Castle Point Borough

Strategic Biodiversity Assessment

Client
Castle Point Borough Council

Date:
29/11/2019

Essex County Council

About us

Place Services is a leading public sector provider of integrated environmental assessment, planning, design and management services. Our combination of specialist skills and experience means that we are uniquely qualified to help meet the requirements of the planning process.

Our Natural Environment Team has expertise of arboriculture, biodiversity, countryside management and ecology. This multidisciplinary approach brings together a wide range of experience, whether it is for large complex briefs or small discrete projects. We aim to help our clients protect and improve the natural environment through their planning, regulatory or land management activities. This approach ensures that not only our clients will fulfil their legal duties towards the natural environment, but they do so in a way that brings positive benefits to wildlife and people.

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Contents

1. Introduction

1.1. Castle Point Borough Council instructed Place Services to produce an assessment of the priorities for strategic promotion of Biodiversity within the planning system. This document follows a review of Local Wildlife Sites in the Borough carried out in 2019 and considers the strategy necessary to build an effective local ecological network, bearing in mind relevant national and local policy, guidance and strategy.

1.2. Available policy and strategy has been used to identify the principles that should guide the development of a strategic approach, which are then applied to information about the ecological and environmental character of the Borough to generate some clear priorities for the management, restoration and creation of habitats for the purpose of conserving biodiversity.

1.3. This report does not provide any technical specifications or guidance on the creation of habitats for the purposes of improving biodiversity, although the attainment of high standards in habitat creation will be essential to the successful delivery of this strategy. Habitat creation schemes should be carefully designed, with ecological input, and be focussed on the achievement of functional communities that provide the diversity of species and structure represented within the target habitat.

1.4. The strategy is intended to be a starting point, to be developed in response to wider consultation with stakeholders and as required to take account of the evolution of forthcoming legislation and the guidance and best practice that will follow it.

1.5. There are no numerical targets for delivery within this strategy, although it may be appropriate for the Local Planning Authority to consider the development of measurable aims in partnership with stakeholders including nature conservation bodies and public bodies such as Natural England and the Environment Agency.

1.6. Likewise, there is no consideration of the possible mechanisms for the practical delivery of activities for the enhancement of biodiversity, as these will need to be more closely aligned to the development management process and will have to take account of legislative and policy developments.

2. Policy and Strategy

National Policy and Strategy

2.1. Section 40 of the Natural Environment and Rural Communities Act 2006 places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making.

2.2. Managing the planning system is seen as one of the key areas in which the discharge of this duty can be demonstrated by local authorities, along with the management of assets, the development of infrastructure, procurement, and the formulation of wider policy and strategy and the programmes associated with delivering these.

2.3. Within the strategy, policy and guidance produced by the Government to back up legislation, there is a range of documents and other sources of information that set out how things should be done, and those with sections of relevance and significance for the current assessment are summarised below.

National Planning Guidance

2.4. Government Circular (ODPM Circular 06/2005) Biodiversity and Geological Conservation – Statutory obligations and their impact within the Planning System provides administrative guidance for Local Planning Authorities on the application of the law relating to planning and nature conservation as it applies in England. It complements national planning policy and outlines how statutory obligations impact within the planning system and all decisions made. This Government “legal” Circular has not been archived and remains valid until any future legislation over-rides it.

2.5. Part I deals with the conservation of internationally designated sites, including candidate and proposed sites and the legal requirements for Habitats Regulations Assessment: Special Protection Areas (SPAs) classified under the EC Birds Directive, Special Areas of Conservation (SACs) designated under the EC Habitats Directive, and Ramsar sites listed under the provisions of the Ramsar convention on wetlands of international importance; Part II deals with Sites of Special Scientific Interest (SSSI) and the consultation and notification processes; Part III covers planning for nature conservation outside designated sites, in particular habitats and species of principal importance (Priority habitats and species and Local Sites) ; Part IV deals with the conservation of species protected by law and Part V provides advice on other duties and use of statutory powers.

National Planning Policy Framework

2.6. Section 15 of the National Planning Policy Framework (NPPF) covers the role of the planning system in conserving and enhancing the natural environment. Paragraph 170 states that planning policies should contribute to and enhance the natural and local environment by, amongst other things:

- protecting and enhancing sites of biodiversity value;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

2.7. Paragraph 171 goes on to state that development plans should take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure;

2.8. Paragraph 174 states that to protect and enhance biodiversity and geodiversity, plans should:

> a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

2.9. Paragraph 175 restates the principle that in making planning decisions, a hierarchical approach should be followed, so that significant harm should be avoided, but if it can't be avoided must be adequately mitigated, or as a last resort compensated.

2.10. Paragraph 175 also introduces the idea of irreplaceable habitats, development resulting in the loss and deterioration of which should be refused apart from in exceptional circumstances and where a compensation strategy has been produced. Within the NPPF, the definition given for irreplaceable habitats is: "Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."

Making Space for Nature

2.11. Much of the government's approach to nature conservation strategy currently derives from this review for Defra published in 2010, often known as the "Lawton Report". The essence of the review is that sites designated for wildlife reasons in the UK are too small and too isolated. The conclusions of the report, in terms of what needs to be done to build a resilient and coherent ecological network, are: *more*, *bigger*, *better* and *joined*.

2.12. The report highlights five key actions to address this need:

"(i) Improve the quality of current sites by better habitat management.
(ii) Increase the size of current wildlife sites.
(iii) Enhance connections between, or join up, sites, either through physical corridors, or through 'stepping stones'.
(iv) Create new sites.
(v) Reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites. "

2.13. The report also sets out additional areas of improvement that can enable this action, such as proper planning of ecological networks, greater effort to secure multiple benefits from environmental management and consideration of the impacts of climate change within site designation and management.

25 Year Environment Plan

2.14. In January 2018, the Government published "A Green Future: Our 25 Year Plan to Improve the Environment" (https://www.gov.uk/government/publications/25-year-environment-plan), which sets out priorities and targets for "improving the environment within a generation and leaving it in a better state than we found it". The plan has a broad reach covering areas such as air quality, waste, water, biosecurity and climate change, as well as a section focused on species and habitat recovery. While there are links with biodiversity across many of these subjects, the following summary is based upon the "Recovering nature" section.

2.15. The document recognises the importance of the wider environment, in addition to legally protected sites, for the maintenance of species and habitats, and highlights the need "to restore and create areas of wetland, woodland, grassland and coastal habitat, to provide the greatest opportunity for wildlife to flourish and to promote the wider economic and social benefits that healthy habitats offer."

2.16. The plan commits to the delivery of a Nature Recovery Network, "to complement and connect our best wildlife sites, and provide opportunities for species conservation and the reintroduction of native species." This would involve the creation of 500,000 hectares of additional wildlife habitat linking existing protected sites and landscapes, following the principles of the Lawton Review: more, bigger, better and joined up. It is intended that this network would also provide other ecosystem services benefits.

2.17. It is suggested that the initial focus of the Nature Recovery Network would be on woodlands, natural flood management, and the landscape-scale restoration of wildflower-rich grassland, meadows and heathlands. It is the intention that the result of the network will be "an expanding patchwork of high value habitats, as well as sympathetically-managed farmland, woodland and urban greenspace."

2.18. The network is also intended to provide opportunities for the reintroduction of native species that have been lost or whose populations are very small and fragmented.

2.19. The plan also commits to assessing the potential role of "conservation covenants" in securing "the long-term maintenance of existing or newly created wildlife or heritage assets." These could be used by landowners to protect features on their own land, or in a business sense to secure commitments to mitigation and compensation actions.

2.20. In relation to the health and wellbeing benefits of the natural environment, the plan considers more systematically connecting people with green space and using green space as a resource for preventative and therapeutic purposes. There is also a particular focus on making outdoor spaces available for children, inside and outside of formal education.

Ecological Networks

2.21. References to ecological networks in the NPPF and their contribution to the Nature Recovery Network promised by the 25 Year Environment Plan are supported by the government's online guidance on implementing policy to protect and enhance the Natural Environment (www.gov.uk/guidance/naturalenvironment**)**, which explains the composition of such networks and how they can be developed. This highlights the need to identify and map them as part of the plan-making process and the expectation that plans will include policies that identify appropriate levels of protection and identify opportunities to create, restore or enhance habitats, with a reference to improving connectivity.

2.22. The guidance also points out the wider benefits of these networks, in providing mitigation for climate change, tackling air pollution and improving the health and wellbeing of local communities.

2.23. As well as sites with national or international statutory designations, these networks should also include Local Sites, which in Essex consist of non-statutory Local Wildlife Sites (LoWS) and Local Geological Sites (LoGS). These are sites of substantive nature conservation value, identified with reference to clear and locally defined criteria and should be considered to be of county significance.

2.24. LoWS selection criteria are inclusive, meaning that any site that satisfies one or more of the criteria should be considered to be qualify. The application of the Essex LoWS selection criteria would mean that all Priority Habitat should be included as would any habitat supporting a significant population of a Priority Species. They also reflect the importance of habitat corridors that permit or encourage the movement of biodiversity, either as a means of dispersal or to link nearby habitats of nature conservation significance.

2.25. The identification of ecological networks should also have reference to the character of the landscape, as influenced by its geology and geomorphology, in combination with natural processes and the cultural history of land use. Consideration of the implications of climate change and factors that could allow for species to adapt to the resulting environmental shift should also be included.

Biodiversity Net Gain

2.26. In December 2018, Government launched a consultation on Biodiversity Net Gain, considering whether net gain should be mandated and how that system could work as a means to allow for the level of infrastructure, commercial and residential development that is needed while improving the environment, by more than compensating for the biodiversity loss that resulted from the development.

2.27. In response to the consultation, the decision to mandate biodiversity net gain was announced in the Spring Statement of 2019, to be included within the forthcoming Environment Bill. The legislation will require a minimum 10% increase in habitat value for wildlife, which will be calculated using the Defra Biodiversity Metric

system, which is currently in draft. The metric considers the types of habitat present, their condition, the difficulties of recreating them and the risks associated with doing so, using a mathematical approach to calculate the extent of new or enhanced habitat required.

2.28. The Government favours a "spatial hierarchy" approach to incentivise on-site and local compensation, where appropriate. However, there will be an option to invest in national strategic habitat projects where no appropriate local option is available.

2.29. Mandatory biodiversity net gain outcomes will need to be maintained over a period of 30 years, but longer term protection will be encouraged. Conservation covenants are likely to be one of the mechanisms for delivering net gain. These are intended to be private, voluntary agreements between a landowner and a 'responsible body', such as a conservation charity or public body, to fulfil conservation objectives and ensure the delivery of wider health and social benefits for communities for the public good. Covenants will be voluntary but legally binding. Made in the public interest, they will continue to be effective even if the land changes hands.

2.30. Statutory protected sites and habitats considered to be irreplaceable will not be included within the scope of mandatory net gain and the existing bespoke consideration of such impacts will remain in effect.

2.31. Existing Government guidance to encourage net gain, in advance of it becoming mandatory, suggests that strategic policies can be useful in setting a framework for the delivery of net gain, including by identifying areas that present the best opportunities for it, drawing a link with mapped ecological networks and Local Sites. As well as seeking on-site enhancements, the guidance refers to the possible use of habitat banks, off-site habitats that can be created or enhanced and then managed for the purpose of supporting biodiversity.

2.32. The guidance goes on to introduce other considerations, including proximity to people and the benefits that can create and the need for planned management and monitoring of progress.

2.33. In 2016, the Chartered Institute of Ecology and Environmental Management (CIEEM), with the Construction Industry Research and Information Association (CIRIA) and the Institute of Environmental Management and Assessment (IEMA) produced a document setting out ten good practice principles relating to Biodiversity Net Gain in development:

1. Apply the Mitigation Hierarchy
2. Avoid losing biodiversity that cannot be offset by gains elsewhere
3. Be inclusive and equitable
4. Address risks
5. Make a measurable Net Gain contribution
6. Achieve the best outcomes for biodiversity
7. Be additional
8. Create a Net Gain legacy
9. Optimise sustainability
10. Be transparent

2.34. In 2019, the same three organisations collaborated to produce two follow up documents: *Biodiversity Net Gain. Good Practice Principles for Development. Part A: A Practical Guide* and *Part B: Case Studies*. These are intended to be used to inform and guide the delivery of Biodiversity Net Gain in the UK. It is expected that these documents will form the basis for recommendations on Biodiversity Net Gain within the ecological consultancy industry, including both mandatory and voluntary provision.

Environment Bill

2.35. Government published the draft Environment (Principles and Governance) Bill in December 2018, with an updated statement on policy in July 2019. The Bill progressed to its second reading in the House of Commons, but its status following the forthcoming general election is uncertain at the time of writing.

2.36. The Bill will contain legislation in relation to mandatory net gain for biodiversity, including that necessary for the establishment of conservation covenants. To guide net gain, and other policies such as those affecting planning and agriculture, a statutory requirement will be introduced for Local Nature Recovery Strategies. These strategies will map important habitats and areas where there is an opportunity to improve the local environment. Government will appoint a relevant local public body to prepare the strategy as a "responsible authority", which although not specified as such to date, seems likely to be Local Nature Partnerships or similar partnership organisations, where they exist, or Local Planning Authorities where there is none.

2.37. In relation to the NERC Act s40 biodiversity duty for public bodies in the exercise of their functions, the Environment Bill will strengthen this to cover enhancement. It also intends to **r**equire public authorities to actively carry out strategic assessments of the actions they can take to enhance and conserve biodiversity. Designated public authorities will also be required to produce a five-yearly report on the actions taken to comply with the new duty.

2.38. Net gain requirements will not undermine the existing range of protections, in planning policy and legislation, for irreplaceable habitats and protected sites. In relation to protected sites, net gain will only be enforceable following a planning decision which will consider the existing legal and planning policy requirements for protected sites in the usual way

Biodiversity 2020

2.39. Within the 25 Year Environment Plan, the Government has committed to developing a new strategy for biodiversity, building on Biodiversity 2020, to coordinate action. As such, and with the end of the strategy's life span fast approaching, relatively little weight should be given to the contents of Biodiversity 2020.

2.40. The strategy included two pilot schemes of relevance: the establishment of Nature Improvement Areas and Biodiversity Offsetting. Both schemes achieved some success, but neither has persisted in any substantive way. It is likely that the principles behind both will be perpetuated in any new strategy. The concept of conservation covenants and the proposed mechanism to achieve biodiversity net gain are both expressions of the principle behind Biodiversity Offsetting.

Local Policy and Strategy

Emerging Local Plan

2.41. Castle Point Borough Council started work on a new Local Plan in 2018, with a further iteration due to go out for consultation towards the end of 2019. Relevant Local Policies contained within the draft Local Plan documents are summarised below.

2.42. Strategic Policy SP GB 1 asserts that the Council will seek to keep designated Green Belt land permanently open and, in line with the NPPF, encourage positive uses of it including retaining and enhancing biodiversity. This security from development and positive policy direction could make it the ideal location for the creation of biodiverse habitat, especially where public access is an additional benefit.

2.43. Strategic Policy SP GB 8 reinforces this position, with the presumption that planning applications within the Green Belt that are centred on improvements to biodiversity will be favourably considered, provided that the functions of the Green Belt are not compromised.

2.44. Local Policy LP CC 5 relates to Hadleigh Marsh, identifying it as an area that could support compensation for habitats in the Thames Estuary lost to climate change. To this end it is intended to work with partners to improve nature conservation in the area, although it is already considered to be functionally linked to the adjacent SPA, which will require additional consideration.

2.45. Strategic Policy SP NE 1: 'Green Infrastructure and the undeveloped Coast' refers to the existing strategies and partnerships that contribute to the establishment of Green Infrastructure and its place within ecological

networks. The Policy states that the council will work with partners to deliver projects that contribute to the aims of the Greater Thames Marshes Nature Improvement Area, which covers the coastal part of the Castle Point and that elsewhere it will encourage the management and enhancement of existing habitats and the creation of new ones. Within its planning work the Council will seek to secure Green Infrastructure that will provide multiple benefits including enhancement of ecological assets.

Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS)

2.46. Thousands of birds come to the Essex coast to breed and feed and there are ten Designated Habitats Sites to safeguard them. New housing around the Essex coast is predicted to lead to more people visiting the coast for leisure, with the potential to cause more disturbance to the birds. Research shows that additional disturbance will affect the birds' survival unless mitigation measures are put in place.

2.47. The published Habitats Regulations Assessments (HRAs) for the relevant Local Plans, including Castle Point, have identified recreational disturbance as an issue for all of the Essex coastal Habitats sites. Mitigation measures have been identified in the HRA (screening and/or Appropriate Assessments) for many of the Local Plans. There are similarities in the mitigation measures proposed, reflecting the identification of in-combination effects resulting from planned and un-planned growth in LPA areas. Mitigation at this scale, and across a number of LPAs, is best tackled strategically and through a partnership approach. This ensures maximum effectiveness of conservation outcomes and cost efficiency. In recognition of this, Natural England recommended a strategic approach to mitigation along the Essex coast.

2.48. The Essex coast Recreational disturbance Avoidance and Mitigation Strategy (the “Essex coast RAMS” or the Strategy) aims to deliver the mitigation necessary to avoid significant adverse effects from ‘in-combination’ impacts of residential development that is anticipated across Essex, thus protecting the Habitats (European) sites on the Essex coast from adverse effect on site integrity. All new residential developments within the evidenced Zone of Influence where there is a net increase in dwelling numbers are included in the Essex Coast RAMS. The Essex Coast RAMS identifies a detailed programme of strategic mitigation measures which are to be funded by developer contributions from residential development schemes. Castle Point BC is one of the 12 Local Planning Authorities (LPAs) which are partners in and responsible for the delivery of the Essex Coast RAMS.

2.49. A Supplementary Planning Document (SPD) is being prepared to accompany the strategic approach to mitigation set out in the Essex Coast RAMS. The SPD will distil the Essex Coast RAMS into a practical document for use by councils, applicants and the public including information on how and when contributions should be made. This will explain the per dwelling tariff for developer contributions as well as when & how these will be triggered for collection by the Local Planning Authorities including Castle Point BC,

2.50. Bird Aware Essex Coast (https://essexcoast.birdaware.org) is a tool being used to lessen potential impacts from increased local housing development. The initiative is run by the Essex Coast Recreational disturbance Avoidance and Mitigation Partnership (Essex Coast RAMS). This is made up of twelve local councils, Essex County Council and Natural England, and funded by contributions from all new residential dwellings within the Zones of Influence.

2.51. The planned mitigation measures are set out in the Essex Coast RAMS. The mitigation measures will include a team of rangers to help coastal visitors and communities understand the importance of the different bird species and the impact of disturbance. Additional work will take place to encourage responsible dog walking and visits to less sensitive parts of the coast. Mitigation measures will also include new habitat creation.

2.52. Existing visitor pressure at Habitats sites will need to be mitigated through alternative means and any pressure that would arise from different types of development would be addressed through the relevant project HRAs prepared by the Local Planning Authorities.

Essex Great Crested Newt District Level Licensing

2.53. Strategic licensing is a new approach to authorising developments affecting Great Crested Newts (GCN) by focusing conservation effort where it will create maximum benefit whilst reducing delays, costs, risks and uncertainty for developers and Local Planning Authorities. It shifts investment from site-based assessment and mitigation into strategic habitat improvements which can be integrated with Local Plans and biodiversity strategies.

2.54. As Essex is one of the high priority areas of the country for the national roll-out of this strategic mitigation scheme, Natural England is proposing to offer Essex planning authorities GCN District Level Licensing to provide the following benefits:

- A one-stop-shop for developers seeking planning consent and authorisation under the GCN licence;
- Integration with Local Plans to steer development away from GCN high risk zones;
- Strategic delivery of compensation for development impacts – better conservation outcomes for newts and wider biodiversity;
- Integration of habitat improvement with other LPAs green infrastructure investment;
- Local accountability through local government and the involvement of local communities and stakeholders.

2.55. Information on development allocations and predictions of windfall development has been collected by Natural England from local authorities and local knowledge and expertise taken into account alongside the surveys carried out by Natural England. A county-wide GCN conservation strategy is being developed which provides an assessment of the impact of likely development, provides advice to the planning authority on avoidance, mitigation and compensation requirements by indicating risk zones, and indicates opportunity areas for habitat improvement to provide net gain.

2.56. Natural Guidance will provide guidance for developers to enter the scheme which will describe the steps needed for authorisation under the scheme; this will include a requirement for a desktop assessment by Natural England to check for the presence of protected species, check which GCN risk zone the development lies within, eligibility to join the scheme, information which developers need to provide, the process for contributing to the scheme and any further requirements to safeguard GCNs found on site.

Summary of Strategic Principles

2.57. Set out below are the suggested principles that should underpin a biodiversity strategy in Castle Point Borough, to be enacted through development planning practice. It is anticipated that this will be largely equivalent to a Local Nature Recovery Strategy, as announced within plans for a new Environment Bill, although the required scope and contents of such a strategy have not yet been finalised.

2.58. The core purpose of the strategy should be to conserve and enhance biodiversity by:

- Protecting and enhancing existing sites with nature conservation designations: SPA, SAC, Ramsar, SSSI, LNR, LoWS, LoGS;
- Recognising and improving the connections between such sites;
- Creating new habitats for biodiversity;
- Where possible, enhancing the biodiversity value of land outside of recognised ecological networks

2.59. Although they are consultees, Local Planning Authorities have no real influence over the statutory designation of sites for nature conservation purposes. However, there is scope for them to play a leading role in the maintenance of an evidence based non-statutory network of Local Sites, by regularly reviewing the condition of the sites in line with developments in site selection criteria and by rigorously protecting them within their planning policies and their development management practice.

2.60. All designated sites should be protected by the rigorous application of the hierarchical approach to considering ecological impacts within planning decisions, avoiding harm wherever possible, mitigating where harm cannot be avoided, and compensating only as a last resort.

2.61. Habitats considered to be irreplaceable, by virtue of the practical difficulty of effectively re-creating them, should always be protected from harm.

> Example: unimproved grasslands are those that have escaped agricultural improvement over the last 60 or more years and the best often have a distinct soil profile. It is possible to create a wild flower meadow in a short space of time, but it would take decades to achieve the complexity of soil structure and the full diversity of plant and invertebrate species associated with an old, unimproved grassland.

2.62. The development management system also provides opportunities to enhance designated sites, by guiding the ways in which mitigation and compensation plans are developed along consistent lines, resulting in genuine and long-lasting benefit to biodiversity. This guidance should reflect local and national conservation priorities and should require ambitious targets, albeit in proportion to the scale of the development and the impacts associated with it. The same guidance should be applied to the achievement of net gain for biodiversity.

2.63. Off-site net gain and compensatory measures should also be guided by a hierarchical approach, with preference given to securing, restoring, enhancing or maintaining sites with an existing value for biodiversity, over the creation of new habitats, with the uncertainty associated with that and, depending on the habitat involved, the delay in achieving significant benefit.

2.64. Sites for habitat creation should be identified on a strategic basis, to ensure that they make a valid contribution to the local ecological network and so that the environmental conditions are appropriate to maximise the sustainability and biodiversity value of the habitat to be created.

> Example: the creation of a wild flower meadow on heavy soil with a high nutrient status will result in low diversity and a heavy management requirement to control more competitive grasses. Grassland created on free-draining, nutrient poor soils, preferably on a slope, is less likely to be over-run by coarse grasses and so will develop and maintain a more diverse plant community with more opportunities for invertebrates and lower management requirements.

2.65. There should always be a preference for compensatory measures, or those providing net gain, to be enacted in close proximity to the site in question, provided that this is appropriate to the local ecological network. This can help ensure that wildlife and ecological resources are integrated within all landscapes and available to all communities, rather than being separate or remote.

2.66. The value of all measures for the benefit of biodiversity should be assessed according to their contribution to the establishment and development of a coherent ecological network. With designated sites at its core, this network should also provide meaningful ecological connections between sites, both direct and in the form of stepping stones, as well as providing a buffer of compatible habitat that protects the sites from external influences. The network should provide the flexibility for species and habitats to adjust to the impacts of climate change.

2.67. Wherever possible, and appropriate to the biodiversity objectives, sites established or managed for the benefit of biodiversity should also be available to local populations, especially where this provides educational opportunities. Equally, all green space established within or associated with developments should be designed to benefit biodiversity alongside any other function, such as recreation or surface water management.

3. Biodiversity in Castle Point Borough

3.1. This chapter provides an overview of the ecological resources present within the Borough and is intended to provide the context by which priorities for biodiversity protection, enhancement, restoration and creation are identified. Consideration is given to the potential for the creation of key habitats within the Borough, considering factors of environment, landform and land use.

Environmental Conditions

3.2. The underlying geology of Castle Point Borough is London Clay deposited 50 million years ago on the floor of a sub-tropical sea. This is overlain by the sandier Claygate Beds, deposited as the sea became shallower, and on top of this are the Bagshot sands and gravels beds that were formed when the area became the shoreline of the sea. Erosion during the ice age left behind these deposits to form the high ground to the north and east of the borough, while exposing the London Clay beneath elsewhere. Sands and gravels left behind by rivers at different stages of the ice age form the surface geology in the highest parts of the Borough. These include the Thames terraces, reflecting previous courses and heights of the River Thames.

3.3. More recently, on the lower lying areas, coastal sand, gravel and silts were deposited forming the current coastal landscape and the marshes reclaimed by the creation of seawalls around Canvey Island and the Hadleigh and Benfleet Marshes.

3.4. The soils derived from this geology are clays on the lower lying and coastal land, with loams on the higher ground, although with some clay influence in places that can lead to seasonal waterlogging. It is the interaction of these soil types with the geomorphology of the Borough, influenced by its history of land use, that leads to the characteristic habitat types of higher biodiversity value represented within the network of designated sites.

3.5. In many cases, the most significant factor in the current distribution of high nature conservation value land is the continuity of traditional management, without any interruption by more intensive modern agricultural methods. This stability of land use results in a continuity of conditions and the establishment of small-scale variation, both of which typically lead to an accumulation of species over time. This cultural history accounts for the majority of woodland sites across the Borough, and the few remaining biodiverse grasslands.

3.6. The remaining grasslands with higher nature conservation value are either on the more loamy, acidic soils of the higher land, including CPT14 Thundersley Glen, CPT16 Chase Paddocks, Thundersley Great Common SSSI and the Garrold's Meadow SSSI, or are on the steep slopes of the Thames valley, which create free-draining conditions, including CPT25 Castle Farm, CPT42 Hadleigh Castle Grassland and CPT12 Vicarage Hill. These avoided arable cultivation either because of their lower fertility or because of difficulties in cultivating steeper slopes. The development of plotland over much of the Borough, removing land from farming, then prevented field boundaries being removed to create larger fields that could more easily be farmed with the larger machinery associated with agricultural intensification. An association has developed between these plotlands and horse grazing, which again has created a continuity of management, even if not ideal from a biodiversity point of view.

3.7. In the coastal part of the Borough, the best remaining grazing marsh habitat is in those areas that were never cultivated for arable and so retain their topography and soil profiles. The quality of remaining habitat is further affected by drainage patterns and the management of water levels, but also whether or not the grassland has been re-seeded to any significant extent.

3.8. Surface drainage features in the Borough are predominantly small-scale, with no significant rivers or streams. The central areas of Hadleigh and Thundersley are drained by the origins of Prittle Brook, which flows eastwards into Southend. The southern slopes drain mostly through small channels down onto Hadleigh and Benfleet Marshes, where the original ditch networks and sluices allow the water out into the Thames. The northern edge of the Borough drains into the upper part of the River Roach, although there is little evidence of this to the south of the A127.

National Character Areas

3.9. Castle Point borough lies within two of the National Character Areas (NCA), areas defined by similar landscape characteristics rather than by administrative boundaries and therefore providing a better framework for considering the natural environment. A profile has been prepared for each NCA, including a description of the landscape's natural and cultural features, an assessment of historical changes and drivers of ongoing change, and an analysis of the area's characteristics and ecosystem services.

3.10. The profiles also include Statements of Environmental Opportunity (SEO), which pull available information together, identify critical issues and suggest ways in which sustainable growth and a more secure environmental future can be achieved

3.11. These are described below in the context of the Borough and the current assessment.

Greater Thames Estuary (NCA 81)

3.12. This area covers the low-lying coast between Harwich in north Essex and Whitstable in north Kent, forming the eastern edge of the Thames Basin. The area has extensive sea defences and, alongside the presence of large urban areas, includes landscapes with very little human settlement. Much or this area is covered by national and international nature conservation designations and supports large numbers of overwintering and passage waders and wildfowl, as well as assemblages of rare plants and invertebrates. Brownfield sites, of particular significance to invertebrate assemblages, are a feature of some parts of the area.

3.13. Key environmental issues include coastal squeeze caused by rising sea levels on habitats constrained by hard sea defences, the balance between recreation and biodiversity, and development pressure, both terrestrial and marine.

3.14. Opportunities that are identified in the profile and that may be relevant to this assessment are set out below:

- The creation of new inter-tidal habitats to offset losses elsewhere, both natural and as a result of development, and to improve coastal defences;
- Improved management of costal habitats for biodiversity, at a landscape scale;
- Reversing the fragmentation of existing habitats of nature conservation significance by creating new links;
- Improving public access to natural resources, improving understanding and engagement, without increasing disturbance pressure;
- Supporting measures to secure the future of key species.
- Working with the farming community to maintain characteristic habitats and improve the diversity of all agricultural land;
- Improving the area for pollinators, including the protection and favourable conservation management of brownfield habitat;
- Ensuring developments contribute positively to biodiversity.

3.15. In Castle Point, this NCA covers the whole of Canvey Island and the slope of the river valley, including the lower part of South Benfleet and Hadleigh Country Park. There are two distinct and important ecological aspects to this NCA: the coastal grazing marsh and intertidal habit on the lower ground and the Thames Terrace grassland on the slope of the valley.

Northern Thames Basin (NCA 111)

3.16. This is a diverse area extending from Hertfordshire across Essex, predominantly on London Clay, but also taking in alluvial deposits from the historic routes of the River Thames. It is characterised by natural habitats that have become fragmented as a result of agricultural progress and development. Large urban developments and smaller, dispersed settlements sit within a matrix of predominantly arable farmland. It touches on the designated coastal sites of the Greater Thames Estuary, but the majority of significant nature conservation sites are woodlands.

3.17. Key environmental issues affecting this NCA include flood management, the conflict between food production and biodiversity, the provision of access to green infrastructure for urban communities, and development pressure.

3.18. Opportunities that are identified in the profile and that may be relevant to this assessment are set out below:

- The use of semi-natural habitats in the management of pollution and flood alleviation;
- The restoration of riverine habitats and improvements to water quality;
- Improving woodland management and increasing the amount of woodland, creating links between existing woodland sites;
- Expanding and connecting other fragmented habitats;
- Ensuring developments contribute positively to biodiversity.

3.19. The remainder of the borough, excluding the coastal strip and the river valley slope, falls within this NCA, although Castle Point only occupies a very small part of this NCA. Within the Borough, the majority is taken up with urban development interspersed with woodland and horse-grazed pastures, with very little agricultural land.

Local Ecological Networks

3.20. Map 1 shows all of the sites designated for nature conservation and biodiversity within the Borough, which are considered separately in the following sections. Designated sites in adjoining administrative areas are also included.

International Designations

3.21. The majority of the area of the Benfleet and Southend Marshes SSSI is also designated as a Special Protection Area and a Ramsar site, with the exception of the Hadleigh Downs. Apart from the Hadleigh Marshes, the designated land is all outside of the sea wall. This designation is based upon numbers of water fowl during the autumn and winter, specifically internationally important populations of Brent Geese, Ringed Plover, Grey Plover and Knot and an internationally important assemblage.

Sites of Special Scientific Interest (SSSI)

3.22. There are six SSSI within the administrative boundary of Castle Point Borough, two of which extend over the border into neighbouring local authority areas:

- Thundersley Great Common SSSI – A mosaic of wet and dry heathland, with acid grassland.
- Garrold's Meadow SSSI – Unimproved, acidic grassland.
- Great Wood and Dodd's Grove, Hadleigh SSSI – One of the largest remaining ancient woodlands in South Essex
- Benfleet and Southend Marshes SSSI – Unimproved grassland on the downs, combined with coastal grazing marsh, and inter-tidal habitats that support internationally important numbers of water fowl.
- Canvey Wick – A previously developed mosaic of open habitats, scrub and wetland features with a nationally important assemblage of invertebrates.
- Holehaven Creek SSSI – Intertidal habitat that supports nationally important numbers of the Icelandic race of Black-tailed Godwit, which reach internationally important numbers on occasion.

3.23. The NPPF is clear that development within a SSSI, or outside of one, should not normally be permitted if it is likely to have an adverse impact upon the site.

Local Nature Reserves

3.24. There are two sites which benefit from statutory designation for the benefit of people and wildlife as Local Nature Reserves (LNR) within the Borough, both of which coincide with other designations. Canvey Lake LNR covers CPT19 The Lake, Canvey, with some additional amenity grassland around its edges. Belfairs LNR covers the same area as the Great Wood and Dodd's Grove SSSI.

3.25. LNRs are sites that are locally important for wildlife, geology, education or enjoyment, with an underlying remit to protect their wildlife, and are designated by Local Planning Authorities and are managed either as land owners or other partners. There has to be an aim to allow at least partial public access where this does not result in disturbance of wildlife.

Local Wildlife Sites

3.26. Local Wildlife Sites (LoWS) in Castle Point Borough were reviewed in 2019, resulting in a total of 41 LoWS covering 879.7 hectares, approximately 20% of the administrative area. There are concentrations of LOWS on Canvey Island, between South Benfleet and Thundersley, along the Hadleigh Downs, and around Daws Heath and these feature a small number of habitats that form the ecological character of the Borough.

- On Canvey Island, the LoWS are mostly remnants of the grazing marsh habitat that once covered the island, with additional coastal habitats and some open mosaic habitat.
- Around Daws Heath is a network of woodland sites, many of them ancient.
- On the Hadleigh Downs, the sites are predominantly grassland, influenced by the Thames Terrace sands and gravels exposed there.
- Between Benfleet and Thundersley are a mixture of ancient and more recent woodlands, with some associated old grassland.
- In Thundersley and in the northwest of the Borough are habitats largely unaffected by modern agricultural intensification, including unimproved grassland and secondary woodland.

3.27. There is no statutory protection for Local Wildlife Sites, although there is a presumption that they will be protected by the planning system. Many are in private ownership, which creates a vulnerability not only to development pressure, but to inappropriate management or neglect.

3.28. There are clear gaps within the Borough where there are no LoWS and these primarily correspond with the dense residential areas of Thundersley, South Benfleet, Hadleigh and Canvey Island.

3.29. There is another gap over the predominantly rural area in the northwest corner of the Borough, where the establishment of plotlands has led to a patchwork of horse-grazed pastures, hedgerows, small secondary woods, scrub, residences and small businesses.

3.30. Plotland was mostly created after the First World War on unproductive agricultural land to give city dwellers an opportunity to establish a new life in the country. They were established just as agricultural methods were intensifying and before the rapid industrialisation of farming that followed the Second World War. As a result, despite the introduction of a range of exotic, garden species, the habitats that make up plotland retain an unimproved quality that has encouraged a diverse wildlife assemblage, especially so as many were abandoned and reverted to a natural state.

3.31. Plotland is characterised by a varied mosaic of often very regularly shaped habitat blocks including horse-grazed pastures, rough grassland, even-aged stands of scrub, and woodland of varying ages, the oldest approaching 100 years of age. Within this matrix there are often field ponds, the overgrown products of old hedge systems, scattered veteran trees and tumbledown orchards. Small-scale variations in soil type and surface geology create a variety of community types within each habitat.

3.32. It is likely that pockets of higher biodiversity exist, but management is often not sympathetic to ecological surveying and so identifying areas of higher nature conservation value has proven difficult. It is certainly true that the landscape itself has a distinct character and that it provides a significant ecological resource at the wider level.

Local Geological Sites

3.33. Three LoGS have been identified in Castle Point Borough to date, all of which coincide with LoWS: Hadleigh Country Park and Hadleigh Castle Landslip, which are within the CPT25 Castle Farm LoWS, Shipwrights Wood, which is CPT18. All three sites reflect the geography of the Borough, Hadleigh Country Park and Shipwrights Wood have a landform that demonstrates the surface geology of the area, the former including

an exposure of Bagshot Sands. Hadleigh Castle Landslip is a highly visible slip in the London Clay that underlies the surface deposits on the south bank of the Thames valley.

3.34. There is no statutory protection for Local Wildlife Sites, although there is a presumption that they will be protected by the planning system. Both of these LoGS are in sites managed by local authorities with full public access, and so are secure from development pressure, although not necessarily from inappropriate or insufficient management.

Biodiversity

Priority Habitats

3.35. The presence of Priority Habitat should lead to the designation of the site as a Local Wildlife Site, and so these habitats should be effectively protected within the LoWS network. The Priority Habitats represented within the LoWS are considered below.

Lowland Mixed Deciduous Woodland

3.36. Woodland habitat is well represented within the Borough, including a significant extent of Ancient Woodland alongside more recent secondary woodland, mostly derived from plotland. The most significant concentration is in the northeast of the Borough, around Daws Heath, including the Great Wood and Dodd's Grove SSSI and further large woodland blocks such as CPT24 West Wood, Tile Wood (within CPT28) and CPT31 Pound Wood. A second cluster is found between Benfleet and Thundersley, most notably CPT18 Shipwrights Wood and CPT10 Coombe Wood.

3.37. Most of the ancient woods comprise oaks and Ash with coppiced Hornbeam or Sweet Chestnut, with evidence of a long history of productive management, now revived in the Daws Heath woodlands under the conservation management of Essex Wildlife Trust. These woodlands are primarily on pockets of sands and gravels, where the soil is less productive.

3.38. In addition to the ancient woodlands, there are a number of secondary woodlands, although often enhanced by the influence of remnant hedgerows or woodland fragments of ancient origin. The older of these are typically also made up of oak and Ash with Hornbeam or Sweet Chestnut coppice. Younger woodlands, with their 20th Century origins in abandoned plotlands, lack the coppiced understorey, but are still dominated by oaks and sometimes Ash, alongside mature Hawthorn.

3.39. The smaller woodland areas are under pressure from surrounding development, with the accompanying dangers of inappropriate uses. Few of the Borough's woodlands have a graded, natural edge, with canopy woodland extending right up to the majority of their boundaries.

3.40. Although trees can be planted anywhere, it can take many decades before anything approaching woodland habitat is created on a new site. A better ecological option is to extend existing mature woodlands, which not only serves as a buffer to the original woodland and a larger ecological unit in the long-term but will also speed up the diversification of the new woodland, as species can more easily move between them.

3.41. An alternative to the costly practice of tree planting is to allow natural regeneration, which is also more effective adjacent to existing woodland. The gradual succession of an open site, through rough grassland and scrub, to woodland, with the structural diversity that is inherent to this approach, is also likely to be of more value to wildlife through that process than would a uniformly planted and maintained site.

Lowland Meadows

3.42. There are few remaining unimproved neutral grasslands in the Borough and many of those that do remain are small, with less than favourable management regimes, such as CPT8 Fane Road Meadows, CPT16 The Chase Paddocks and CT13 Reeds Hill Pasture. Other areas, including those in CPT12 Vicarage Hill, CPT14 Thundersley Glen and in CPT23 Thundersley Plotlands, where they form parts of mosaics, are under threat from an absence of management resulting in encroaching scrub outcompeting the grassland community.

3.43. The main exceptions are on the southern slopes, within the Benfleet and Southend Marshes SSSI, CPT25 Castle Farm and the CPT42 Hadleigh Castle Grasslands, where more appropriate management has been delivered as a legacy of the 2012 Olympic Games.

3.44. Most of this grassland is on the acidic side of neutral, although not sufficiently so to lead to acid grassland communities. They include the Thames Terrace grasslands, which are predominantly characterised by being dry and free-draining.

3.45. There are likely to be other fragments of substantially unimproved grassland within the plotland area of the Borough, although currently managed unfavourably and so not obvious. Horse-grazing has been the mechanism that has preserved many of these fragments, although the intensity of stocking also tends to mask the ecological quality of the resource. Restoration of existing unimproved grassland would be preferable to creating new grassland habitat as the presence of a stable soil profile and a lack of chemical fertilisation will lead to a more diverse community in a shorter space of time.

3.46. For new grassland habitat creation, free draining land of low fertility would provide the best opportunity, preferably on a steep slope, although measures to reduce soil fertility may still be necessary, including soil stripping or inversion.

Lowland Dry Acid Grassland

3.47. Acid grasslands are poorly represented within the Borough, being largely restricted to the slightly acidic loamy soils of the higher land, including Garrolds Meadow SSSI and nearby fields within CPT 28 Little Haven/Tile Wood Complex and CPT33 Oakwood Reservoir, and parts of CPT25 Castle Farm and CPT14 Thundersley Glen.

3.48. Acid grassland is more reliant on the presence of appropriate soils and underlying geology than neutral grassland, and so opportunities for creation are likely to be more difficult to find. Extrapolating the presence of existing acid grasslands across similar landforms with similar soils and surface geology may lead to the identification of some suitable sites, but considerable management effort may still be required to achieve success.

Open Mosaic on Previously Developed Land

3.49. With relatively little industrial history in comparison to neighbouring areas, habitat of this type, with its associated diverse assemblages of invertebrates, is relatively scarce within the Borough, with the obvious exception of the Canvey Wick SSSI and the adjacent CPT36 Northwick Farm. A small extent also exists within CPT30 Thundersley Brickfields.

3.50. The circumstances that led to the high biodiversity value now exhibited by Canvey Wick, namely a significant period of abandonment after the demolition of the refinery, seem less likely to occur in the current economic situation and there are few potential sites left. Because of its anthropogenic nature, open mosaic “brownfield” habitats can be created relatively easily anywhere with access to the right materials.

3.51. Key factors for the successful creation of open mosaic habitats include appropriate substrates, including a high proportion with low nutrient status and that are freely drained, to provide the droughty conditions that cause flowering plants stress, which in turn leads to greater production of flowers. A mosaic of habitat structures and types providing flower forage, nesting habitat and bare ground is the aim, preferably with some seasonal and permanent wetland features.

Coastal and Floodplain Grazing Marsh

3.52. This is the most significant of the coastal habitats present within the Borough, covering much of the undeveloped part of Canvey Island, with smaller remaining areas of Hadleigh and Benfleet Marshes. On Canvey, CPT4 West Canvey Marshes is by far the largest of Castle Point’s LoWS, with CPT5 Canvey Village Marsh and CPT38 Brick House Farm Marsh providing smaller, but still significant habitat blocks. On the mainland, habitat derived from grazing marsh is present within CPT6 Benfleet Sewage Works, as CPT37 Benfleet Marsh and within the Benfleet and Southend Marshes SSSI.

3.53. This habitat is constrained by geographical and environmental conditions; it could only be recreated on low-lying, flat land in the coastal strip, preferably with a source of water to maintain high soil water levels. Land

currently used for arable cultivation can be reverted to grazing marsh. The retention or creation of typical marsh topography, replicating the original drainage channels, can provide suitable conditions for breeding birds and also for some of the characteristic plant species.

3.54. Sea walls also support a significant grassland resource, somewhere between the uppermost saltmarsh communities and those of traditional grazing marshes. Their condition is heavily influenced by the regime of cutting that is applied to them, but their linear form is conducive to improving connectivity.

Coastal Saltmarsh

3.55. Saltmarsh in Castle Point is largely restricted to the Hadleigh Ray and Benfleet Creek (within the Benfleet and Southend Marshes SSSI or CPT39 Benfleet Creek and Seawall), with a smaller amount along East Haven Creek (within the Holehaven Creek SSSI or CPT4 West Canvey Marshes), which forms the western boundary of the Borough.

3.56. As with all saltmarsh habitat in Essex, the combination of sea level rise and hard coastal defences, means that existing marshes are prone to erosion, with further deterioration possible in relation to human activity, particularly from recreational activity. Habitat creation would require the managed realignment of the seawall where the land behind was sufficiently high for saltmarsh plant species to colonise.

Intertidal Mudflats

3.57. As with saltmarsh, the majority of the Borough's resource of this habitat is present within the Benfleet and Southend Marshes and Holehaven Creek SSSIs, or within the CPT4 West Canvey Marshes, CPT6 Benfleet Sewage Works and CPT39 Benfleet Creek and Seawall LoWS. There are some additional small areas on the south side of Canvey Island.

3.58. Recreational activity such as boat mooring and bait digging, as well as commercial fishing provide the most likely threats to this habitat. Creation of new habitat is only possible by managed realignment of the seawall.

Saline Lagoons

3.59. The only recognised Saline Lagoon within Castle Point Borough is within CPT29 Two Tree Island West, although borrowdykes on Canvey Island and Benfleet Marshes may also provide equivalent habitat conditions that could support some of the characteristic plant and animal species.

3.60. Opportunities for creation of new saline lagoons are limited, and likely to be technically complicated, but consideration should be given during any coastal projects.

Reedbed

3.61. It is only CPT19 The Lake, Canvey, CPT35 Thorneycreek Fleet and the Canvey Wick SSSI that provide substantial blocks of this habitat, although it also forms a component of CPT4 West Canvey Marshes, CPT5 Canvey Village Marsh, CPT27 Hadleigh Marsh Borrow Dyke and Sea Wall and CPT36 Northwick Farm and Sea Wall. None of these habitat blocks is significant as a reedbed, in their own right.

3.62. Reedbeds can be created wherever there is a source of water that can be maintained throughout the year and managed to some extent. The most benefit can be gained from reed beds covering a large area, although any provision within the context of a wetland site could improve overall diversity.

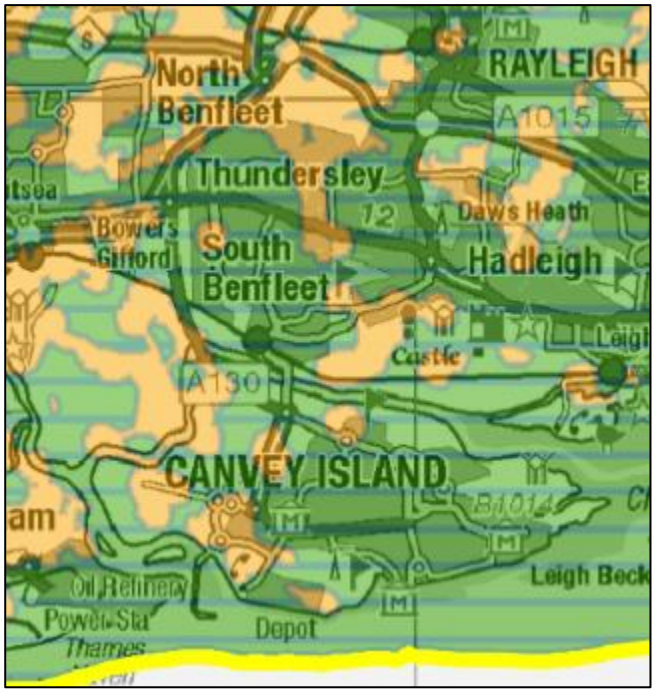
Priority Species

3.63. The presence of a significant population of a Priority Species should lead to the designation of the site as a LoWS and many are also legally protected by UK and European legislation. Those of specific relevance to the Borough are considered below. Meeting the requirements of these species should act as a proxy to support overall healthy and biodiverse communities of plants and animals.

3.64. There is a general pattern of priority actions for all species of conservation significance, which is: to improve information about distribution (including negative survey results), protect and enhance existing populations, improve connections between populations, and then encourage the expansion of populations. The specifics of these actions depend on the species and their ecological requirements.

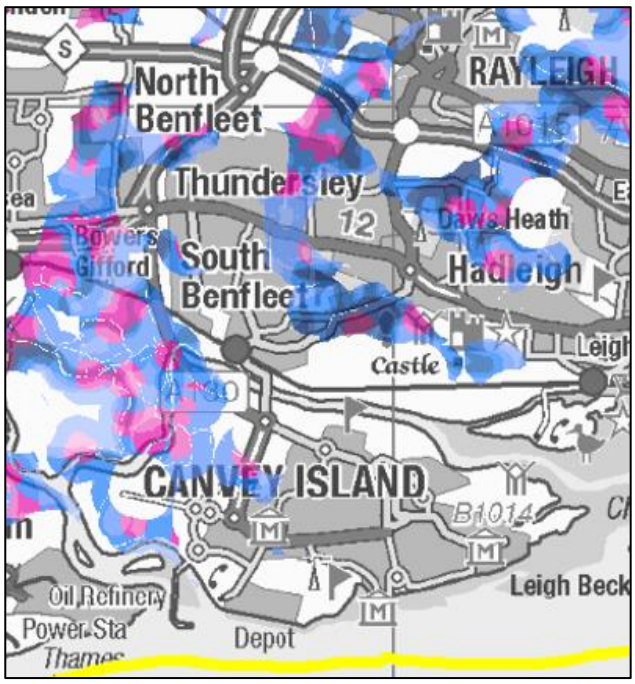
Great Crested Newt

3.65. As with the rest of Essex, Great Crested Newts are well distributed through the Borough where there are appropriate ponds and other waterbodies to support populations. Natural England has modelled the likely distribution of Great Crested Newts across Essex, broadly indicating areas where populations are more, or less likely, using existing information about distribution and habitat suitability. The image below is an extract from their risk map, with green indicating areas where Great Crested Newts are less likely to be and amber indicating areas where they are more likely.



3.66. This map is being used to inform the creation of compensation habitat under a new strategic licensing scheme for development activity across the County, which seeks to improve the conservation status of Great Crested Newts at a wider population level in place of site-based mitigation. The application of this approach should be sufficient to achieve this objective, but any other planned enhancement for Great Crested Newts would best be directed using the same information.

3.67. The same modelling work has established that it is the number of available breeding ponds that is controlling populations at present and so the focus of conservation work should be the excavation of suitable ponds within appropriate habitats, in areas where they are most likely to either increase the robustness and resilience of existing populations in core areas, or allow for the expansion of those populations into new, fringe areas. The map below shows the opportunity areas identified by Natural England, showing existing core areas in purple and fringe areas in blue.



3.68. For Castle Point, the focus of these activities should be on West Canvey, between South Benfleet and Hadleigh and around Daws Heath. This distribution of opportunity areas bares considerable similarity to the distribution of LoWS.

Dormouse

3.69. Within the Borough, populations of Dormouse are only known to be present in CPT31 Pound Wood and the Great Wood and Dodd's Grove SSSI, although it is likely that there has been limited survey activity away from sites managed for nature conservation. The complex of larger woodlands around Daws Heath is likely to be a core area for this species, but it is also likely that they are present in hedgerows, scrub and smaller woodlands that are connected to these, and in other areas where these habitats are present. This could include the plotland habitat in the northwest of the Borough.

3.70. An initial focus for the conservation of this species should be to carry out surveys more widely in order to establish their full distribution in the Borough. Following on from that, habitat enhancement should focus on protecting and improving key habitats to increase the resilience of existing populations, improving connectivity between existing populations, and the creation of suitable habitat to allow the expansion of those populations.

Bats

3.71. Available data does not suggest that Castle Point Borough is of particular significance in relation to its bat populations and there are no LoWS designated because of bat populations. However, it would be expected that most of the species known to be present in Essex would be represented, especially those associated with woodland. Indeed, the complex of larger woodlands around Daws Heath is likely to be of significance in at least a local context.

3.72. Bats are reliant on the availability of suitable roost locations, both in trees and in buildings, and the protection of these through the development management system is essential to the maintenance of populations at a favourable conservation status. This will involve adequate and appropriate mitigation for any adverse impacts to roosts, alongside enhancement to provide new roosting opportunities where they will have the most benefit. Integrated bat boxes and bespoke roost spaces should always be preferred to external boxes as they provide a more sustainable and long-lasting benefit.

3.73. In addition to roost locations, bat populations require good quality semi-natural habitats to provide foraging opportunities and connectivity through the landscape so that these can be accessed. In addition to maintaining and enhancing foraging habitat and habitat connections, the management of artificial light is crucial, as it is well-established that light can serve as a barrier to the movement of bats, some more than

others. Strategic planning of light-free corridors, which would also benefit other nocturnal species, could make a positive contribution to bat populations.

Reptiles

3.74. The reptile diversity LoWS site selection criterion has been applied to four LOWS, CPT4 West Canvey Marshes, CPT6 Benfleet Sewage Works, CPT25 Castle Farm and CPT29 Two Tree Island West. At least some of the four Essex species of reptile are very likely to be present on the other coastal LoWS and some of the more open inland sites, but a lack of available survey data limits our knowledge of their full distribution.

3.75. Measures for the improved management of grassland are likely to provide opportunities for reptile populations to expand, especially where that involves a relaxation of horse-grazing pressure. As a legally protected species, they should be secure from significant harm, although the propensity to translocate animals from development sites may not always ensure a positive outcome. Avoidance of impacts on key sites, in association with habitat enhancement, and more strategic planning around translocations, to establish secure meta-populations in suitable locations, should be the main focus of conservation measures.

Birds

3.76. Although there is a lack of open farmland within the Borough, it is known that species typically associated with a farmed landscape are present including the Priority Species: Skylark, Yellowhammer, Linnet, Turtle Dove, Corn Bunting and Reed Bunting. These are now predominantly associated with coastal areas, such as West Canvey, Hadleigh Marshes and Two Tree Island. Additional Priority Species with a coastal breeding distribution include Cuckoo and Lapwing, the latter restricted as a breeding species to the west Canvey marshes.

3.77. The restoration of grazing marsh habitat offers the potential to enhance populations of these and other species, particularly where it is associated with other habitats such as scrub, hedgerows and ponds.

3.78. Another coastal Priority Species, but based upon its wintering population, is Brent Goose, which utilises the marshes along the Hadleigh Ray and Benfleet Creek, especially early in the autumn when the nearby Leigh Flats is one of the most important staging grounds on the east coast. Although largely reliant on inter-tidal habitats, disturbance

3.79. Urban areas can also provide habitat for species of conservation concern, including the Priority Species House Sparrow, Starling, Dunnock and Song Thrush. Although not yet recognised as a Priority Species, Swift is one of the fastest declining species in the UK and is reliant on buildings for nest sites, as is House Martin. The populations of all these species could be supported by the inclusion of high quality, semi-natural green space within new developments and the inclusion of nesting opportunities within new buildings. The use of integrated nest boxes provides a sustainable and long-lasting benefit to these species, in contrast to the use of external boxes.

Hedgehog

3.80. There is little available information on the status of Hedgehog populations at a local level, although it is clear that there has been widespread decline, and local extinctions, across the UK. Establishing the presence of Hedgehogs across the Borough would be an important first step to identifying key areas and then working to conserve and enhance the habitat features that they require.

Invertebrates

3.81. Important invertebrate sites often consist of a mosaic of habitat types and structures, on varied, nutrient poor substrates, with uneven topography and a varied hydrological regime. The best sites show slow ecological succession, or are managed to ensure constant availability of pioneering, open vegetation communities. This is demonstrated perfectly by the Canvey Wick SSSI, considered to be one of the most diverse sites in the UK, with particularly notable concentrations of invertebrate species of conservation significance.

3.82. The identification of sites of significance to invertebrate assemblages or individual species is reliant on the availability of good and relatively current survey information, which can often be hard to find. Five LoWS have been selected in part on the basis of their invertebrate diversity, usually in association with records of one or more invertebrate Priority Species: CPT25 Castle Farm, CPT29 Two Tree island West, CPT36 Northwick Farm and Seawall, CPT40 Thundersley Brickfields and CPT42 Hadleigh Castle Grasslands.

3.83. In addition, the Priority Species Invertebrates criterion has been applied to the selection of three further LoWS: CPT5 Canvey Village Marsh, CPT28 Little Haven/Tile Wood Complex and CPT31 Pound Wood. The latter two woodland sites support Heath Fritillary butterfly, although populations have been in decline in recent years. CPT5 Canvey Village Marsh hosts populations of the Priority Species Shrill Carder and Brown Banded bumblebees, as well as the coastal mining bee *Colletes halophilus*. All three are characteristic of the Essex coast, alongside fellow Priority Species Anisodactylus peociloides (a small ground beetle), *Dorycera gramineum* (a grassland fly) and another bumblebee, the Red-shanked Carder.

3.84. With the right conditions, and in an appropriate location, very effective habitats can be created for invertebrates and be populated by good assemblages of rare and scarce species in a short period of time. This is because of the dispersive tendencies of many invertebrates, as a result of which they require networks of suitable sites at the landscape scale in order to maintain thriving populations.

Plants

3.85. Castle Point Borough supports important populations of a characteristic suite of plant species largely associated with the Thames estuary or with coastal grasslands, including the Priority Species Deptford Pink, Slender Hare's-ear, Sea Barley and Divided Sedge, the latter three of which are also Nationally Scarce. Deptford Pink shares the dry grasslands of the southern slopes with Hartwort, Bithynian Vetch and Pale Flax. Hairy Vetchling, Sea Clover and Curved Hard-grass are found on the seawalls and grazing marsh grasslands with the three Nationally Scarce species.

3.86. The Benfleet and Southend Marshes hosts the dry grassland species in relative abundance on the Benfleet Downs section and the presence of Deptford Pink and Pale Flax triggered the use of the vascular plants LoWS site selection criteria on the CPT42 Castle Grasslands. Combinations of the coastal species have been used to support the selection of CPT4 West Canvey Marshes, CPT29 Two Tree Island West and CP39 Brickhouse Farm Marsh.

Neighbouring Areas

3.87. Ecological connection between nature conservation sites in Castle Point Borough and those in its neighbouring districts varies according to the features that define the boundaries. The northern boundary of the Borough, with Rochford District, is marked by the A127, a dual carriageway trunk road that effectively serves as an ecological barrier. Although there are sites nearby in Rochford with a similar character to those in the north of Castle Point, the presence of the road is a significant limit on the movement of most species between them.

3.88. To the west of the Borough, there is a separation in the degree of connection, to the north of the mainline railway and to the south of it. To the north, the boundary is the A130, which forms another ecological barrier. Furthermore, the habitat beyond the road, in North Benfleet and bowers Gifford is predominantly agricultural with low ecological value and poor connectivity. To the south of the railway, the coastal habitats of west Canvey and along Benfleet Creek form an integrated part of a much larger habitat block that includes, Bowers, Pitsea, Vange and Fobbing Marshes within Basildon Borough and Thurrock.

3.89. This coastal habitat extends to the east of Castle Point into Southend, through Two Tree Island and the Benfleet and Southend Marshes SSSI. To the north, the Thames terrace grasslands of Hadleigh are connected to Southend's Belton Hills. The woodlands of Daws Heath also continue into Southend through Belfairs Park.

Biodiversity Priorities in Castle Point Borough

3.90. The underlying priorities for maintaining and enhancing biodiversity within the Borough can be simply expressed, as follows, in order of significance:

1. Protect existing sites designated for nature conservation from negative impacts;
2. Maintain and enhance the existing designated sites to achieve favourable condition;
3. Increase the size of designated sites by creating adjacent habitat;
4. Create additional habitat for biodiversity where it will give the best results;
5. Improve the ecological connections between sites within and beyond the Borough.

3.91. From a development management perspective, the first of these priorities involves the preparation and application of rigorous and defensible policies that prevent development from being promoted on designated sites. The other three are dependent on identifying land parcels upon which those ambitions can be realised.

3.92. Taking the existing ecological network into account, and considering the opportunities created by the environmental conditions across the Borough, the habitats that it most important to focus on, as expressed in terms of the Priority Habitat descriptions set out in response to Section 41 of the NERC Act are as follows:

- Coastal Grazing Marsh
- Lowland Meadows
- Lowland Dry Acid Grassland
- Lowland Mixed Deciduous Woodland

3.93. Priority Habitats that are considered to be less significant in the context of the Borough, with fewer significant opportunities for gain, but that still offer potential for the enhancement of biodiversity are as follows:

- Open Mosaic Habitat
- Coastal Saltmarsh
- Inter-tidal Mudflats
- Reedbeds

3.94. Given the association between this strategy and development management, there is a separate theme that covers the delivery of Biodiversity Net Gain at a smaller and more local level throughout the Borough, which is around on-site measures within developments. This can be developed to take a coherent approach to urban biodiversity that is also based upon recognised nature conservation priorities at a local and national level. However, there is no equivalent Priority Habitat.

Delivery

3.95. The appropriateness of off-site compensation/offsetting or net gain schemes proposed in support of a planning application should be judged against a series of criteria:

- Proximity – is the proposal sufficiently close to the application site to ensure ecological and social continuity;
- Compatibility – will the proposal result in a comparable or complimentary habitat type to that impacted;
- Sufficiency – is the scale of the proposal appropriate to the impacts of the application;
- Quality – will the proposal result in a genuine gain for biodiversity;
- Deliverability – is their confidence that the proposals will be achieved;
- Sustainability – will the benefit of the proposal be maintained for a sufficient period of time.

3.96. The application of the Defra metric considers some of these criteria – sufficiency, quality, deliverability – expressed in a mathematical way to provide measurability and a framework for enabling practical delivery. However, the metric is less useful with regard to proximity and compatibility, which in the context of a strategic approach, are both of significant importance.

3.97. While quality is considered, the mathematical approach means that a large amount of lower quality habitat could be created in place of a smaller amount of high quality habitat, and it is then uncertain whether there is genuine net gain for biodiversity. It is recommended that a qualitative approach is retained alongside the metric, with independent ecological advice to provide an impartial assessment of the merits of the proposal.

Key Partners

3.98. There are a number of organisations active in the Borough that could be involved in the delivery of Biodiversity Net Gain projects, offering a sustainable means of maintaining the benefits of any actions taken. This may be as landowners with existing habitats that could be enhanced, or as delivery bodies, with the expertise and equipment necessary to provide the management effort that is needed on third party land.

- RSPB; owners and managers of CPT4 West Canvey Marshes and managing partner of Canvey Wick SSSI, with experience and expertise in managing Coastal Grazing Marsh and other habitat types;
- Essex Wildlife Trust; own and manage CPT28 Little Haven/Tile Wood Complex, CPT31 Pound Wood, CP26 Cottage Plantation and CPT34 Belfairs Park Wood, manage CPT29 Two Tree Island West; delivering nature conservation woodland and grassland management across these sites;
- ECC; Managing Hadleigh Castle Country Park, including CPT25 Castle Farm, CPT42 Hadleigh Castle Grasslands and part of the Benfleet and Southend Marshes SSSI; managing grassland and woodland habitat, and with a conservation grazing project;
- Castle Point Borough Council; owners and managers of public open space, including CPT14 Thundersley Glen, CPT17 Shipwrights Meadow and CPT18 Shipwrights Wood.
- A variety of local groups exist within the Borough that have an interest in biodiversity or are involved in the management of sites within the local ecological network. Although not always supported by ecological expertise, these bodies may have a significant role in the delivery of management and maintenance, with appropriate guidance and support.
- Local species interest groups have access to the best information on the distribution and abundance of many of the species discussed above, along with specialist knowledge of the ecology of those species. These groups should be involved to refine strategic actions to protect and encourage biodiversity across the Borough. Examples include Essex Field Club, Essex Bat Group, Essex Amphibian and Reptile Group and Essex Birdwatching Society.

4. Opportunity Areas

Habitat Restoration and Enhancement

4.1. The LoWS in the following table are sites where habitat restoration or enhancement through improved management are necessary and this could be achieved as a Biodiversity Net Gain project. Some of these sites are privately owned, which may increase the difficulty of agreeing improved management.

CPT4	West Canvey Marshes	Habitat outside of the RSPB reserve could be enhanced by improving water levels and managing for conservation outcomes.
CPT5	Canvey Village Marsh	Management could be improved if focused on nature conservation outcomes.
CPT6	Benfleet Sewage Works	Scrub management needed to restore open grassland.
CPT9	Kents Hill Wood	Active woodland management is needed.
CPT10	Coombe Wood	Conservation management would maintain the site's value.
CPT11	Mount Road Wood	Active woodland management is needed to diversify structure, along with restoration of open habitats.
CPT12	Vicarage Hill	Extensive scrub management is needed to re-establish open grassland habitat.
CPT13	Reeds Hill Pasture	Management could be improved if focused on nature conservation outcomes.
CPT14	Thundersley Glen	Better grassland management would enhance the site for biodiversity and thinning is needed to maintain open habitats. Invasive species should be removed.
CPT16	The Chase Paddocks	The western paddocks would benefit from lighter grazing. The eastern paddock needs scrub management to maintain the grassland area.
CPT18	Shipwrights Wood	Active woodland management is needed to maintain the conservation value of the wood, including the removal of Cherry Laurel.
CPT20	Coopers Wood	Management is needed to maintain the open grassland of the glade.
CPT21	Thundersley Great Common Wood	Active woodland management is needed to maintain the conservation value of the wood, including the removal of Cherry Laurel.
CPT23	Thundersley Plotland	Many habitat blocks could be managed more favourably for biodiversity, including the removal of invasive non-native species.
CPT36	Northwick Farm and Sea Wall	Management is needed to preserve the balance of scrub to open habitats. The seawall needs more frequent cutting.

CPT37	Benfleet Marsh	A reduction of management pressure would improve the plant community and control over water levels would also help to recreate Coastal Grazing Marsh habitat
CPT38	Brick House Farm Marsh	This site would be suitable for restoration to Coastal Grazing Marsh, with a nature conservation grazing regime and water level management.
CPT40	Thundersley Brickfields	A nature conservation management strategy including maintenance of an open mosaic would enhance this site.
CPT43	Badger Hall Woods	Active woodland management is needed to maintain the conservation value of the wood

Priority Habitat Creation

4.2. The identification of sites for habitat creation involves two main strands: identifying locations that will buffer or extend existing designated site; and identifying locations that are most suitable for the creation of new biodiverse habitat. In some cases, these two strands will overlap, where the best place to create some new habitat is adjacent to an existing designated site, or to put it the other way around, where the land needed to buffer an existing designated site has all the characteristics that allow for top quality habitat to be created.

4.3. In reality, the situation in the Borough, where many designated sites adjoin existing developed areas or infrastructure, is such that opportunities for buffering are not available in many cases or might require the re-purposing of open spaces used for other purposes, such as playing fields and sports pitches.

4.4. Maps 2, 3 and 4 show locations considered to be most suitable for the creation of habitats corresponding to the Priority Habitat types identified as top priority for Biodiversity Net Gain action within Castle Point Borough (Coastal Grazing Marsh, Lowland Dry Acid Grassland/Lowland Meadows, and Lowland Mixed Deciduous Woodland).

4.5. Please note that these areas have been identified from a desk-based assessment and that further site investigations would be required to confirm suitability and to recommend the measures that would be needed to achieve the objective of creating

4.6. In some cases, there is overlap between opportunity areas for different habitat types, so that a land parcel may be identified as suitable for woodland and grassland creation. In these cases, it is considered that either option would contribute to improving biodiversity. Where an opportunity for habitat creation in one of these areas arises, consideration should be given as to which is most appropriate given the detailed site assessment on the ground, or a design that includes both habitats could be developed.

4.7. Opportunity areas for Lowland Meadows and Lowland Dry Acid Grassland are combined, as the Lowland Meadow habitat present in the Borough is on the acidic side of neutral and these habitats are likely to exist as mosaics in some locations. The principles behind habitat creation are broadly similar for both forms of grassland and the soil conditions will determine their final character. These opportunity areas include existing grassland habitat that could be modified in line with Priority Habitat types as well as sites currently under different land uses.

4.8. Woodland opportunity areas have been identified more on the basis of the potential to extend existing designated woodlands, rather than on environmental conditions, as these are less restrictive. The land identified may include existing areas of non-designated tree or scrub cover, where the opportunity is to change the habitat composition or structure to align it more closely to that of more established Priority Habitat. This could be achieved by altering its management or by planting canopy or understorey species, for

instance. Such actions can increase the natural speed of succession and development towards habitat maturity, such that biodiversity benefits can accrue more rapidly.

4.9. The ecological features of a LoWS, or other sites of nature conservation significance, could benefit from the presence of buffer land for the following reasons:

- Sensitivity; where the habitat present would be improved by protection from external factors;
- Structural diversity; where the boundaries of the habitat present do not represent a semi-natural transition to the adjoining habitat and where such a transition would enhance the designated habitat; or
- Scale; where the quality and condition of the designated habitat would be functionally improved by an increase in the size of the habitat unit.

Connectivity

4.10. Map 5 indicates areas of the borough where it could be realistic to create connecting habitats, in that there is land that, for the most part, is not already developed. This takes the form of corridors, linking habitats in a continuous way to allow greater movement of species through the landscape between sites of recognised nature conservation significance, but also stepping stones, enabling the movement of species with slightly more dispersal capability between sites.

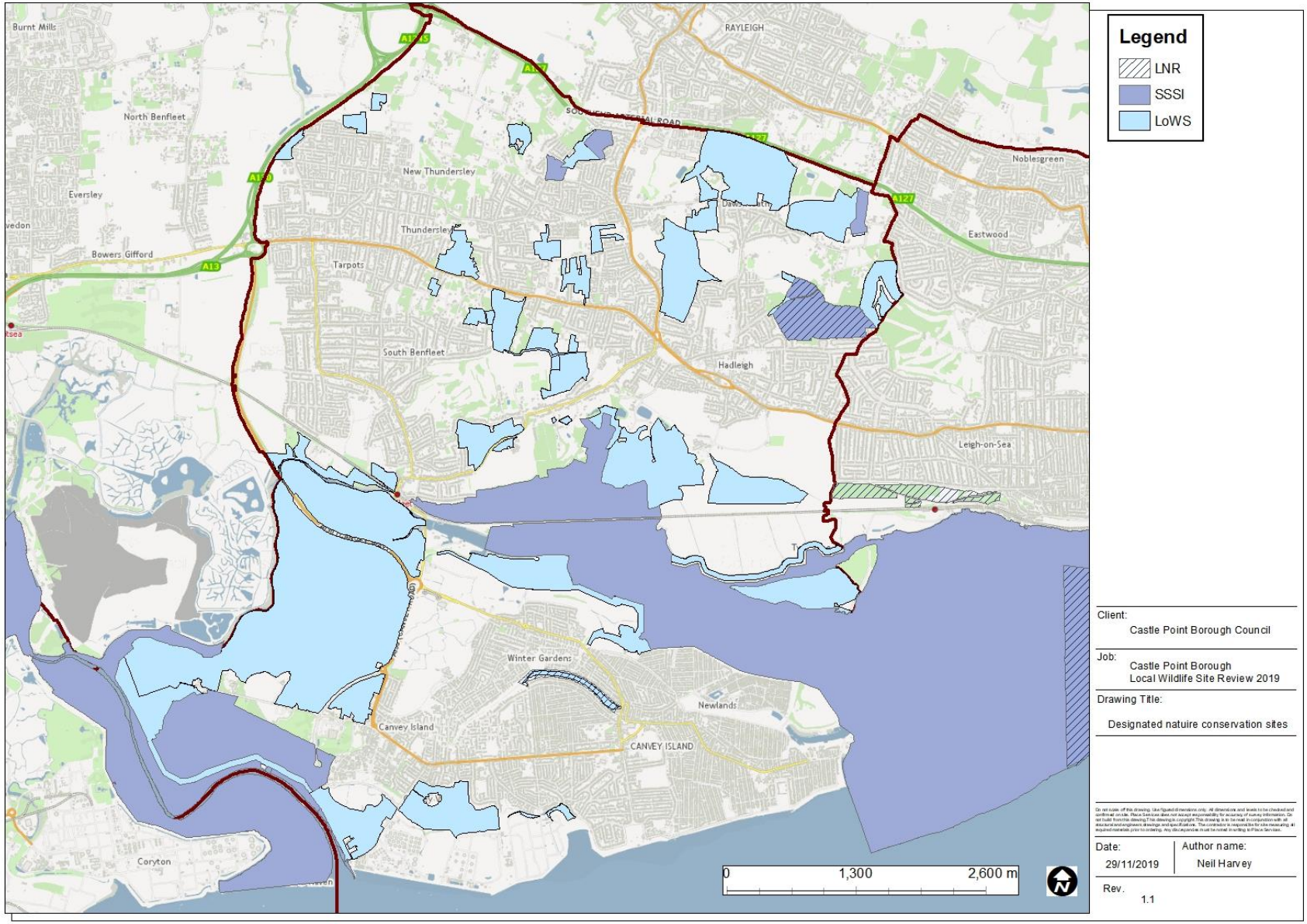
4.11. Both measures are aimed at improving the robustness of species populations by increasing gene flow between nearby population, allowing colonisation of new sites, and facilitating re-colonisation of sites where populations may be lost by adverse impacts.

4.12. Such connections, and the enhanced habitat within them, could also serve to improve the general ecological condition of the wider landscape, serving as a reservoir of biodiversity that could then permeate the whole landscape, including those areas with residential development.

4.13. The mapped areas are deliberately broad, as there is not necessarily one solution to linking habitats within these corridors. Opportunity for the creation and enhancement of these corridors may occur through the design of green infrastructure and mitigation habitats within development sites as well as through compensation measures and Biodiversity Net Gain in the wider landscape.

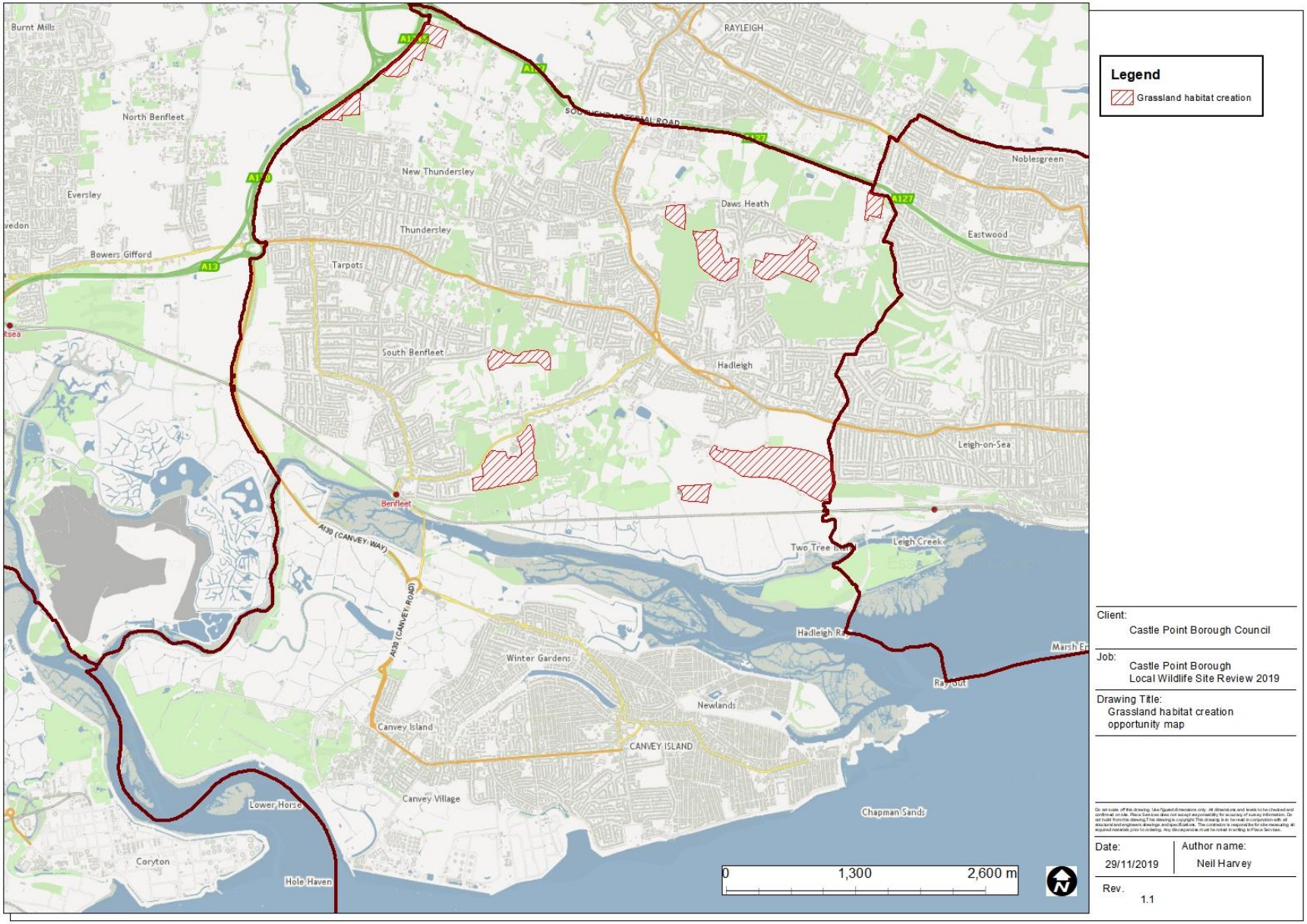
4.14. Opportunities for improving connectivity can overlap with opportunities for the creation of Priority Habitats, and so each opportunity should be assessed and designed to provide the maximum benefit to biodiversity, in line with the Borough's priorities.

Map 1 – Designated nature conservation sites



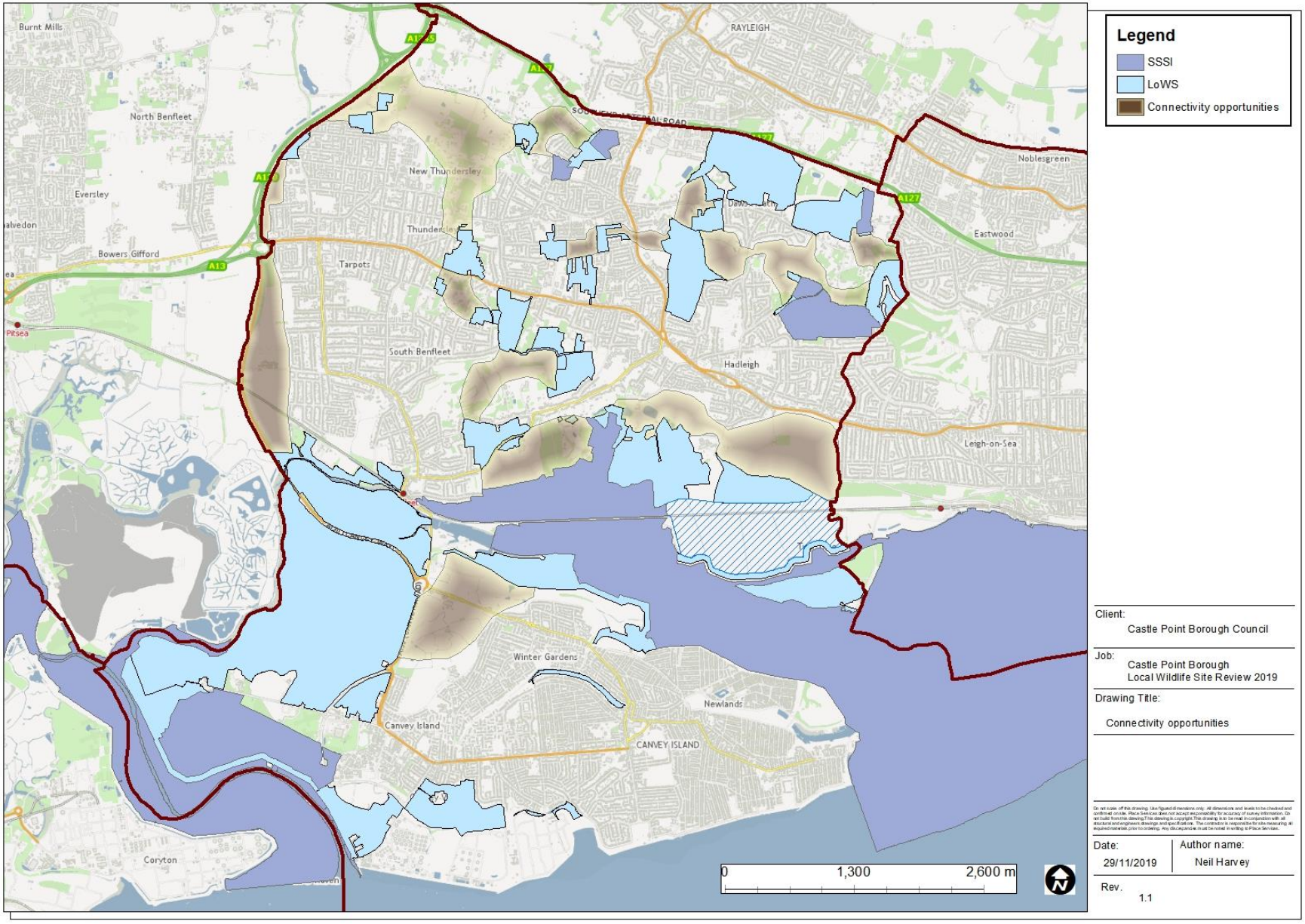
Map 2 – Grazing Marsh creation opportunity map

Map 3 – Grassland habitat creation opportunity map



Map 4 – Woodland habitat creation opportunity map

Map 5 – Connectivity opportunities



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