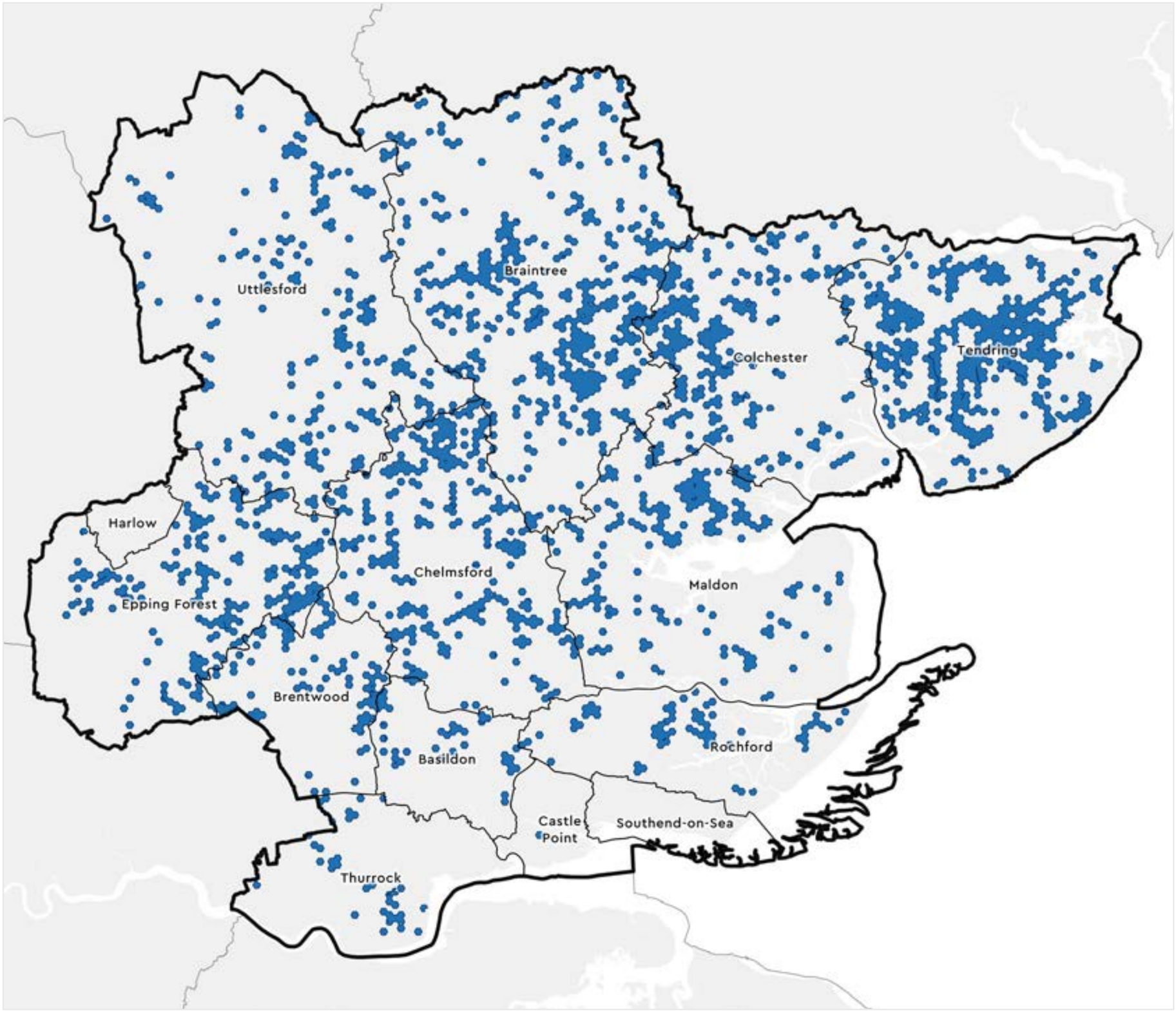


Map 9:
Areas that could become of particular importance – 'all' freshwater standing water creation opportunities

All freshwater standing water creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by the 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for freshwater standing water creation. APIBs not removed.

Key

Increasing value

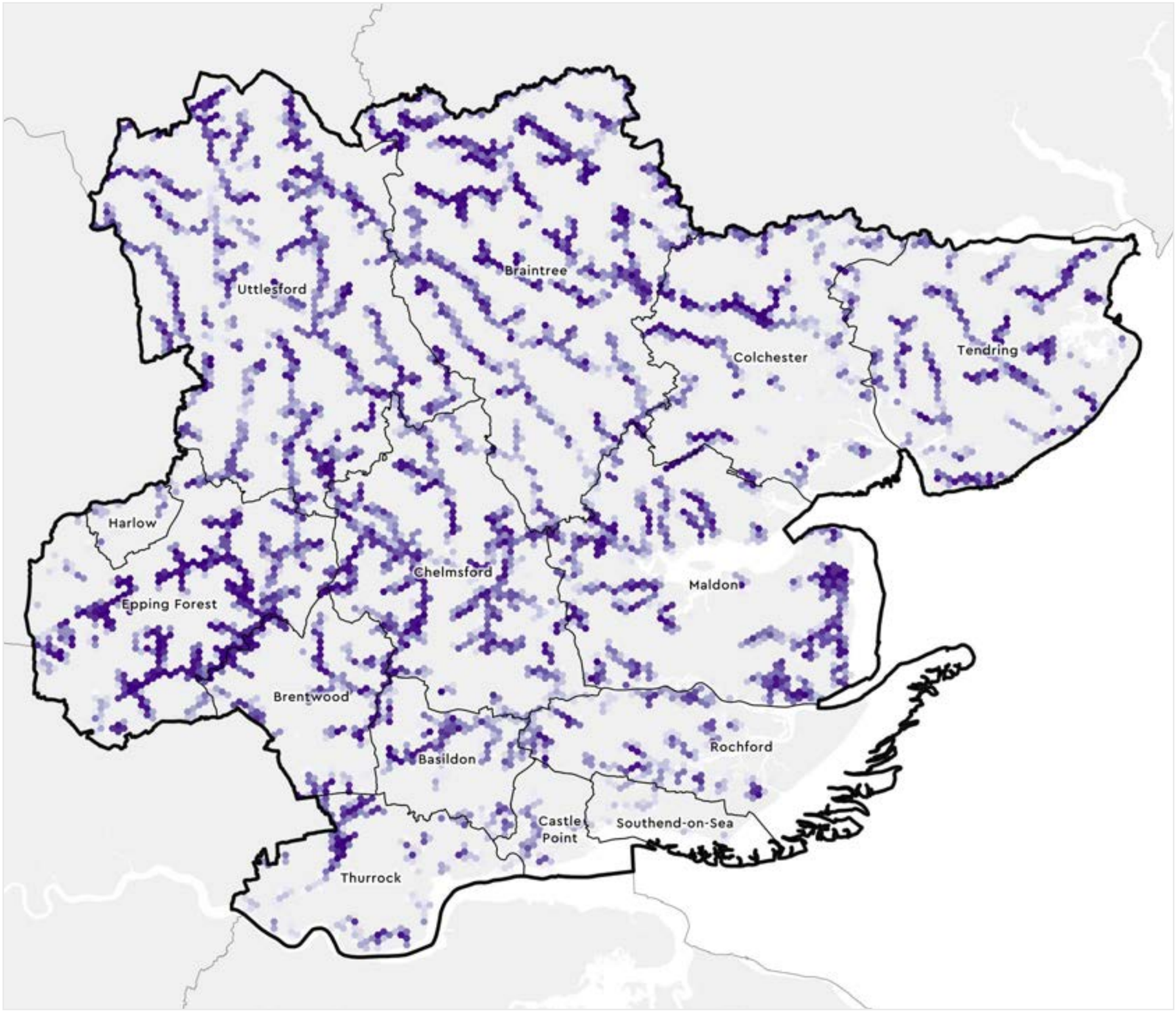


Map 10:
Areas that could become of particular importance – 'strategic' freshwater standing water creation opportunities

'Strategic' freshwater standing water creation opportunities defined as the 'top' (greatest quality) 15% of 'all' freshwater standing water creation opportunities, covering 13.4% of the Greater Essex LNRS region in total. APIBs removed.

Key

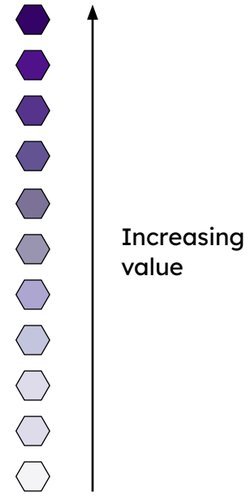
- Strategic Opportunities

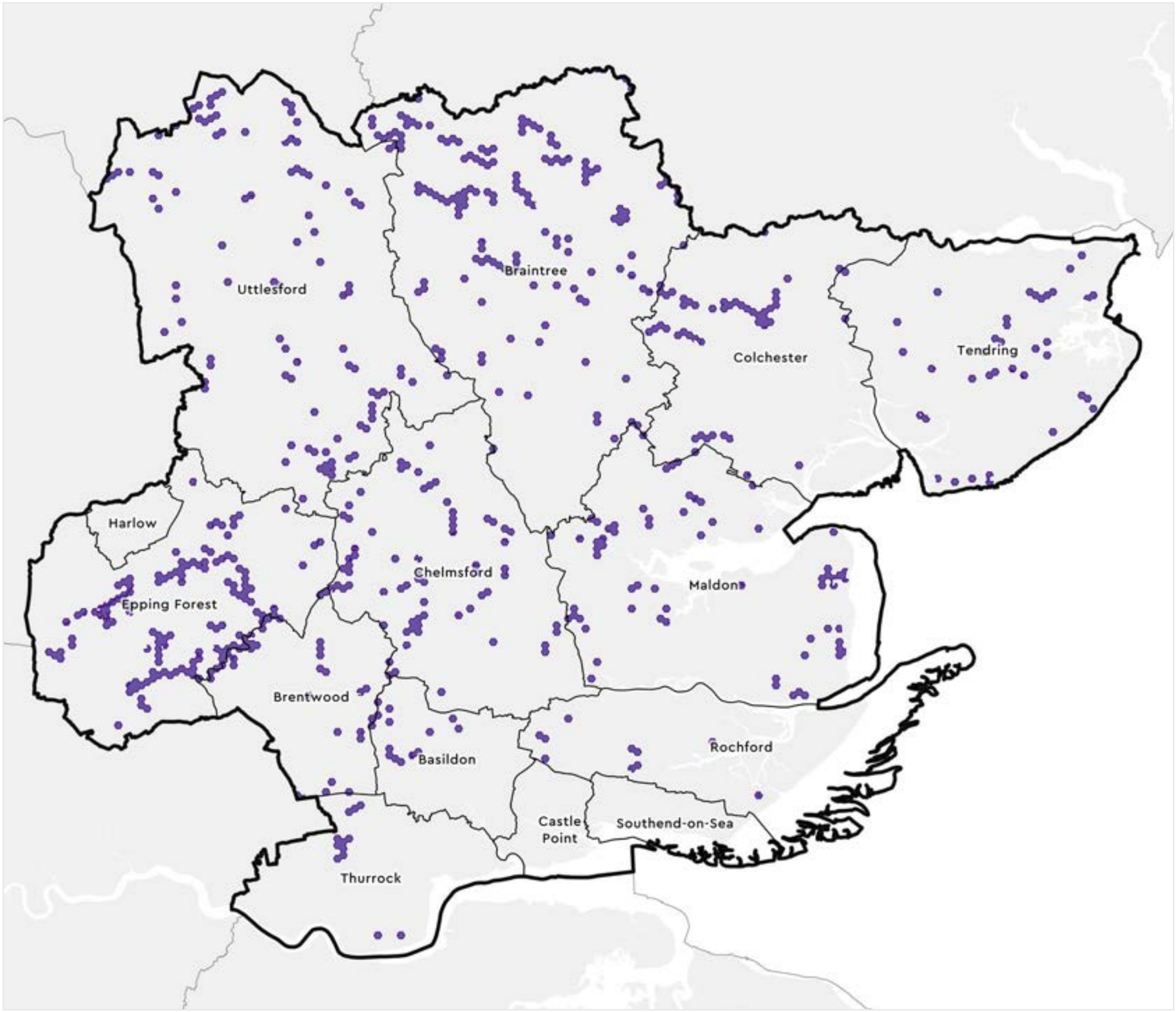


Map 11:
Areas that could become of particular importance – 'all' freshwater river habitat creation opportunities

All freshwater river habitat creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by the 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for freshwater river habitat creation. APIBs not removed.

Key



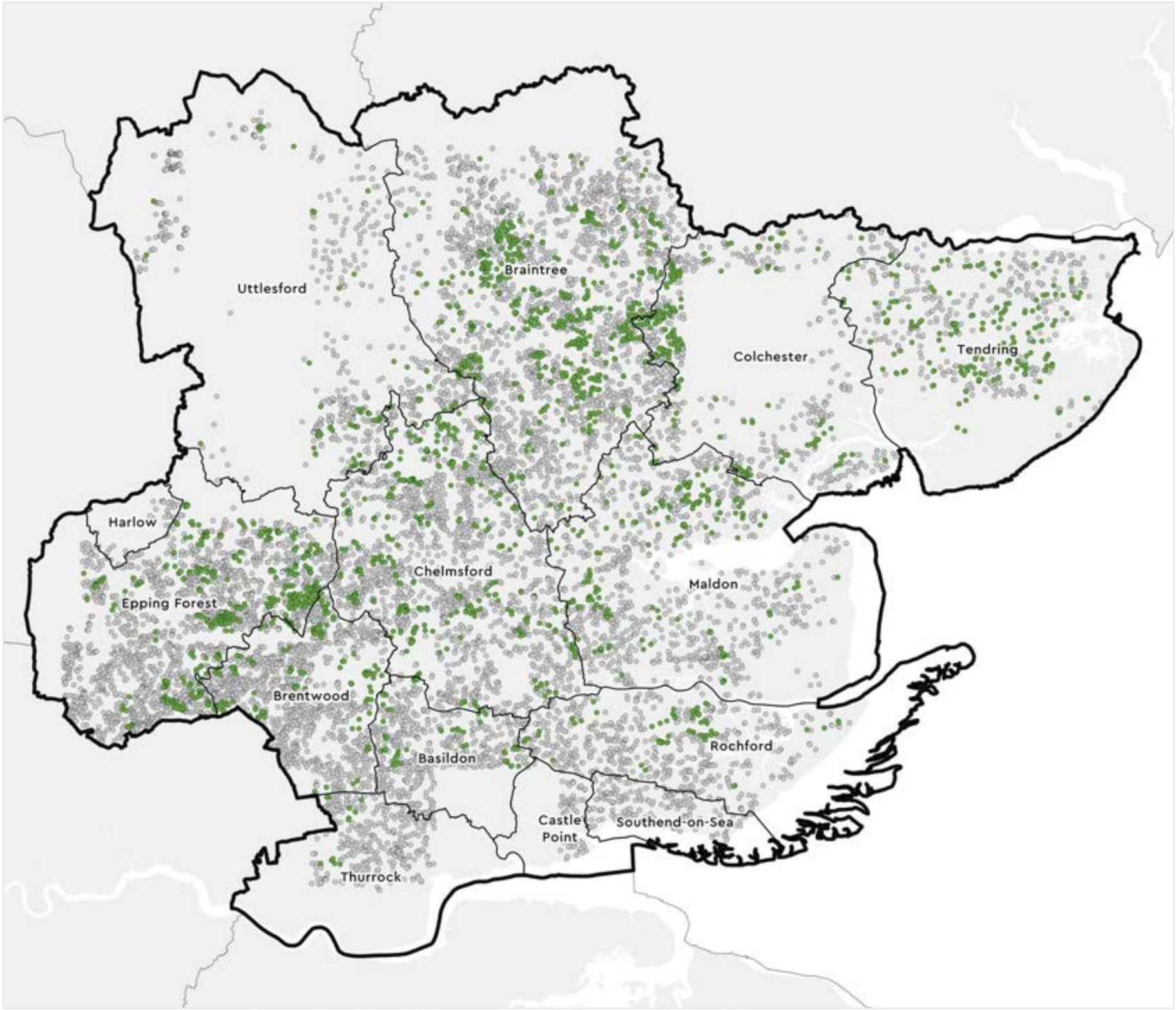


Map 12:
Areas that could become of particular importance – 'strategic' freshwater river habitat creation opportunities

'Strategic' freshwater river habitat creation opportunities defined as the 'top' (greatest quality) 15% of 'all' freshwater river habitat creation opportunities, covering 4% of the Greater Essex LNRS region in total. APIBs removed.

Key

Strategic Opportunities

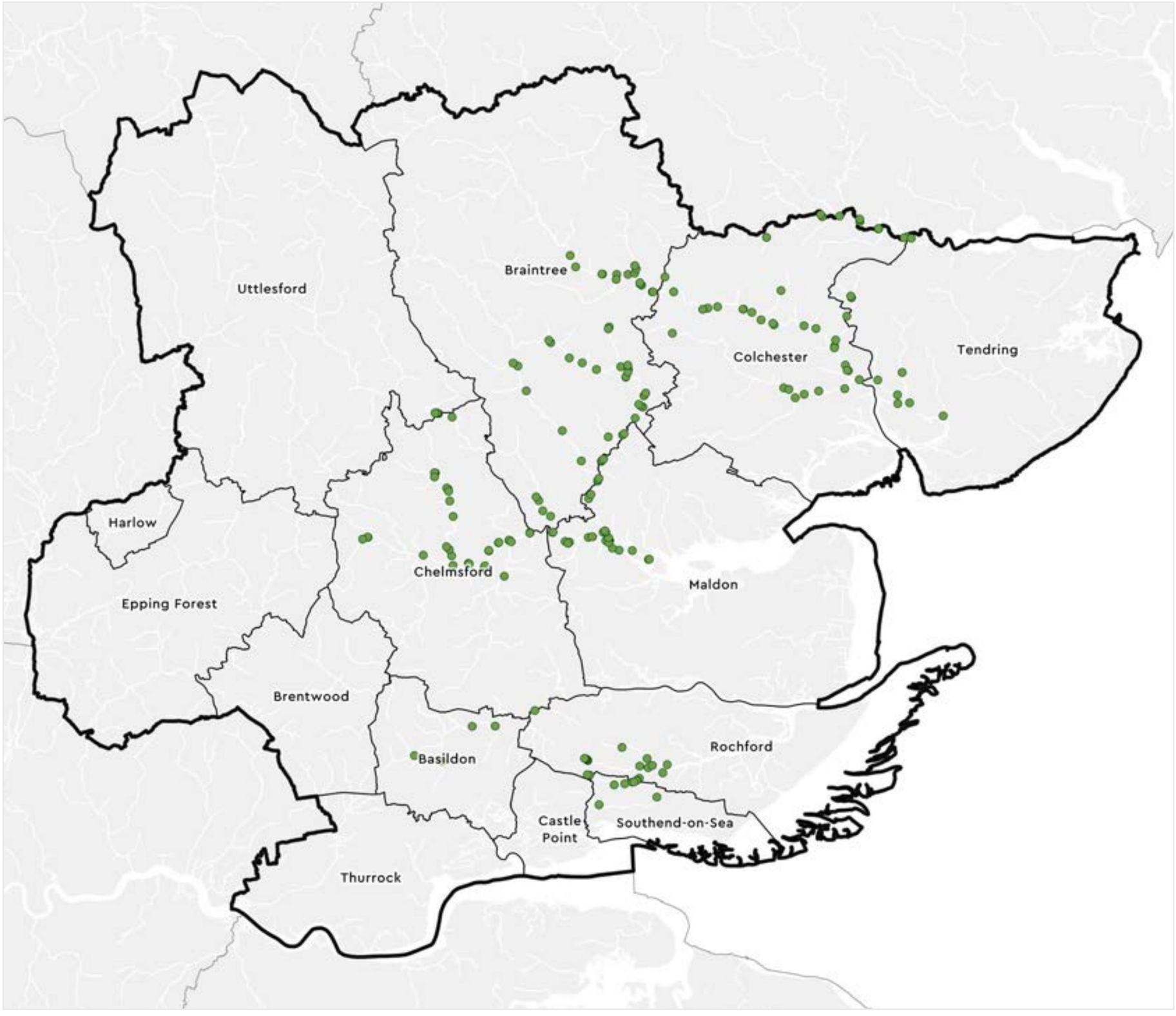


Map 13:
Priority ghost pond restoration/recreation opportunities

Ghost ponds categorised as priority for restoration/recreation based on whether a ghost pond is considered as in poor quality or lost, and which also intersects with the 'strategic' freshwater standing water creation opportunities put forward in this strategy. A count of 2,408 priority ghost ponds in total. Ghost pond data incomplete.

Key

- Priority Ghost Pond Restoration/ Recreation Opportunity
- Non-Priority Ghost Pond Restoration/ Recreation Opportunity

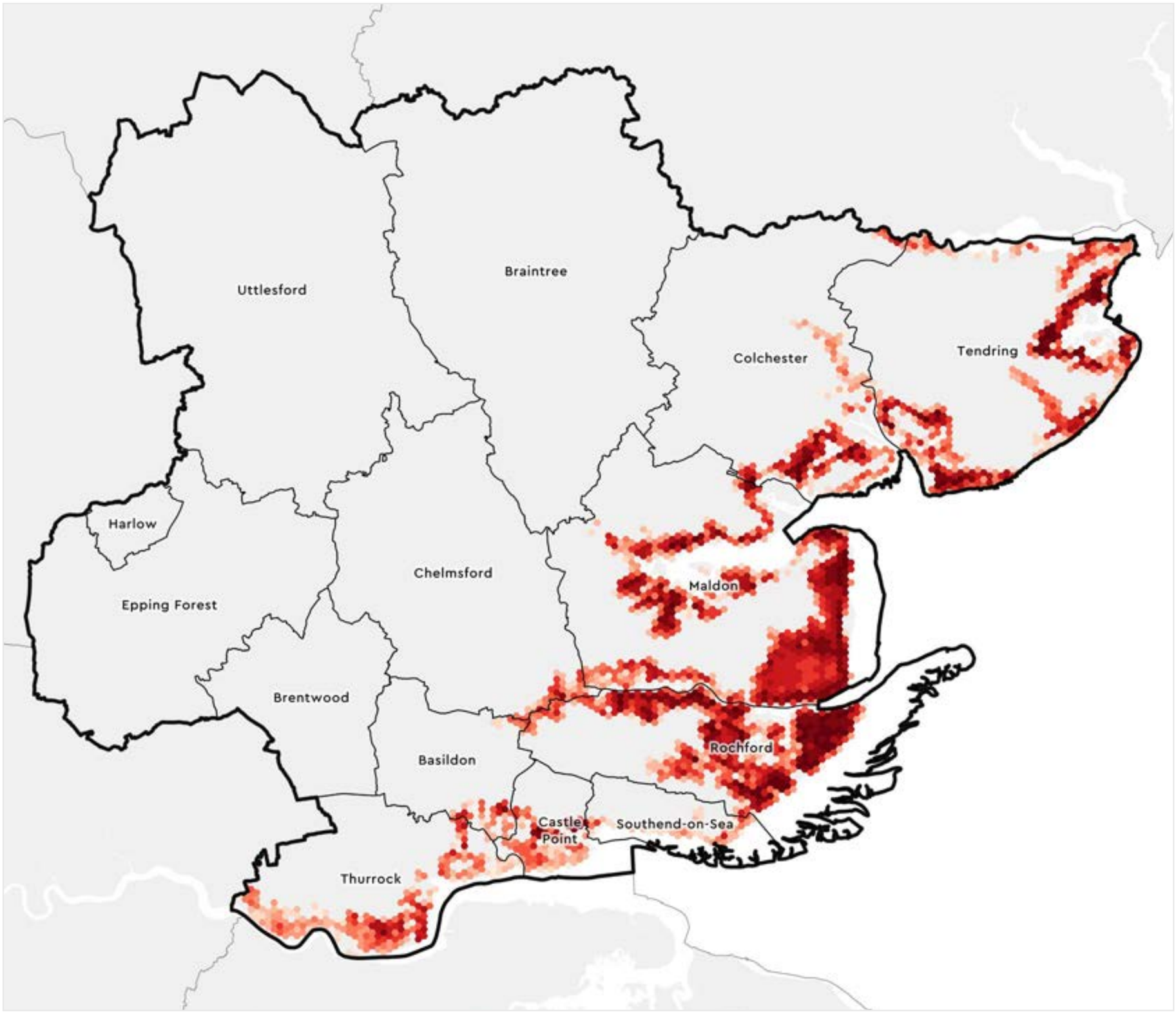


Map 14: River obstruction clearance opportunities

River obstructions clearance opportunities where clearance will aid overall fish migration. A count of 218 river obstruction clearance opportunities in total.

Key

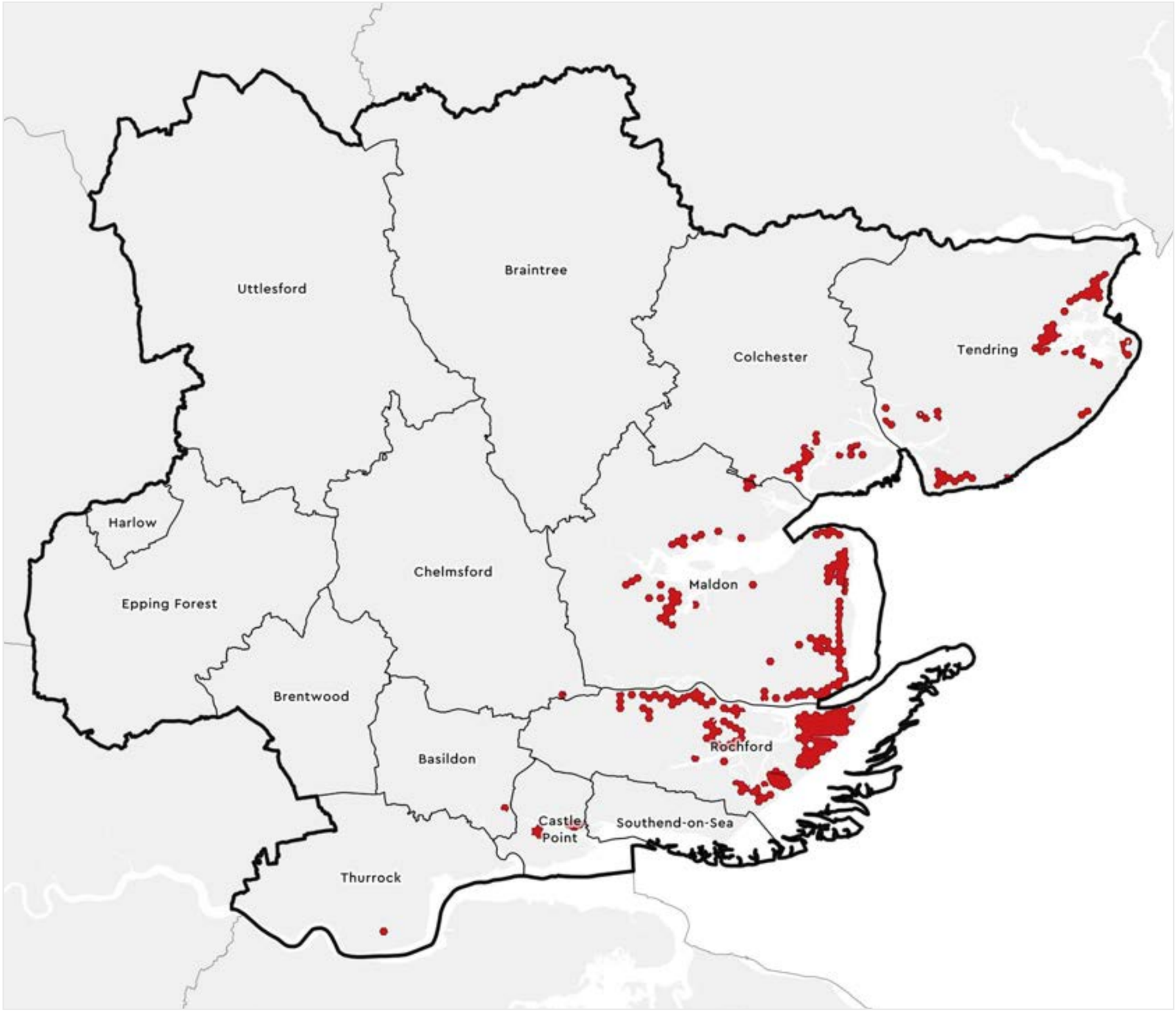
River Obstruction Clearance Opportunity



Map 15:
Areas that could become of particular importance – 'all' coastal habitat creation opportunities

All coastal habitat creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by the 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for coastal habitat creation. APIBs not removed.

Key

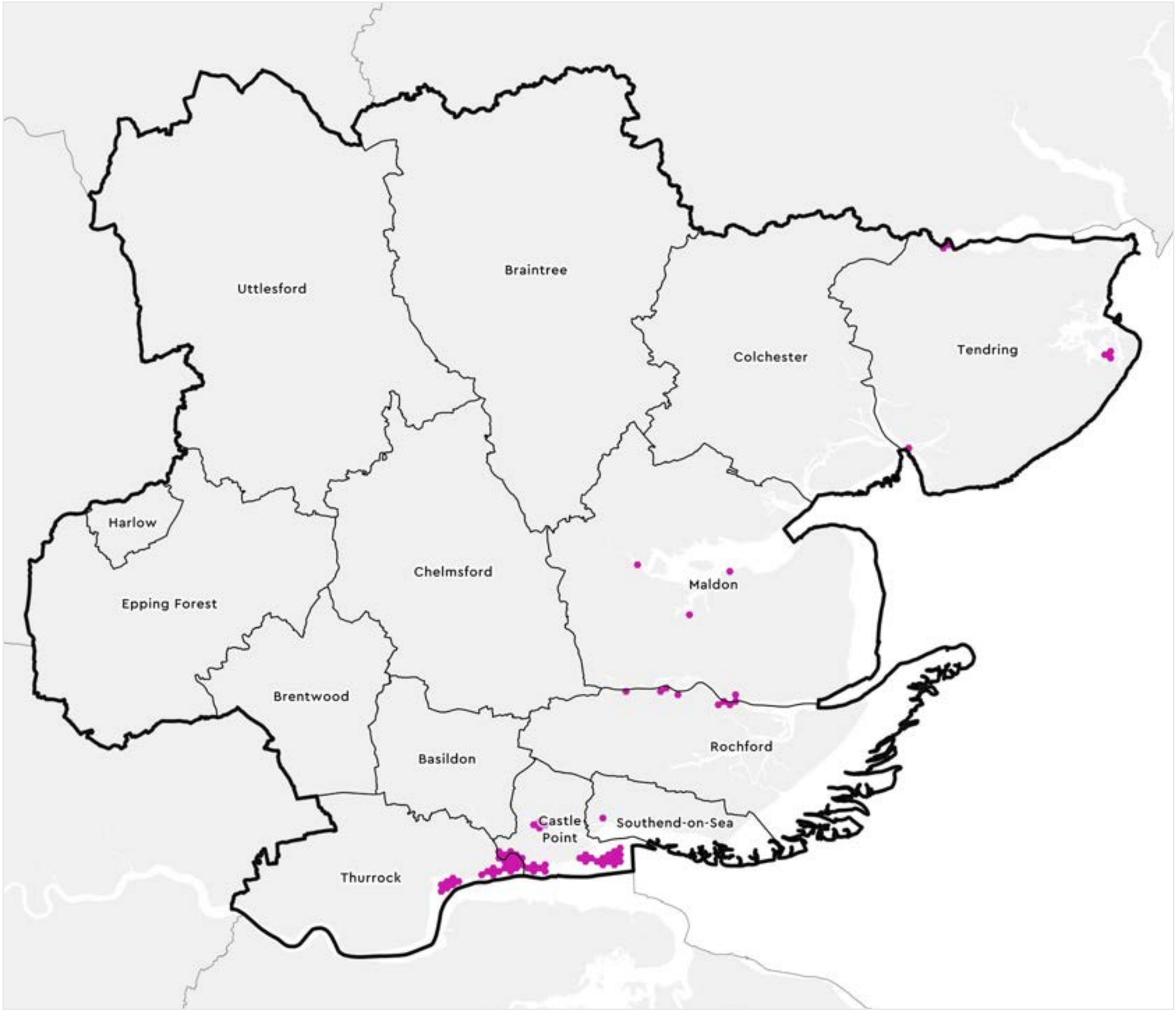


Map 16:
Areas that could become of particular importance – 'strategic' coastal habitat creation opportunities

'Strategic' coastal habitat creation opportunities defined as the 'top' (greatest quality) 15% of 'all' coastal habitat creation opportunities, covering 1.8% of the Greater Essex LNRS region in total. APIBs removed.

Key

Strategic Opportunities

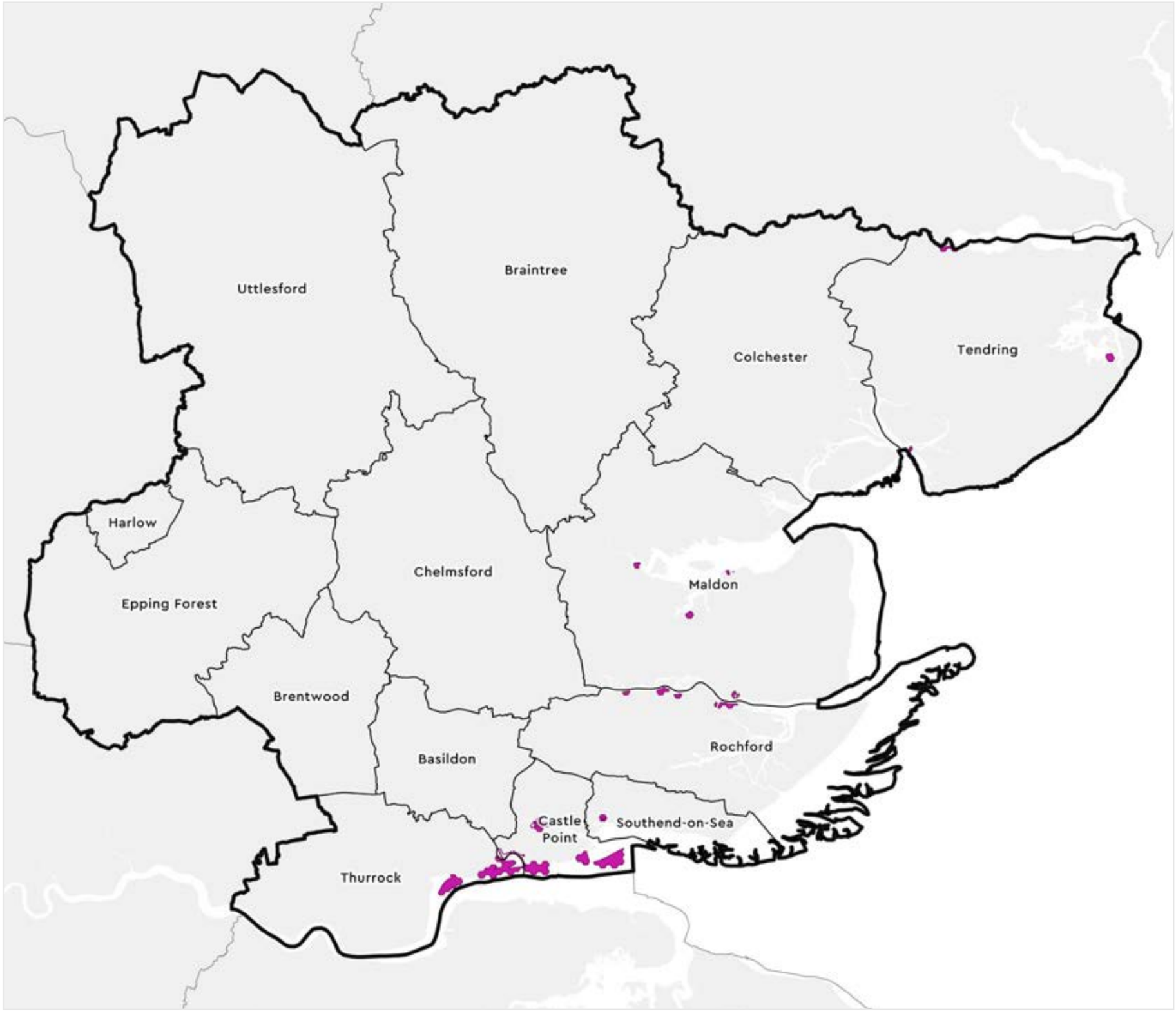


Map 17:
Areas that could become of particular importance – 'all' marine habitat creation opportunities

All marine habitat creation opportunities presented as a generalised 0.25km² hexagonal grid. APIBs not removed.

Key

Opportunity

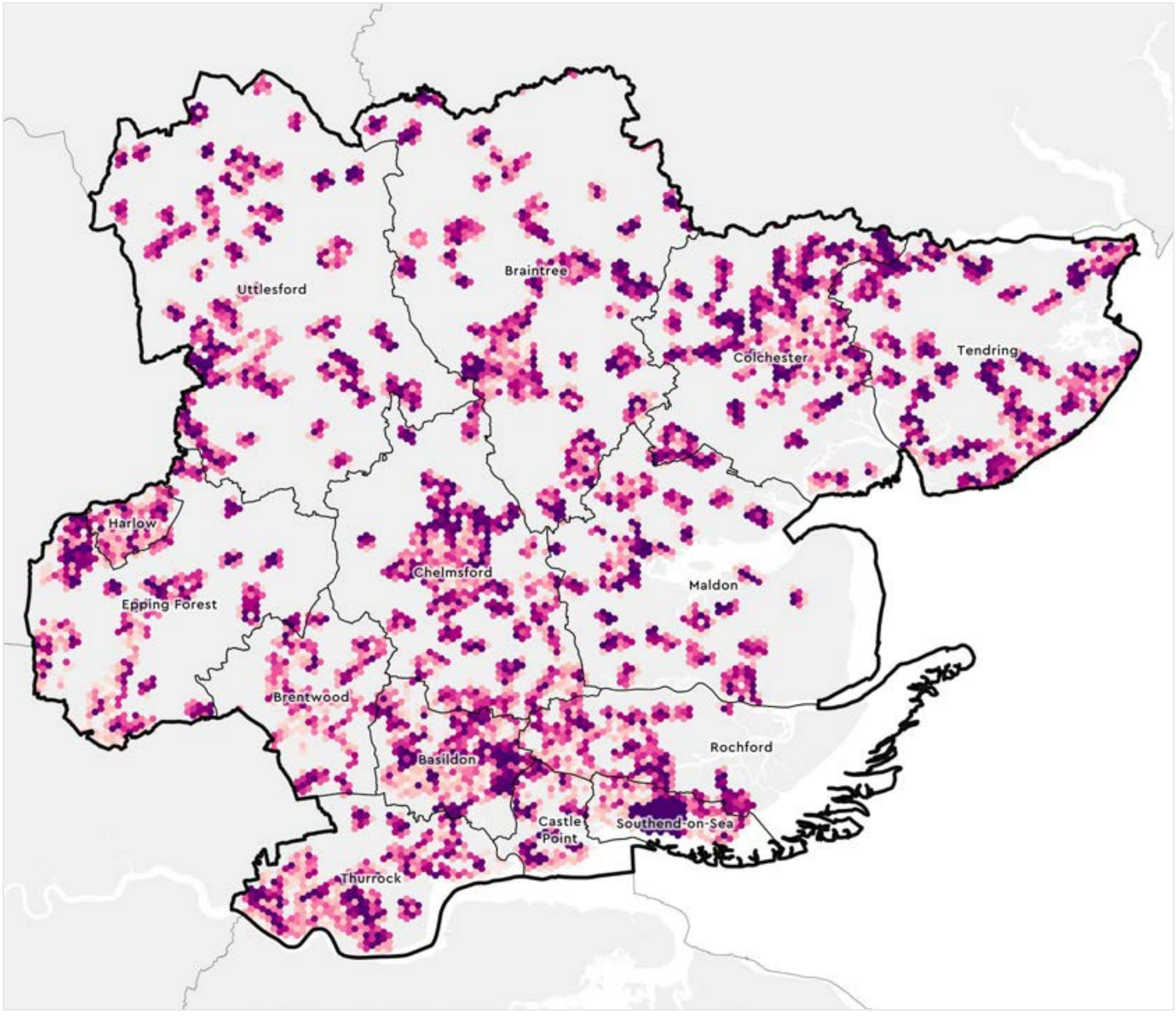


Map 18:
Areas that could become of particular importance – 'strategic' marine habitat creation opportunities

Strategic marine habitat creation opportunities defined as 100% of all marine habitat creation opportunities, covering 0.3% of the Greater Essex LNRS. APIBs removed.

Key

Strategic Opportunities



Map 19:
Areas that could become of particular importance – 'all' urban habitat creation opportunities

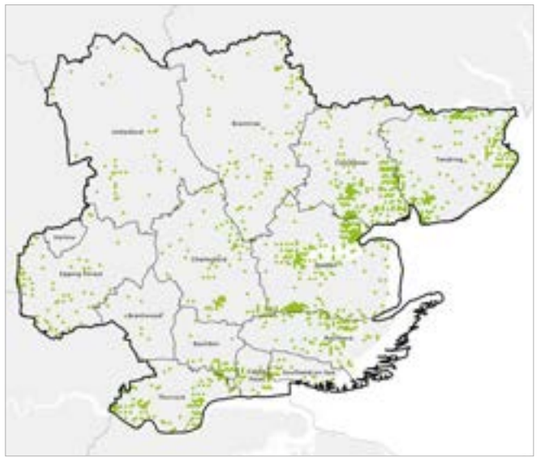
All urban habitat creation opportunities presented as a generalised 0.25km² hexagonal grid and categorised by the 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for urban habitat creation. APIBs not removed.

Key

Shortlisted priority species presence

Species presence presented as a generalised 0.25km² hexagonal grid. Presence based on species recordings made since 1990 (Eelgrass since 1980). All records supplied by Essex Field Club and Essex Wildlife Trust.

Priority Species Maps: **Birds**

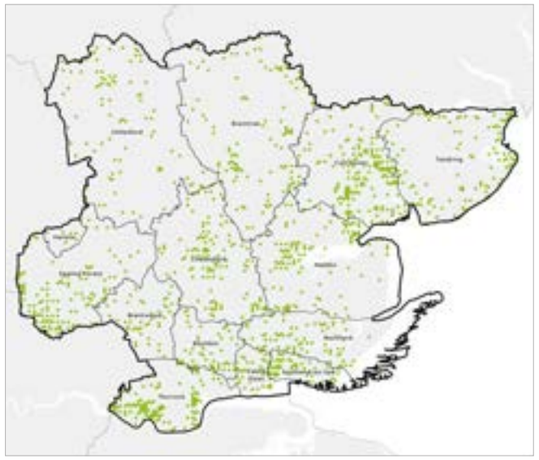


Lapwing

Lapwing presence

Marsh Tit

Marsh Tit presence



Swift

Swift presence

Turtle Dove

Turtle Dove presence

Nightingale

Nightingale presence

Ringed Plover

Ringed Plover presence

Priority Species Maps: **Flora**

Crested Cow Wheat

Crested Cow Wheat presence

Eelgrass

Eelgrass presence

Priority Species Maps: **Invertebrates**

Green Winged Orchid

Green Winged Orchid presence

Least Lettuce

Least Lettuce presence

Digger Wasp

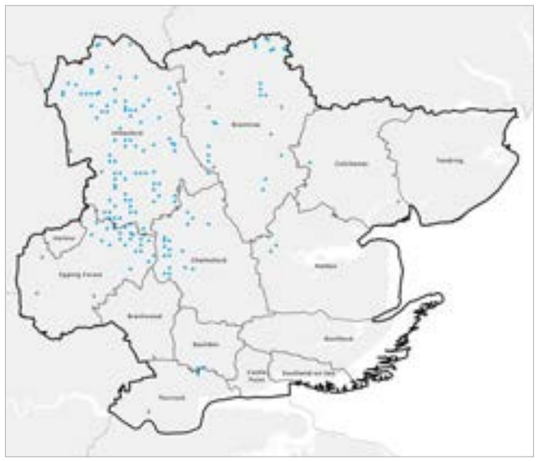
Digger Wasp presence

Distinguished Jumping Spider

Distinguished Jumping Spider presence

Lesser Calamint

Lesser Calamint presence



Sulphur Clover

Sulphur Clover presence

Fancy Legged Fly

Fancy Legged Fly presence

Fishers Estuarine Moth

Fishers Estuarine Moth presence

Glow Worm

Glow Worm presence

Grizzled Skipper

Grizzled Skipper presence

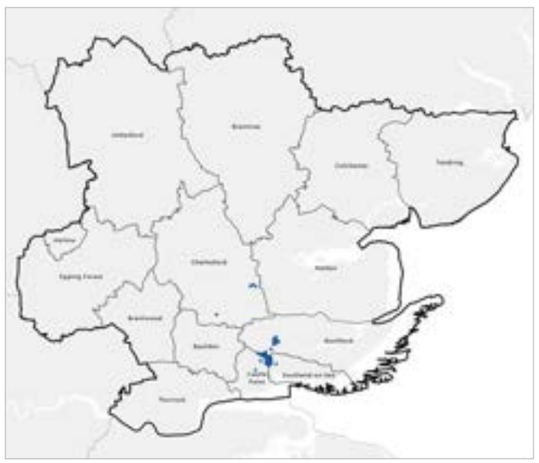
Shrill Carder Bee

Shrill Carder Bee presence

Stag Beetle

Stag Beetle presence

Priority Species Maps: **Mammals**



Heath Fritillary

Heath Fritillary presence

Native Oyster

Native Oyster presence

Hazel Dormouse

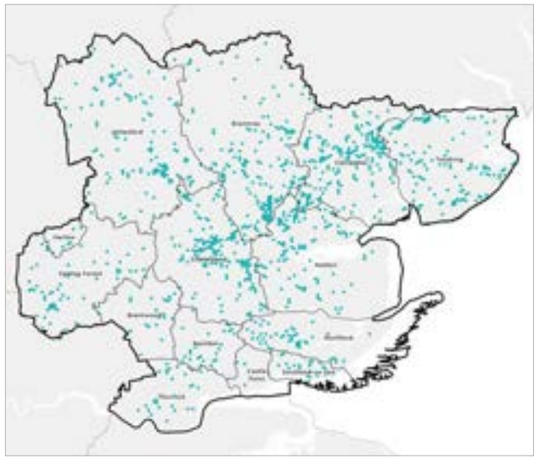
Hazel Dormouse presence

Water Vole

Water Vole presence

Western Barbastelle

Western Barbastelle presence



Western Hedgehog

Western Hedgehog presence

Priority Species Maps: **Reptiles and Amphibians**

Adder

Adder presence

Above: Epping Forest © Paul Starr

Far left: Western barbastelle bat

Left above: Bumblebee © Essex Wildlife Trust

Left below: Common Blue © Essex Wildlife Trust

PART B

6. Habitat priorities and measures

This section of the LNRS sets out, for each habitat type, what are considered to be the priorities to help make our landscape **bigger, better and more connected**.

Actions, or potential measures, related to these priorities are then presented, with a description of the nature recovery and wider environmental benefits that are expected to result from those actions. The following symbols are used to show the priority to which they relate:

Bigger Better More connected

Potential measures have been separated into “actions” and “supporting actions”. An action sets out the primary activity to achieve the goal of habitat creation. These actions have been mapped in the combined strategic opportunity interactive map. A supporting action is a secondary task which aids the completion of the primary activity and wider goal of habitat creation and nature recovery.

The tables also indicate the scale at which the action can be taken:

- Regional (county) level
- District / Borough / City level
- Local level (e.g. town or park)
- Household level

It is recommended that ecologists and legal professionals are consulted before suggested actions are undertaken, to ensure compliance with guidelines and regulations.

This information for each habitat type is preceded by a foreword, supplied by experts on the habitat in question.

Left: Chobham Volunteer © Jon Hawkins

6.1 Trees and Woodlands

Foreword by The Forestry Commission

Trees and woodlands are a treasured and intrinsic part of the Essex landscape, from the famous parkland trees of Epping and Hatfield forests, great veterans such as Mistley's 'old Knobbley', the hornbeam woods which once provided fuel which baked the bread for London, and the remnants of our once extensive orchards, to the more recent trees planted in towns and cities across the county.

As well as these more well-known trees, there are countless small woods, hedges and in-field trees dotted everywhere, supporting a plethora of scarce and important wildlife and providing a sense of place and peace for people, and contributing to the rural economy with jobs and timber and other products.

Trees don't just benefit us with their beauty and tranquillity; they provide vital ecosystem services – helping to clean the air we breathe, cooling rivers and streams to enable flourishing fish stocks whilst simultaneously filtering out pollutants from roads and agriculture. They cool our city streets by several degrees in summer and help buffer our homes from wind.

And all the while they are growing, they are removing carbon from the atmosphere, storing it throughout, even sequestering it deep into the soil through their root systems, helping to mitigate the effects of the climate crisis.

But this strategy is not just about woodlands; the urban treescape and the essential need for urban greenspace are also important for the physical and mental health benefits they bring, as well as providing a sense of social cohesion.

Through the Essex LNRS and the schemes that it will inform and support, there is great opportunity to promote and support stakeholders in developing a landscape in Essex that is more wooded, with a resilient, healthy, and broad mix of species delivering an increase in biodiversity, social and environmental benefits to address the carbon and biodiversity crises.

Forestry Commission

Biodiversity priorities

BIGGER HABITAT PRIORITY:
To create 18,000 hectares of new woodland across Essex.

BETTER HABITAT PRIORITY:
Restore nature-rich woodlands by bringing unmanaged woodlands back into management and maintaining trees on farms, fields, and hedges, to improve structure and increase resilience.

MORE CONNECTED HABITAT PRIORITY:
Improve connectivity of all types of woodlands on a landscape scale by protecting existing trees and woodlands, while establishing a mosaic of semi-natural habitat which are integrated at landscape scale.

Trees and woodlands - actions

1. Woodlands to be enhanced by management to encourage natural regeneration, supported by planting and restoration of Planted Ancient Woodlands (PAWS)

Action

Identify areas within the woodland where natural regeneration is likely to occur successfully, such as areas with bare soil, gaps in the canopy or edges of existing woodland patches. These areas may provide suitable conditions for seed germination and seedling establishment.

In areas where natural regeneration may be limited or insufficient, supplement it with new tree planting. Select native tree species that are well suited to the site conditions and complementary to existing vegetation.

Plant (or allow natural regeneration of) trees and shrubs or a grassy, unmown strip alongside the woodland, to create a buffer zone protecting the woodland.

Scale of action

Local

Nature recovery benefits

- Helps re-establish and extend ancient and existing woodlands and forests
- Allows for the recruitment of plants from locally adapted seed sources, promoting genetic diversity within the population
- Encourages trees that are native to the local area
- Harnesses the resilience of natural ecosystems

Wider benefits

- Reduces soil erosion by establishing vegetation cover, stabilising soil structure and reducing surface runoff.
- Improves water quality
- Helps to minimise the impacts of infrastructure development and human activity

2. Manage deer to allow for natural regeneration of woodlands

Action

Monitor the impact of deer on landscape objectives.

Monitor the range of existing deer populations.

Undertake culling to achieve and maintain acceptable levels of impact to landscape management objectives.

Raise awareness amongst stakeholders of the impacts of deer.

Build a local supply chain for ethical and sustainable consumption of culled deer meat (venison), including amongst public bodies' procurement processes and encourage sharing of equipment and resources to support this chain.

Scale of action

Regional

Nature recovery benefits

- Helps control deer populations, reducing browsing pressure
- With reduced deer browsing pressure, a greater variety of tree species can regenerate in woodlands, promoting biodiversity
- Helps maintain a balanced and diverse shrub and herb layer and control weeds

Wider benefits

- Reduces losses to farm yields and provides modest incomes from the sale of venison.
- Reduces crop losses and minimises conflicts between deer and landowners, particularly in areas where agriculture is prevalent
- Creates supply of sustainable, low-carbon, ethically reared and culled low-fat meat

Below, left to right: Common Cow-wheat; Wood anemone © Essex Wildlife Trust; Hatfield © Paul Starr; Fallow Deer, Essex © Paul Starr

Above: Lesser Spotted Woodpecker

3. Plant Native Tree Species

Action

Whilst all tree planting is encouraged, plant tree species to reflect local conditions and management objectives of the specific site. Use native planting where possible, but consider the inclusion of some non-native non invasive species that could be suited to changing, warmer conditions.

Obtain high-quality seedlings or saplings from reputable nurseries or conservation organisations. Make sure the plants are healthy, disease-free, and properly labelled with their species name.

Apply a layer of organic mulch, such as wood chips or straw, around the base of the tree to conserve moisture, suppress weeds and regulate soil temperature. Install a tree guard or fence if necessary to protect the young tree from wildlife browsing or mechanical damage.

Scale of action

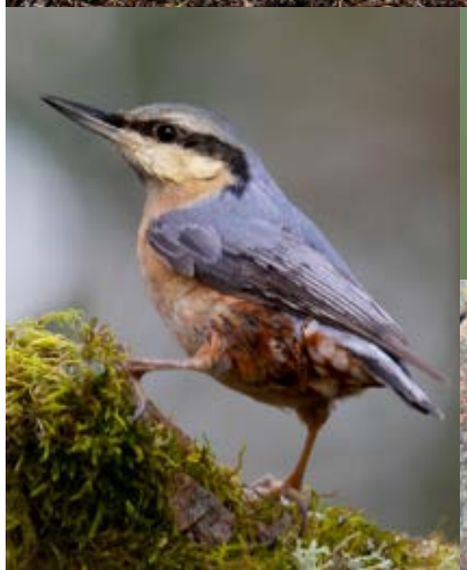
Local

Nature recovery benefits

- Native wildlife depends on native trees
- Lower maintenance
- Reduces needs for pesticides and artificial plant foods

Wider benefits

- Contributes to carbon sequestration and helps reduce greenhouse gas emissions
- Helps improve water quality by filtering pollutants, reducing sediment runoff and regulating water flow



Above: Runwell © Paul Starr

Far left: Nuthatch © Jon Hawkins

Left above: Silver-washed Fritillary butterfly © Andrew Armstrong

Left below: Stag beetle © Essex Wildlife Trust

4. Increase structural diversity in woodlands

Action

Management techniques, to increase structural diversity, include:

- Thinning/coppicing
- Incorporation of glades and rides, small areas of bare or disturbed ground, ditches, streams, ponds and wet woodland.
- Resuming traditional forms of management where these have shaped development.
- Restoring and bringing into management ancient semi-natural woodlands, wood pasture/parkland, traditional orchards and long-established woodlands.

Scale of action

Local

Nature recovery benefits

- Enhances habitat complexity
- Promotes biodiversity
- Improves wildlife habitat
- Enhances ecological functioning
- Boosts resilience to disturbances
- Diversifies structure
- Promotes higher species richness

Wider benefits

- Provides aesthetic and recreational and economic value
- Enhances the provision of ecosystem services such as pollination, seed dispersal and nutrient cycling.
- Helps mitigate climate change by removing carbon dioxide

5. Integrate a mosaic of semi-natural habitat of different types at landscape scale

Action

Create woodland within the context of a mosaic landscape and consider other habitats such as grassland, wetlands, coast and hedgerows.

Avoid tree planting on habitats that are already rich in biodiversity, such as species rich grasslands and wildflower meadows.

Scale of action

Regional

Nature recovery benefits

- Enhances biodiversity
- Increases habitat connectivity

Wider benefits

- Enhances landscape aesthetics
- Helps climate change adaptation
- Diversifies ecosystem services provision
- Improves ecosystem resilience

6. Protect existing trees outside woodlands and protect veteran trees

Action

Identify and record trees and manage them to ensure they survive as long as possible. Create and/or protect successor trees in proximity to existing veteran trees.

Scale of action

Regional

Nature recovery benefits

- Enables continuity of habitat into the future
- Preserves biodiversity

Wider benefits

- Conserves cultural heritage
- Offers recreational opportunities
- Stores carbon
- Stabilises soil and prevents erosion
- Sustains a resilient landscape
- Provides ecosystem services provision

7. Increase presence of dead wood

Action

Allow as much deadwood as possible to remain in situ throughout the woodland.

Scale of action

Local

Nature recovery benefits

- Dead and dying wood supports as much as one-fifth of woodland species
- Supports invertebrate and fungi populations
- Enhances biodiversity
- Provides habitat for specialised species
- Enhances woodland structure

Wider benefits

- Facilitates nutrient cycling
- Improves ecosystem resilience
- Contributes to ecosystem services

8. Conservation grazing

Action

Utilise grazing animals to encourage dynamic ecology and habitat succession.

Seek advice and consultation from experts for guidance on how to implement this effectively.

Scale of action

Local

Nature recovery benefits

- Can create varied habitat conditions, benefiting different wildlife species with varying habitat preferences
- Can help control the growth of dominant plant species, creating opportunities for the establishment and growth of tree seedlings and understorey vegetation
- Can help control the spread of invasive plant species
- Mimics natural herbivory processes

Wider benefits

- Can improve soil health through trampling and dung deposition
- Can promote habitat connectivity by creating open spaces and corridors within landscapes, allowing for the movement of wildlife between different habitat patches
- Contributes to the preservation of cultural and traditional practices associated with pastoralism and land stewardship

Trees and woodlands - supporting actions

9. Establish a network of sustainable tree nurseries

Action

Encourage and support local growing of native trees for local seed sources on farms, in communities and within commercial nurseries, to support coordinated and sustainable creation of new native wooded habitats.

Scale of action

Regional

Nature recovery benefits

- Boosts populations of native, locally grown trees
- Helps retain local genetic diversity and increases species resilience

Wider benefits

- Fosters stewardship over local woodlands

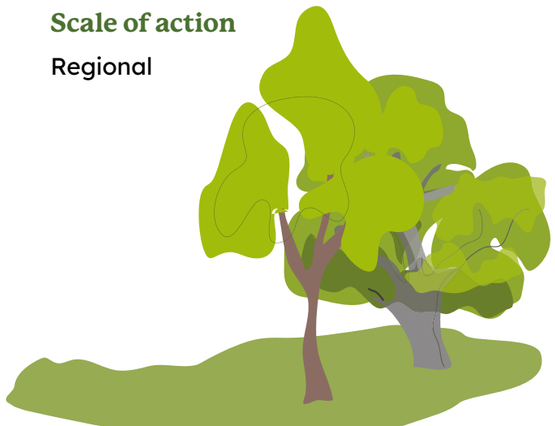
10. Explore woodland creation funding opportunities

Action

Take advantage of multiple grants and other incentives available for woodland creation in the UK. These include Woodland Creation Planning Grant (WCPG), England Woodland Creation Offer (EWCO) and Urban Tree Challenge Fund (UTCF). See: **Woodland grants and incentives overview table - gov.uk**

Scale of action

Regional



Nature recovery benefits

- Enables the establishment of new woodland areas, leading to an expansion of tree cover and the enhancement of forest ecosystems

Wider benefits

- Can provide alternative sources of income for rural and farming businesses
- Trees play a crucial role in carbon sequestration, removing carbon dioxide from the atmosphere and storing it in their biomass and soil
- Can foster a sense of ownership and stewardship among local residents
- Can provide resources for community involvement, education and capacity-building initiatives

6.2 Grasslands & Meadows

Foreword by Essex Wildlife Trust

We have lost 97% of our wildflower-rich grasslands since the 1930s, particularly as a result of the intensification of farming following the Second World War. In Essex the losses were even greater, with infrastructure development an additional factor.

The stronger SSSI system that came in under the Wildlife & Countryside Act 1981 led to selected sites being protected. These legal protections, for those fortunate sites, have been relatively effective, with 90% retaining their grassland flora. However, for non-protected sites it is a starkly different picture: only a quarter now survive in a favourable, species-rich condition.

There are four main categories of grassland in Essex based on soil types – wet, calcareous, acid, and neutral. However, it is not only soils that matter. The origins and settings are key determining factors in species diversity and habitat value. This is especially true in Essex where its seawalls – around 400km of them - represent a grassland resource of national importance. Meanwhile, roadside verges, churchyards, parks and even lawns remain significant refuges for scarce species.

Grasslands are not only important for their wildflowers but for a huge variety of animals, especially invertebrates and, most notably, for pollinators. In Essex, the dry acid grasslands of the Thames terrace gravels are of national importance for rare spiders, solitary bees and wasps, while the seawalls are refuges for some of the UK's most threatened bumblebees.

Semi-natural grasslands, in all their guises, are also of immense cultural importance, their wildlife riches shaped and harvested by people over centuries. And grasslands of all kinds, with their openness and accessibility, are where many adventures in the natural world have begun for children, whether chasing bumblebees, catching grasshoppers or simply as places to just muck around with friends.

Many Essex meadows have been declared as Local Wildlife Sites (LoWS) by local authorities but remain vulnerable to loss through inappropriate management or neglect. Air pollution, also, continues to undermine their floral diversity. The Local Nature Recovery Strategy, with LoWS as a cornerstone of a connected habitat network, comes at a crucial moment for this most vulnerable of habitats. It provides local authorities with an opportunity to protect and enhance these special places, mobilising local communities to take on their management or securing decades-long agreements with developers and landowners through biodiversity net gain. There is a real appetite to take action for nature and grasslands represent one of the most suitable and accessible habitats for involving local people in the Strategy.

Essex Wildlife Trust

Biodiversity priorities

BIGGER HABITAT PRIORITY:
To create 22,000 hectares of new grassland across Essex.

BETTER HABITAT PRIORITY:
Minimise or eradicate threats to grassland habitats, including reducing use of fertiliser and chemical pesticide and prevention of further agricultural intensification or expansion onto grassland habitat.

MORE CONNECTED HABITAT PRIORITY:
Essex meadows, particularly meadows designated as Local Wildlife Sites (LoWs), to form part of a county-wide network of grassland habitat, with management of these spaces being supported by empowered local communities.

Grasslands and meadows - actions

1. Enhance and improve the mosaic of ex-industrial grasslands along the sea wall on the Essex side of the Thames estuary

Action

Utilise funding opportunities available to restore the network of grassland habitats along the Thames Estuary.

Implement habitat restoration measures to enhance the diversity and quality of grassland habitats. This may include removing invasive species, reintroducing native plants, and restoring natural hydrological processes.

Install interpretive signage, educational displays and visitor centres to engage the public and raise awareness about the ecological significance of grassland habitats and the Thames Estuary.

Scale of action

District / Borough / City

Nature recovery benefits

- Enhances biodiversity
- Contributes to wider nature recovery
- Supports a wide range of plant and animal species, including rare and threatened species

Wider benefits

- Can help improve water quality by filtering pollutants, reducing runoff and preventing soil erosion
- Helps improve connectivity between terrestrial and aquatic ecosystems, which facilitates the movement of wildlife, enhances gene flow and promotes ecosystem functioning across landscapes

Above: Grass snake © Essex Wildlife Trust

2. Practise nature-friendly grassland management practices that consider seasonal behaviours, including “No Mow May”

Action

Avoid cutting grassland in the spring, during the breeding and nesting season. Leave refuges for wildlife following mowing.

Generally, wait until August for the first cut and mow/cut again in September/ October. Cutting too early can disrupt plant reproduction and reduce habitat quality for pollinators.

Remove cuttings so as not to increase soil fertility. Leave some grass uncut over winter.

These management practices are relevant for grassland habitats of all shapes and sizes.

Scale of action

Local / Household

Nature recovery benefits

- Promotes biodiversity by allowing wildflowers to bloom
- Allows invertebrates to complete their lifecycle
- Provides habitat for birds, avoiding nesting season.
- Promotes healthy soil and plant diversity

Wider benefits

- Preserves cultural and historical landscapes
- Enhances aesthetic appeal with natural landscapes
- Supports mental well-being by connecting with nature
- Reduces carbon emissions and fuel consumption

3. Reduce or cease use of chemical fertiliser and pesticide

Action

Increase use of organic fertilisers in land management practices and reduce use of chemical fertiliser and pesticides on habitats.

Scale of action

Regional

Nature recovery benefits

- Improves the condition and quality of grassland habitats
- Helps to protect vulnerable or endangered species
- Reduces threat to pollinator populations and other insects

Wider benefits

- Lower costs
- More organic matter makes soils easier to work, less prone to waterlogging and runoff, and more resilient to drought
- Reduces the contamination of soil, water and air with harmful substances
- Improves soil health
- Increases carbon storage
- Improves water quality
- Promotes adaptation of sustainable agricultural practices. which enhances resilience of the landscape

Below and opposite, left to right: Cinnabar moth caterpillar © Essex Wildlife Trust; Carder Bumblebee © Jon Hawkins; Brown argus © Essex Wildlife Trust; Aerial view of Brightlingsea © Paul Starr; Common earthworm, Hylands Park, Writtle © Paul Starr

Above, left to right: Roadside verge © Essex Wildlife Trust; Hare at Stow Maries Aerodrome © Russell Savory; Small Tortoiseshell © Essex Wildlife Trust

Grasslands and meadows - supporting actions

4. Create new grassland habitats along road verges

Action

Begin by assessing the site conditions of the road verges, including soil type, drainage, sunlight exposure and existing vegetation.

Choose a diverse mix of grasses, wildflowers and legumes to enhance biodiversity and provide habitat for a variety of wildlife species.

Prepare the soil for planting by loosening compacted soil, removing debris and incorporating organic matter if necessary. Sow seeds or plant seedlings of selected grassland species in the prepared soil. Follow recommended seeding rates and planting depths for optimal establishment.

Implement long-term management strategies to maintain and enhance the newly created grassland habitat along road verges. This may include periodic mowing, as well as ongoing monitoring and maintenance to ensure habitat quality and biodiversity.

Scale of action

Regional

Nature recovery benefits

- Provides important habitats for a variety of plant and animal species, including pollinators, birds, small mammals and insects
- Can serve as corridors that connect fragmented habitats, allowing for the movement of wildlife between different areas
- Supports pollinator populations by providing a source of nectar and pollen from flowering plants

Wider benefits

- Creates opportunity for education on the benefits of green spaces for wildlife and the wider environment
- Helps to absorb and store carbon, mitigating the impacts of climate change and reducing heat island effect in urban areas
- Provides a range of ecosystem services, including air purification, soil stabilisation and water filtration.
- Helps protect soil and water resources and reduce the risk of flooding and sedimentation in water bodies

5. Restore grassland habitats on farms and in the wider countryside

Action

Farmers and others restore or create grassland habitats that connect across a farm cluster catchment area.

Encourage mixed farming approaches to develop permanent grassland on farms.

Scale of action

Regional

Nature recovery benefits

- Creates large spaces for wildlife such as farmland birds
- Creates habitats for pollinators

Wider benefits

- Improves water quality
- Prevents agricultural runoff
- Can improve crop yield, through increased crop pollination by presence of pollinators
- Improves soil structure
- Reduces soil erosion and enhances soil fertility
- Creates nature filter, trapping sediment and absorbing nutrients from agricultural runoff
- Creates potential for business diversification for farmers through environmental land management schemes

6. Graze with livestock

Action

Encourage livestock grazing.

Before turning livestock onto the grassland, develop a grazing plan that outlines stocking rates, grazing periods, and rotation schedules.

Rotating livestock between paddocks allows forage in each area to recover between grazing periods, promoting healthy regrowth and preventing overgrazing.

Expert advice is advised to avoid overgrazing.

Scale of action

Local

Nature recovery benefits

- Manages vegetation diversity
- Enhances biodiversity
- Helps control invasive species, suppress vegetation growth and promote the growth of native plants, enhancing habitat quality and biodiversity
- Encourages the establishment of diverse plant communities

Wider benefits

- Improves soil health, by promoting soil aeration, nutrient cycling and organic matter decomposition
- Trampling by livestock helps break up compacted soils, enhancing soil structure and fertility
- Grazed grasslands store carbon in aboveground biomass and soil organic matter, helping mitigate climate change by removing carbon dioxide from the atmosphere

Below, left to right: Sheep at Blue House Farm © Essex Wildlife Trust; Hanningfield Wildflower Meadow © Essex Wildlife Trust; Volunteer with Big Wild Seed Sow seeds © Essex Wildlife Trust

7. Introduce seeds of appropriate grassland species, using a local seed bank resource

Action

Develop a local seed bank accessible to stakeholders from community groups to farmers. Take advantage of the historical remains of meadow seedbanks where possible.

Where appropriate utilise the local seed bank, to introduce seeds of appropriate grassland and/or wildflower species where the grassland habitat seedbank has been completely lost or degraded.

Consult ecologist or local expert to advise on the appropriate grassland species to be introduced.

Scale of action

Regional

Nature recovery benefits

- Increases biodiversity and habitat diversity
- Supports pollinators and other wildlife
- Seeds sourced locally are adapted to the specific environmental conditions of the region, including soil type, climate and precipitation patterns.
- Supports the conservation of biodiversity and prevents the spread of invasive species

Wider benefits

- Facilitates community-led conservation initiatives
- Engages communities in grassland restoration efforts and promotes stewardship of local natural resources
- Improves soil health and fertility

6.3 Scrub and Mosaic

Foreword by Essex Wildlife Trust

Scrub habitat refers to a type of vegetation community characterised by low-growing, often woody plants and is a term applied to habitats which are transitional, usually between grassland and woodland. In Essex, scrub is usually dominated by bramble, hawthorn and blackthorn, with willow.

Well-developed scrub habitats exhibit a diverse structure, with varying heights and vegetation densities. Such habitats are crucial for the survival of many species, particularly as nesting and foraging habitats for farmland and summer migrant birds including Turtle Dove, Yellowhammer and Corn Bunting.

Areas of scrub are very common and can be overlooked and undervalued for their wildlife value.

They occur in urban areas, along railway lines, road verges and brownfield sites and on agricultural land as unmanaged hedge lines, field corners, woodland edges and fringing wetland and coastal grasslands. Scrub patches therefore serve as vital connectors between different habitats within the wider landscape, functioning as wildlife corridors and ‘stepping stones’ that facilitate species movement between woodlands, grasslands and wetlands.

This connectivity is essential for maintaining genetic diversity and population resilience.

Over time scrub diversifies with a range of tree species depending on ground conditions, proximity of seed sources and the wetness of the soils. If left unmanaged, low scrub habitats will eventually come to be dominated by maturing trees and over decades become woodland. To avoid this, cattle grazing can be an ideal management tool on larger areas to create diversity of structure and open areas of grassland to form a mosaic.

Essex Wildlife Trust

Biodiversity priorities

BIGGER HABITAT PRIORITY:
Expand coverage of existing scrub habitat by replanting native vegetation and encouraging natural regeneration.

BETTER HABITAT PRIORITY:
Maintain scrub habitat and promote native vegetation growth through selective thinning techniques, invasive species removal, and implementation of protective measures.

MORE CONNECTED HABITAT PRIORITY:
Establish wildlife corridors, buffer zones and green infrastructure networks, to connect scrub habitat with the wider landscape.

Scrub and mosaic - actions

1. Plant scrub habitat

Action

Prioritise planting of native species adapted to local environmental conditions.

Mix species randomly when planting to create diversity or plant in clumps, to avoid creating wind tunnels and to allow any unplanted gaps to fill in naturally.

Avoid creating new scrub habitat on areas already important for wildlife, such as species-rich grassland.

Create new scrub habitat where is no natural source of regeneration, and seek expert advice.

Scale of action

Regional

Nature recovery benefits

- Increases species variety of invertebrates, reptiles, amphibians, small mammals and birds
- Helps lichens to grow, providing food and nest material for wildlife
- Maintains carbon rich soils

Wider benefits

- Helps to control soil erosion. Root systems of scrub vegetation stabilise soil by reducing erosion caused by wind and water
- Acts as a natural filter, trapping sediment and absorbing nutrients and pollutants from run-off before it enters water bodies

Below: Turtle Dove © Les Bunyan RSPB images

2. Allow scrub habitat to regenerate naturally

Action

Reduce human activities such as grazing, mowing or development that can disrupt natural processes and prevent the establishment of scrub vegetation.

Remove any livestock initially and avoid any cultivation. Livestock can be used to graze the scrub once it has been established.

Manage and control invasive plants that can outcompete native scrub species and hinder natural regeneration efforts.

Scale of action

Regional

Nature recovery benefits

- Increases species variety of invertebrates, reptiles, amphibians, small mammals and birds
- Helps lichens to grow, providing food and nest material for wildlife
- Helps create habitat corridors, connecting fragmented landscapes and allowing for the movement of wildlife species between different areas

Wider benefits

- Maintains carbon rich soils and soil fertility, reducing the risk of sedimentation in water bodies
- Contributes to ecosystem functions such as soil stabilisation, nutrient cycling and water filtration, which are essential for supporting human well-being and maintaining environmental quality

3. Allow room for scrub habitat to expand

Action

Leave areas of uncut grassland next to existing scrub or woodland, to allow space for scrub habitats to establish. (This may take some time.)

Scale of action

District / Borough / City

Nature recovery benefits

- Offers habitat for diverse plant and animal species
- Provides shelter, nesting sites and food sources for birds, insects, small mammals and other wildlife
- Attracts pollinators to wildflowers in uncut grasslands

Wider benefits

- Preserves natural landscapes, enhancing aesthetics and providing recreational opportunities
- Helps prevent soil erosion and contributes to soil health and fertility
- Captures carbon

4. Create sunny, sheltered scrub edges

Action

Create scrub habitat along the edges of existing habitats, particularly areas which receive a lot of sunlight, to develop a warm micro-climate for invertebrates, amphibians and reptiles.

Scale of action

Local

Nature recovery benefits

- Supports natural predators of crop pests and diseases
- Boosts populations of pollinators
- Provides basking and cover for reptiles

Wider benefits

- Provides forage for livestock that lasts later in the year compared with other grazing habitats like grassland
- Supports natural predators of crop pests and diseases

Above, left to right: Common Toad © Jon Hawkins; Badger at Fingringhoe Wick © Essex Wildlife Trust

5. Selective cutting or coppicing of scrub habitat

Action

Conduct selective cutting or coppicing during dormant seasons or outside breeding periods to minimise disturbance to nesting birds and other wildlife. Typically do so in the winter months when vegetation is dormant.

Target invasive or non-native species for removal while preserving native scrub vegetation.

Selectively cutting or coppicing species of scrub can encourage re-growth and is useful for maintenance and restoration of the habitat.

Create a mosaic pattern of cleared and untouched areas to maintain habitat diversity and provide various niches for wildlife species with different habitat preferences.

Retain fallen logs, standing dead trees and brush piles as habitat structures, even after cutting, for shelter, nesting and foraging opportunities for wildlife.

Scale of action

Local

Nature recovery benefits

- Provides diverse habitats for a variety of plant and animal species
- Encourages the growth of young plants and enhances overall habitat quality
- Prevents scrub habitat from transitioning into other habitat types, maintaining its unique ecological characteristics and supporting specialised species
- Creates a diverse range of habitat structures, from dense regrowth to open areas
- Provides valuable food and cover for insects, birds and small mammals
- Light reaching the woodland floor encourages the growth of wildflowers and other ground flora
- Rejuvenates scrub habitats, promoting the growth of healthy, vigorous stems more resilient to disease and pest infestations

Wider benefits

- Enhances ecosystem resilience to environmental stressors such as climate change, invasive species and habitat fragmentation

Scrub and mosaic - supporting actions

6. Protect scrub from predation or browsing

Action

To avoid livestock, deer and rabbits eating shrubs within the habitat, use degradable tree guards and protectors in small areas, to physically protect young plants from browsing animals until they are established and less vulnerable.

Instal fencing around sensitive areas to prevent access by herbivores such as deer or livestock. Use fencing that is appropriate for the size and behaviour of the target animals.

Scale of action

Local

Nature recovery benefits

- Helps maintain the populations of plant and animal species that rely on these habitats
- Promotes the balance of species interactions and ecosystem functions
- Improves habitat quality and resilience
- Can facilitate the recovery of threatened or endangered species that rely on scrub habitat for survival

Wider benefits

- Contributes to climate change mitigation efforts

7. Raise awareness about the importance of scrub and mosaic habitats and encourage community involvement in habitat restoration projects

Action

Develop educational materials, workshops and guided nature walks focused on scrub and mosaic habitats.

Organise volunteer workdays and restoration events, where community members can contribute to habitat restoration efforts.

Scale of action

Regional

Nature recovery benefits

- Promotes biodiversity conservation
- Encourages habitat restoration
- Highlights ecosystem services
- Supports climate change mitigation

Wider benefits

- Fosters a sense of ownership and stewardship over local habitats
- Enhances cultural and recreational value

8. Create wildlife corridors and habitat linkages to connect fragmented patches of scrub

Action

Use the Local Nature Recovery Strategy (LNRS) opportunity maps to determine where habitat connectivity is currently lacking and where corridors are needed to facilitate movement of wildlife between habitat patches.

Scale of action

Regional

Nature recovery benefits

- Facilitates gene flow, genetic diversity and population resilience
- Facilitates dispersal of individuals, particularly juveniles, allowing them to find new territories, establish new populations and avoid inbreeding
- Can help mitigate the spread of diseases among wildlife populations
- Provides essential migration routes for species that move seasonally or in response to changes in resource availability, climate conditions or breeding requirements

Wider benefits

- Enhances ecosystem resilience and adaptation to changing climates
- Contributes to the functioning of ecosystems by facilitating interactions between species
- Reduces the risk of human-wildlife conflict

Below: Chelmsford © Paul Starr

9. Engage stakeholders in the planning and implementation of scrub habitat creation projects

Action

Identify all relevant stakeholders who may have an interest in or be affected by the scrub habitat creation project. This may include local communities, landowners, government agencies, environmental organisations, businesses, recreational users and academic institutions.

Provide information about the importance of scrub habitat creation and the benefits it brings to both wildlife and people.

Provide opportunities for stakeholders to actively participate in project activities, such as volunteering for habitat restoration workdays, participating in citizen science initiatives or attending public meetings and forums.

Scale of action

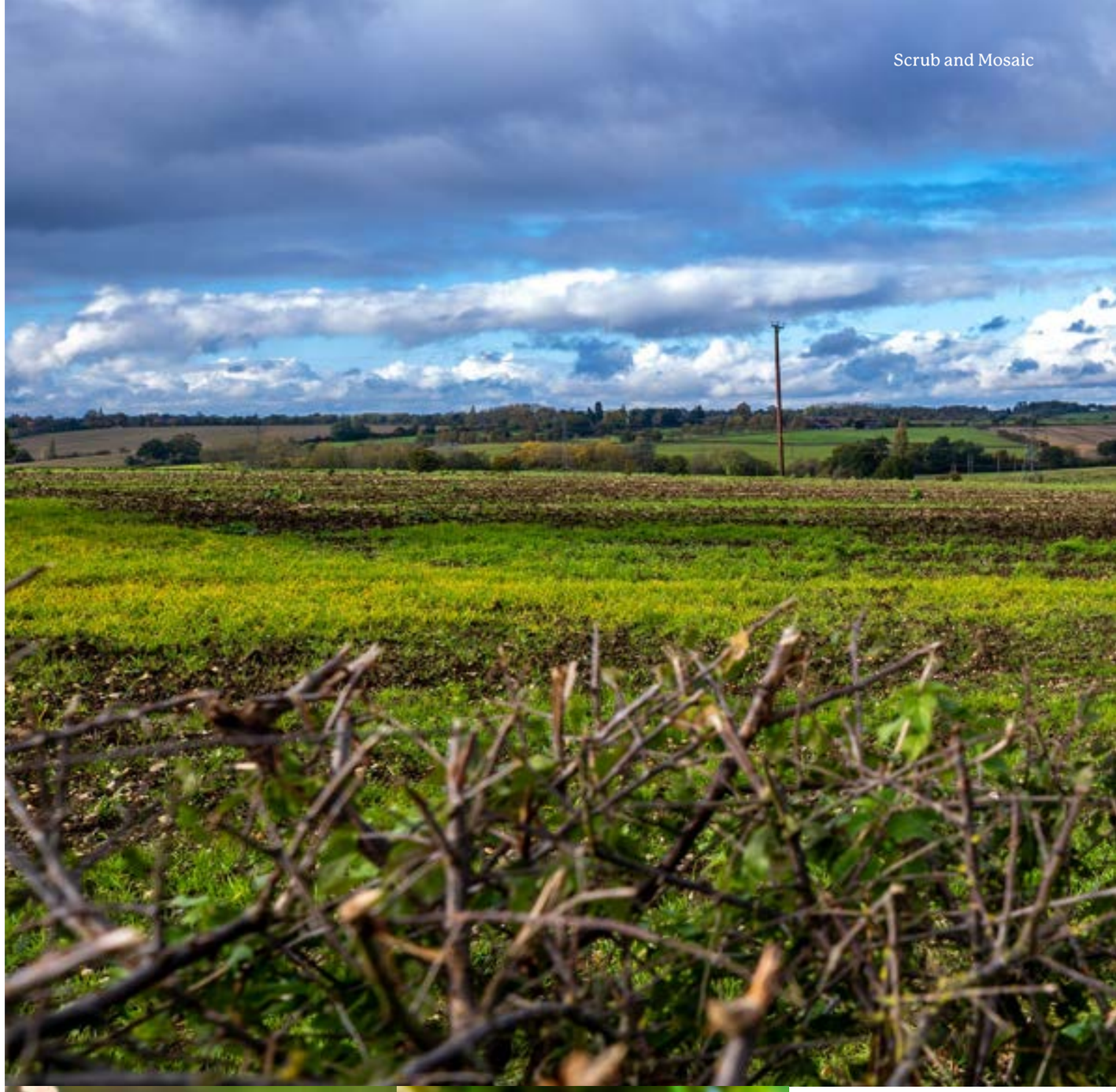
Regional

Nature recovery benefits

- Helps ensure habitat design and management decisions are informed by local knowledge
- Promotes landscape connectivity for wildlife movement and genetic exchange

Wider benefits

- Fosters a sense of ownership and stewardship over created habitats, leading to long-term care and maintenance and increasing the likelihood of success and sustainability
- Offers opportunities for education and skill development in community
- Promotes social cohesion and community bonding
- Can create employment opportunities, stimulate local economies and enhance the value of natural areas for tourism and recreation



Above: Epping Green © Paul Starr

Far left: Nightingale, Fingringhoe © Essex Wildlife Trust

Left above: Ladybird, Hylands Park, Writtle © Paul Starr

Left below: BumbleBee in heather © Jon Hawkins

6.4 Hedgerows

Foreword by Spains Hall Estate

The Essex landscape is defined by a network of hedgerows, that reflects our rich history and culture through the centuries, from dense ancient and medieval species-rich hedgerows following the natural contours of a river valley to later Parliamentary Enclosure Hawthorn hedgerows marching across the landscape in their distinct field pattern.

This pattern becomes less distinct in areas where ancient Elm hedgerows and trees used to define the pattern of lanes on higher ground. The loss of hedgerows through disease, alongside increased focus on arable food production, has seen a decline in hedgerow management.

Within any local landscape, a range of hedgerow structures, shapes, heights and cutting frequencies will support hundreds of species.

Mature uncut species-rich hedgerows not only provide copious amounts of berries for Harvest mice and wintering Fieldfares, but also a long-lasting source of pollen and nectar during spring flowering, along with opportunities for nesting Turtle dove. By contrast, Yellowhammers tend to take up territory in short, dense hedgerows, generally less than two metres in height with a strong preference for an adjacent uncut herbaceous margin at least two metres in width.

A well-structured hedgerow will not only support a range of wildlife, but sequester significant quantities of carbon, and in the right location can protect stock, reduce soil erosion and wind, and soak up and store large quantities of water, whilst preventing pollutants reaching watercourses.

Whilst it is not practical to restore all hedgerows or indeed re-plant all those lost historically, there are opportunities to focus on key hedgerows and boundaries that can reconnect the hedgerow network or other wildlife habitats such as blocks of woodland or ponds within the landscape. Custodians of our Essex landscape now have an opportunity to leave a distinctive and functioning landscape as their legacy, with nature and farming once more in harmony.

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Biodiversity priorities

BIGGER HABITAT PRIORITY:
Plant new hedgerow shrubs and trees alongside existing ones to extend the hedgerow's length and fill in the gaps.

BETTER HABITAT PRIORITY:
Maintain hedgerows through cycles of trimming, pruning and coppicing, to encourage dense, healthy growth, and monitor for invasive species and diseases whilst avoiding use of harmful pesticides or chemicals.

MORE CONNECTED HABITAT PRIORITY:
Improve connectivity of hedgerows through the implementation of landscape-scale habitat restoration projects, to promote connectivity of habitat corridors and ensure the long-term resilience of our ecosystems.

Hedgerows - actions

1. Hedgerow planting

Action

Plant native shrubs and trees, trim to encourage bushier growth.

Incorporate gaps or ‘wildlife corridors’.

Plant gaps with suitable species (fruit-bearing are particularly beneficial to wildlife).

Connect hedges functionally to other wildlife-rich habitat, such as other hedges and woodland.

Scale of action

Local

Nature recovery benefits

- Prevents the loss of soil through run-off
- Supports biodiversity
- Allows species to move between fragmented habitats
- Maintains genetic diversity
- Facilitates species migration
- Provides nesting sites and foraging resources for pollinators
- Conserves wildlife

Wider benefits

- Increases crop pollination and higher yields for farmers
- Enhances the visual landscape, providing scenic beauty and cultural significance
- Contributes to the cultural heritage of rural landscapes
- Promotes ecosystem services including soil stabilisation, erosion control and water regulation
- Sequesters carbon dioxide from the atmosphere through plant growth and biomass accumulation

Above: Tolleshunt D’Arcy © Paul Starr

2. Diversification of hedgerow habitat

Action

Incorporate wildlife-friendly features such as nesting boxes, deadwood or habitat piles to attract diverse species.

Introduce native wildflowers and grasses.

Introduce plant species that produce berries, fruits or nuts to provide food resources for birds, mammals and insects.

Consider including species such as hawthorn (Crataegus spp.), blackthorn (Prunus spinosa), elderberry (Sambucus spp.), and hazel (Corylus avellana).

Incorporate different vegetation densities, heights and growth forms. Include shrubs with dense foliage for nesting and cover, as well as open areas for ground-dwelling species and foraging habitat.

Scale of action

Local

Nature recovery benefits

- Enhances habitat diversity and supports pollinators
- Provides essential foraging resources for pollinators such as bees, butterflies and hoverflies

Wider benefits

- Enhances pollination services, benefiting both wild plants and agricultural crops and promoting ecosystem resilience
- Supports natural pest control by attracting predatory insects, birds, and other natural enemies of pests. This helps reduce the need for chemical pesticides in agricultural areas

3. Trimming, pruning and coppicing of hedgerows

Action

Implement a rotational hedge cutting regime to trim hedgerows at suitable intervals without causing disturbance to nesting birds or other wildlife.

Trim and regularly prune existing hedgerows to encourage bushier growth and denser vegetation.

Control invasive species and manage vegetation.

Scale of action

Local

Nature recovery benefits

- Prevents overcrowding
- Maintains habitat quality
- Creates a mosaic of different habitat stages, which supports a greater diversity of wildlife species
- Stimulates the growth of new shoots from the base of hedgerow plants, leading to increased plant diversity over time
- Helps maintain the structure and density of hedgerows, preventing them from becoming overgrown or excessively woody
- Helps prevent shading and competition with adjacent crops

Wider benefits

- Helps preserve cultural heritage and traditional land management techniques

Hedgerows - supporting actions

4. Fencing where appropriate to protect hedgerows

Action

Implement appropriate fencing or hedgerow protection measures.

Choose suitable fencing materials that are appropriate for the intended purpose and environment.

Determine the appropriate height and design of the fence based on the specific requirements of the hedgerow area and the types of threats it faces. For example, if protecting against livestock grazing, choose a fence height that prevents animals from reaching over or crawling under the fence. Additionally, consider adding wildlife-friendly features such as gaps at the base of the fence to allow small mammals to pass through.

Scale of action

Local

Nature recovery benefits

- Allows for natural regeneration to occur

Wider benefits

- Prevents damage from livestock browsing or trampling
- Prevents disturbance and destruction from various activities

Below, left to right: Oil beetle; White Letter Hairstreak; Chelmsford © Paul Starr; Moss Carder bee

5. Minimise disturbance to hedgerows

Action

Conduct any necessary maintenance activities, such as trimming or coppicing, outside of the nesting season for birds and other wildlife. Avoid disturbing hedgerows during the spring and summer months when many species are breeding or raising young.

Rotate grazing livestock away from hedgerows during sensitive periods such as bird nesting season.

Create buffer zones around hedgerows to minimise the impacts of adjacent land uses, such as agricultural activities or development.

Scale of action

Local

Nature recovery benefits

- Minimises disturbance to birds
- Protects wildlife from negative impacts or disturbance activities such as trimming, cutting or removal
- Enhances biodiversity
- Helps maintain and enhance hedgerows as important wildlife habitats

Wider benefits

- Stabilises soil
- Controls erosion
- Sequesters carbon
- Supports pollination
- Regulates water flow
- Stabilises banks and filter runoff, reducing sedimentation and nutrient pollution in waterways

6. Collaboration

Action

Collaborate with landowners and stakeholders to establish hedgerow networks that traverse multiple properties.

Scale of action

Local

Nature recovery benefits

- Enhances landscape-scale connectivity

Wider benefits

- By working together, stakeholders can achieve larger-scale projects and accomplish more ambitious goals than would be possible individually
- Promotes landscape connectivity by linking fragmented habitats and creating wildlife corridors across diverse land ownerships
- Helps to foster a sense of ownership, pride and stewardship among local residents

Above: Chelmsford © Paul Starr

7. Identify Connection Points

Action

Identify areas where existing hedgerows can be extended or connected to form larger, continuous habitat corridors.

Look for gaps between hedgerows, adjacent fields or natural features where new hedgerows can be established.

Connection points provide opportunities to expand habitat availability by connecting isolated patches of vegetation.

Scale of action

Local

Nature recovery benefits

- Allows species to move between fragmented habitats
- Maintains genetic diversity
- Facilitates species migration
- Allows animals to access resources such as food, water and breeding sites, promoting genetic exchange and population dispersal
- Facilitates gene flow between populations of plants and animals
- Helps species adapt to climate change by providing pathways for range shifts and colonisation of new areas

Wider benefits

- Provides ecosystem services by supporting healthy and functioning ecosystems
- Can utilise connection points between hedgerows for recreational activities such as hiking, wildlife watching and nature photography

6.5 Farmland

Foreword by Country Land and Business Association (CLA)

The UK is half-way through the Agricultural Transition Period which sees EU subsidies for the sector phased out and replaced with a new approach based on the concept of public money for public good. Farmers and land managers who now wish to receive financial support from the government will be required to carry out environmental actions alongside their farming operations, thus bringing nature, climate, biodiversity and food production together.

In a county that is steeped in agriculture and home to a vast patchwork of unique and precious habitats, from coastal marshes to ancient woodland, and with roughly 250,000 hectares of productive farmland, Essex's farming and landowning community is strongly placed to deliver the changes needed to restore and safeguard the natural environment for future generations.

Statistics alone do not complete this picture: Essex's farmers and land managers have a strong connection with the land under their stewardship. Furthermore, their understanding of what is already being delivered for biodiversity, and where it is practical to do more as this Strategy becomes "the new focal point for a broad range of land use and management activity" is invaluable.

Whether joining up existing green spaces for nature, limiting the amount of soil disturbance throughout the growing year, or introducing new habitats in otherwise marginal, uneconomic parts of the farm – with the support of government subsidy, Biodiversity Net Gain, or any other well-reasoned green initiative – husbandry that is sympathetic to nature's recovery is increasingly found to deliver mutual benefits to both the environment and the balance sheet.

The proposals within the Strategy aim to demonstrate that food production and nature restoration can work in harmony when efforts to enhance the environment are grounded in the realities of maintaining an economically viable managed landscape for all to enjoy.

Biodiversity priorities

BIGGER HABITAT PRIORITY:
On less productive and low yield areas of the farm, consider setting aside that land for nature. Creating new spaces for nature alongside a working, productive farm can provide wider environmental benefits for both the farming business and wildlife.

BETTER HABITAT PRIORITY:
Sensitively farm the productive areas of the farm, with consideration given to impacts on climate and the environment, whilst establishing and maintaining systems of production that themselves enhance nature and build resilience.

MORE CONNECTED HABITAT PRIORITY: Existing connectivity features and opportunities should be utilised to connect habitats across farmland such as the location of farm clusters, river catchments, hedgerows and field margins.

Farmland - actions

1. Create wildlife buffers: maximise the wildlife within the field and on field boundaries and margins

Action

Assess current condition and the wildlife supported.

Create a wildlife friendly buffer around farming fields or existing habitats, to protect other adjoining habitats from agricultural practices and various forms of pollution.

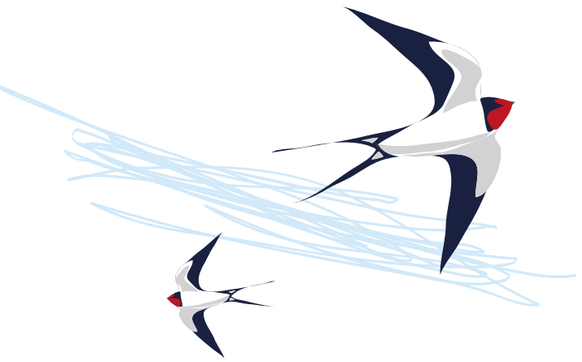
Establish wildflower meadows or pollinator strips within fields to support pollinators such as bees, butterflies and other beneficial insects.

Maintain permanent grassland areas within fields.

Repair damaged hedgerows by planting any gaps with native flowering or hedgerow species.

Seek advice from an ecologist on long-term hedgerow management.

Habitat created for ground nesting birds should be located away from any public rights of way to prevent any disturbance to the birds.



Scale of action

Local

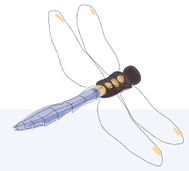
Nature recovery benefits

- Increases available habitat for wildlife, aiding crop protection and pollination
- Supports a wide range of plant and animal species
- Increases productivity by increasing pollinator numbers

Wider benefits

- Encouraging populations of natural predators such as birds, bats and insects helps control pest species, reducing the need for chemical pesticides and enhancing crop protection
- Establishing vegetation on field margins and boundaries helps stabilise soil, reduce erosion and enhance soil structure and fertility
- Buffer strips and vegetation along field boundaries filter pollutants, absorb excess nutrients and reduce sediment runoff
- Vegetated field margins and wetland areas absorb excess water during heavy rainfall, reducing the risk of flooding
- Increases ecosystem resilience to climate change impacts
- Planting along rights of way reduces damage to crops from public access while improving public spaces

Above: Tolleshunt D'Arcy © Paul Starr



2. Create or restore wet features

Action

Create or restore ponds or other wet features on farms.

Scale of action

Local

Nature recovery benefits

- Promotes biodiversity
- Benefits species movement

Wider benefits

- Aids crop production
- Helps maintain soil quality by promoting the cycling of nutrients
- Provides drinking water for livestock
- Acts as natural filters in waste water treatments
- Helps farmlands become more drought resilient

3. Create or restore flower-rich meadows

Action

Add to any patches of wildflower rich grasslands or create new meadows.

Scale of action

Local

Nature recovery benefits

- Supports a wide range of plants, fungi, insects, reptiles and ground nesting birds
- Enhances the relationship between the cropland and habitats for nature
- Supports species movement across the landscape

Wider benefits

- Helps to restore soil health
- Aids carbon capture
- Provides high nutritional value for livestock
- Increases resilience of the landscape

4. Create seed rich habitats

Action

Identify suitable locations within the farmland for establishing seed-rich habitats.

Monitor the seed-rich habitat regularly to control invasive species, manage weeds and promote the growth of desired native plants.

Scale of action

Local

Nature recovery benefits

- Creates sources of food, particularly for farmland birds, during the winter season
- Increased plant diversity can lead to higher species richness and ecosystem resilience
- Creates valuable food sources for pollinators
- Promotes pollination services for adjacent crops
- Provides cover for ground-nesting birds

Wider benefits

- Helps stabilise soil and reduce erosion
- Improves soil health by enhancing soil structure

5. Integrate woodlands within the farmed landscape (agroforestry)

Action

Seek expertise to join up any small, isolated woods with others.

Create new woodland habitat alongside the farmed landscape, preferably with native species.

Scale of action

Regional

Nature recovery benefits

- Promotes ecological diversity and supports wildlife populations within agricultural landscapes

Wider benefits

- Can create reliable, diversified income streams from timber, local woodfuel, carbon offsetting, venison and recreation
- Conserves soil
- Mitigates climate change
- Enhances crop yields
- Improves water management
- Reduces nutrient runoff, sedimentation and pollution in waterways
- Can act as windbreaks, shelterbelts and shade trees, protecting crops, livestock and buildings from wind damage and soil erosion

6. Grazing livestock

Action

Introduce or increase grazing livestock on farmland.

Mimic the natural grazing patterns of wild herbivores and restore or maintain habitats that have evolved with grazing pressure.

Scale of action

Regional

Nature recovery benefits

- Helps to create a mosaic of vegetation that can benefit a range of wildlife
- Stimulates biodiversity
- Can create and maintain open habitats, such as grasslands and meadows
- Can facilitate habitat connectivity by maintaining open corridors and pathways between different habitats

Wider benefits

- Contributes to nutrient cycling by depositing organic matter in the form of faeces
- Helps maintain traditional cultural landscapes

Below, left to right: Sheep at Tolleshunt Knights © Paul Starr; Cow at Fobbing © Paul Starr; Tractor at Abbotts Hall © Essex Wildlife Trust

Above: Braxted Park © Paul Starr

Farmland - supporting actions

7. Set aside space on the least productive land of the farm for habitat creation or restoration

Action

Develop small patches for nature in areas of low crop yield on the farm.

Scale of action

Regional

Nature recovery benefits

- Increases biodiversity, supporting native plant and animal species
- Attracts natural predators of pests, reducing the need for chemical pesticides
- Supports pollinator populations, enhancing crop pollination and improving yields

Wider benefits

- Contributes to soil health
- Prevents erosion
- Sequesters carbon

8. Survey the area to better understand existing wildlife and specific habitat requirements

Action

Use ecologist consultancies or volunteers to survey farmland to provide an overview of current status and suitable interventions.

Scale of action

Local

Nature recovery benefits

- Improves understanding of ecological context
- Helps assess the quality, diversity and condition of existing habitats within the study area
- Helps identify rare, threatened and endangered species that may inhabit the area
- Helps detect and monitor invasive species that may threaten native biodiversity

Wider benefits

- Facilitates monitoring and evaluation
- Aids design and placement of interventions
- Engages local communities, citizen scientists and stakeholders in wildlife monitoring and conservation efforts

9. Increase organic matter to feed soils and improve soil quality

Action

Increase use of farmyard manure, compost and living mulches.

Avoid disturbing the soil by decreasing ploughing or heavy doses of fertiliser.

Scale of action

Local

Nature recovery benefits

- Provides habitat and food for a diverse array of soil organisms, including bacteria, fungi and earthworms
- Releases nutrients gradually over time, providing a steady supply of nutrition to plants

Wider benefits

- Reduces input costs by reducing the need for synthetic fertilizers and pesticides
- Improves soil structure and quality
- Improves soil water-holding capacity, reducing water runoff
- Controls erosion
- Promotes carbon sequestration
- Reduces environmental impacts associated with chemicals

10. Predation and invasive species control

Action

Control and manage populations of invasive species.

Regularly monitor farmland for signs of pest infestations or invasive species outbreaks. Early detection allows for prompt intervention and prevents population buildup.

Employ mechanical methods such as hand-weeding, mowing or mulching to physically remove invasive plants.

Scale of action

Regional

Nature recovery benefits

- Protects vulnerable or endangered species
- Can help protect biodiversity by preventing the displacement or extinction of native species

Wider benefits

- Helps protect animals from injury, stress and disease caused by predatory attacks
- Can enhance the resilience and productivity of agricultural landscapes

Above: Tolleshunt D'Arcy © Paul Starr

11. Nature-friendly farming and supply chains

Action

Limit the use of pesticides and chemical fertilisers, reduce carbon emissions and use sustainable processing methods.

Prioritise soil health through methods such as reduced tillage, cover cropping and additions of organic matter.

Scale of action

Regional

Nature recovery benefits

- Mitigates climate change
- Promotes biodiversity by creating and maintaining diverse habitats
- Promotes habitat connectivity by maintaining wildlife corridors

Wider benefits

- Improves soil health
- Protects water quality
- Enhances the provision of ecosystem services such as pollination, soil fertility and water purification
- Reduces water pollution and enhances water quality
- Is economically viable and socially responsible

12. Farm clusters

Action

Work together as groups of farmers locally.

Farms within a cluster are typically located near each other, often within the same region or geographic area.

Scale of action

Regional

Nature recovery benefits

- Allows larger landscape scale nature recovery projects, including connected habitats
- Enhances biodiversity across landscapes, supporting a wide range of native species and ecosystems
- Promotes ecosystem services such as pollination, pest control and soil fertility

Wider benefits

- Enables farmers to share knowledge, exchange best practice and collectively address environmental challenges
- Fosters a culture of conservation and stewardship as well as community cohesion
- Enhances the resilience of agricultural and natural systems to environmental changes and disturbances
- Supports sustainable land management
- Provides opportunities for farmers to collaborate on various aspects of agricultural production

6.6 Urban

Foreword by Southend-on-Sea City Council

With a population of approximately 1.9 million[29] and rising, Essex is one of the most developed counties in England. Southend-on-Sea, Colchester, Chelmsford, and Basildon make up the largest settlements in Essex, but there are many more town and villages adding to the urban nature of the county.

A lot of amazing natural spaces in Essex are tucked away in our cities and towns. From our urban parks, street trees and community commons, to our roof crevices and back gardens, all serve as habitats for wildlife. Swifts, for instance, are migratory birds that visit the UK every year. They nest in roof spaces and other suitable nooks and crannies and are becoming more and more common above Essex roof tops. Urban spaces have the potential to function as green corridors, or steppingstones, to allow wildlife to connect to the wider landscape.

Parks and gardens provide habitats for a variety of plants, insects, birds, and small mammals. By incorporating diverse plant species and features like ponds, meadows and hedgerows, these green spaces can support a wide range of wildlife. Well-designed parks and gardens can help manage water runoff and reduce the risk of flooding by absorbing rainfall and allowing it to infiltrate into the ground.

However, due to the expanding human population, our green spaces and urban wildlife are under more pressure to make room for new housing and other necessities of urban life. But that does not mean that towns and cities must be devoid of nature. For example, brownfield sites—disused developed land can serve as both a valuable wild space for nearby communities and a refuge for a variety of priority invertebrates. Managing amenity urban green space so that more is left or managed for nature – whether it's scrub, grassland, woodland or wetland – can also help to make habitats bigger and better in urban areas, and is already happening in some places.

Our towns and cities' green and blue spaces are very important right now. They do more than just help save different kinds of plants and animals. They also make the air and water cleaner, reduce the chances of floods and extreme heat, soak up carbon through plants and natural materials, and make people healthier and happier by giving them places to relax and connect with nature. It is therefore important to consider all of these benefits and maximise opportunities for nature recovery when we plan new homes, businesses and other building projects.

Southend-on-Sea City Council

Foreword by Colchester City Council

The outdoor spaces closest to us, such as our local parks, gardens, balconies and windowsills represent valuable and vital spaces for nature. Nature recovery action can be achieved on smaller sites and very much begins at home with small steps.

In Colchester City, a network of countryside sites, parks and open spaces of all shapes and sizes are managed with consideration for habitat connectivity.

Wildlife is very adaptable, but it needs the basics to survive, including food, water and shelter and enough space to find mates and breed a successful population. Providing linking routes for wildlife might be in the form of bird boxes on the side of our sheds, hedgehog doorways in our fences, bird baths and longer grass in our gardens, wildlife ponds, wildflower planting, or trailing wisteria on the side of our house. Anything that makes it easier and safer for the wildlife that requires more space to survive, and to be able to move in and out of the wider countryside or neighbouring habitats.

Colchester City Council

Biodiversity priorities

BIGGER HABITAT PRIORITY:
To create 3,100 hectares of new habitats in urban areas in Essex. This can be achieved by creating new green and blue spaces in the heart of our local communities, for example in gardens, balconies and windowsills; and by developing more green roofs and walls, street trees and community gardens.

BETTER HABITAT PRIORITY:
Embrace natural processes and allow natural events to progress organically in our urban parks, gardens and roadside verges, to encourage a more diverse range of wildlife to inhabit those spaces.

MORE CONNECTED HABITAT PRIORITY:
New developments, local amenities and green spaces should all be designed to deliver new and improved spaces for nature, to ensure nature networks are created across our villages, towns and cities, allowing wildlife to travel easily.