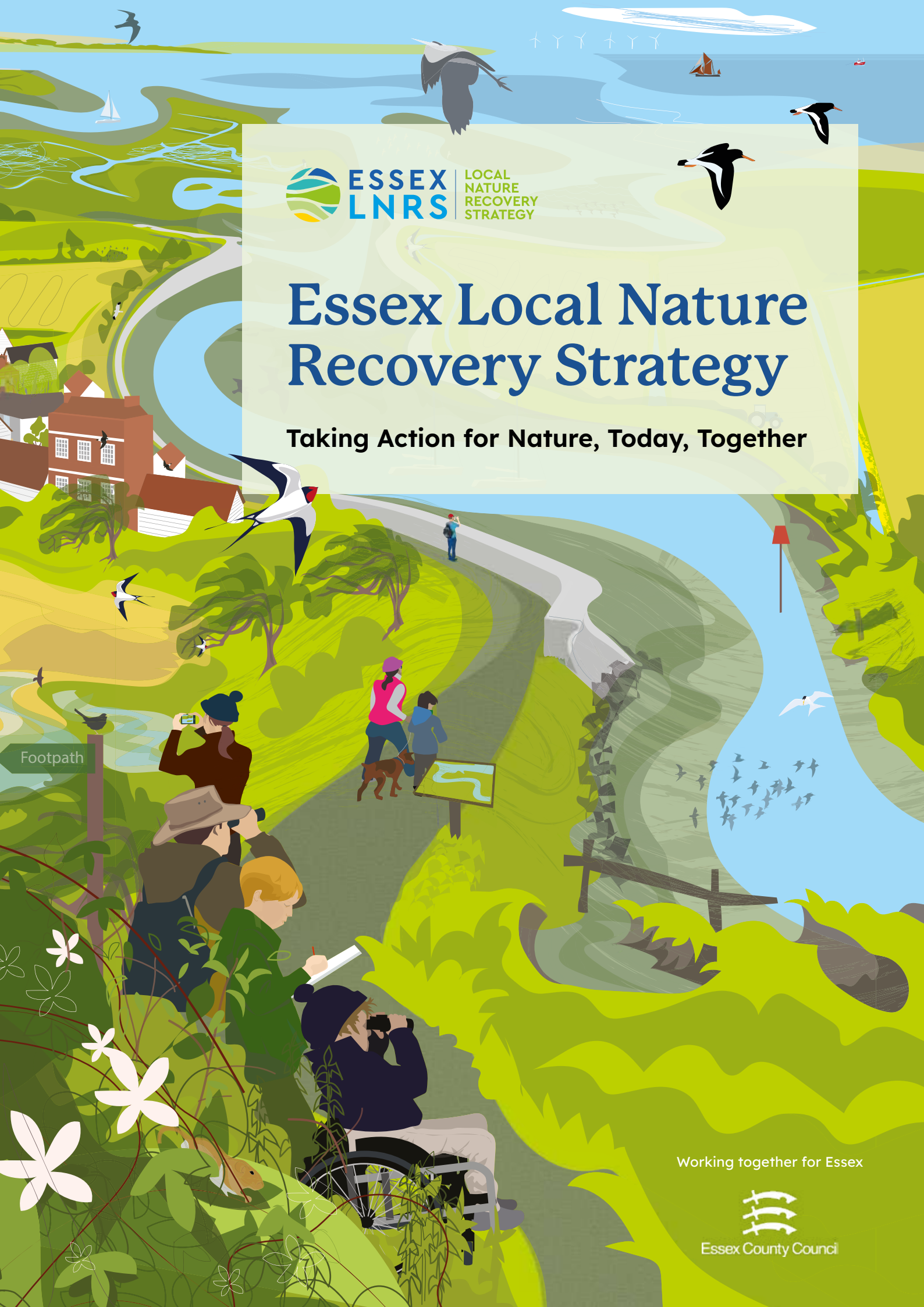


Essex Local Nature Recovery Strategy

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.

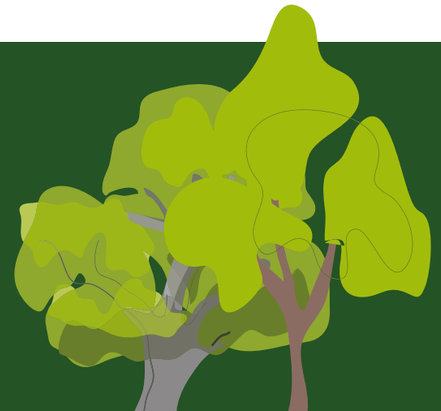
The actions identified in the Essex LNRS, for each habitat type, are categorised under three habitat priority statements which are aimed at connecting, enhancing and expanding existing natural spaces. Following the Lawton Principles of nature recovery, the three main categories are designed to make habitats:

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.

Nature encompasses the natural beauty, wildlife and geology that underpins landscape character. It includes habitats on which our most precious species depend. Nature also includes our historic and cultural connections with the natural world.



The Essex LNRS identifies the top 10 biodiversity aims for Essex. Two of the top 10 aims, 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 “potential creation opportunity” maps showcase all potential areas for biodiversity creation. Within this broader scope, the “strategic creation opportunity” maps highlight the top locations for nature recovery, covering approximately a third of the county, 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, 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 18% 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 good soil health and 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.

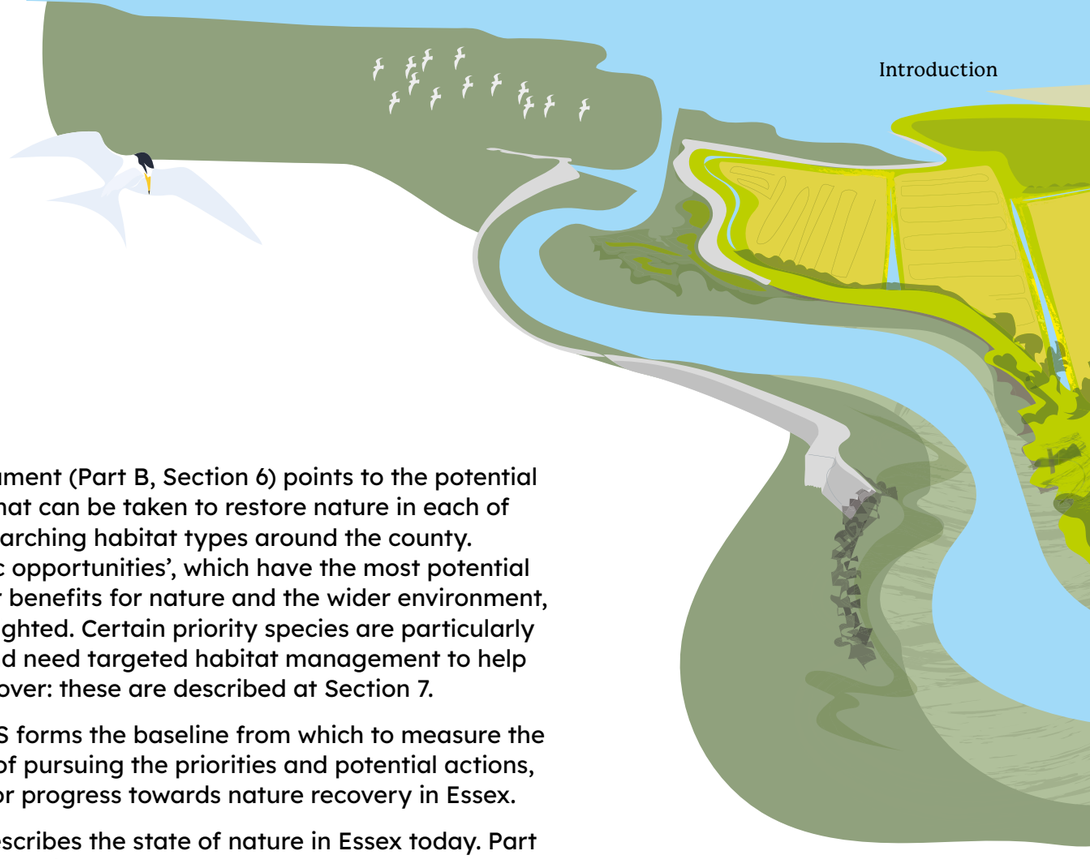
The maps (Section 5) indicate where actions could be carried out that will create, expand and connect existing spaces for nature. In accordance with a key principle[5] of nature recovery known as the Lawton Principles, these actions come under three main headings, designed to make habitats:

- 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 practises in urban areas across the county, to improve spaces for biodiversity and people, and to create a greener, more natural 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 and features that improve biodiversity 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, by utilising nature-based solutions
10. To enhance the water quality and quantity, and resilience of freshwater habitats through nature-based solutions that filter and slow water as it runs from source to sea.



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.
- Aids farmers and landowners in the design of environmental schemes under ELMS, such as Countryside Stewardship and Landscape Recovery.
- Land within strategic opportunities is eligible for an uplift of 15% in BNG credits.

For community groups and individuals, the LNRS:

- Guides new and existing local community groups in their efforts to restore nature by mapping strategic opportunities and outlining focussed priorities and actions for those areas.
- Provides guidance for focusing on habitat creation and enhancement initiatives.
- Provides opportunities to incorporate nature recovery into neighbourhood planning.
- Can support funding applications for nature recovery projects.

For local authorities, the LNRS:

- Assists in complying with the biodiversity duty placed on public authorities by the Environment Act 2021[7].
- Provides information that may be a 'material consideration' in the planning system[8].
- Helps in determining locations for off-site potential for Biodiversity Net Gain (BNG)[9].
- 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.
- Helps LPAs, together with key stakeholders, develop and implement protected site strategies to address challenges faced by particular protected sites.

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

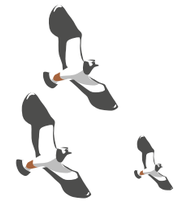
- Helps prioritise areas for nature recovery
- Aids in advancing the delivery of their projects.
- Fosters collaborative efforts across the county, through environmental plans and policy, generating a greater ambition for nature recovery.
- Supports funding schemes such as landscape recovery schemes, 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'[10] into practice.

For developers, the LNRS:

- Highlights key areas that development footprints should avoid where possible to maintain opportunities for habitat creation.
- Provides guidance on biodiversity priorities and measures to be incorporated into development projects.
- Provides support with delivering biodiversity net gain[11] (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.

Support mechanisms for delivery expanded on in section 4.4

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 April 2025. Essex County Council (ECC) worked closely with the Essex Local Nature Partnership (LNP) to canvas 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.

Farmers views were sought through face to face engagement at various locations and events, as well as through the existing farm clusters in Essex.

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.

Working groups for each habitat type identified in the strategy, made up of relevant experts, were set up to create the priorities and actions set out in section 6 of the strategy.

We hosted a series of workshops with county recorders to shortlist priority species. These species have then been mapped in section 5 of the document.

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.

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[12].

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[13].

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[14]:

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[15]. 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

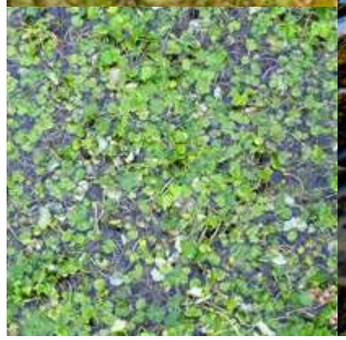
Invasive non-native species (INNS) – including American Mink, Zebra Mussel, Japanese Knotweed, Himalayan Balsam, New Zealand Pigmyweed and Floating Pennywort – are a major driver of biodiversity decline in Essex. Novel diseases and INNS represent a continuing threat to biodiversity and the wider economy,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

3. Pollution

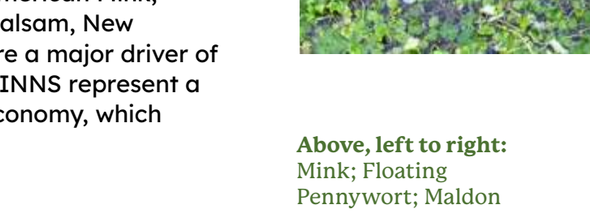
Air and water pollution are the two main sources of pollution that are most damaging to human health and the functioning of ecosystems[16]. Activities such as transport, industrial processes, farming, energy generation and domestic heating release greenhouse gas emissions into the atmosphere, which cause global warming[17]. Pollution in water can stem from a whole range of industrial and agricultural processes[18], which can be harmful to wildlife and humans, causing physical illness and negative impacts on health[19]. In Essex, there are three main sources of water pollution including household sewage and storm overflows, agricultural land use and built environment and transport[20]. Pollution from 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[21].

4. Overexploitation

Overexploitation of biological resources due to increasing human demand threatens the environment[22] – including UK seas and the marine environment surrounding Essex. One of the most significant threats to water availability is the abstraction of water for agriculture, public water supply, and industry from Essex rivers. Both activities prevent sustainable natural flows, 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[23]. 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.

Particularly high levels of recreational disturbance around Essex's coastal habitats can also adversely affect biodiversity in these areas.

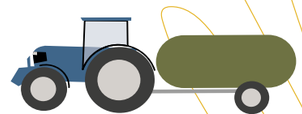
5. Climate change

Climate change, caused by global warming, is expected to cause mean annual temperatures to rise by 2-5% by 2100[24]. 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[25].

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[26].

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[27], 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, at time of publication, two schemes available to pay for environmental and climate goods and services:

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[28].

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[29].

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.

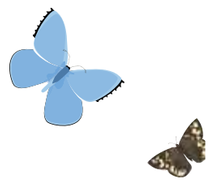
Woodland Carbon Code

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, the benefits that us humans receive from natural ecosystems, 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.

The Essex LNRS directly supports the delivery of the UK Government's legally binding environmental targets set under the Environment Act 2021 and detailed in the Environmental Improvement Plan 2023. These include halting the decline in species abundance by 2030, restoring or creating over 500,000 hectares of wildlife-rich habitat, and increasing tree and woodland cover to 16.5% of England's land area by 2050. The Essex LNRS aims to create 18,000 hectares of new woodland across Essex, along with 22,000 hectares of new grassland.

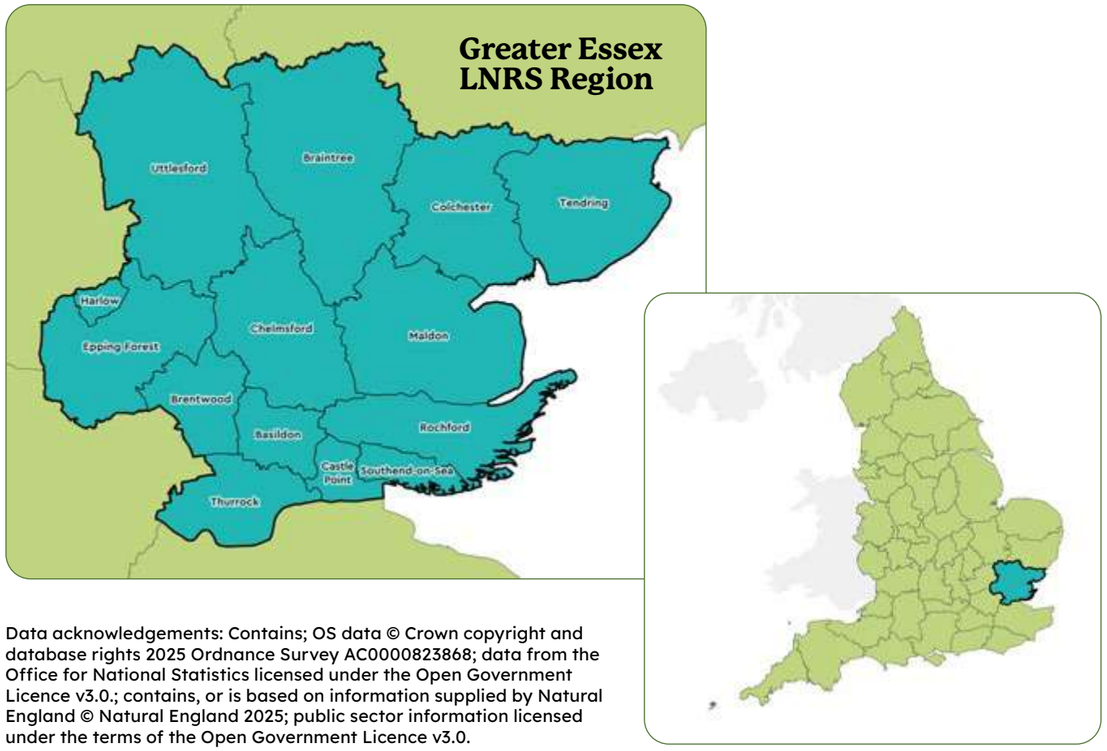
By identifying spatial priorities for habitat restoration and nature-based solutions, the Essex LNRS contributes to national goals for biodiversity net gain, climate change mitigation through carbon sequestration, and improved water and air quality.

It also aligns with the UK's commitment to protect 30% of land and sea for nature by 2030, ensuring that local action in Essex plays a measurable role in achieving national and international environmental outcomes.

5. Maps

5.1 How to use the maps

The DEFRA defined Greater Essex LNRS boundary has a total area of 394,880.02 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 57,328.64 hectares, which is 14.52% 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:

- **“Potential creation opportunities”** maps present **all potential** locations that could be used as creation opportunities, prior to any restraints being added. Locations where there is 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.
  - The total coverage of strategic creation opportunity areas covers 132,182.67 hectares, which is 33.47% 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 2025 and was a collaborative effort, led by Ground Control. For more detail on how these maps were created, see mapping methodology in appendix 2.

For some of the Strategic Opportunities identified, two or more habitat types are suggested. This is due to the complexity of ground-truthing every single location where our mapping calculations and valuing has suggested multiple options. In many cases these habitats are complementary, and a mosaic of the different suggested habitats could be created. Alternatively, the landowner/manager can make a decision based on site specific knowledge. For example, if an arable field has woodland, grassland and freshwater standing habitat types suggested, you could consider the following:

- Are rare meadow species already thriving when the land is left fallow? Consider prioritising grassland creation.
- Is the ground frequently waterlogged? Consider prioritising wetland creation.
- Is the area adjacent to existing woodland?) Consider prioritising woodland creation to enlarge and buffer the existing woodland.

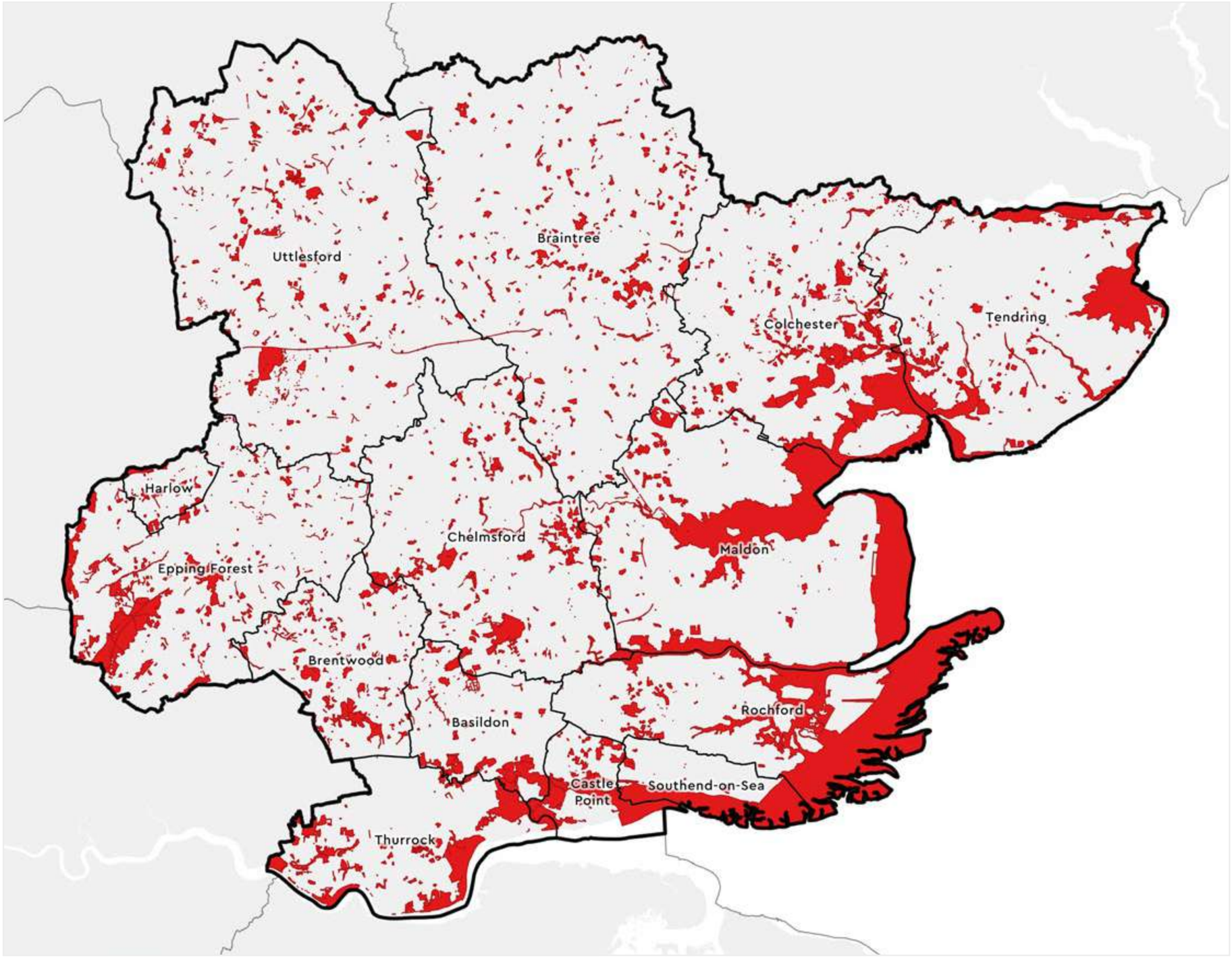
A suitably qualified farming and wildlife adviser or ecologist would be able to provide more detailed advice.

Ground Control

Left: Public footpath sign © Paul Starr

Explore the LNRS interactive maps here:
https://place-services.maps.arcgis.com/apps/webappviewer/index.html?id=d7e07ae774ea43249765b4b8f6514513

5.2 Areas of Particular Importance for Biodiversity (APIBs)

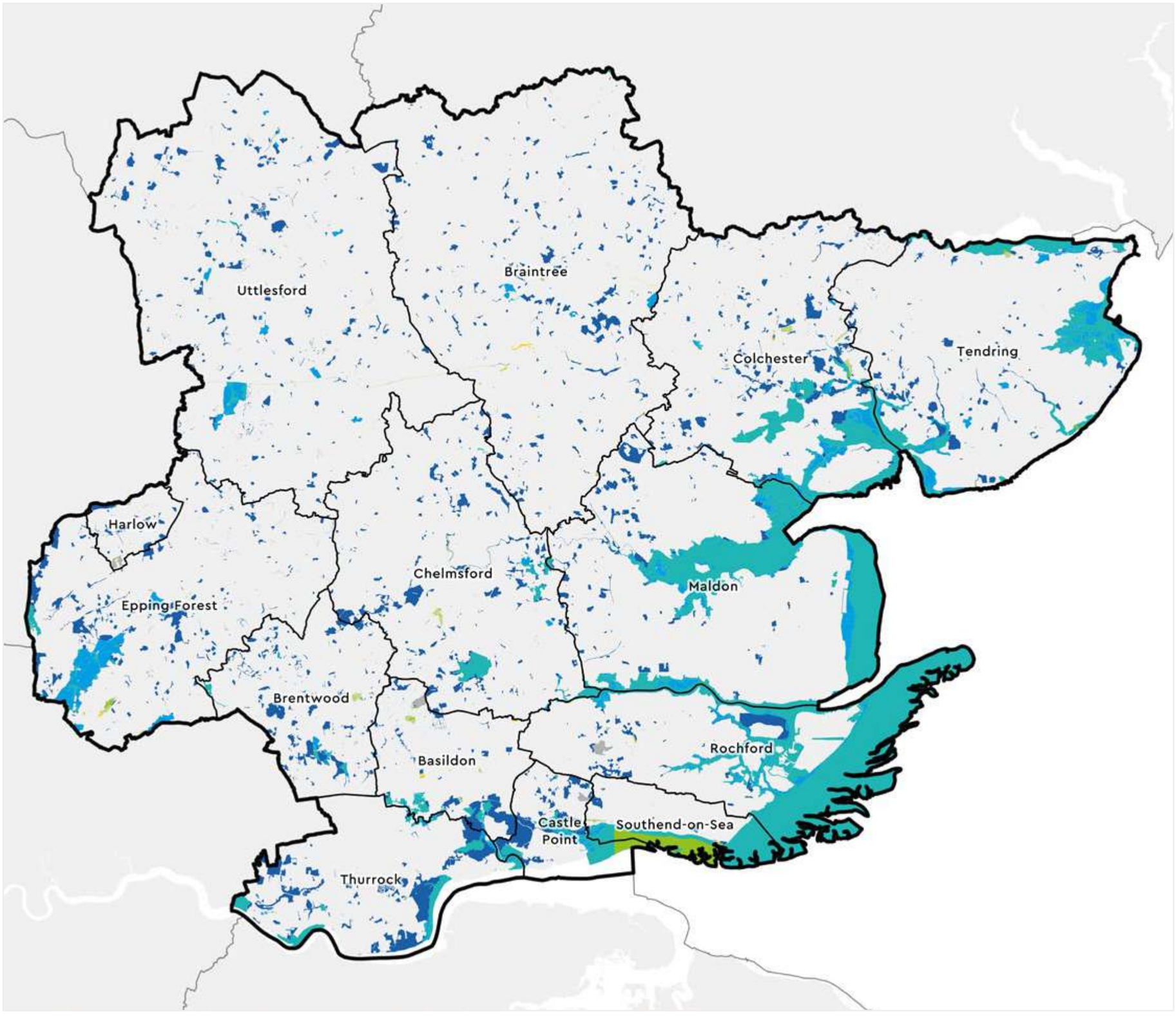


Map 1:
Areas of particular importance for biodiversity (APIBs)

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 14.52% of the Greater Essex LNRS region in total. All input datasets correct as of March 2025.

Key

- Area of particular importance for biodiversity



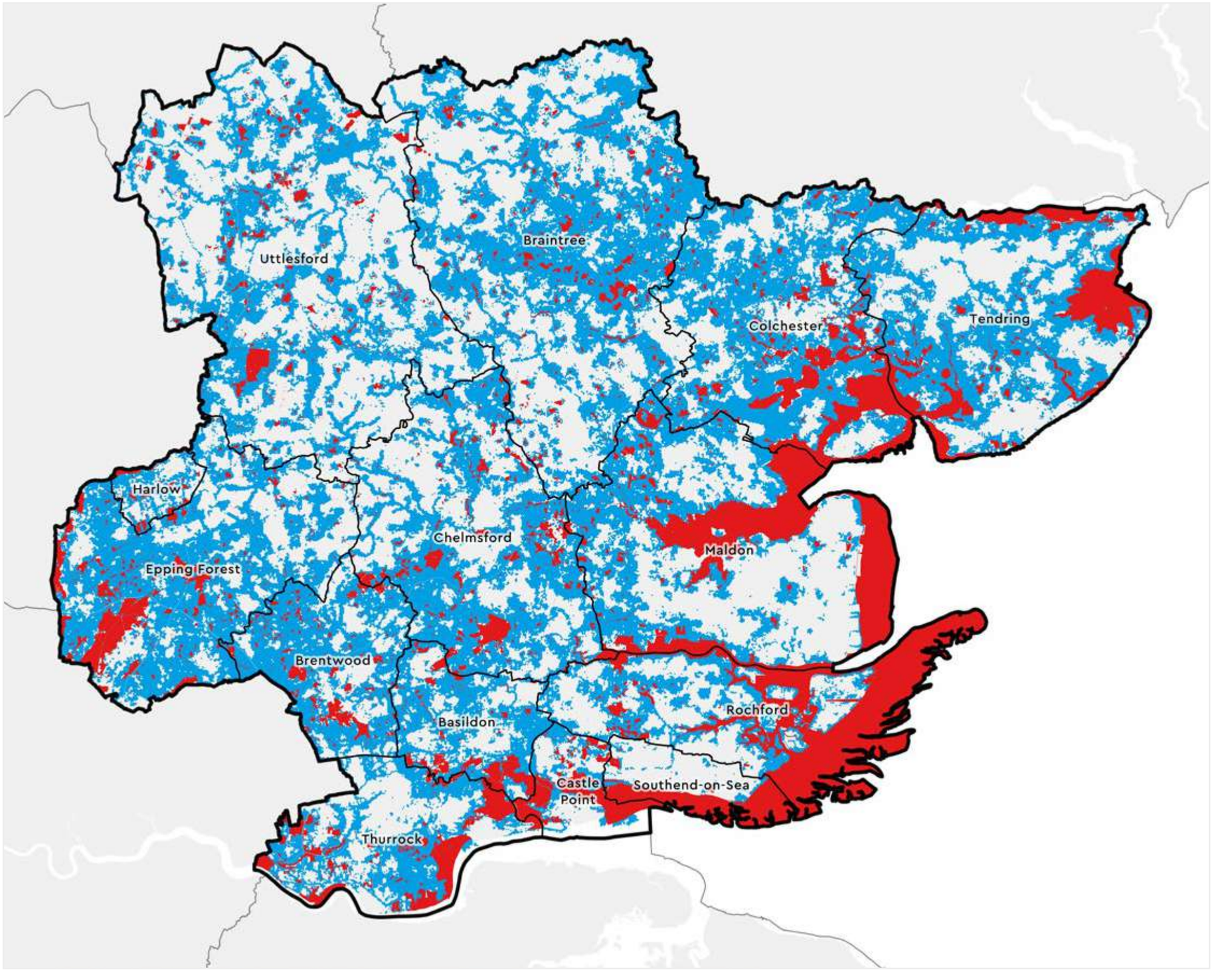
Map 2:
Areas of particular importance for biodiversity (APIBs) by designation

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 14.52% of the Greater Essex LNRS region in total. All input datasets correct as of March 2025.

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:

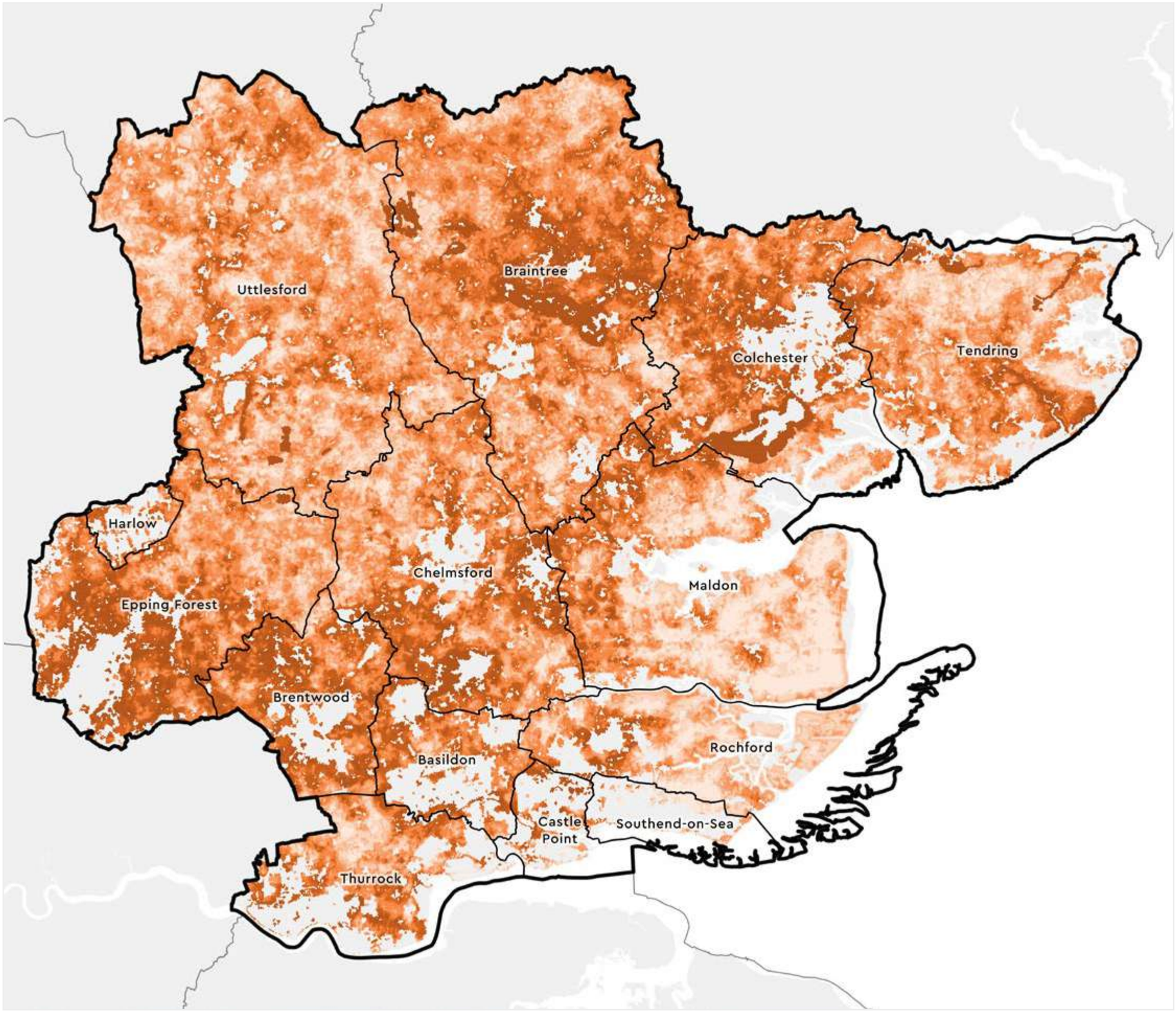
Combined Strategic Creation Opportunities and Areas of particular importance for biodiversity (APIBs)

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 14.52% of the Greater Essex LNRS region in total. All input datasets correct as of March 2025. Areas that could become of particular importance – combined 'strategic' habitat creation opportunities presented as a generalised 0.01km² hexagonal grid and categorised by habitat type. All combined 'strategic' habitat creation opportunities cover 33.39% of the Greater Essex LNRS region.

Key

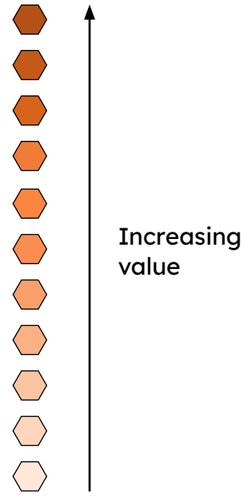
- Area of Particular Importance for Biodiversity
- Strategic Combined Opportunities

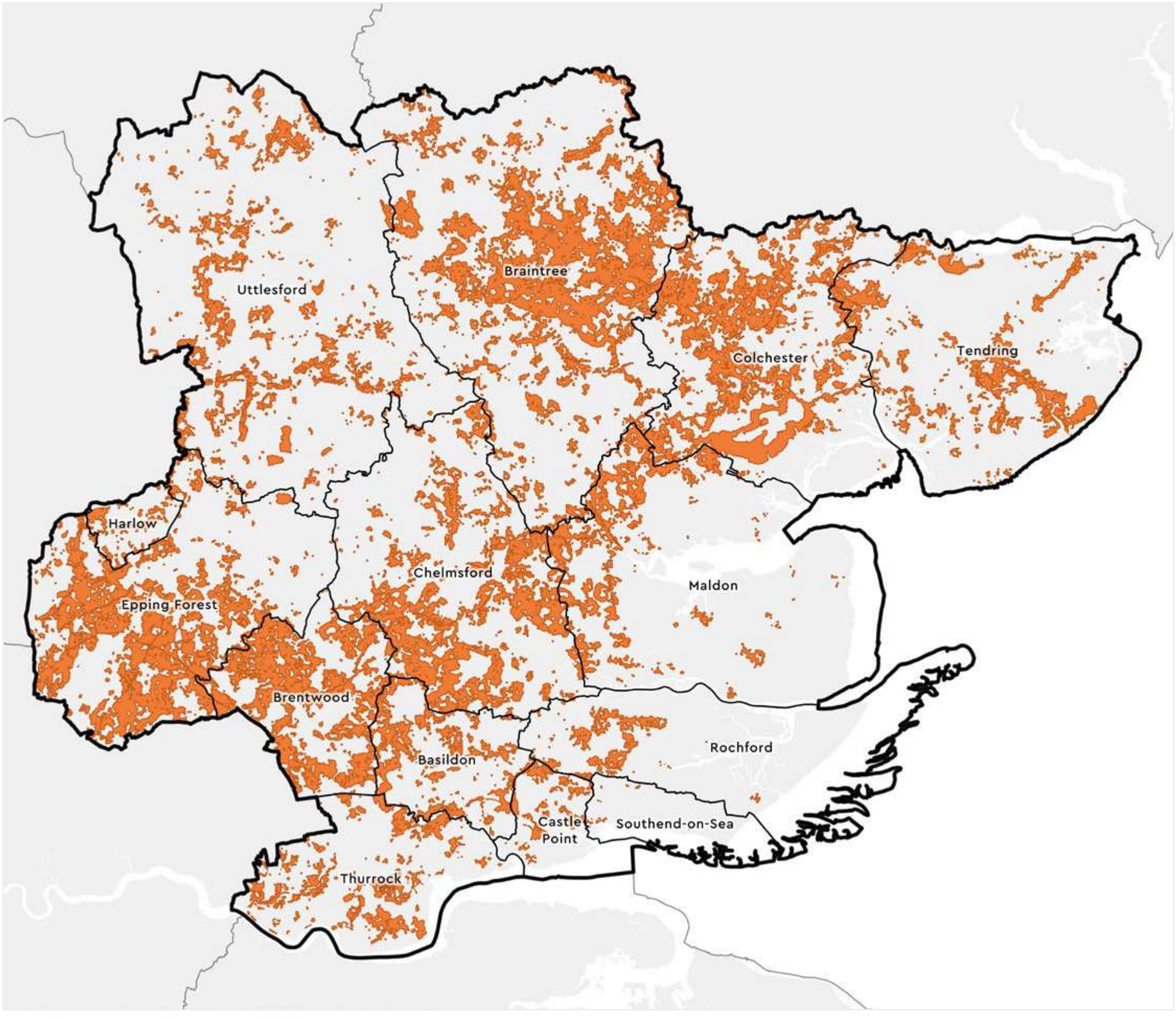


Map 4:
Areas that could become of particular importance – 'potential' woodland creation opportunities

Potential woodland creation opportunities presented as a generalised 0.01km² 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



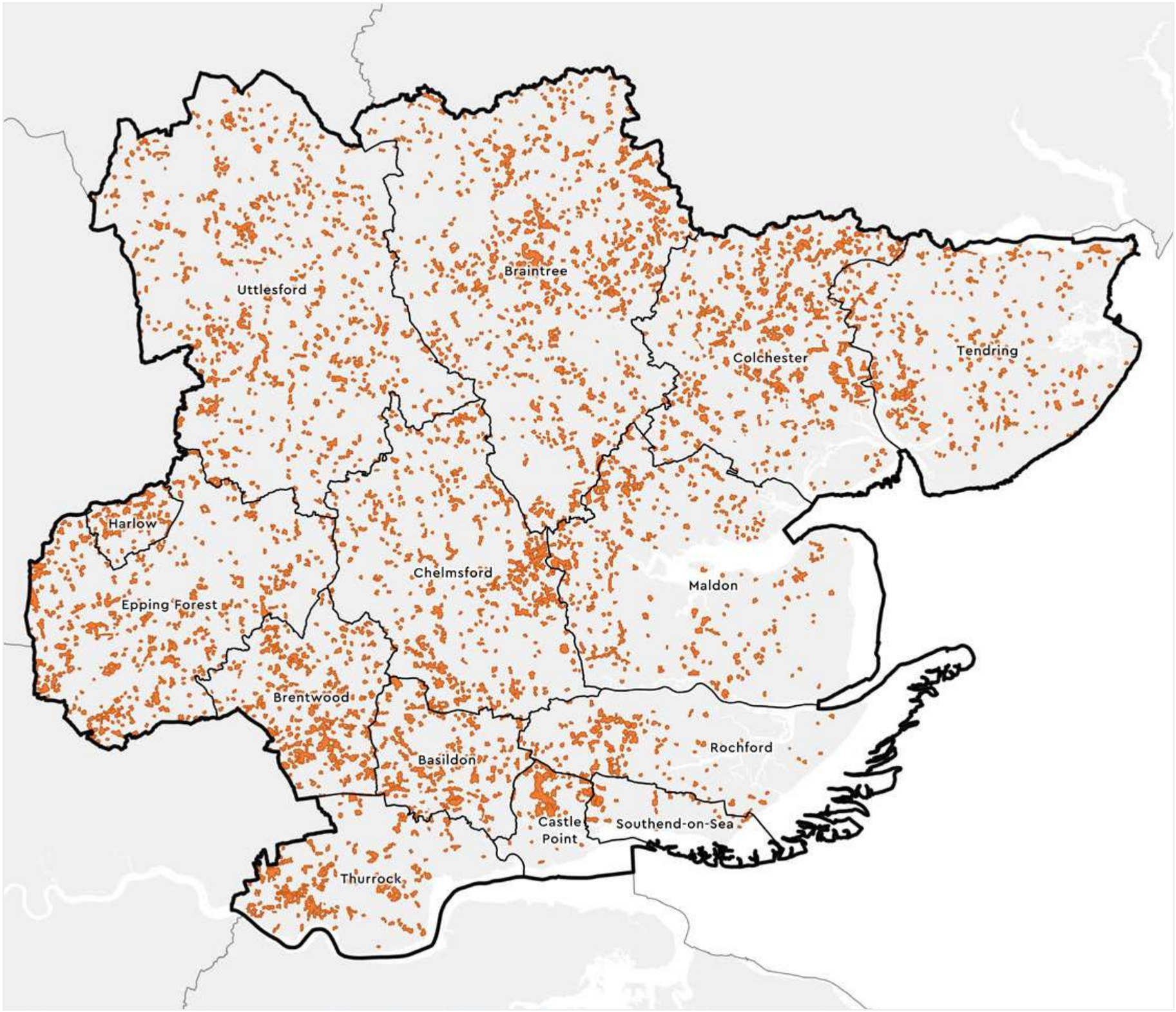


Map 5:
Areas that could become of particular importance for biodiversity – 'strategic' woodland creation opportunities

'Strategic' woodland creation opportunities defined as the 'top' (greatest quality) 25% of 'all' woodland creation opportunities, covering 14.0% of the Greater Essex LNRS region in total. APIBs and trunk roads removed.

Key

Strategic Opportunities



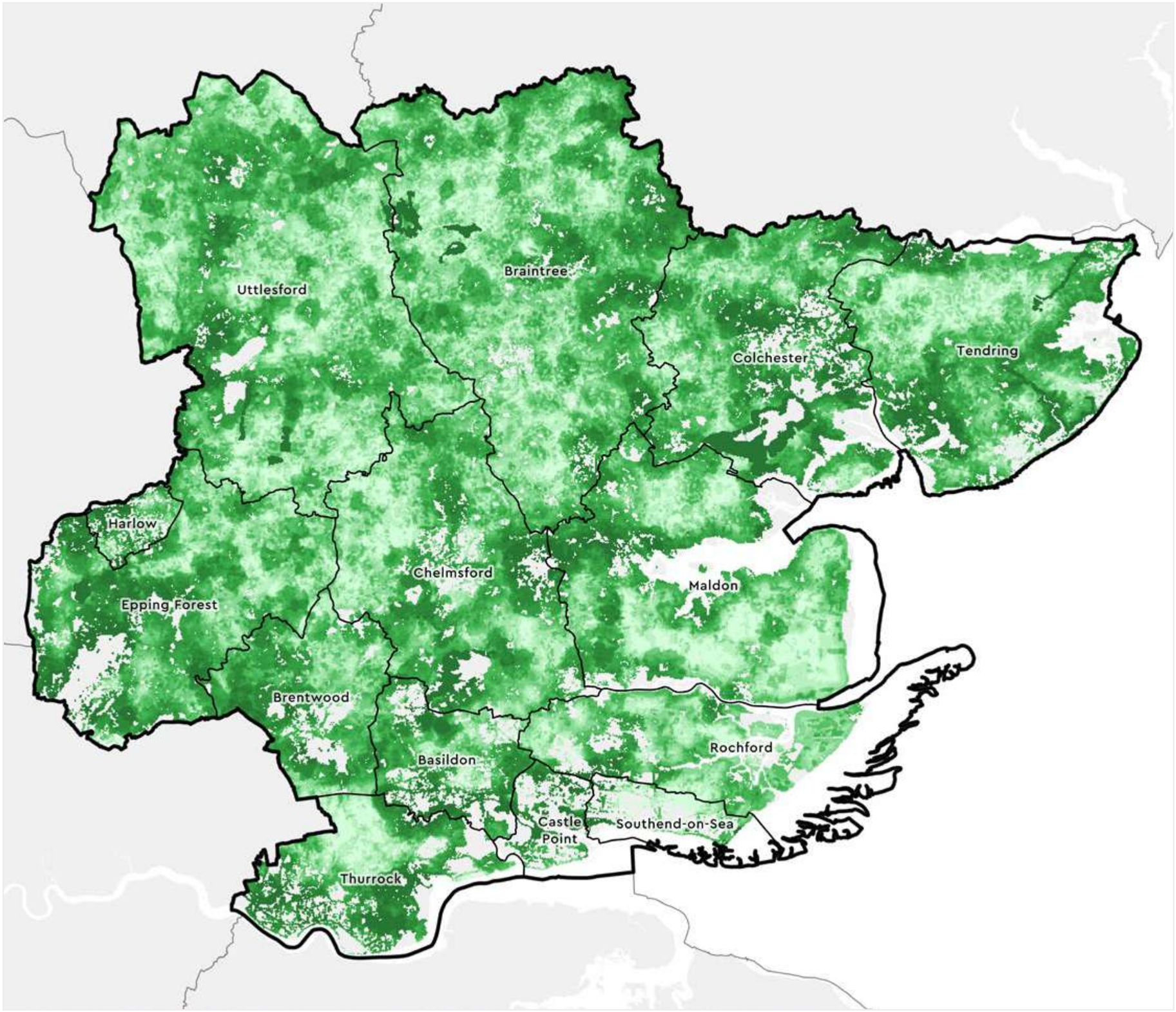
Map 6:
Areas that could become of particular importance for biodiversity - ‘strategic’ opportunities woodland habitat enhancement

All woodland enhancement opportunities presented as a generalised 0.01km² hexagonal grid.

100% of ‘all’ woodland habitat enhancement opportunities have been deemed strategic, and cover 2.07% of the Greater Essex LNRS Region. National APIBs and trunk roads removed.

Key

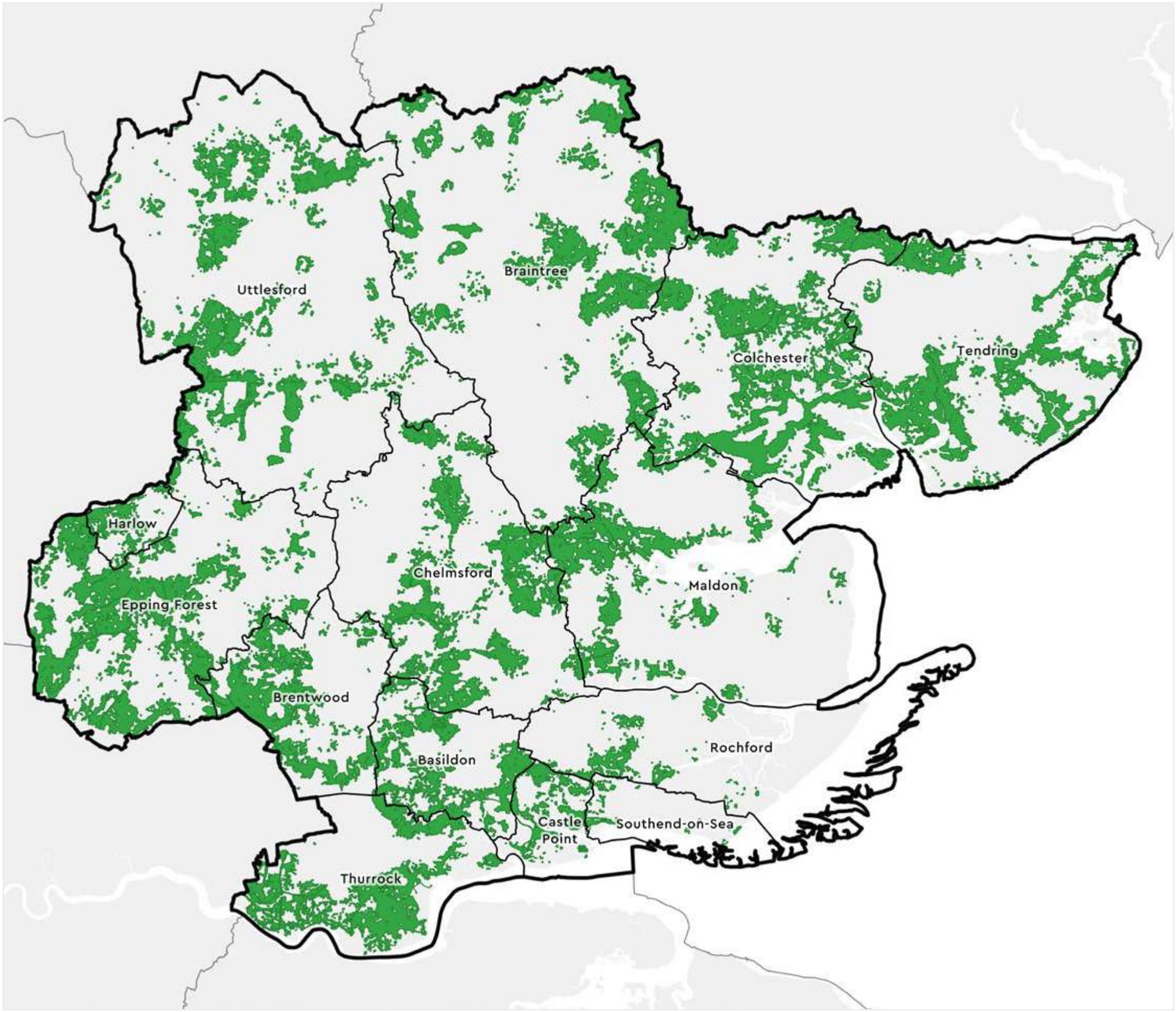
Strategic Opportunities



Map 7:
Areas that could become of particular importance – 'potential' grassland creation opportunities

Potential grassland creation opportunities presented as a generalised 0.01km² 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

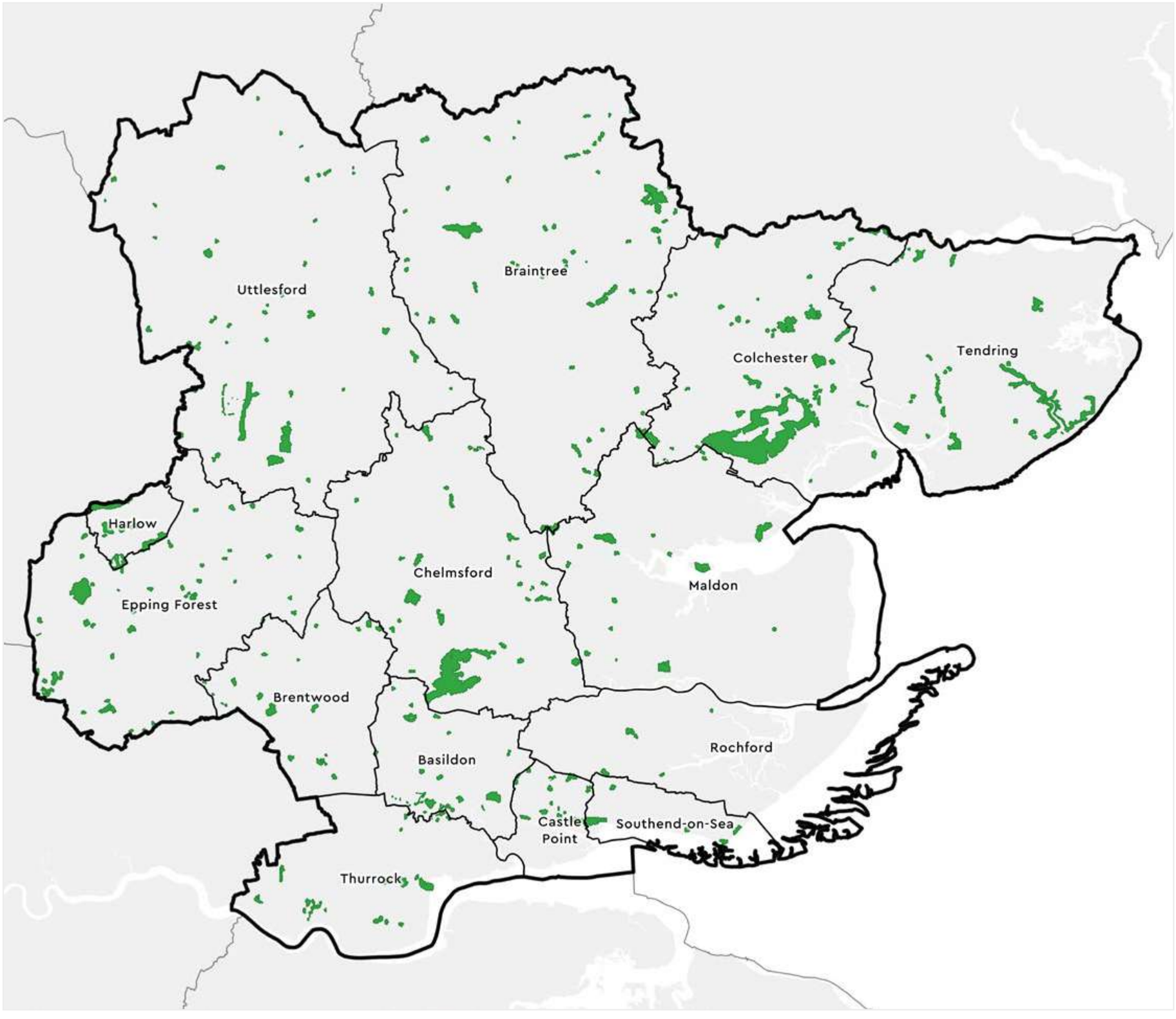


Map 8:
Areas that could become of particular importance for biodiversity – 'strategic' grassland habitat creation opportunities

'Strategic' grassland habitat creation opportunities defined as the 'top' (greatest quality) 25% of 'all' grassland habitat creation opportunities, covering 14.79% of the Greater Essex LNRS region in total. APIBs and trunk roads removed.

Key

Strategic Opportunities



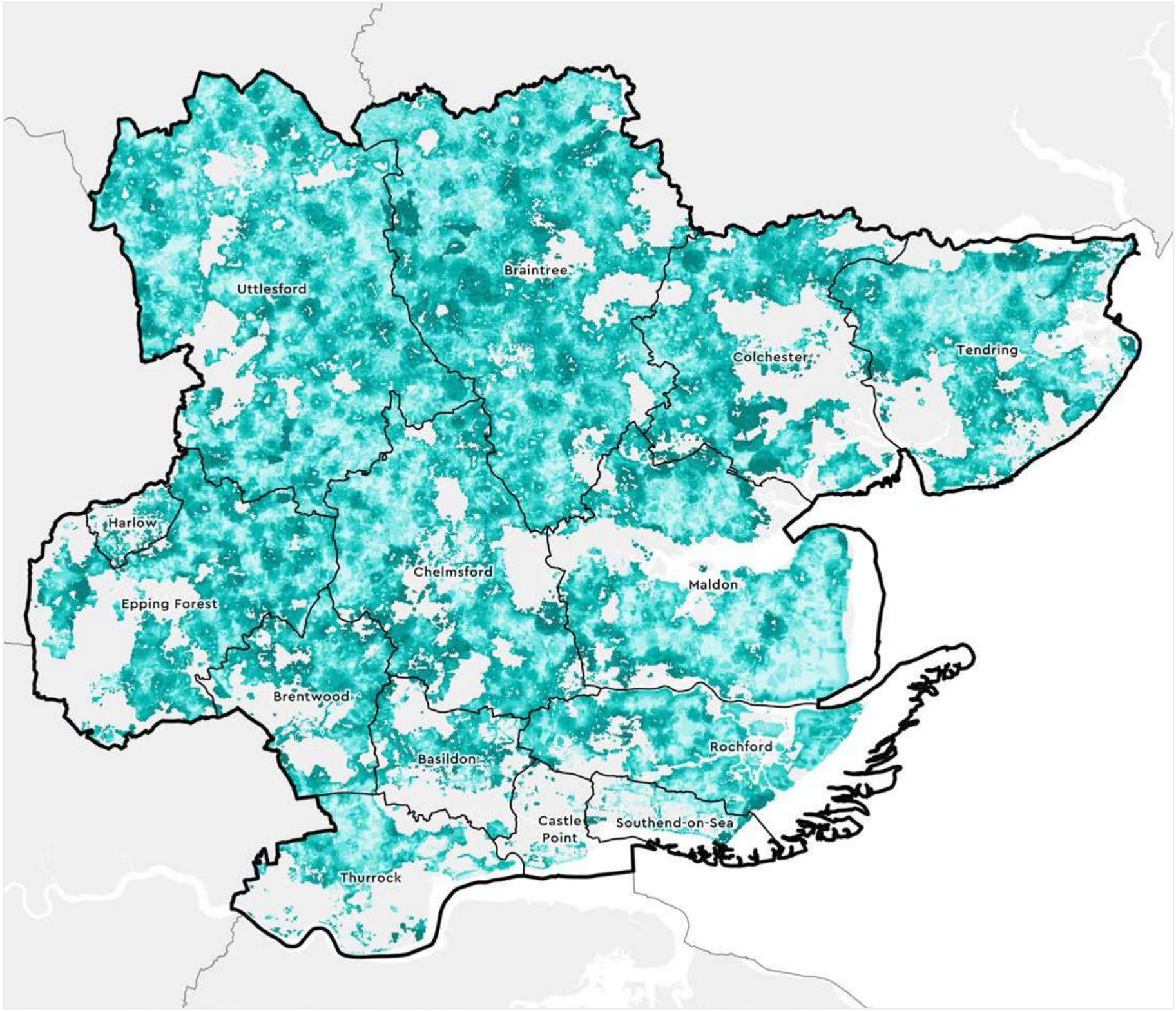
Map 9:
Areas that could become of particular importance for biodiversity - ‘strategic’ opportunities grassland habitat enhancement

All grassland enhancement opportunities presented as a generalised 0.01km² hexagonal grid.

100% of ‘all’ grassland habitat enhancement opportunities have been deemed strategic, and cover 1.44% of the Greater Essex LNRS Region. National APIBs and trunk roads removed.

Key

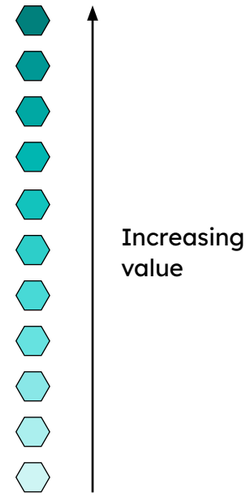
Strategic Opportunities

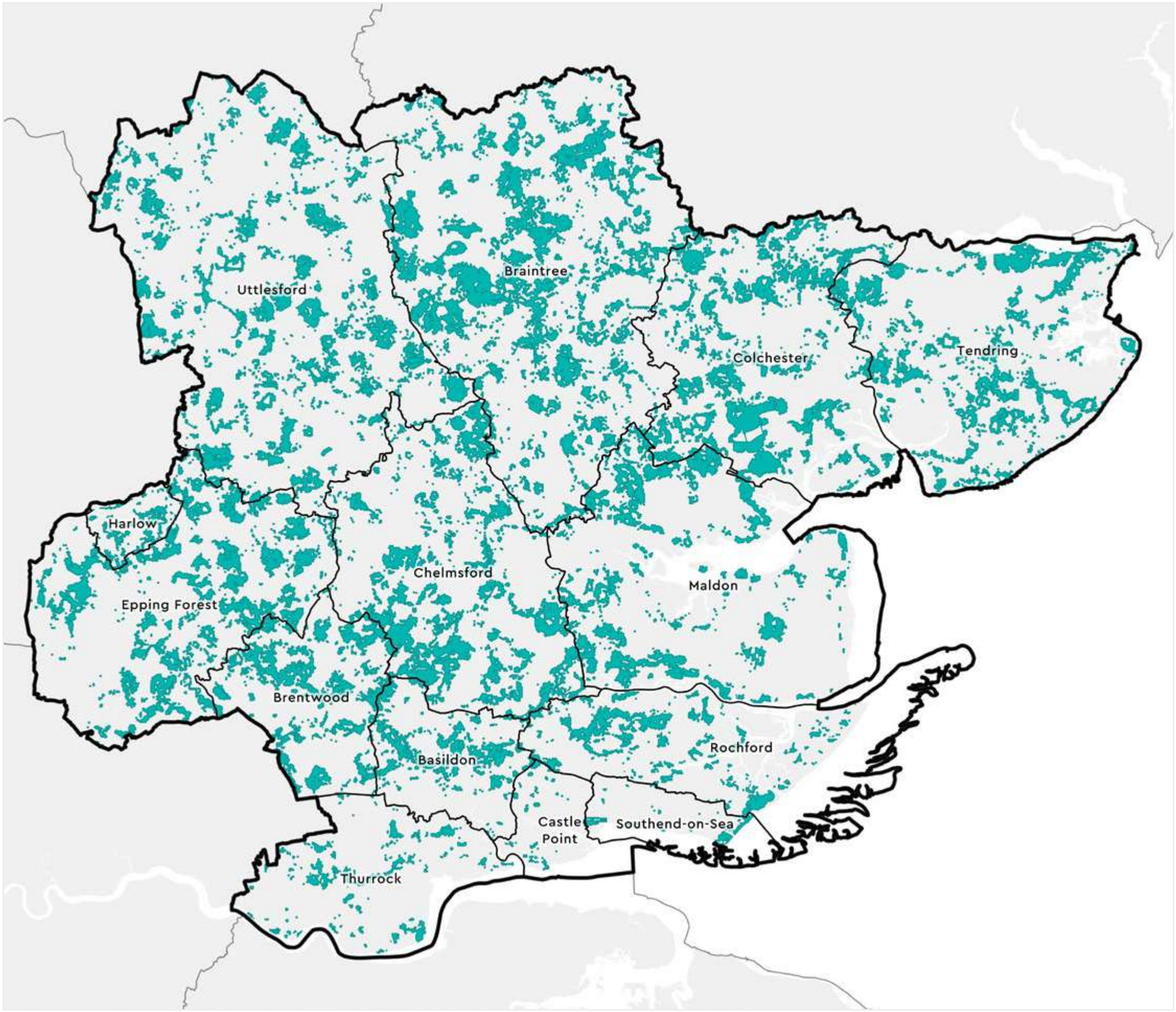


Map 10:
Areas that could become of particular importance - 'potential' scrub creation opportunities

Potential scrub creation opportunities presented as a generalised 0.01km2 hexagonal grid and categorised by 'value' (quality) of opportunity. Darker shades represent 'higher value' (greater quality) opportunities for scrub creation. APIBs not removed.

Key



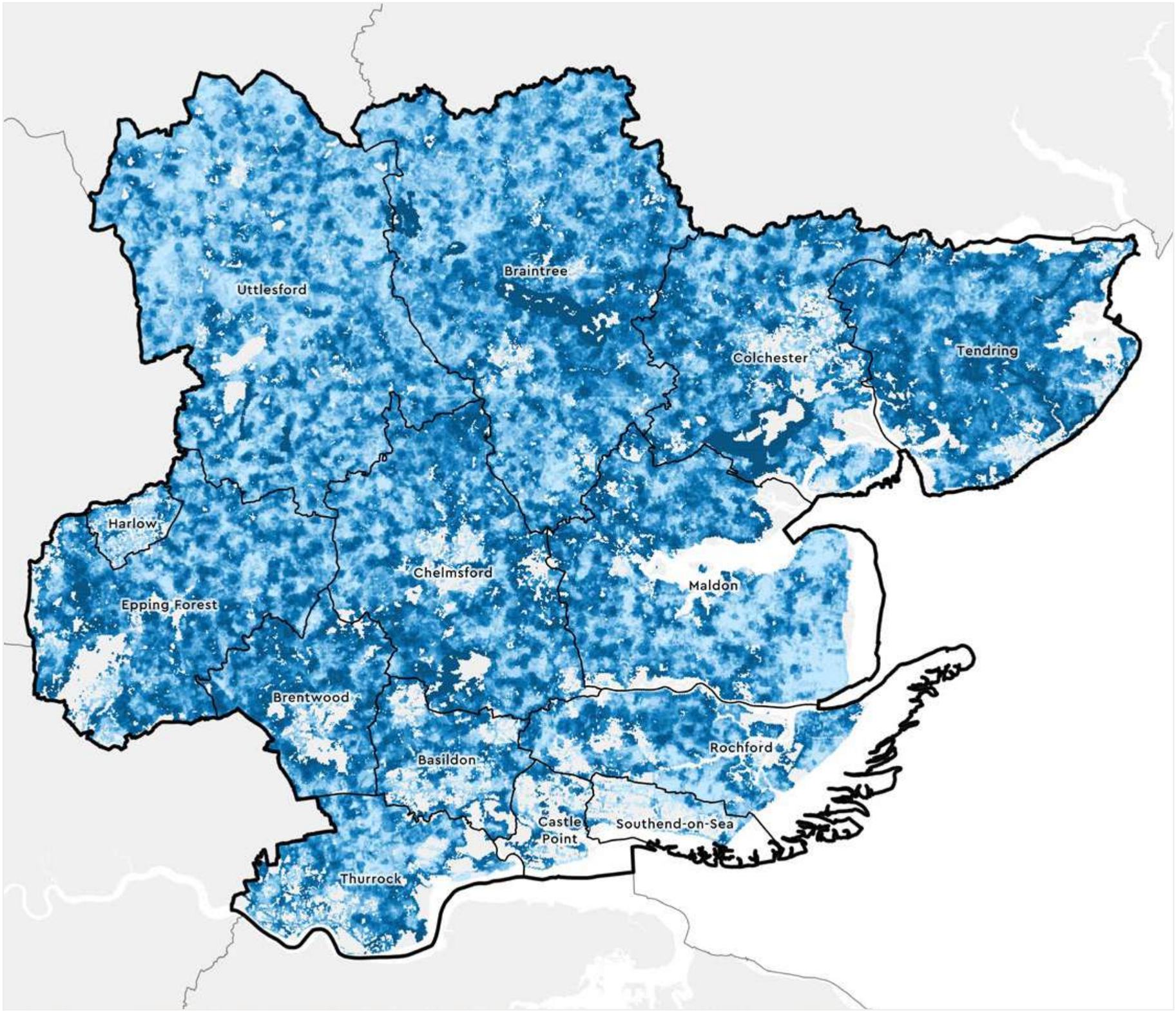


Map 11:
Areas that could become of particular importance for biodiversity - 'strategic' scrub habitat creation opportunities

'Strategic' scrub habitat creation opportunities defined as the 'top' (greatest quality) 25% of 'all' scrub habitat creation opportunities, covering 10.20% of the Greater Essex LNRS region in total. APIBs and trunk roads removed.

Key

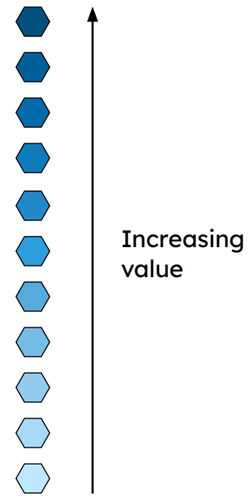
Strategic Opportunities

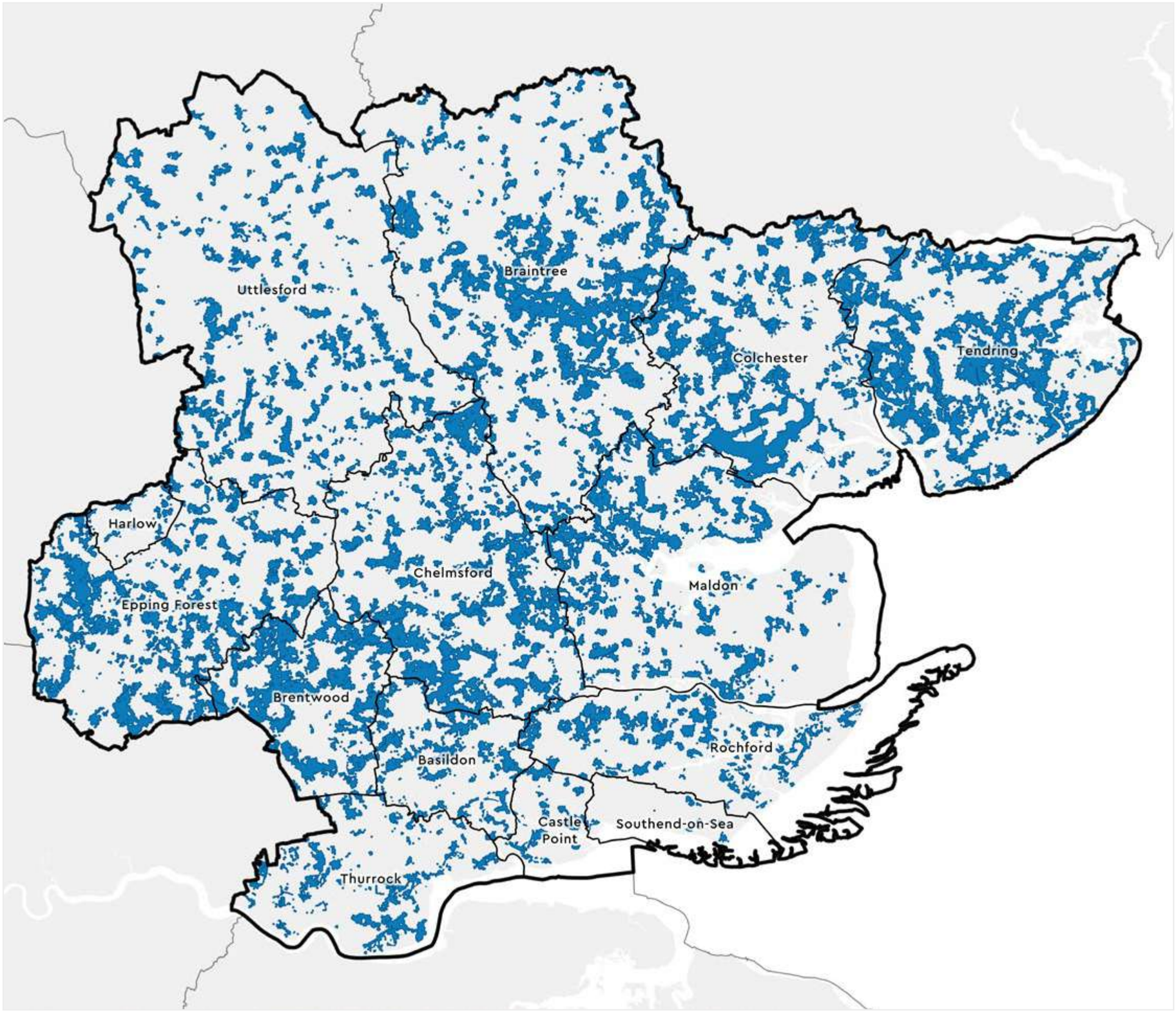


Map 12:
Areas that could become of particular importance – 'potential' freshwater standing water creation opportunities

Potential freshwater standing water creation opportunities presented as a generalised 0.01km² 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



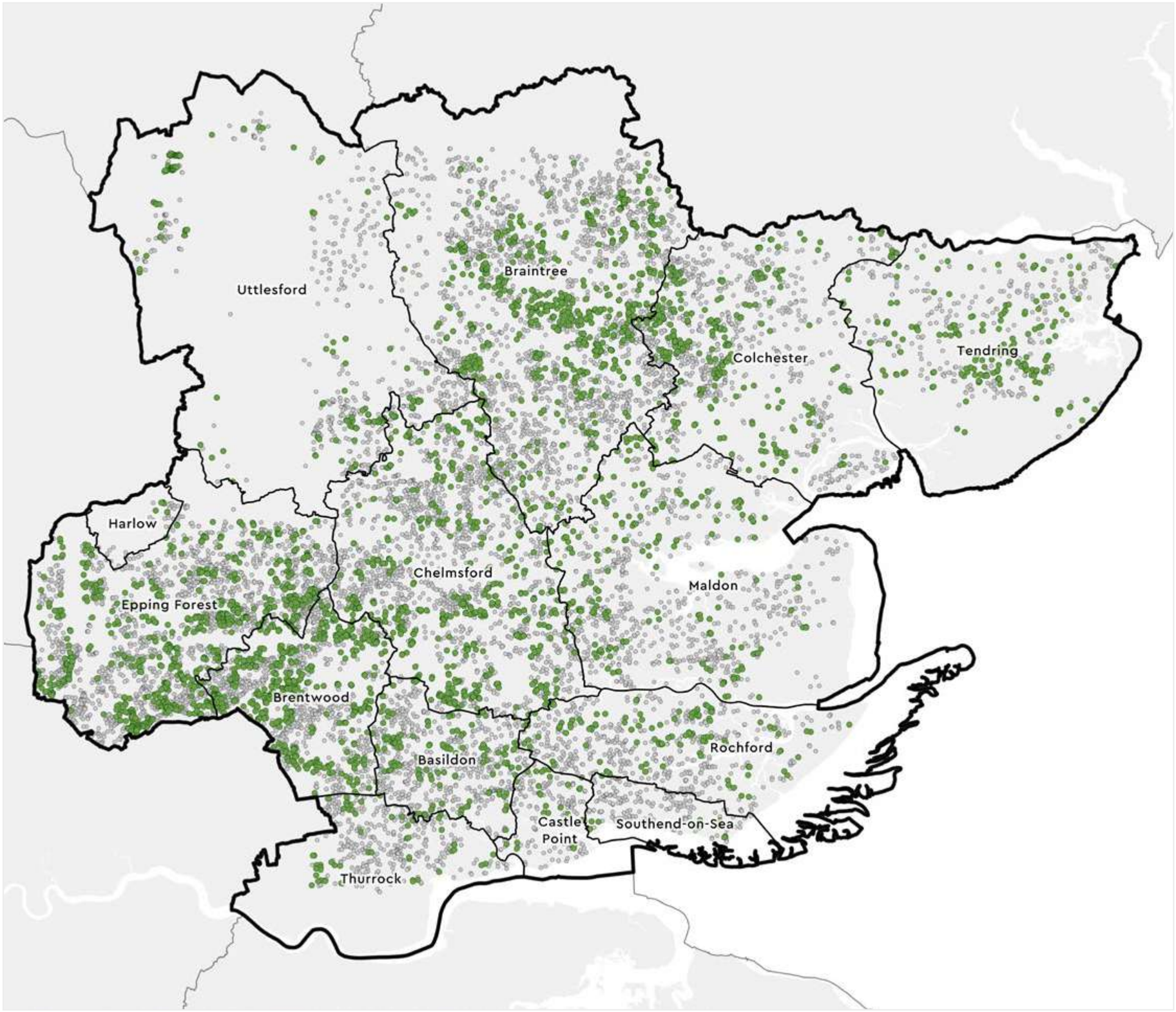


Map 13:
Areas that could become of particular importance – 'strategic' freshwater standing water creation opportunities

'Strategic' freshwater standing water creation opportunities defined as the 'top' (greatest quality) 25% of 'all' freshwater standing water creation opportunities, covering 15.5% of the Greater Essex LNRS region in total. APIBs and trunk roads removed.

Key

Strategic Opportunities

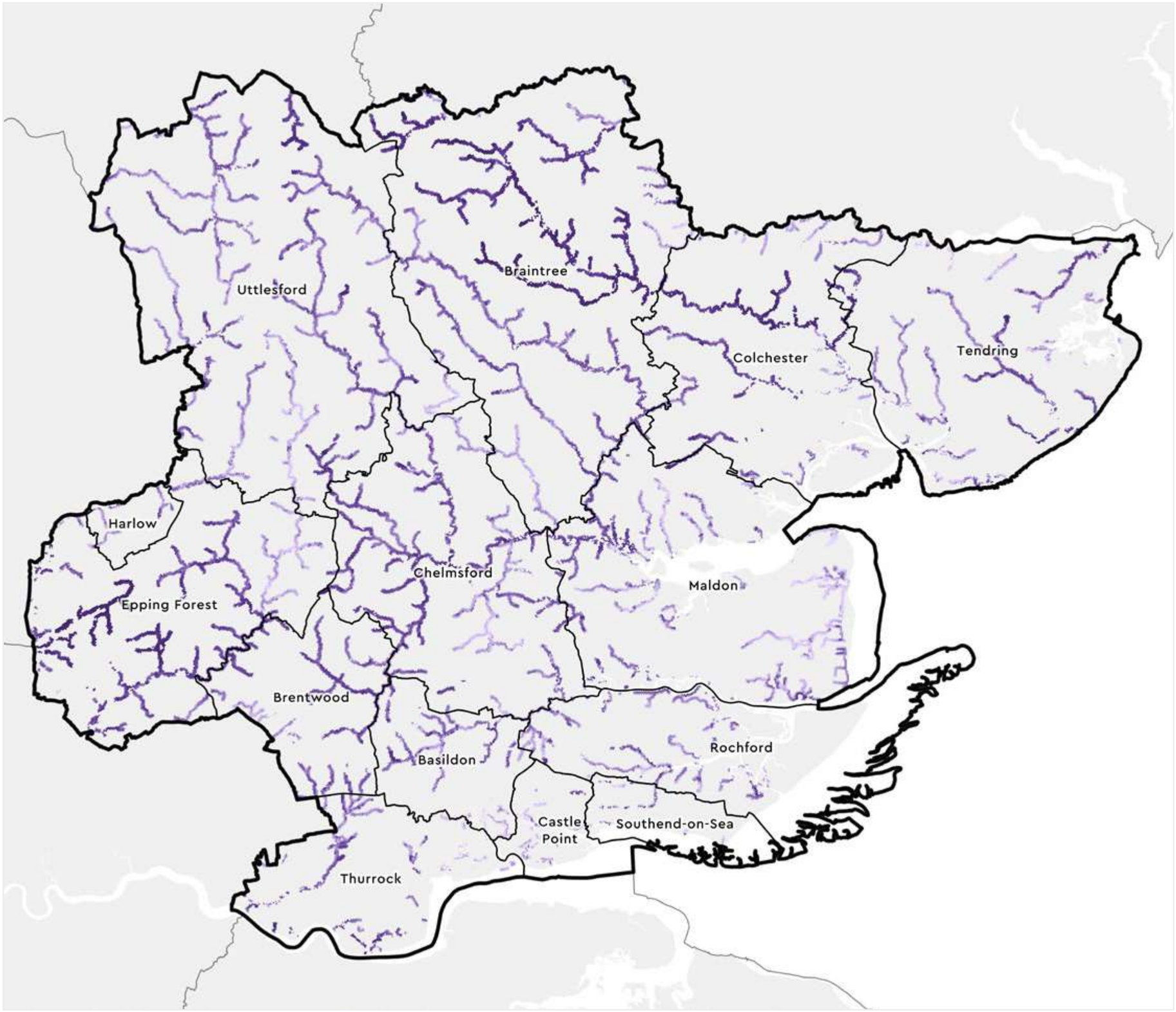


Map 14: Priority lost pond restoration/recreation opportunities

Lost ponds categorised as priority for restoration/recreation based on whether a lost 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 3,667 priority lost ponds in total.

Key

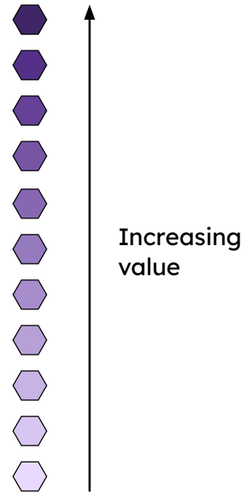
- Priority Lost Pond Restoration/ Recreation Opportunity
- Non-Priority Lost Pond Restoration/ Recreation Opportunity

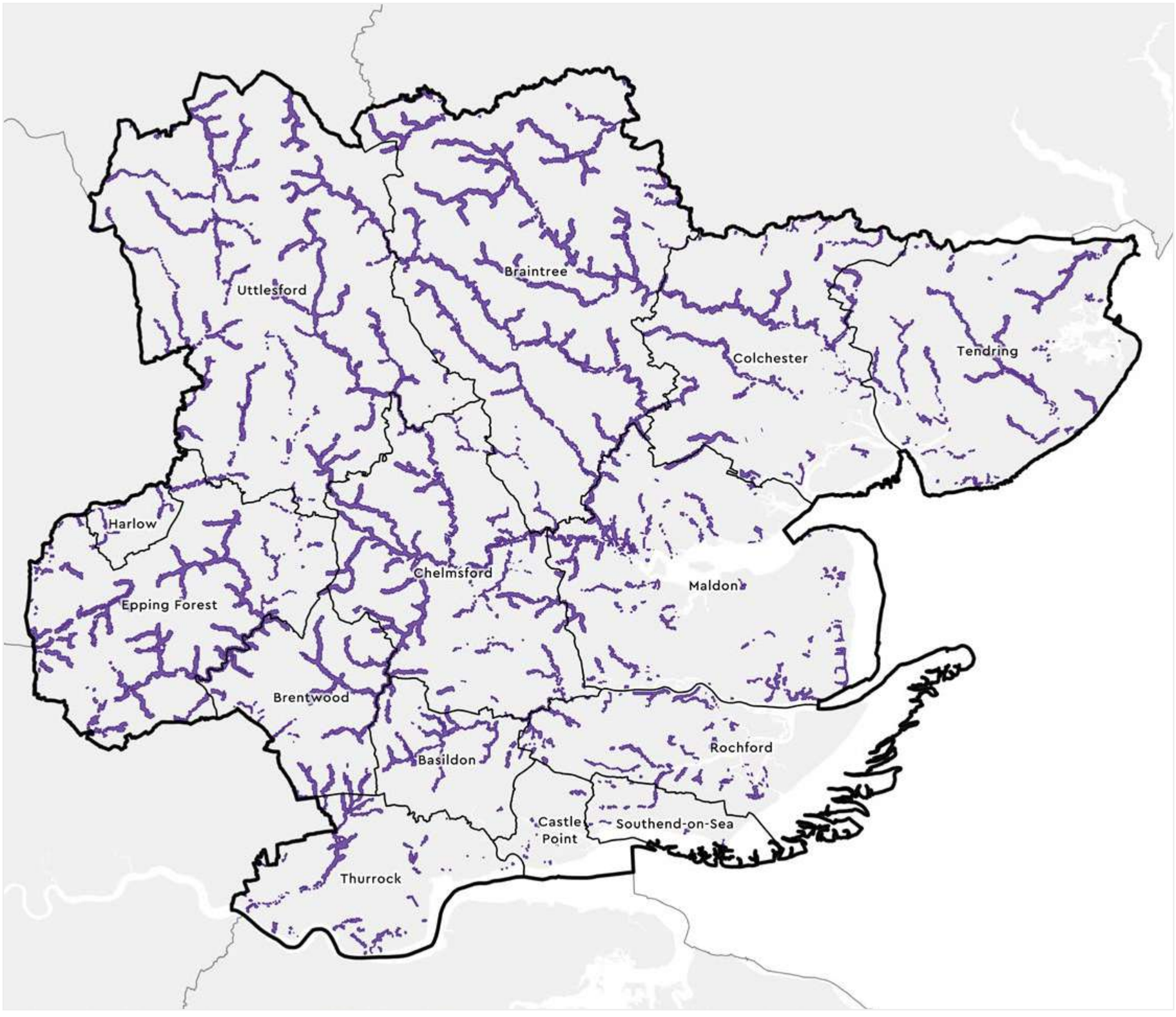


Map 15:
Areas that could become of particular importance – 'potential' freshwater river habitat creation opportunities

Potential freshwater river habitat creation opportunities presented as a generalised 0.01km² 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



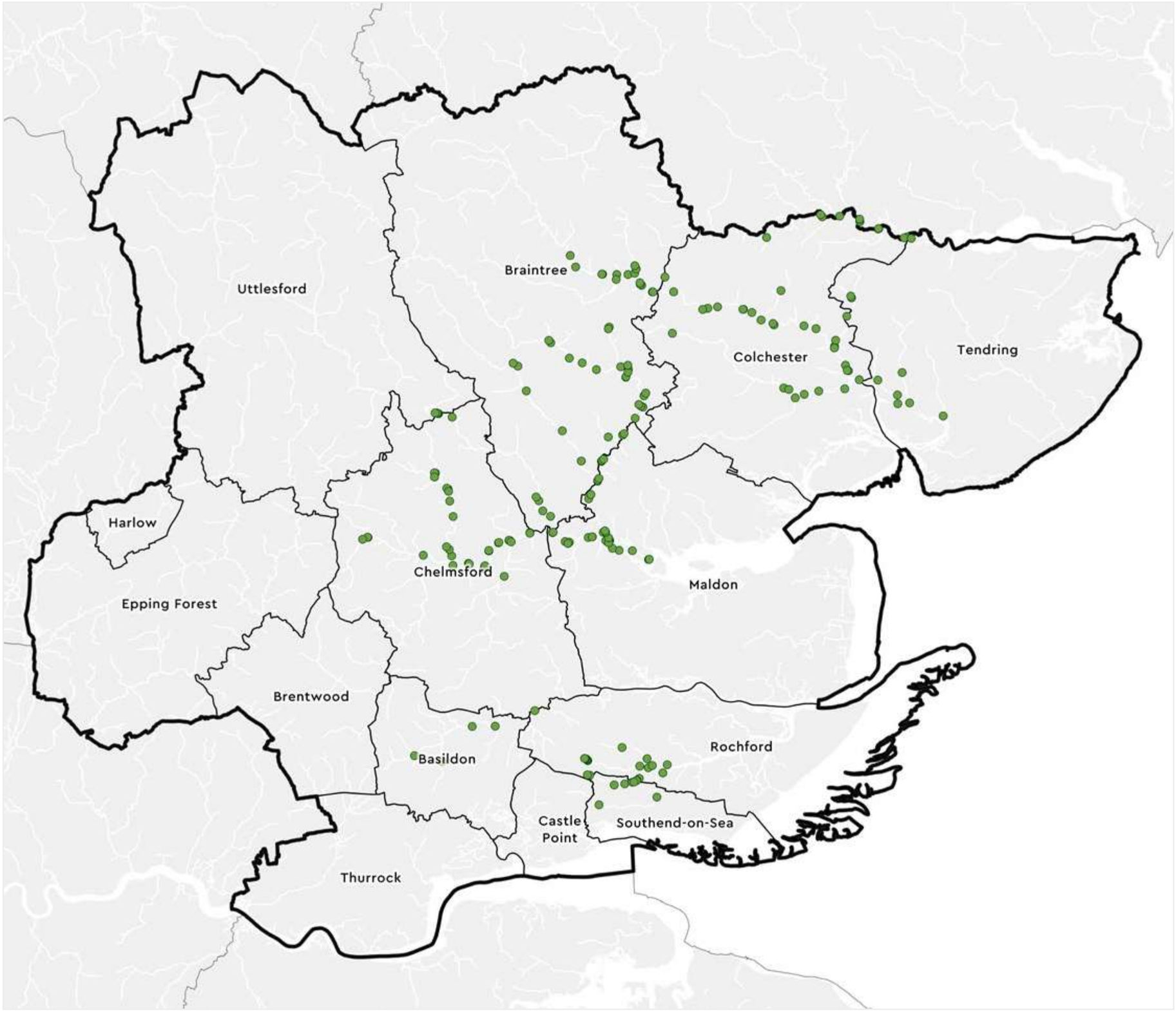


Map 16:
Areas that could become of particular importance – 'strategic' freshwater river habitat creation opportunities

'Strategic' freshwater river habitat creation opportunities defined as the 'top' (greatest quality) 70% of 'all' freshwater river habitat creation opportunities, covering 3.95% of the Greater Essex LNRS region in total. APIBs and trunk roads removed.

Key

- Strategic Opportunities

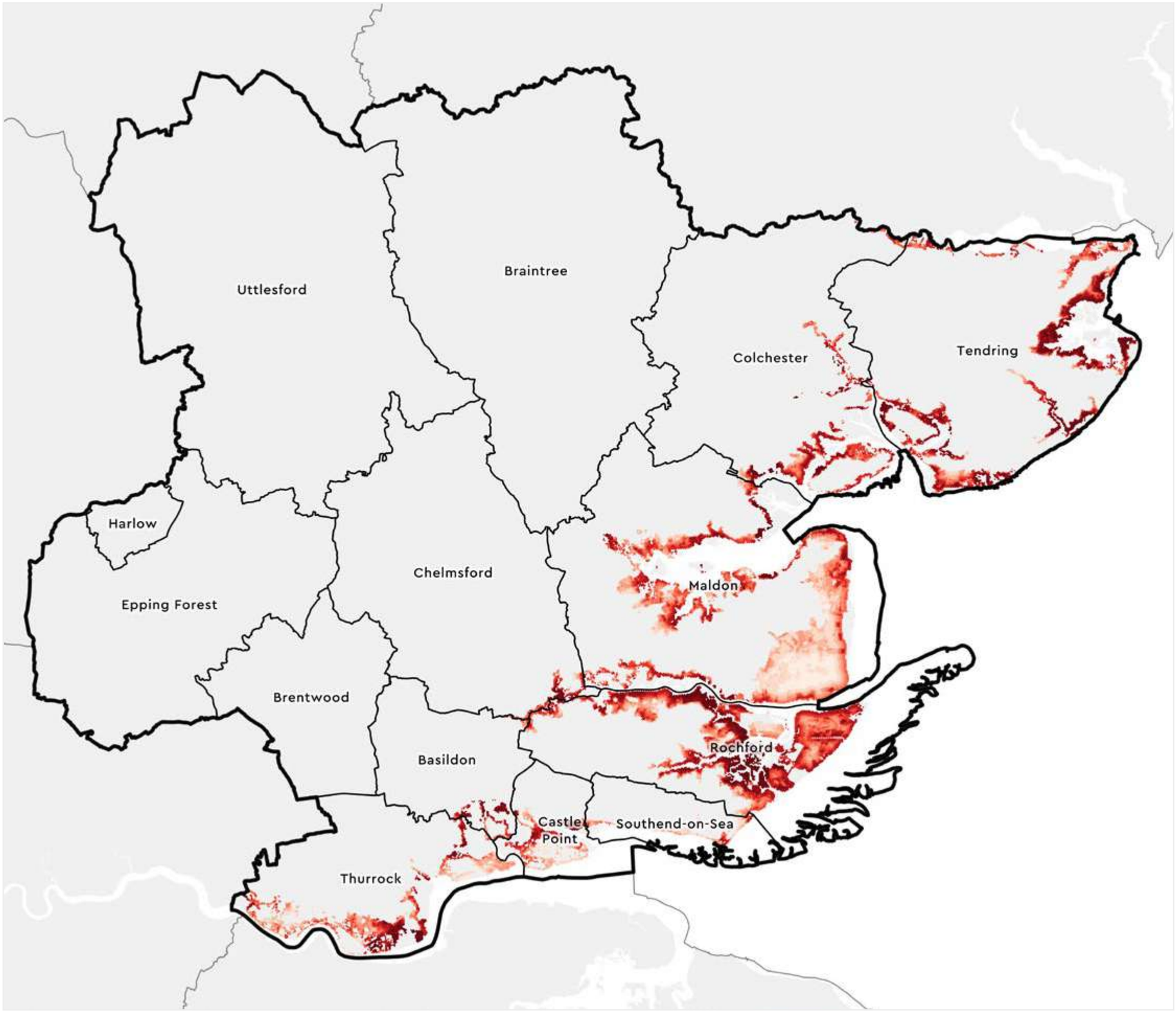


Map 17: River obstruction clearance opportunities

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

Key

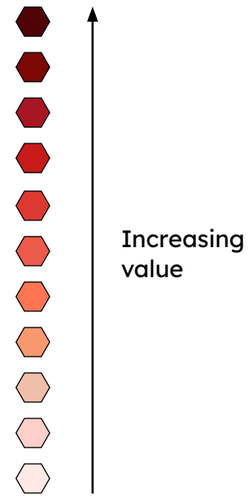
River Obstruction Clearance Opportunity

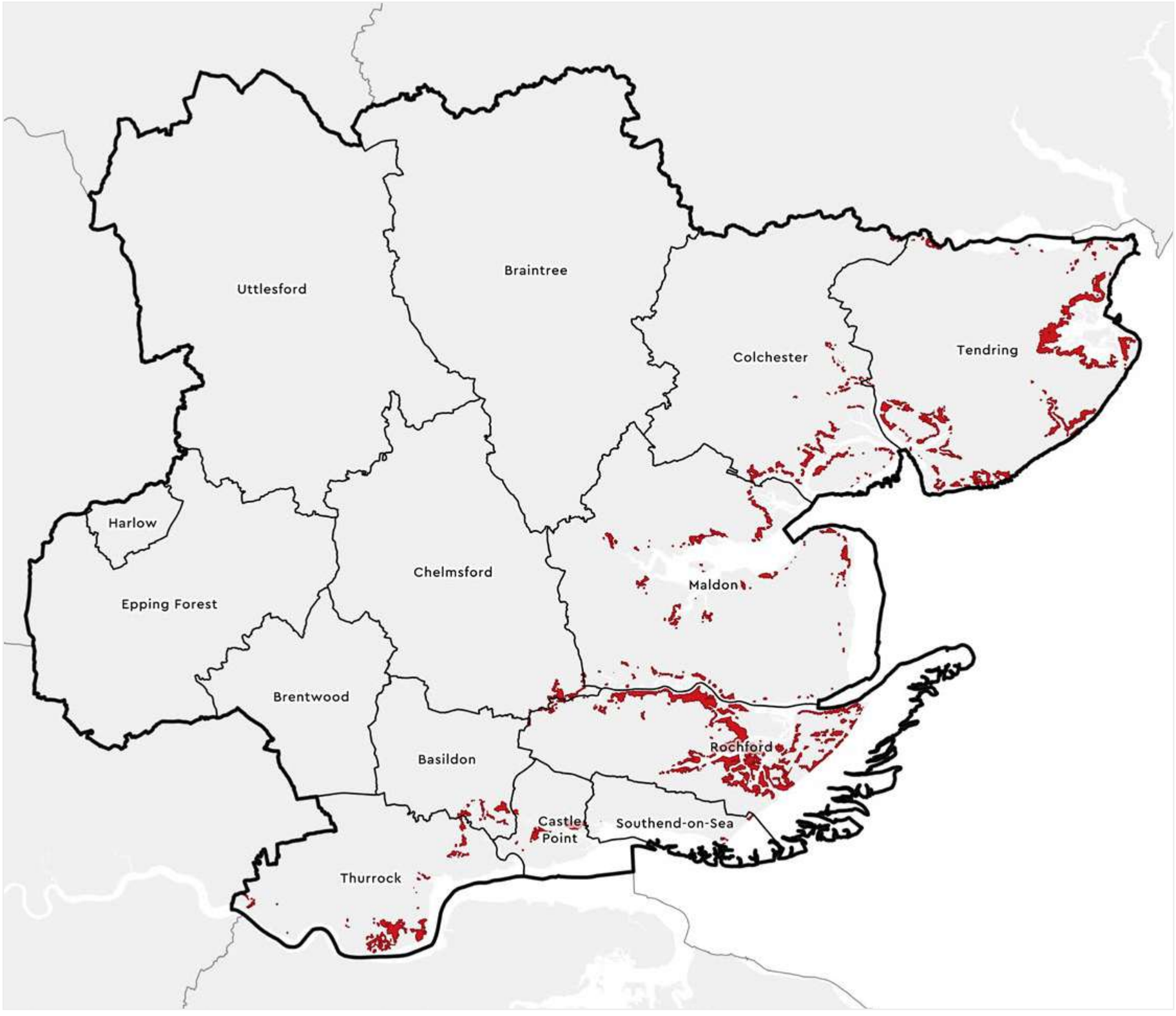


Map 18:
Areas that could become of particular importance – 'potential' coastal habitat creation opportunities

Potential coastal habitat creation opportunities presented as a generalised 0.01km² 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 19:
Areas that could become of particular importance – 'strategic' coastal habitat creation opportunities

'Strategic' coastal habitat creation opportunities defined as the 'top' (greatest quality) 25% of 'all' coastal habitat creation opportunities, covering 1.04% of the Greater Essex LNRS region in total. APIBs and trunk roads removed.

Key

Strategic Opportunities

Map 20:
Areas that could become of particular importance – 'potential' marine habitat creation opportunities

Potential marine habitat creation opportunities presented as a generalised 0.01km² hexagonal grid. APIBs not removed.

Key

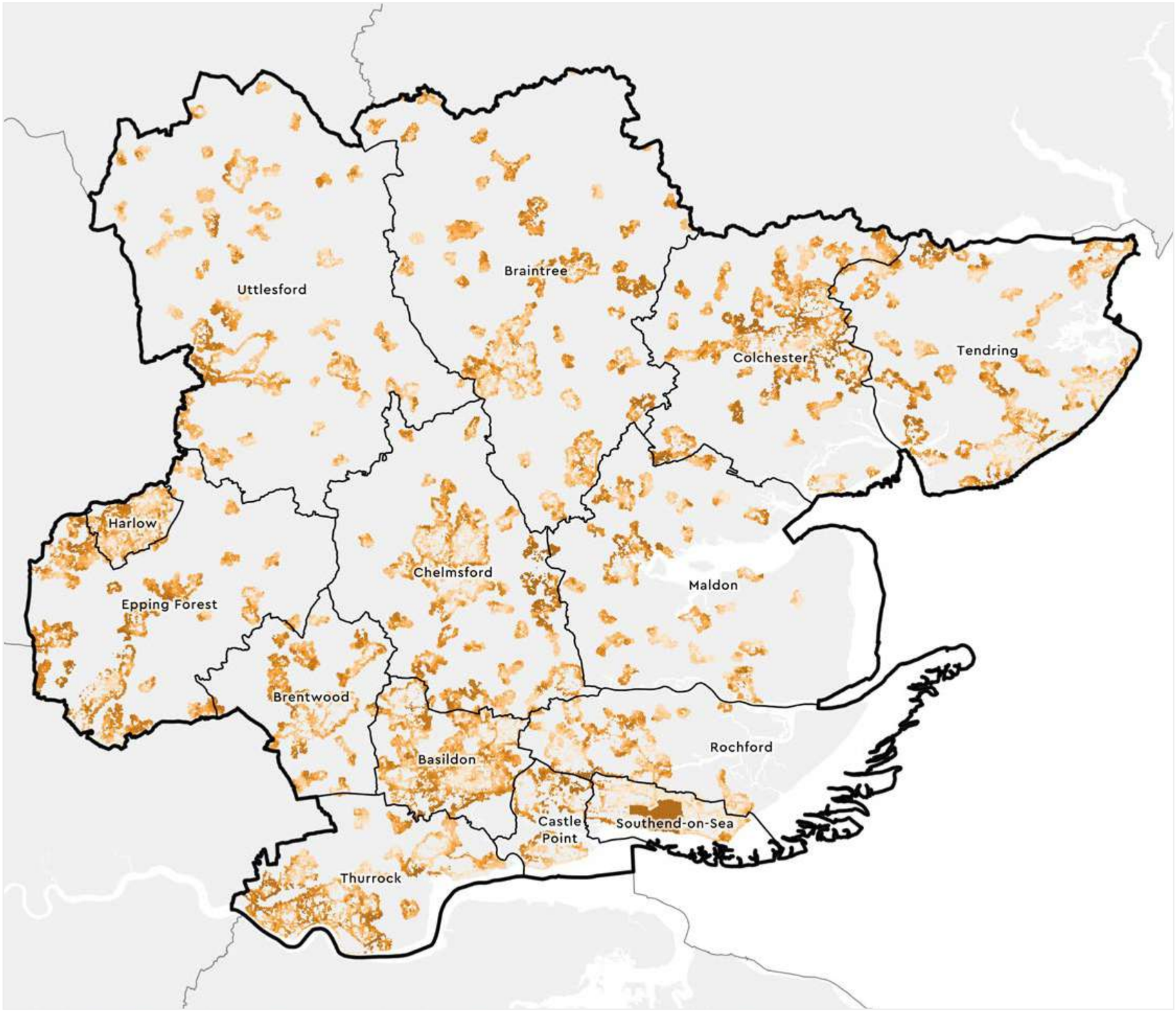
Opportunity

Map 21:
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 0.04% of the Greater Essex LNRS. APIBs and coastline at mean high water mark removed.

Key

Strategic Opportunities



Map 22:
Areas that could become of particular importance – 'all' urban habitat creation opportunities

All urban habitat creation opportunities presented as a generalised 0.01km² 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.

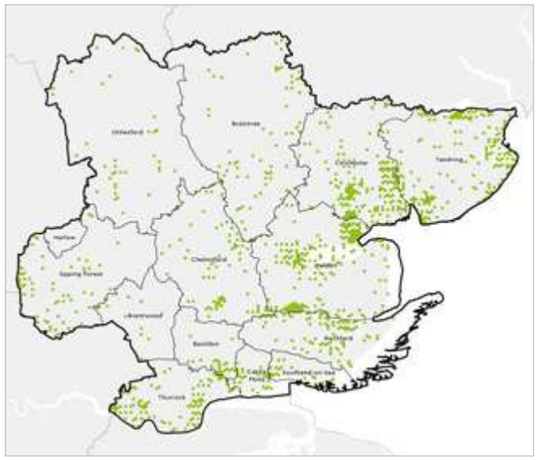
Key

Increasing value

Shortlisted priority species presence

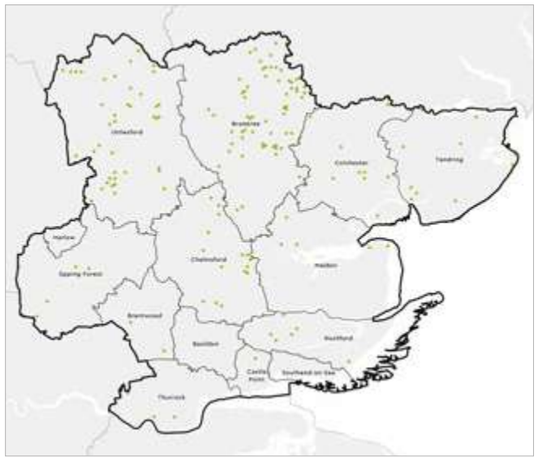
Species presence presented as a generalised 0.25km² hexagonal grid. Presence based on species recordings made since 1990 (Eelgrass since 1980). All records supplied by Essex Field Club and Essex Wildlife Trust.

Priority Species Maps: **Birds**



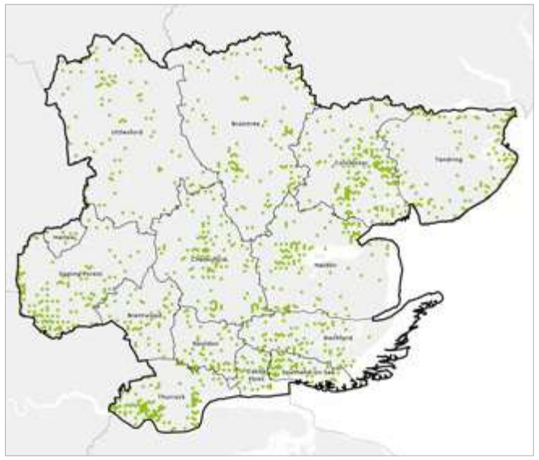
Lapwing

Lapwing presence



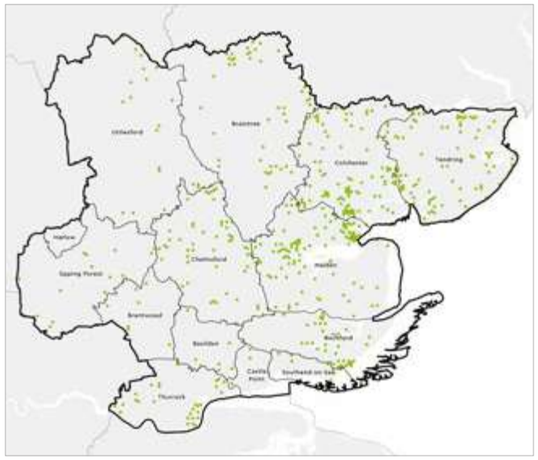
Marsh Tit

Marsh Tit presence



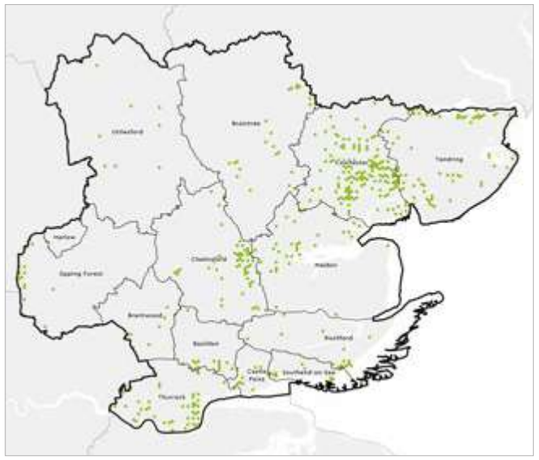
Swift

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

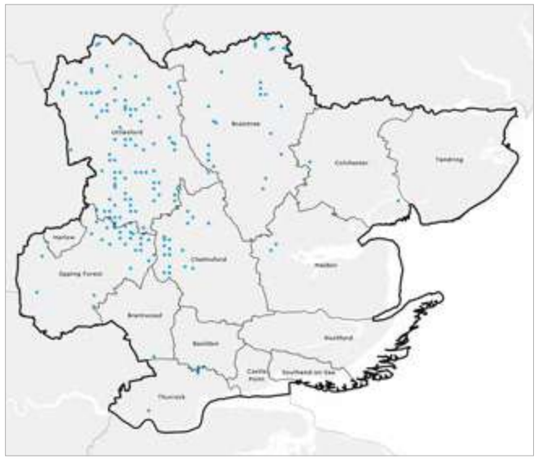
Digger Wasp presence

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

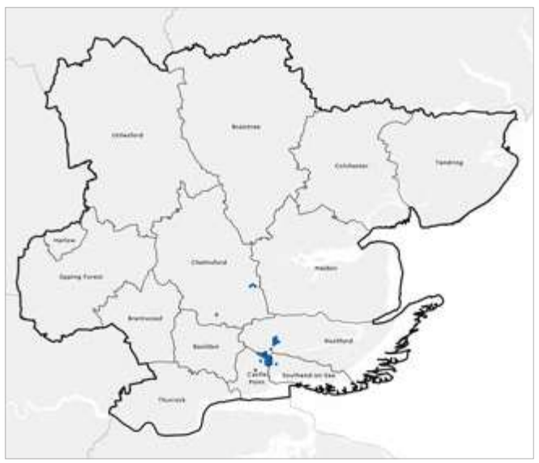
Shrill Carder Bee

Shrill Carder Bee presence

Stag Beetle

Stag Beetle presence

Priority Species Maps: **Mammals**



Heath Fritillary

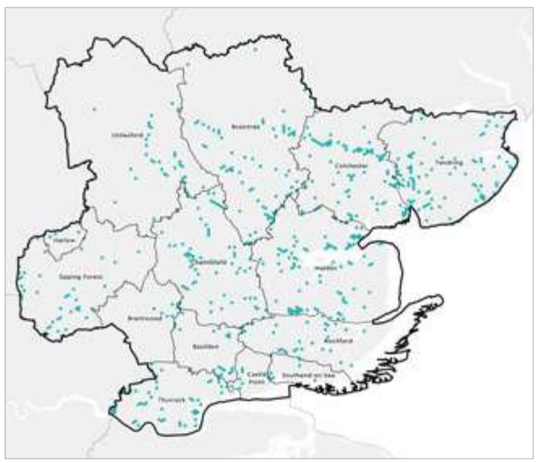
Heath Fritillary presence

Native Oyster

Native Oyster presence

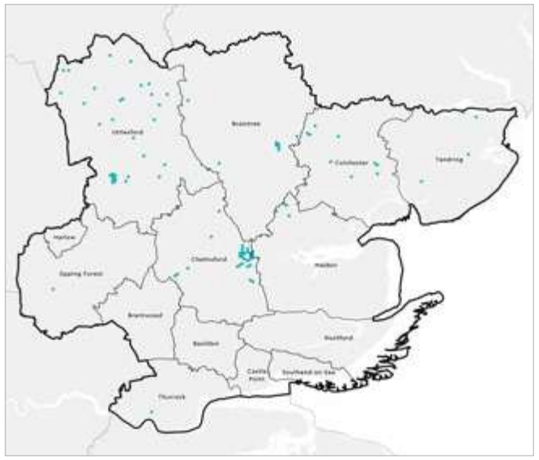
Hazel Dormouse

Hazel Dormouse presence



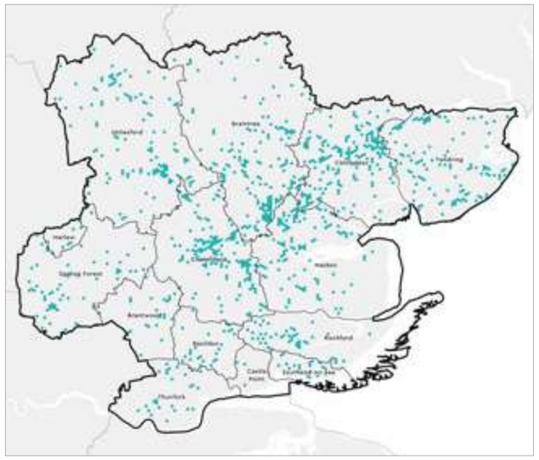
Water Vole

Water Vole presence



Western Barbastelle

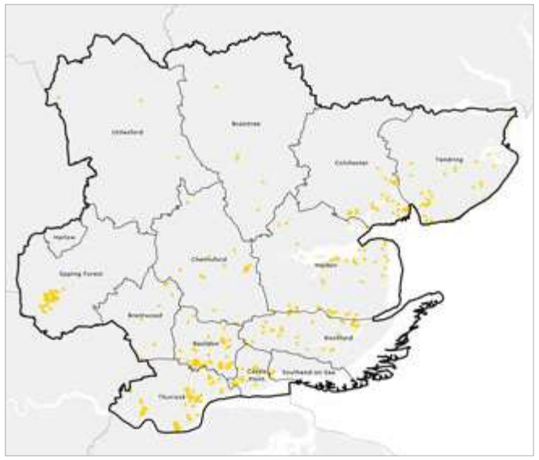
Western Barbastelle presence



Western Hedgehog

Western Hedgehog presence

Priority Species Maps: **Reptiles and Amphibians**



Adder

Adder presence

Data acknowledgements for all species maps: Contains; OS data © Crown copyright and database rights 2025 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 © Natural England 2025; data from Essex Wildlife Trust; data from Essex Field Club/Essex Recorders partnership; public sector information licensed under the terms of the Open Government Licence v3.0.

Above: Epping Forest © Paul Starr

Far left: Western barbastelle bat

Left above: Bumblebee © Essex Wildlife Trust

Left below: Common Blue © Essex Wildlife Trust