Grey Heron perched on a post in The Broads. This is one of the species on the Suffolk Long List.

Appendix 1: Legislative context and analysis of existing strategies and documents

Overview
Local Nature Recovery Strategies (LNRSs) must take account of and adhere to national regulations and plans, as well as contributing to national objectives where possible.

25 Year Environment Plan
The 25 Year Environment Plan (25YEP) sets out the Government's goals for improving the environment over a 25-year period. It contains comprehensive and long-term goals to leave the environment in a better state and protect it for the next generation. Suffolk and Norfolk's LNRSs contribute to the 25YEP by considering how proposed measures can deliver additional benefits for the environment.

Environmental Improvement Plan 2023
The Environmental Improvement Plan 2023 (EIP) is the Government's delivery plan for the environment, building a green, more prosperous country. The 10 Goals of the EIP provide the overarching basis for LNRSs, which include:
- Goal 1: Thriving plants and wildlife
- Goal 2: Clean air
- Goal 3: Clean and plentiful water
- Goal 4: Managing exposure to chemicals and pesticides
- Goal 5: Maximise our resources, minimise our waste
- Goal 6: Using resources from nature sustainably

- Goal 7: Mitigating and adapting to climate change
- Goal 8: Reduced risk of harm from environmental hazards
- Goal 9: Enhancing biosecurity
- Goal 10: Enhanced beauty, heritage, and engagement with the natural environment

The Suffolk LNRS supports several of the main commitments made in the EIP 2023, such as to 'protect 30% of our land and sea for nature through the Nature Recovery Network (NRN)'. By focusing on key habitats and species to create, enhance and support across the county, the LNRS will contribute to the development of the NRN and the protection of 30% of land and sea for nature. The strategy also contributes to other commitments including providing a framework for guiding decisions around farming friendly practices, to support the goal to transform 70% of the countryside through the adoption of nature friendly farming practices. LNRSs will also contribute to climate change mitigation and adaptation, increasing carbon capture through habitat creation and providing increased opportunities for natural flood management. The strategy presents a key opportunity to engage across multiple sectors of society, providing an opportunity for individuals, organisations, businesses and others to support nature recovery and to see the impact of their work through increased access and improved landscapes.

Environment Act 2021
The Environment Act 2021 (EA 2021) contains legislation that will protect and enhance our environment for future generations. The Act sets out directions for cleaning up the country's air, restoring

2

natural habitats, increasing biodiversity, reducing waste and making better use of our resources. The EA 2021 introduced Local Nature Recovery Strategies and requires these to be taken account of within the planning process.

Local context

Local Nature Recovery Strategies must reflect and support local priorities and strategies for nature recovery. To ensure local consistency, the LNRS delivery team, reviewed and analysed 301 relevant plans and strategies across Suffolk and Norfolk to draw out key policies, measures or recommendations considered relevant to delivering nature recovery for habitats and/or species. Over 1,600 existing nature recovery actions and priorities were identified from a range of sources, such as planning documents, ecological audits and management plans, among others. **Table 65** gives an overview of the types and number of documents analysed.

Process of analysis

As each document was reviewed, any policy, measure or recommendation outlining a specific nature recovery action for habitats and/or species was recorded. After drawing out these key nature recovery actions for habitats and/or species, each policy, measure or recommendation was translated into a 'nature recovery priority'. This allowed actions to be categorised into more specific themes based around what precisely the action is seeking to deliver. Depending on the level of detail for each action, the nature recovery priority could vary in terms of how broad or narrow its scope was.

The next stage was to assign each action/priority an overarching 'nature recovery principle', specifying whether the action/priority was targeting habitats and/or species.

Habitats were assigned a nature recovery principle based on whether the action/priority was focused on creating more new habitats, making existing habitats bigger, making existing habitats better, and/or making habitats more joined-up.

Species were assigned a nature recovery principle based on recovering those present, reintroducing/translocating those no longer present or controlling those present that impede nature recovery such as invasive non-native species. In some cases, an action/priority could sit under more than one principle. **Table 66** gives an example of how one action was categorised into a priority and then assigned to an overarching nature recovery principle.

Any additional information included in a policy, measure or recommendation, such as any specific locations, wider environmental benefits (for example improving air quality) or non-environmental co-benefits (such as improving health and wellbeing) were also recorded.

3

Table 65a. Type and number of documents analysed for nature recovery measures.

Number	Document Type
35	Local Plan documents (includes associated Green Infrastructure Strategies, Biodiversity Strategies, other nature-related supplementary planning documents, etc.)
136	Neighbourhood Plans (70 Suffolk, 66 Norfolk)
1	Network Rail Nature Strategy
1	National Highways Nature Strategy
160	**Total planning documents**

Table 65b. Type and number of climate strategies analysed for nature recovery measures.

Number	Document Type
2	County Climate Plans/Strategies
2	**Total climate strategy documents**

Table 65c. Type and number of ecological audits, plans and strategies analysed for nature recovery measures.

Number	Document Type
3	Biodiversity Audits
43	Biodiversity Action Plans (21 Suffolk, 22 Norfolk)
2	Marine Plans
5	Internal Drainage Board Biodiversity Action Plans
16	Local tree and woodland strategies, including Community Forest plans
4	Environmental NGO Nature Recovery Strategies/lists
5	National Landscapes and National Parks Nature Recovery Plans
1	Natural Capital Evidence Compendium
12	Farm cluster strategic priority lists
95	**Total ecological audits, plans and strategy documents**

Table 65d. Type and number of management plans and strategies analysed for nature recovery measures.

Number	Document Type
5	Shoreline Management Plans
3	Flood Risk Management Plans and Strategies
1	River Basin Management Plan
6	Catchment Management Plans
5	Estuary Strategies
2	Minerals and Waste Plans
5	Water resource strategies (including water company biodiversity strategies)
95	**Total management plans and strategy documents**

4

How the analysis fed into the wider LNRS process

Drawing out the key actions and then categorising them into specific nature recovery priorities and principles allowed for the identification of the most common themes from across the 301 documents which were reviewed. Having this data was crucial as it directly fed into the LNRS process by giving an indication as to which actions should be considered, and potentially included, in the LNRS list of measures and priorities for each county.

Table 66. Example of action, nature recovery priority and overarching nature recovery principle

Measure/Practical Action	Nature Recovery Priority	Overarching Nature Recovery Principle Habitats: More, bigger, better, joined up Species: Recover, reintroduce/ translocate, control
Maintain the existing extent of wood pasture and parkland to ensure no net loss	Make existing wood pasture and parkland better (restore and enhance)	Better existing habitats

5

Appendix 2: Methodology - Species and habitat priority generation

The draft Statement of Biodiversity Priorities was produced from a cumulation of stakeholder inputs, expert advice and defined criteria. This aimed to create the focus for those species and habitats which were geographically and ecologically relevant to the area.

On a national scale, it is important that the lists developed within this LNRS contribute towards the Government's species ambitions and environmental objectives. These are legally binding targets introduced by the Environment Act (2021) designed to:

- restore or create in excess of 500,000 hectares of wildlife-rich habitat outside of protected sites by 2042, compared to 2022 levels
- halt the decline of species abundance by 2030, ensuring abundance in 2042 is greater than in 2022, and at least 10% greater than 2030
- reduce the risk of species' extinction by 2042, when compared to 2022
- increase total tree and woodland cover from 14.5% of land area to 16.5% by 2050
- improve water quality and availability – reduce nitrogen, phosphorus and sediment pollution by at least 40% by 2038.

The LNRS must also work towards national environmental objectives (NEOs) linked to the wider targets to encourage coherent actions across England in order to recover and enhance biodiversity. These include:

- work to ensure that everyone in England lives within 15 minutes' walk of a green or blue space
- restore approximately 280,000 hectares of peatland in England by 2050
- restore 75% of our water bodies to good ecological status
- protect 30% of land and sea in the UK for nature's recovery by 2030
- support farmers to create or restore 30,000 miles of hedgerows by 2037 and 45,000 miles of hedgerows by 2050
- manage our woodlands for biodiversity, climate and sustainable forestry
- restore 75% of SSSIs to favourable condition by 2042
- ensure delivery and management of actions and policies that contribute towards our goals are suitable and adaptive to a changing climate
- make sure LNRSs include proposals for nature-based solutions which improve flood risk management where appropriate
- achieve good environmental status for our seas
- reduce emissions of nitrogen oxides by 73% and ammonia by 16% by 2030 relative to 2005 levels
- reducing the rates of introduction and establishment of invasive non-native species by at least 50%, by 2030.

Within Suffolk and Norfolk, there are several Protected Landscapes (the Broads National Park and the National Landscape areas of Norfolk Coast, Suffolk & Essex Coast & Heaths National Landscape and the Dedham Vale National Landscape).

These areas are assigned non-statutory targets to which the LNRS will aim to align and contribute to where possible:

- restore or create more than 250,000 hectares of a range of wildlife-rich habitats within Protected Landscapes, outside protected sites by 2042 (from a 2022 baseline)
- bring 80% of SSSIs within Protected Landscapes into favourable condition by 2042
- for 60% of SSSIs within Protected Landscapes assessed as having 'actions on track' to achieve favourable condition by 31 January 2028
- continuing favourable management of all existing **Priority Habitat** already in favourable condition outside of SSSIs (from a 2022 baseline) and increasing to include all newly restored or created habitat through agri-environment schemes by 2042
- ensuring at least 65% to 80% of land managers adopt nature friendly farming on at least 10% to 15% of their land by 2030
- reduce net greenhouse gas emissions in Protected Landscapes to net zero by 2050 relative to 1990 levels
- restore approximately 130,000 hectares of peat in Protected Landscapes by 2050
- increase tree canopy and woodland cover (combined) by 3% of total land area in Protected Landscapes by 2050 (from 2022 baseline).

The interaction between these ambitions and environment targets is detailed in **Appendix 3**. The priorities identified within this process are listed against the targets to demonstrate how the strategy will link to their achievement and how this supported the prioritisation process as outlined in **Figure 14**.

Creation of Biodiversity and Habitat Priorities

The stages, processes and inputs required to generate the habitat-based priorities for Norfolk and Suffolk (illustrated in **Figure 14**) began with the analysis of 288 existing documents, including strategies, policies, and plans. In parallel, insights were gathered from themed working groups, which provided expert input such as group visions and practical measures, aligned with National Character Areas. Additionally, survey results captured stakeholder priorities from both the public and land managers.

From these three sources, approximately 1,700 actions were identified. Only those actions directly related to habitat creation or improvement were taken forward. These actions were then reviewed and collated in two ways. First, they were grouped into 20 habitat areas, with priorities mapped and linked to nature recovery principles. Second, they were sorted into 13 general priority areas, which focused on enhancing a wide range of habitats and ecological processes across the region, irrespective of location.

Following this, potential measures were determined, linking the actions to specific, practical activities. These priorities were then aligned to targets and assessed using a RAG (Red, Amber, Green) rating system.

Supporting existing and potential measures were detailed, including specific locations or references to relevant reviewed documents.

Throughout the process, the assessment criteria were scrutinised and tested with both the themed working groups and the steering group to ensure relevance and robustness.

Figure 14. Processes and inputs for Habitat-Based Priorities

Back to start of section
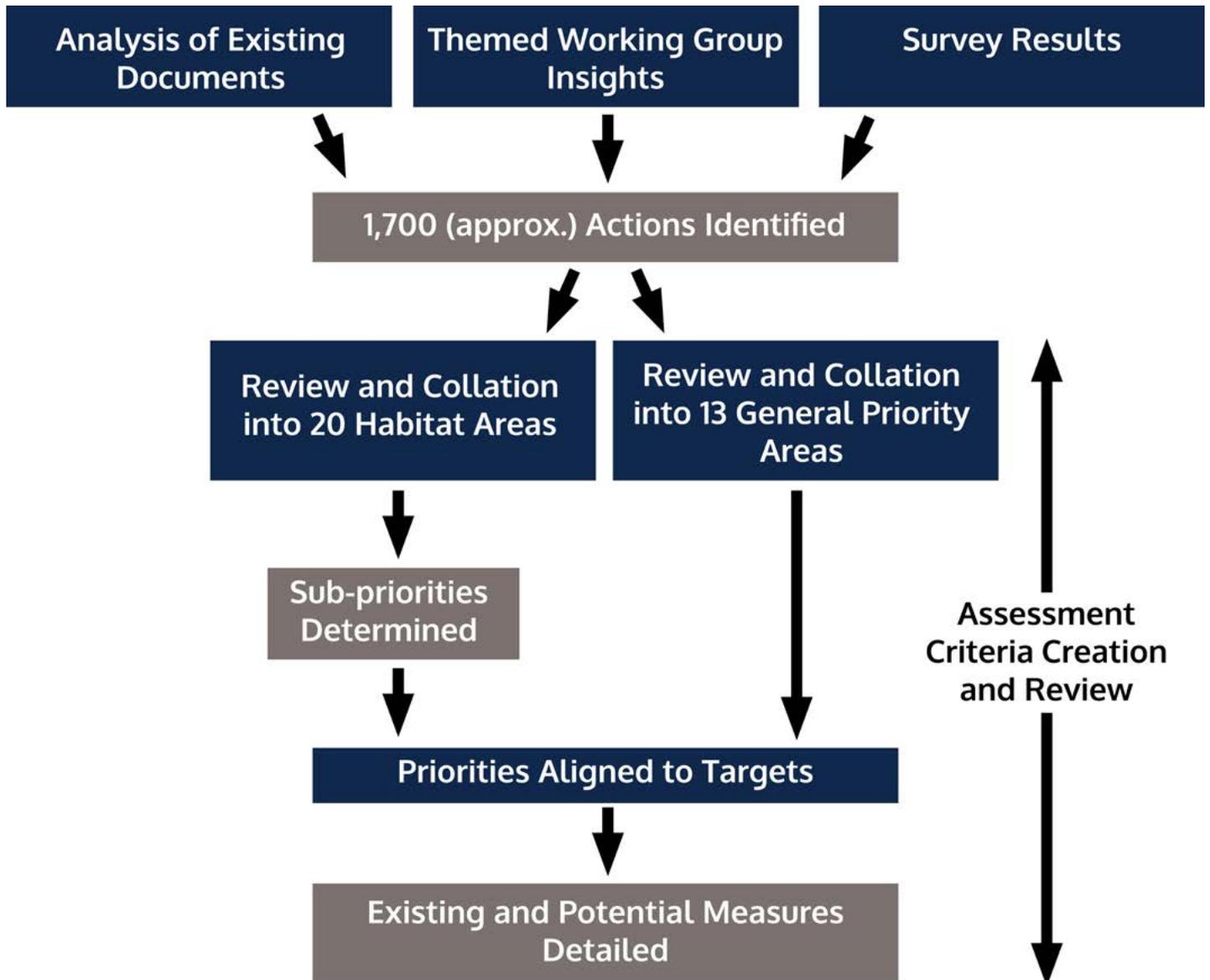
Species Priorities

The stages, processes, and inputs required to generate the species-based long list and short list, along with related priority measures for Norfolk and Suffolk, are outlined in the flow diagram (**Figure 15**).

The short listed species, split into key species and assemblage species, are detailed in **Tables 67-69**.

The process began with data provided by Local Record Centres (NBIS and SBIS), supported by county recorders. Species were selected based on a range of criteria, including:

• native species assessed as Red List Threatened or Near Threatened (IUCN)
• species likely to meet Threatened status but not formally assessed, with supporting evidence (Natural England)
• nationally extinct species that were re-establishing or rediscovered
• species identified by Natural England for conservation translocation or requiring scaled-up translocation efforts for success

Additional species inputs were drawn from:

• National Landscape and Broads Authority Strategy Focus Species
• Natural England National Character Area Priority Species Lists.

Stakeholder contributions were also gathered through public and land manager surveys, online workshops, and themed working group outputs. These were complemented by species lists from environmental NGOs, including:

• Norfolk Wildlife Trust
• Suffolk Wildlife Trust
• RSPB
• Bat Conservation Trust
• Amphibian and Reptile Conservation Trust

This was supported by a document review process which analysed approximately 300 documents.

From all these sources, more than 1,600 species were identified across Suffolk and Norfolk, creating the Long List for each county. Each inclusion was justified based on IUCN status, conservation importance, and local significance. Information and resources utilised are detailed in the reference and resources section [28-43]. These species then underwent individual assessment using a criteria-based system. Species progressed to the next phase only if they were supported by expert input or Natural England's Species Evidence Base.

The focus was narrowed to species with:

• IUCN status of Near Threatened or higher
• High or Medium Conservation Priority

Species were also screened for suitability under the LNRS using Natural England's Appropriate Species Action Categories, which included:

• (B) Targeted habitat management
• (C) Environmental improvements
• (D) Bespoke, complex conservation

Back to start of section

A shortlist of over 260 species was then quantitatively assessed and ranked. Each species was scored based on the following factors:

- **Urgency:** Risk of local extinction or need to stabilise populations.
- **Deliverability:** Feasibility of required conservation actions.
- **National Significance:** Importance of local populations for species conservation.
- **Co-benefits:** Positive impacts on other species or environmental goals (e.g. carbon storage, water management, nature engagement).
- **Climate Impact:** Vulnerability to climate change.
- **Recent Gains:** Benefits from past conservation work and potential for further progress.

All species were then assigned a priority level of 'Urgent,' 'High,' 'Medium,' or 'Low' based on their total score. Species assessed as 'Urgent' or 'High' were designated as priority species or into assemblages:

- **Priority Species:** With individual measures detailed in the LNRS (21 Suffolk-based, 23 Norfolk-based)
- **Assemblage Members:** Grouped by primary habitat requirements, forming 15 assemblages. Each assemblage included a flagship species to serve as a public engagement symbol and a success indicator for conservation efforts.

For each of these, appropriate measures and supporting evidence were detailed, including location data and relevant documentation.

The longlist of species was produced for each county using all available online data. Species on this list were expected to benefit from LNRS actions through the creation or enhancement of high-quality habitats in suitable areas. While medium- and low-priority species were not included in the final strategy, those likely to receive significant conservation support via other mechanisms were also highlighted.
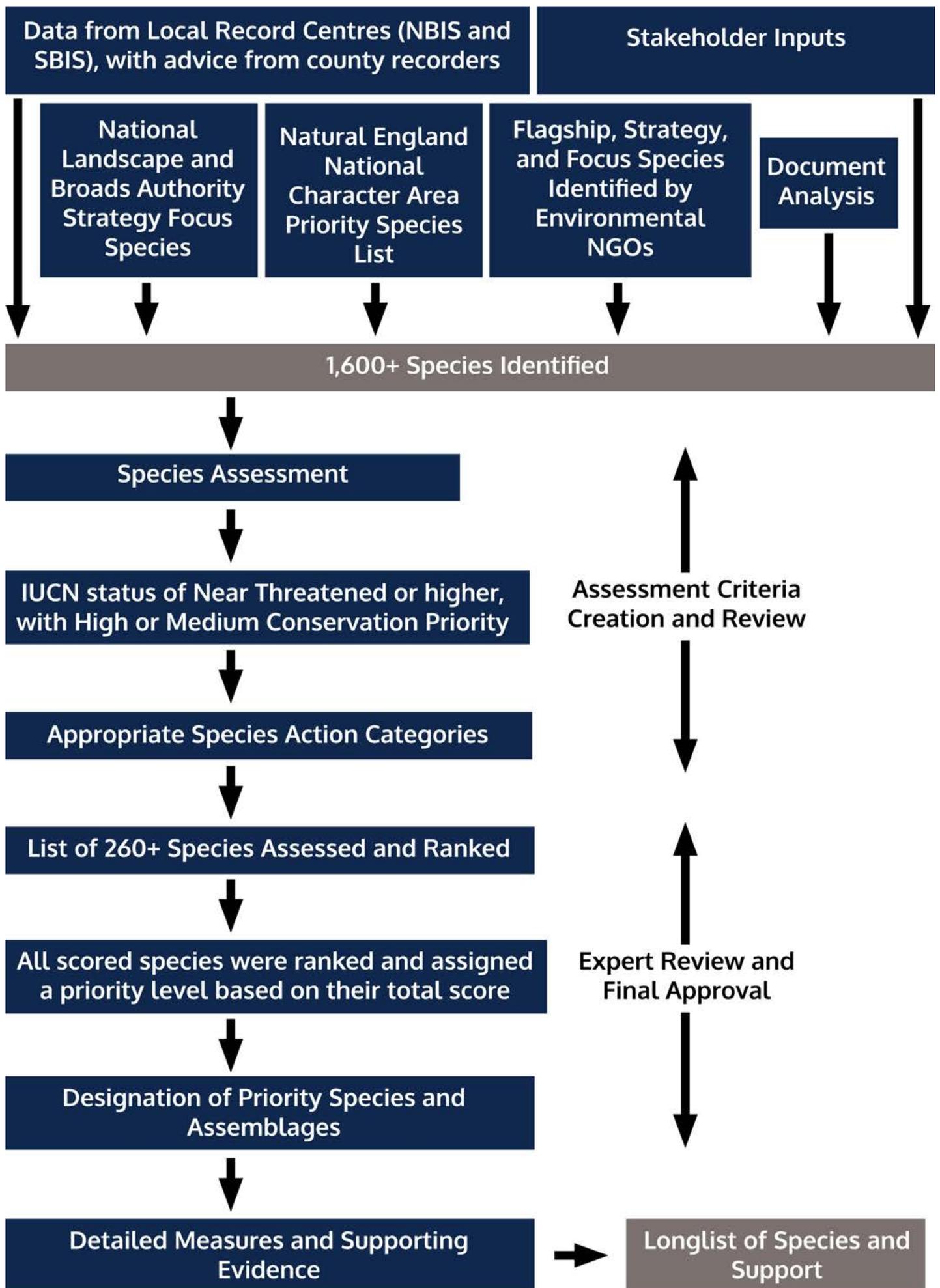
These species-based priorities are presented within the Statement of Biodiversity Priorities and linked to the strategic opportunity mapping where appropriate.

Further information on the assessment criteria and scoring system employed is available at www.nsnrp.org.

Disclaimer: Gathering data on Suffolk and Norfolk's rare and threatened species is challenging. The LNRS has been supported by the Norfolk and Suffolk Biodiversity Information Services (NBIS and SBIS) and county recorders.

At the time of production of the LNRS, these actions were expected to be the most suitable nature recovery techniques to support these species based on the information available. However, expected changes to climate patterns may be unpredictable and the actions to support species should be adapted to the latest understanding of how species and habitats are also being affected by the changing climate when information and evidence is available and during LNRS review.

Figure 15. Species longlist and prioritisation process

Data from Local Record Centres (NBIS and SBIS), with advice from county recorders

Stakeholder Inputs

National Landscape and Broads Authority Strategy Focus Species

Natural England National Character Area Priority Species List

Flagship, Strategy, and Focus Species Identified by Environmental NGOs

Document Analysis

1,600+ Species Identified

Species Assessment

IUCN status of Near Threatened or higher, with High or Medium Conservation Priority

Assessment Criteria Creation and Review

Appropriate Species Action Categories

List of 260+ Species Assessed and Ranked

All scored species were ranked and assigned a priority level based on their total score

Expert Review and Final Approval

Designation of Priority Species and Assemblages

Detailed Measures and Supporting Evidence

Longlist of Species and Support

Full Suffolk species shortlist

Table 67. Key Species

Common Name(s)	Scientific Name	Taxon Group
Basil-thyme Case-bearer	Coleophora tricolor	Invertebrates
Bark Sulphur-firedot	Caloplaca flavorubescens	Lichen and Fungi
Crested cow-wheat	Melampyrum cristatum	Vascular Plants
Dwarf eelgrass	Zostera noltei	Vascular Plants
Eurasian Curlew	Numenius arquata	Birds
European Eel	Anguilla anguilla	Fish
Fen Raft Spider	Dolomedes plantarius	Invertebrates
Hazel Dormouse	Muscardinus avellanarius	Mammals
Kittiwake	Rissa tridactyla	Birds
Lapwing	Vanellus vanellus	Birds
Little Whirlpool Rams-horn Snail	Anisus (Disculifer) vorticulus	Invertebrates
Narrow-mouthed Whorl Snail	Vertigo angustior	Invertebrates
Orange-Fruited Elm-lichen	Caloplaca luteoalba	Lichen and Fungi
Rosser's sac-spider	Clubiona roserae	Invertebrates
Scarce Vapourer	Orgyia recens	Invertebrates
Serotine	Eptesicus serotinus	Mammals
Starlet Sea Anemone	Nematostella vectensis	Invertebrates
Suffolk lungwort	Pulmonaria obscura	Vascular Plants
Tassel stonewort	*Tolypella intricata*	Non Vascular Plants
Water Vole	Arvicola amphibius	Mammals
White clawed crayfish	Austropotamobius pallipes	Invertebrates

Table 68. Assemblage Species

Common Name(s)	Scientific Name	Taxon Group
A beetle	*Lycoperdina succincta*	Invertebrates
A firedot lichen	*Caloplaca virescens*	Lichen and Fungi
A fly	*Erioptera bivittata*	Invertebrates
A jumping spider	*Neon valentulus*	Invertebrates
A lichen	*Wadeana minuta*	Lichen and Fungi
A lichen	*Verrucaria xyloxena*	Lichen and Fungi
A spider	*Rhysodromus fallax*	Invertebrates
A spider	*Baryphyma maritimum*	Invertebrates
A spider	*Clubiona frisia*	Invertebrates
Adder	*Vipera berus*	Reptiles and Amphibians
Arctic Tern	*Sterna paradisaea*	Birds
Atlantic salmon	*Salmo salar*	Fish
Barbastelle Bat	*Barbastella barbastellus*	Mammals
Barberry Carpet	*Pareulype berberata*	Invertebrates
Beaver	*Castor fiber*	Mammal
Beech	*Fagus sylvatica*	Vascular Plants
Bell Heather	*Erica cinerea*	Vascular Plants
Bittern	*Botaurus stellaris*	Birds
Black poplar	*Populus nigra subsp. betulifolia*	Vascular Plants
Borrers Saltmarsh-grass	*Puccinellia fasciculata*	Vascular Plants
Broad-fruited Cornsalad	*Valerianella rimosa*	Vascular Plants
Broads Long-legged Fly	*Dolichopus laticola*	Invertebrates
Brook lamprey	*Lampetra planeri*	Fish
Brown Hairstreak	*Thecla betulae*	Invertebrates
Bullfinch	*Pyrrhula pyrrhula*	Birds
Bur Medick	*Medicago polymorpha*	Vascular Plants
Chalk Hill Blue	*Polyommatus coridon*	Invertebrates
Chamomile	*Chamaemelum nobile*	Vascular Plants
Common Cuckoo	*Cuculus canorus*	Birds
Common eelgrass	*Zostera marina*	Vascular Plants
Common Swift	*Apus apus*	Birds
Common Tern	*Sterna hirundo*	Birds
Common toad	*Bufo bufo*	Reptiles and Amphibians
Corn Bunting	*Emberiza calandra*	Birds
Creeping Marshwort	*Apium repens*	Vascular Plants
Cylindrical Whorl Snail	*Truncatellina cylindrica*	Invertebrates
Dark Crimson Underwing	*Catocala sponsa*	Invertebrates
Depressed river mussel	*Pseudanodonta complanata*	Invertebrates
Deptford Pink	*Dianthus armeria*	Vascular Plants
Desmoulin's Whorl Snail	*Vertigo moulinsiana*	Invertebrates

Common Name(s)	Scientific Name	Taxon Group
Devil's-bit Scabious	*Succisa pratensis*	Vascular Plants
Dingy Skipper	*Erynnis tages*	Invertebrates
Divided Sedge	*Carex divisa*	Vascular Plants
Drab Wood-soldierfly	*Solva marginata*	Invertebrates
Eagle's claws lichen	*Anaptychia ciliaris*	Lichen and Fungi
Early Marsh-orchid (cream-flowered)	*Dactylorhiza incarnata*	Vascular Plants
Fen Mason-wasp	*Odynerus simillimus*	Invertebrates
Fen orchid	*Liparis loeselii*	Vascular Plants
Fen Ragwort	*Jacobaea paludosa*	Vascular Plants
Fenn's Wainscot	*Protarchanara brevilinea*	Invertebrates
Field gentian	*Gentianella campestris*	Vascular Plants
Field Maple	*Acer campestre*	Vascular Plants
Field Wormwood/Breckland Mugwort	*Artemisia campestris*	Vascular Plants
Fingered speedwell	*Veronica triphyllos*	Vascular Plants
Fly Orchid	*Ophrys insectifera*	Vascular Plants
Frog Orchid	*Coeloglossum viride*	Vascular Plants
Frogbit	*Hydrocharis morsus-ranae*	Vascular Plants
Golden Hoverfly	*Callicera spinolae*	Invertebrates
Grass snake	*Natrix helvetica*	Reptiles and Amphibians
Grass-poly	*Lythrum hyssopifolia*	Vascular Plants
Grayling Butterfly	*Hipparchia semele*	Invertebrates
Great Crested Newt	*Triturus cristatus*	Reptiles and Amphibians
Great sundew	*Drosera anglica*	Vascular Plants
Greater Butterfly-orchid	*Platanthera chlorantha*	Vascular Plants
Greater Water Parsnip	*Sium latifolium*	Vascular Plants
Green winged orchid	*Anacamptis morio*	Vascular Plants
Greenfinch	*Chloris chloris*	Birds
Grey Carpet	*Lithostege griseata*	Invertebrates
Grey Hair Grass	*Corynephorus canescens*	Vascular Plants
Grey Partridge	*Perdix perdix*	Birds
Ground-pine	*Ajuga chamaepitys*	Vascular Plants
Hawfinch	*Coccothraustes coccothraustes*	Birds
Heath Dog-violet	*Viola canina*	Vascular Plants
Hedgehog	*Erinaceus europaeus*	Mammals
Hen Harrier	*Circus cyaneus*	Birds
Hornbeam	*Carpinus betulus*	Vascular Plants
House Martin	*Delichon urbicum*	Birds
House Sparrow	*Passer domesticus*	Birds
Interrupted Brome	*Bromus interruptus*	Vascular Plants
Juniper	*Juniperus communis*	Vascular Plants
Kestrel	*Falco tinnunculus*	Birds

Common Name(s)	Scientific Name	Taxon Group
Kingfisher	*Alcedo atthis*	Birds
Large Marsh Grasshopper	*Stethophyma grossum*	Invertebrates
Large-mouthed Valve Snail	*Valvata macrostoma*	Invertebrates
Lesser Spotted Woodpecker	*Dryobates minor comminutus*	Birds
Linnet	*Linaria cannabina*	Birds
Little Tern	*Sternula albifrons*	Birds
Man Orchid	*Orchis anthropophora*	Vascular Plants
Marsh Tit	*Poecile palustris subsp. palustris/dresseri*	Birds
Military Orchid	*Orchis militaris*	Vascular Plants
Milk Parsley	*Thysselinum palustre*	Vascular Plants
Native Elm	*Ulmus serrata*	Vascular Plants
Native oyster	*Ostrea edulis*	Invertebrates
Natterjack toad	*Epidalea calamita*	Reptiles and Amphibians
Nightingale	*Luscinia megarhynchos*	Birds
Nightjar	*Caprimulgus europaeus*	Birds
Oak Polypore	*Piptoporus quercinus*	Lichen and Fungi
Opposite-leaved pondweed	*Groenlandia densa*	Vascular Plants
Orange-horned Green Colonel	*Odontomyia angulata*	Invertebrates
Oystercatcher	*Haematopus ostralegus*	Birds
Pashford Pot Beetle	*Cryptocephalus exiguus*	Invertebrates
Pedunculate Oak	*Quercus robur*	Vascular Plants
Pedunculate Sea-purslane	*Atriplex pedunculata*	Vascular Plants
Prickly Saltwort	*Salsola kali subsp. kali*	Vascular Plants
Proliferous Pink	*Petrorhagia prolifera*	Vascular Plants
Prostrate Perennial Knawel	*Scleranthus perennis subsp. prostratus*	Vascular Plants
Purple Emperor	*Apatura iris*	Invertebrates
Red-backed Shrike	*Lanius collurio*	Birds
Redpoll	*Acanthis cabaret*	Birds
Redshank	*Tringa totanus*	Birds
Red Tipped Cudweed	*Filago lutescens*	Vascular Plants
Ribbon-leaved Water-plantain	*Alisma gramineum*	Vascular Plants
Ringed Plover	*Charadrius hiaticula*	Birds
Rock rose	*Helianthemum nummularium*	Vascular Plants
Round leaved sundew	*Drosera rotundifolia*	Vascular Plants
Rowan	*Sorbus aucuparia*	Vascular Plants
Sand catchfly	*Silene conica*	Vascular Plants
Sandwich Click Beetle	*Melanotus punctolineatus*	Invertebrates
Scarce emerald damselfly	*Lestes dryas*	Invertebrates

Back to start of section

Common Name(s)	Scientific Name	Taxon Group
Scarce Pug	*Eupithecia extensaria subsp. oc-cidua*	Invertebrates
Sea Barley	*Hordeum marinum*	Vascular Plants
Sea-heath	*Frankenia laevis*	Vascular Plants
Seaside Pansy	*Viola tricolor subsp. curtisii*	Vascular Plants
Sheet weaver spider	*Agyneta fuscipalpa*	Invertebrates
Shepherd's-needle	*Scandix pecten-veneris*	Vascular Plants
Silver Studded Blue	*Plebejus argus*	Invertebrates
Skylark	*Alauda arvensis*	Birds
Slender Tare	*Vicia parviflora*	Vascular Plants
Small Cord-grass	*Spartina maritima*	Vascular Plants
Small Leaved LIme	*Tilia cordata*	Vascular Plants
Small-flowered Catchfly	*Silene gallica*	Vascular Plants
Spider	*Centromerus semiater*	Invertebrates
Spider	*Gongylidiellum murcidum*	Invertebrates
Spined Loach	*Cobitis taenia*	Fish
Spiny Restharrow	*Ononis spinosa*	Vascular Plants
Spotted Cat's-ear	*Hypochaeris maculata*	Vascular Plants
Spotted Flycatcher	*Muscicapa striata*	Birds
Spring Speedwell	*Veronica verna*	Vascular Plants
Starfruit	*Damasonium alisma*	Vascular Plants
Starling	*Sturnus vulgaris*	Birds
Stone curlew	*Burhinus oedicnemus*	Birds
Stoneworts	*Chara species*	Non-Vascular Plants
String of Sausages Lichen	*Usnea articulata*	Lichen and Fungi
Sulphur Clover	*Trifolium ochroleucon*	Vascular Plants
Swallow	*Hirundo rustica*	Birds
Swallowtail	*Papilio machaon*	Invertebrates
Sweet Chestnut	*Castanea sativa*	Vascular Plants
Swollen Spire Snail	*Mercuria tachoensis*	Invertebrates
Tansy Beetle	*Chrysolina graminis*	Invertebrates
Thorned Yellow Splay	*Erioptera meijerei*	Invertebrates
Tree Sparrow	*Passer montanus*	Birds
Turtle Dove	*Streptopelia turtur*	Birds
Twayblade	*Neottia ovata*	Vascular Plants
Water Dock Case Bearer	*Coleophora hydrolapathella*	Invertebrates
Water violet	*Hottonia palustris*	Vascular Plants
White Admiral	*Limenitis camilla*	Invertebrates
White Letter Hairstreak	*Satyrium w-album*	Invertebrates
Whooper swan	*Cygnus cygnus*	Birds
Wild Pansy	*Viola tricolor*	Vascular Plants
Wild Service Tree	*Sorbus torminalis*	Vascular Plants
Willow Tit	*Poecile montanus*	Birds
Wolf Spider	*Hygrolycosa rubrofasciata*	Invertebrates

Back to start of section

Common Name(s)	Scientific Name	Taxon Group
Woodlark	*Lullula arborea*	Birds
Wormwood moonshiner	*Amara fusca*	Invertebrates
Yellow Vetchling	*Lathyrus aphaca*	Vascular Plants
Yellow Wagtail	*Motacilla flava*	Birds
Yellowhammer	*Emberiza citrinella*	Birds
Yellow-vetch	*Vicia lutea*	Vascular Plants
Yew	*Taxus baccata*	Vascular Plants
Zircon Reed Beetle	*Donacia aquatica*	Invertebrates

Table 69. Species expected to benefit from proposed LNRS measures

Common Name(s)	Scientific Name	Taxon Group
A beetle	*Pseudotriphyllus suturalis*	Invertebrates
A lichen	*Bellicidia incompta*	Lichen and Fungi
A lichen	*Calicium notarisii*	Lichen and Fungi
A lichen	*Cladonia rei*	Lichen and Fungi
A lichen	*Cliostomum corrugatum*	Lichen and Fungi
A lichen	*Gyalecta flotovii*	Lichen and Fungi
A lichen	*Lecanora sublivescens*	Lichen and Fungi
A lichen	*Porina rosei*	Lichen and Fungi
A lichen	*Psora decipiens*	Lichen and Fungi
A lichen	*Ramonia chrysophaea*	Lichen and Fungi
A lichen	*Roccella phycopsis*	Lichen and Fungi
A lichen	*Thalloidima physaroides*	Lichen and Fungi
A long toed water beetle	*Dryops anglicanus*	Invertebrates
Bewick's Swan (Tundra Swan)	*Cygnus columbianus bewickii*	Birds
Common Cudweed	*Filago vulgaris*	Vascular Plants
Coot	*Fulica atra*	Birds
Corn Spurrey	*Spergula arvensis*	Vascular Plants
Cross-leaved Heath	*Erica tetralix*	Vascular Plants
Divided Sedge	*Carex divisa*	Vascular Plants
Dwarf Stonewort	*Nitella tenuissima*	Non-Vascular Plants
Eurasian Red Squirrel	*Sciurus vulgaris*	Mammal
Field Mouse-ear	*Cerastium arvense*	Vascular Plants
Fine-leaved Sandwort	*Minuartia hybrida*	Vascular Plants
Flat-sedge	*Blysmus compressus*	Vascular Plants
Fritillary	*Fritillaria meleagris*	Vascular Plants
Frogbit Smut	*Tracya hydrocharidis*	Lichen and Fungi
Goldeneye	*Bucephala clangula*	Birds
Grape-hyacinth	*Muscari neglectum*	Vascular Plants
Gypsy Moth	*Lymantria dispar*	Invertebrates
Harebell	*Campanula rotundifolia*	Vascular Plants
Heath Milkwort	*Polygala serpyllifolia*	Vascular Plants
Heath Speedwell	*Veronica officinalis*	Vascular Plants
Hoary Plantain	*Plantago media*	Vascular Plants
Jumping spider	*Marpissa radiata*	Invertebrates
Large Copper	*Lycaena dispar*	Invertebrates
Least Lettuce	*Lactuca saligna*	Vascular Plants
Maiden Pink	*Dianthus deltoides*	Vascular Plants
Moorhen	*Gallinula chloropus*	Birds
Mousetail	*Myosurus minimus*	Vascular Plants

Back to start of section

Common Name(s)	Scientific Name	Taxon Group
Osprey	*Pandion haliaetus*	Birds
Oxlip	*Primula elatior*	Vascular Plants
Pillwort	*Pilularia globulifera*	Non-Vascular Plants
Ragged-Robin	*Silene flos-cuculi*	Vascular Plants
Rare Spring-sedge	*Carex ericetorum*	Vascular Plants
Red-breasted Merganser	*Mergus serrator*	Birds
Sainfoin	*Onobrychis viciifolia*	Onobrychis viciifolia
Sanicle	*Sanicula europaea*	Vascular Plants
Scaly Breck-Lichen	*Squamarina lentigera*	Lichen and Fungi
Scarlet Malachite Beetle	*Malachius aeneus*	Invertebrates
Scrambled egg lichen	*Fulgensia fulgens*	Lichen and Fungi
Set-aside Downy-back	*Ophonus laticollis*	Invertebrates
Shepherd's Cress	*Teesdalia nudicaulis*	Vascular Plants
Shingle spider	*Neon pictus*	Invertebrates
Small Blue	*Cupido minimus*	Invertebrates
Small Cudweed	*Filago minima*	Vascular Plants
Small Heath	*Coenonympha pamphilus*	Invertebrates
Smooth Cat's-ear	*Hypochaeris glabra*	Vascular Plants
Spider	*Pelecopsis radicicola*	Invertebrates
Spider	*Phaeocedus braccatus*	Invertebrates
Spider	*Trichoncus hackmani*	Invertebrates
Tiny Earthstar	*Geastrum minimum*	Lichen and Fungi
Tormentil	*Potentilla erecta*	Vascular Plants
Whinchat	*Saxicola rubetra*	Birds
Witches' Whiskers Lichen	*Usnea florida*	Lichen and Fungi
Wolf Spider	*Arctosa fulvolineata*	Invertebrates
Wryneck	*Jynx torquilla*	Birds

Back to start of section

Appendix 3: Priorities associated to environmental objectives

To demonstrate how the priorities identified within this strategy deliver against the appropriate ambitions and environmental objectives, the following tables **(Tables 71-91)** list the considered alignment between measures, benefits and targets. Each benefit or target is assigned a code eg WEB1 within the tables below, and were ranked in terms of their considered relevance.

Table 70 summarises the habitats that would have the potential to impact these wider environmental and co-benefits to the highest (key) and to a lesser extent. This information could link to decision making and prioritisation within project design for nature recovery actions in specific areas.

For each habitat area, the priorities were assessed against:

Wider Environmental Benefits (see **Part B**)

- ○ Climate change mitigation (WEB1)
- ○ Improvement in water quality (WEB2)
- ○ Increasing water quantity (WEB3)
- ○ Improving air quality (WEB4)
- ○ Improving soil quality and health (WEB5)
- ○ Reduction in flood risk (WEB6)

Environment Act (2021) targets:

- ○ restore or create in excess of 500,000 hectares of wildlife-rich habitat outside of protected sites (EA1)
- ○ halt the decline of species abundance (EA2)
- ○ reduce the risk of species' extinction (EA3)
- ○ increase total tree and woodland cover (EA4)
- ○ improve water quality and availability (EA5).

National Environmental Objectives (NEOs):

- ○ work to ensure that everyone in England lives within 15 minutes' walk of a green or blue space (NEO1)
- ○ restore approximately 280,000 hectares of peatland (NEO2)
- ○ restore 75% of our water bodies to good ecological status (NEO3)
- ○ protect 30% of land and sea for nature's recovery (NEO4)
- ○ support farmers to create or restore 30,000 miles of hedgerows (NEO5)
- ○ manage our woodlands for biodiversity, climate and sustainable forestry (NEO6)
- ○ restore 75% of Sites of Special Scientific Interest to favourable condition by 2042 (NEO7)
- ○ ensure delivery and management of actions and policies that contribute towards our goals are suitable and adaptive to a changing climate (NEO8)

- ○ make sure LNRSs include proposals for nature-based solutions which improve flood risk management where appropriate (NEO9)

- ○ achieve Good Environmental Status for our seas (NEO10)

- ○ reduce emissions of nitrogen oxides by 73% and ammonia by 16% (NEO11)

- ○ reducing the rates of introduction and establishment of invasive non-native species by at least 50%, (NEO12).

Protected Landscapes non-statutory targets:

- ○ restore or create more than 250,000 hectares of a range of wildlife-rich habitats (PL1)

- ○ bring 80% of SSSIs into favourable condition (PL2)

- ○ for 60% of SSSIs assessed as having 'actions on track' to achieve favourable condition (PL3)

- ○ continuing favourable management of all existing Priority Habitat already in favourable condition and increasing to include all newly restored or created habitat through agri-environment schemes (PL4)

- ○ ensuring at least 65% to 80% of land managers adopt nature friendly farming on at least 10% to 15% of their land (PL5)

- ○ reduce net greenhouse gas emissions to net zero (PL6)

- ○ restore approximately 130,000 hectares of peat (PL7)

- ○ increase tree canopy and woodland cover (combined) by 3% of total land area (PL8)

Table 70. Identification of habitats with potential to deliver key wider environmental benefits

Habitat	Key wider environmental benefit	Lesser wider environmental benefit
Mixed Deciduous Woodland	• Air quality • Capturing carbon • Clean water source • Flood mitigation	• Improving marine environment • Managing climate resilience • Soil health
Wet Woodland	• Air quality • Capturing carbon • Clean water source	• Improving marine environment
Wood Pasture and Parkland	• Air quality • Capturing carbon	• Managing climate resilience • Soil health
Scrub	• Air quality • Clean water source	• Improving marine environment
Habitats in Farmed Landscapes	• Clean water source • Flood mitigation • Pollination	• Capturing carbon • Improving marine environment • Managing climate resilience • Soil health
Traditional Orchards	Not applicable	• Capturing carbon • Managing climate resilience • Soil health
Habitats in Urban, Built and Garden Environments	• Flood mitigation • Pollination	• Clean water source • Managing climate resilience • Soil health
Heathland and Acid Grassland	• Pollination	• Air quality • Capturing carbon • Improving marine environment • Soil health
Neutral and Calcareous Grassland	• Clean water source • Pollination	• Air quality • Capturing carbon • Improving marine environment • Soil health
Wet Grassland	• Clean water source • Pollination	• Air quality • Capturing carbon • Improving marine environment • Soil health
Rivers and Streams	• Clean water source • Flood mitigation • Improving marine environment	Not applicable
Still Water Habitats	• Water quantity	• Capturing carbon • Flood mitigation
Fen Habitats	• Capturing carbon • Clean water source	• Flood mitigation
Reedbeds	Clean water source	• Flood mitigation • Managing climate resilience

Back to start of section

Habitat	Key wider environmental benefit	Lesser wider environmental benefit
Coastal Saltmarsh and Intertidal Mudflats	• Clean water source • Flood mitigation • Improving marine environment	• Air quality • Managing climate resilience
Coastal Sand Dunes	• Flood mitigation • Improving marine environment	• Capturing carbon • Clean water source • Managing climate resilience
Coastal Vegetated Shingle	Flood mitigation	• Improving marine environment • Managing climate resilience
Maritime Cliffs and Slopes	Not applicable	• Flood mitigation • Managing climate resilience
Saline Lagoons	Capturing carbon	• Improving marine environment • Managing climate resilience

Back to start of section

Table 71. Mixed Deciduous Woodland delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new deciduous woodland	M	M	N	M	Y	M	EA4 EA1	NEO6 NEO9 NEO8	PL8
Enlarge and expand existing deciduous woodland	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO9 NEO8 NEO4	PL8
Connect deciduous woodland areas	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO4 NEO8	PL8
Restore and enhance existing deciduous woodland	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO4 NEO9 NEO12 NEO7	PL8

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 72. Wet Woodland delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new wet woodland where feasible	M	M	M	M	Y	M	EA4 EA1	NEO6 NEO9 NEO8	PL8
Enlarge and expand existing wet woodland	Y	M	M	M	Y	M	EA4 EA1	NEO6 NEO9 NEO8 NEO4	PL8
Connect wet woodland areas	Y	M	M	M	Y	M	EA4 EA1	NEO6 NEO9 NEO8 NEO4	PL8
Restore and enhance existing wet woodland	Y	M	M	M	Y	M	EA4 EA1	NEO6 NEO4 NEO9 NEO12 NEO8	PL8

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Table 73. Scrub delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new scrub where feasible and desirable	Y	N	M	M	Y	M	EA1 EA3	NEO4 NEO8	NA
Enlarge and expand existing scrub	Y	N	M	M	Y	M	EA1 EA3	NEO4 NEO8	NA
Connect scrub areas	Y	N	M	M	Y	M	EA1 EA3	NEO4 NEO8	NA
Restore and enhance existing scrub	Y	N	M	M	Y	M	EA1 EA3	NEO4 NEO12 NEO8 NEO7	NA

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Table 74. Habitats in Farmed Landscapes delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Enlarge and expand existing arable field margins	M	M	N	M	Y	M	EA1 EA3	NEO4 NEO8	PL5
Connect arable field margins	Y	M	N	M	Y	M	EA1 EA3	NEO4 NEO8	PL5
Restore and enhance existing arable field margins	Y	M	N	M	Y	M	EA1 EA3	NEO4 NEO12 NEO8 NEO7	PL5
Create new hedgerows using appropriate native species	M	M	N	M	Y	M	EA1 EA3	NEO5 NEO8	PL5
Restore and enhance existing hedgerows	M	M	N	M	Y	M	EA1 EA3	NEO5 NEO12 NEO8 NEO7	PL5
Establish more hedgerow tress	Y	M	N	M	Y	M	EA1 EA3	NEO5 NEO8	PL5

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 75. Wood Pasture and Parkland delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new wood pasture where feasible	M	M	N	M	Y	M	EA4 EA1	NEO6 NEO8	PL8
Enlarge and expand existing wood pasture	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO8 NEO4	PL8
Connect wood pasture areas	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO8 NEO4	PL8
Restore and enhance existing wood pasture	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO8 NEO4	PL8
Restore, enhance and re-create existing and former parkland	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO4 NEO12 NEO8 NEO7	PL8

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 76. Traditional Orchards delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new traditional orchards where feasible	M	M	N	M	Y	M	EA4 EA1	NEO6 NEO8	PL8
Enlarge and expand existing traditional orchards	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO8 NEO4	PL8
Restore and enhance existing traditional orchards	Y	M	N	M	Y	M	EA4 EA1	NEO6 NEO12 NEO8 NEO7	PL8

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 77. Habitats in Urban, Built and Garden Environments delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Improve the condition of the existing urban tree estate	Y	M	N	Y	M	M	EA4 EA1	NEO6 NEO8 NEO4	PL8
Increase urban tree cover	Y	M	N	Y	M	M	EA4 EA1	NEO6 NEO8 NEO4	PL8
Identify focus areas for improved garden connectivity and wildlife friendly management practices	M	M	M	Y	Y	M	EA1 EA2	NEO6 NEO1 NEO12 NEO8	PL8
Identify areas suitable for creation of community gardens	M	M	N	Y	Y	M	EA1 EA2	NEO1 NEO8 NEO4	NA
Create green crossings over roads or railway lines that fragment blocks of habitat	M	M	N	M	Y	M	EA1 EA2	NEO8 NEO4 NEO6	NA
Create or enhance areas of appropriate habitat alongside existing railway network or new infrastructure	M	M	N	M	Y	M	EA1 EA2	NEO8 NEO4 NEO6	NA
Create new habitats through drainage features on development sites	Y	Y	M	M	Y	M	EA1 EA5	NEO9 NEO8 NEO4	NA

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Table 78. Heathland and Acid Grassland delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new heathland areas where feasible and desirable	M	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Enlarge and expand existing heathland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Restore and enhance existing heathland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO12 NEO8	PL4
Create new acid grassland where feasible and desirable	M	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Enlarge and expand existing acid grassland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Restore and enhance existing acid grassland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Table 79. Grassland Habitat delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new grassland areas where feasible and desirable	M	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Enlarge and expand existing grassland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Connect grassland areas	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Restore and enhance existing grassland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO12 NEO8	PL4
Create new calcareous grassland areas where feasible and desirable	M	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Enlarge and expand existing calcareous grassland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Connect calcareous grassland areas	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Restore and enhance existing calcareous grassland	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO12 NEO8	PL4
Create new lowland meadows and pastures where feasible and desirable	M	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Enlarge and expand existing lowland meadows and pastures	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4

Back to start of section

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Connect lowland meadow and pasture areas	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO8	PL4
Restore and enhance existing lowland meadows and pastures	Y	M	N	M	Y	M	EA1 EA2	NEO7 NEO4 NEO12 NEO8	PL4

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 80. Wet Grassland delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new wet grassland and grazing marshes where feasible and desirable	M	M	M	M	Y	M	EA1 EA2	NEO4 NEO8	PL4
Enlarge and expand existing wet grassland and grazing marshes where feasible and desirable	Y	M	M	M	Y	M	EA1 EA2	NEO4 NEO8	PL4
Connect wet grassland and grazing marshes areas where feasible	Y	M	M	M	Y	M	EA1 EA2	NEO4 NEO8	PL4
Restore and enhance existing wet grassland and grazing marshes	Y	M	M	M	Y	M	EA1 EA2	NEO4 NEO12 NEO8 NEO7	PL4

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 81. Open Mosaic Habitat delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new open mosaic habitat where feasible and desirable	M	M	M	M	Y	M	EA1 EA2	NEO8	PL4
Enlarge and expand existing open mosaic habitat where feasible	Y	M	M	M	Y	M	EA1 EA2	NEO8	PL4
Improve and enhance existing open mosaic habitat	Y	M	M	M	Y	M	EA1 EA2	NEO12 NEO8 NEO7	PL4

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 82. Rivers and Streams delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Restore and enhance existing rivers, streams and ditches	Y	Y	Y	M	M	M	EA5	NEO3 NEO12 NEO8 NEO7	PL3
Improve management of water resources through nature-based solutions	Y	Y	Y	M	M	M	EA5	NEO9 NEO8	PL3
Strengthen mosaic of wetland habitats along river channels	Y	Y	Y	M	M	M	EA1 EA5	NEO3 NEO12 NEO8	PL3
Improve river, riparian and floodplain habitat	Y	Y	Y	M	M	M	EA5	NEO3 NEO12 NEO8	PL3
Restore and enhance chalk stream habitats	M	Y	Y	M	M	M	EA5	NEO3 NEO12 NEO8 NEO7	PL3

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Table 83. Still Water Habitats delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new still water habitats where feasible and desirable	M	Y	Y	M	M	M	EA5	NEO3 NEO8	PL3
Restore appropriate pond habitats	Y	Y	Y	M	M	M	EA5	NEO3 NEO12 NEO8 NEO7	PL3
Enhance existing pond habitats	Y	Y	Y	M	M	M	EA5	NEO3 NEO12 NEO8 NEO7	PL3
Restore, maintain and enhance lake and broad habitats	Y	Y	Y	M	M	M	EA5	NEO3 NEO12 NEO8	PL3

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 84. Fen Habitats delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new fen habitats and multi use wetlands	Y	Y	M	M	Y	M	EA1 EA5	NEO8	PL3
Enlarge, expand and connect existing fen habitats	Y	Y	M	M	Y	M	EA1 EA5	NEO8	PL3
Retore and enhance existing fen habitats	Y	Y	M	M	Y	M	EA1 EA5	NEO4 NEO2 NEO12 NEO8 NEO7	PL7

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 85. Reedbeds delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new reedbed habitat	M	Y	M	M	Y	M	EA1 EA5	NEO8	PL3
Enlarge, expand and connect existing reedbed habitat	Y	Y	M	M	Y	M	EA1 EA5	NEO8	PL3
Retore and enhance existing reedbed	Y	Y	M	M	Y	M	EA1 EA5	NEO4 NEO2 NEO12 NEO8 NE7	PL7

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 86. Coastal Saltmarsh and Intertidal Mudflats delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Create new saltmarsh where feasible and desirable	M	Y	M	M	Y	M	EA1 EA2	NEO8 NEO10	PL1
Enlarge and expand existing saltmarsh	Y	Y	M	M	Y	M	EA1 EA2	NEO8 NEO10	PL1
Restore and enhance existing saltmarsh	Y	Y	M	M	Y	M	EA1 EA2	NEO4 NEO12 NEO8 NEO12 NEO7	PL1
Create new intertidal mudflats where feasible and desirable	Y	Y	M	M	Y	M	EA1 EA2	NEO8 NEO10	PL1
Enlarge and expand existing intertidal mudflats	Y	Y	M	M	Y	M	EA1 EA2	NEO8 NEO10	PL1
Retore and enhance existing intertidal mudflats	Y	Y	M	M	Y	M	EA1 EA2	NEO4 NEO12 NEO8 NEO10 NEO7	PL1

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Table 87. Coastal Sand Dunes delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Facilitate the formation of new coastal sand dunes	M	M	N	M	M	M	EA1 EA2	NEO8	PL1
Enlarge and expand existing coastal sand dunes	Y	M	N	M	M	M	EA1 EA2	NEO8	PL1
Retore and enhance existing coastal sand dunes	Y	M	N	M	M	M	EA1 EA2	NEO4 NEO12 NEO8 NEO7	PL1

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 89. Coastal Vegetated Shingle delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Facilitate the formation of new coastal vegetated shingle	Y	M	N	M	M	M	EA1 EA2	NEO8	PL1
Enlarge and expand existing coastal vegetated shingle	Y	M	N	M	M	M	EA1 EA2	NEO8	PL1
Retore and enhance existing coastal vegetated shingle	Y	M	N	M	M	M	EA1 EA2	NEO4 NEO12 NEO8 NEO7	PL1

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 90. Maritime Cliffs and Slopes delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Facilitate the formation of new maritime cliffs and slopes	M	M	N	M	M	M	EA1 EA2	NEO8	PL1
Enlarge and expand existing maritime cliffs and slopes	Y	M	N	M	M	M	EA1 EA2	NEO8	PL1
Retore and enhance existing maritime cliffs and slopes	Y	M	N	M	M	M	EA1 EA2	NEO8	PL1

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Table 91. Saline Lagoons delivery against objectives for Wider Environmental Benefits (WEB), Environment Act targets (EA), National Environmental Objectives (NEO), and non-statutory targets for Protected Landscapes.

Potential Measure	WEB 1	WEB 2	WEB 3	WEB 4	WEB 5	WEB 6	EA	NEO	PL
Facilitate the formation of new saline lagoons	M	M	N	M	N	M	EA1	NEO3 NEO8 NEO10	PL1
Enlarge and expand existing saline lagoons	Y	M	N	M	N	M	EA1	NEO3 NEO8 NEO10	PL1
Retore and enhance existing saline lagoons	Y	M	N	M	N	M	EA1	NEO4 NEO12 NEO8 NEO10 NEO7	PL1

Green (Y) shows a major effect, orange (M) shows a minor effect, and grey (N) means no effect. NA means none applicable to the targets.

Back to start of section

Appendix 4: Methodology - Mapping

Overview

The mapped aspect of the LNRS is described in the statutory guidance as the 'Local Habitat Map'. This habitat map must consist of two main components:

- a map of areas of particular importance to biodiversity (APIB)
- a map of areas that could become of particular importance for biodiversity (ACB), which also details where potential nature recovery measures could be taken.

As well as these two main outputs, other data layers created to support the LNRS include a habitat basemap, used to classify the current extent of different habitats, and a broad map of strategic areas. This appendix provides an overview of the approach taken to create the Local Habitat Map layers, however a full technical methodology and list of data inputs can be found in the 'Technical Documentation' report, accessible from the NSNRP website.

The Local Habitat Map provides indicative suitable locations for nature recovery opportunities, however it does not place restrictions on what actions can take place and where. Additionally, the ACBs do not restrict other land-uses for any given location, and where an existing or planned land-use impacts a particular measure, caveats have been applied to the mapped opportunities.

The methods to create these three mapped components are detailed below, and consisted of a combination of stakeholder input and geospatial analysis, or 'rules-based mapping'. Whilst every effort has been made to ensure the accuracy of the mapping, the analysis undertaken has not been subject to ground-truthing and relies on a range of input datasets which may result in errors in classification for some parcels of land. The suitability of any site for proposed measures would require further assessment as detailed in **Part C**, which would include identification of any recent land use changes to ensure the most up to date information is included. It is expected that individual site surveys and feasibility studies will be undertaken prior to actioning any of the opportunities detailed in the map.

Part I. Identify areas of particular importance for biodiversity (APIB)

The APIB map shows areas that are currently recognised as important for biodiversity through various local, national and international designations.

The primary purpose of mapping potential measures is to identify areas that could become of particular importance for biodiversity (ACBs) and therefore the majority of measures are not being mapped to APIBs, which are already recognised for their importance to nature.

The types of sites that can be included in the APIB map are clearly defined in the LNRS Statutory Guidance. The purpose of these guidelines is to ensure that the APIB mapping is consistent across all LNRS areas, and so additional sites and other Priority Habitat areas could not be included at this stage. The types of sites and designations within the APIB map are described below.

Irreplaceable habitat
- Ancient woodland
- Veteran trees
- Coastal sand dunes
- Lowland fen
- Spartina saltmarsh swards and Mediterranean saltmarsh scrub

Local Designations
- County Wildlife Sites
- Local Nature Reserves

National Designations
- National Nature Reserves
- Sites of Special Scientific Interest
- Marine Conservation Zones (MCZ) (MCZs fall outside of the LNRS strategy boundary but are still included)

International Designations
- Special Protection Areas
- Special Areas of Conservation
- Ramsar Sites

Part II. Classification of existing habitats

A habitat basemap was produced which represents the best estimate of current habitat extents across the strategy area. This layer provided a baseline of habitat information on which the rest of the LNRS mapping was based. A 'best-guess' approach which combined the most accurate sources of data for different habitat types was used, as it was not feasible to carry out detailed surveying across the two strategy areas.

The habitat basemap combines data from the Ordnance Survey, Natural England Priority Habitats Inventory, Rural Payments Agency, and National Forest Inventory, amongst others. Habitats were classified under the industry standard UKHabs system, with additional land use information being incorporated to highlight areas which act as greenspace sites, allotments and playgrounds, for example.

Part III. Identify strategic areas

To help identify ACBs, a number of separate components were combined. Multiple different datasets were considered and assessed with expert stakeholder input, to determine which best represent areas of strategic significance for nature recovery. The components were then merged, and suitable land parcels within them were extracted, representing the total extent of ACBs. Each component representing an area of strategic significance is detailed below:

- '**Lawton Zones'**: A 250m buffer around existing APIB (with addition of Roadside Nature Reserves) representing the Lawton principles of bigger (where habitats could be expanded) and more joined (where new linkages between APIB could be created). The buffer was extended to 500m in places where this allowed two buffers to join up.
- **Churchyards**: A 250m buffer around churchyards, which can provide small stepping-stones of semi natural or natural habitat across the strategy areas.
- **Roadside Nature Reserves**: A 250m buffer around these sites which provide important wildlife corridors.
- **Veteran Trees**: A 30m buffer around tree point locations.
- **Deep peaty soils**: The extent of deep peat represents important fenland areas in Norfolk and Suffolk, as well as areas with the potential for associated

46

carbon storage.

- **Natural England Habitat Networks Expansion Zone 1** (including Priority Habitat Inventory): The NE habitat networks show where existing priority habitats could be made better, bigger and more joined. Use of the habitat networks means priority habitats outside of APIB designations can be captured and buffered within the ACB.
- **Rivers** (including chalk rivers): A 50m buffer around all main rivers, which offer vital habitat and connectivity through the landscape.

Land parcels at least 33% within these areas were then extracted from a habitat basemap to form the final ACB map. These also formed the baseline of candidate sites to which potential measures could be assigned.

Part IV: Mapping Potential Measures (PMs) and areas that could become of particular importance for biodiversity (ACBs)

A dual approach of stakeholder inputs and geospatial analysis was taken to assign suitable measures to land parcels within the strategic areas, based on the wide range of habitats identified in the statement of biodiversity priorities.

The potential measures identified within the local habitat map have been designed to highlight opportunities for nature recovery, and do not represent an exhaustive list of the types of actions that will be suitable in any given location. The map is based on a desk-based analysis, and so it is expected that more detailed site surveys should be undertaken to confirm the feasibility of

suggested measures. As with all parcels shown as ACB, the suitability of any site for proposed measures would require assessment to confirm the specific biodiversity opportunities for these areas.

Geospatial Rules-based Mapping of Measures

An analytical approach to mapping allowed specific measures for of each habitat type to be assigned consistently within any suitable areas across the strategy area. Suitability criteria specific to each habitat type were used to the candidate land parcels within the ACBs, with the relevant measure assigned to all suitable parcels. Suitability was assessed on factors such as:

- **Soil type**: Some habitats such as grassland, wetlands and heathlands require specific soil conditions which would limit habitat creation opportunities.
- **Proximity to floodplain:** Wetland habitats were restricted to floodplain areas, whilst for other habitats this was used to exclude unsuitable areas.
- **Existing Land Use:** Candidate land parcels were filtered based on the suitability of the existing land use/ habitat type (e.g. excluding urban infrastructure).
- **Proximity to target habitat fragments:** Targeting parcels close to existing areas of habitat helps to make them 'bigger' and 'more joined up'.
- **Landscape Character Type:** Using character areas to prioritise habitat creation ensures that efforts align with the unique ecological, cultural, and physical characteristics of each area.
- **Suitability for delivering environmental benefits:** Some habitat creation opportunities were assigned where they intersect

Back to start of section

with watercourses or overland flow pathways, in order to show where measures may deliver wider environmental benefits.
- **Suitability identified by external models and datasets**: Certain habitats have detailed suitability models already available, and so these datasets were incorporated where possible.

Additional caveat information was then added to highlight a need for further consideration where potential measures intersect certain land-uses. More detailed assessment of these caveated sites is recommended to identify if measures can be adapted to enhance existing land-uses and negate potential negative impacts.

Habitat Mosaics
In many areas of the local habitat map, multiple potential measures overlap within the same land parcels. Some of these overlaps provide an opportunity to create diverse, transitional landscapes through the development of habitat mosaics.

To support this, habitat mosaic measures have been applied to parcels identified as suitable for establishing two or more habitats that follow natural succession patterns (for example Other Neutral Grassland – Scrub – Mixed Deciduous Woodland).

An indicative proportion for each habitat within a mosaic has been given specifically to assist with Biodiversity Net Gain assessments. To determine the percentage contribution of each habitat within a mosaic, a weighting score was assigned based on its Biodiversity Net Gain distinctiveness category. These proportions are not intended to restrict the type of mosaic that may be most suitable

in a given location, and are indicative for BNG purposes only.

Wider Environmental Benefits
Measures that may offer wider environmental benefits or nature-based solutions have been highlighted by extracting suitable measures that intersect with some of the regional NbS models completed by Water Resources East, and the Working with Natural Process (WWNP) layers developed by the Environment Agency.

Additionally, specific measures relating to riparian enhancement have been generated adjacent to watercourses, and opportunities for arable field margins have been identified based on proximity to some overland flow pathways (areas where water moves across the surface). These measures represent locations which may offer benefits such as a reduction in the flow of water and rate of agrochemicals entering rivers and streams.

Linking measures for key and flagship species
The key species identified within the statement of biodiversity priorities were mapped using records from the Norfolk Biodiversity Information Service (NBIS). Overlaying species occurrences onto the ACBs helped to validate the map, by establishing to what extent species are supported by these areas.

Species records were then used to highlight the locations where mapped habitat measures may have particular relevance to key and flagship species. Relevant habitat measures that overlap with known distributions of each species have been identified and marked in the mapping with an additional species

Back to start of section

code (for example SPM01). The process used to link habitat measures to key and flagship species was as follows:

- the most relevant habitat measures for each species were determined
- species records were used to extract the relevant habitat measures in areas with existing populations
- external suitability models were also included where available, for instance water vole and great crested newt opportunity areas from Natural England were used to highlight additional areas for these species.
- the extracted habitat measures were assigned an additional species code to link these to the relevant parts of the strategy document.

The measures identified as having links to key and flagship species are indicative only, representing relevant opportunities to improve habitat for known populations. Measures marked with a species code do not represent a detailed model of individual species requirements, and must not replace more detailed ecological assessment of species needs.

Stakeholder Mapping of Measures

Stakeholders provided additional mapped measures through input into an online mapping tool and through submission of spatial data files. Each stakeholder measure was evaluated manually to determine if the suggestion aligned with the measures and strategic areas identified within the LNRS, or whether there was ecological justification for inclusion of the suggested measures outside of the strategic areas. Suitable suggestions were then added to the ACB map layer.

Unmapped Measures

It is not possible to map all of the measures detailed within the strategy, as some can be applied widely across many different areas, or would require more detailed surveying to select suitable sites. A large amount of unmapped measures occur within urban locations, where the available data is less able to define suitable locations due to the complexity of the urban environment. It is recommended that the full range of unmapped measures are considered alongside those represented on the local habitat map.

LNRS Mapping Caveats

The LNRS mapping is based on geospatial analysis of existing datasets, and it has not been possible to ground-truth any of the outputs within the development of the LNRS. Therefore, whilst every effort has been made to ensure the accuracy of the mapping, there is potential for errors to be present in the outputs. It is recommended that a thorough site-specific assessment is carried out prior to implementing any of the actions suggested within the Local Habitat Map.

Input Datasets

While the England Peat Map (NERR149) presents the most accurate picture of England peat resources to date, it is acknowledged in the report that there remain uncertainties and limitations in the models. Some areas of peat will have been missed, and there will be places where the map predicts peat where it may not actually occur. In addition, predictions for extent and depth are weaker in lowland areas due to limited survey data availability and there is an aim to address this in future updates.

Back to start of section

As a predictive model, the England Peat Map should not be used as a stand-alone justification for action at a given site. This does not mean that the outputs should be disregarded for specific sites, or in lowland environments, but instead viewed as indicative at this scale (as should the corresponding LNRS mapped measures). Site surveys are therefore recommended at the project-level where there are uncertainties about the status of the peaty soils and where peat is thought to be a consideration. This will be especially important in the Broads where the situation is complex, with buried peat often layered under other soil types. See the TIN226 England Peat Map User Guide for further information.

The Natural England Priority Habitats Inventory has also been used to identify certain habitat types. This may include misclassification of habitats in some areas, and inaccurate mapping of habitat boundaries, and so it is recommended that more detailed habitat surveying is undertaken where needed. Whilst measures are mapped to a whole land parcel level of detail, in many cases the proposed action may not be suitable to apply across the whole extent of the parcel.

Land-use Change

All measures mapped within the Local Habitat Map are indicative suggestions based on the best available information, and it is ultimately the responsibility of the landowner to determine the suitability of a suggested measure based on site-specific information. The LNRS does not place any restriction on potential land-uses.

Areas with potentially conflicting land-uses such as amenity greenspaces, historic sites and planned developments have been included within the mapping, as some measures may be suitable for these types of sites. Caveats are applied to these locations, and it is recommended that any proposed actions are considered alongside existing land-use plans to assess their suitability. Those seeking to action potential measures in these areas should contact the relevant local authorities for further guidance.

Measures linked to species

Mapped species information and measures with species codes applied are indicative only, and represent where existing mapped habitat measures may have additional benefits to known populations of key and flagship species within the LNRS. The information within the LHM does not represent a comprehensive map of every location where a species may be present or may benefit from nature recovery actions, and should not be used in place of more detailed suitability modelling.

The species records used to identify existing populations are likely to contain outdated records, and in some areas records may be absent due to a lack of recorder effort, rather than confirmed species absence. For locations where each species is present, the most relevant existing habitat measures have been identified in the LNRS mapping to provide contextual information to link habitat measures to the key and flagship species within the LNRS. However, this does not represent a model of suitability for any particular species, and it is advised that further habitat suitability

modelling is carried out for all actions looking to target particular species, as a range of other site-specific factors will impact the suitability of particular measures.

The mapped areas for species are also limited to within 1km of existing populations (apart from where nationally available suitability models have been used). In some cases the likely dispersal distance from a species will be greater than 1km, meaning measures outside of the mapped areas may also be applicable. For some species, translocation to new suitable sites may also be preferable, and information on this can be found within the LNRS strategy document. It has not been possible to map new suitable areas for translocation within the LNRS.

Impacts on the Historic Environment

Any planned nature-recovery actions should take account of historic features in order to mitigate against potential negative impacts. Within the Local Habitat Map, sites such as registered parks and gardens and scheduled monuments have had caveats applied. Deciduous woodland measures have not been applied to these areas as these were deemed to have the greatest potential to negatively impact historic features. There are many other historic sites as detailed in the SHINE inventory which may be impacted by proposed measures, but which it was not possible to map. For this reason it is recommended that the relevant Historic Environment Record Centre is contacted for further advice.

Back to start of section

Appendix 5: Partnership overview

The Norfolk and Suffolk Nature Recovery Partnership (NSNRP) brings together approximately 80 local organisations with a shared vision for protecting and restoring nature in East Anglia. It is convened by Norfolk and Suffolk County Councils.

The Partnership was created to develop the Norfolk and Suffolk 25 Year Environment Plan and has worked with the University of East Anglia to create a comprehensive inventory of nature in both counties, The Natural Capital Evidence Compendium.

Now, because of the significant advantages of working closely with neighbouring counties to develop Local Nature Recovery Strategies, the Partnership's main focus throughout 2025 has been the development of a strategy for each county. Moving forward from publication, the focus will be on delivery and implementation under relevant guidance.

Oversight

Supporting Authorities provided oversight for each strategy. These include 12 district and borough councils, the Broads Authority and Natural England.

The Partnership LNRS Steering Group represented a broad membership of key stakeholder organisations and provided guidance and advice on strategy development.

Evidence and Expertise

The Steering Group operated in conjunction with six specialist Themed Working Groups and other sector experts, providing a wide range of experience, expertise and representation.

Delivery

The Nature Recovery Partnership Manager co-ordinated delivery teams from each County Council who were responsible for delivering a wide-ranging programme of face-to-face and online engagement, data analysis to inform the strategy and creating the strategy document.

Suffolk Planning Themed Working Group meeting.

52

Appendix 6: Glossary

ACB: areas that could become of particular importance for biodiversity – those areas identified to be of strategic significance and present opportunities for nature recovery.

APIB: areas of particular importance for biodiversity - the locations of the important and diverse habitats that make up the ecological network across the county.

Abstraction (in context of water resources): The removal of water from natural sources like rivers or groundwater for human use.

Access to nature for people: The LNRS seeks to ensure inclusive and equitable access to nature for everyone, regardless of age, ability, or background.

Ancient woodland: Woodland that has existed continuously since 1600 or before in England and Wales.

Aquifers: Underground layers of water-bearing permeable rock, rock fractures or unconsolidated materials.

Arable: any land capable of being ploughed and used to grow crops.

Assemblage: Within this LNRS, this refers to a group of species that co-exist within a specific habitat type, such as grassland, woodland or urban environment. A flagship species has been selected for each assemblage to symbolise conservation efforts and engage the public.

Biodiversity: The variety of plant and animal life in a particular habitat or on Earth generally.

Biodiversity Net Gain (BNG): An approach to development that leaves biodiversity in a better state than before. Developers and Local Planning Authorities must deliver a BNG of 10%. The LNRS plays a role in BNG by determining the 'strategic significance' multiplier within the biodiversity metric. This mechanism means that there is an incentive for developers to align with the LNRS in their area when choosing the location of off-site BNG units.

Calcareous: Containing, consisting of, or resembling calcium carbonate; typically used to describe rocks, soils, or biological structures that are rich in lime or chalk.

Carbon capture: The process of collecting or trapping carbon dioxide (CO_2) from large sources, such as power plants or industrial facilities, or directly from the atmosphere. This is typically the first step in managing CO_2 emissions.

Carbon sequestration (sequestering): The long-term storage of captured carbon dioxide, either naturally through processes like photosynthesis in plants and absorption by oceans, or artificially through various technological methods. This is the end goal of removing CO_2 from the atmosphere to mitigate climate change.

Climate resilience: The ability of a system, community, or ecosystem to anticipate, prepare for, respond to and recover from the impacts of climate change, including extreme weather events and long-term environmental changes.

Coastal squeeze: The loss of natural coastal habitats due to rising sea levels and coastal defences.

Connectivity: The degree to which landscapes allow species to move freely and ecological processes to function.

Corridors: Wildlife corridors are linear features in the landscape that can be used for movement of wildlife. They offer the possibility of linking habitats and reducing the isolation of populations.

Coppicing: A traditional method of woodland management where trees are cut down to ground level, promoting new growth from the stumps.

Countryside Stewardship: A scheme that provides financial incentives for farmers and land managers to look after the environment.

Critically endangered: A species facing an extremely high risk of extinction in the wild.

Disturbance susceptibility: how effectively ecosystems respond to changes linked to biological and non-biological factors.

East Atlantic Flyway: A major bird migration route that extends from the Arctic to Africa.

Ecosystem services: The benefits people obtain from ecosystems, such as clean air, water, food and recreation.

Ecotones: Transition areas between two different habitats or ecosystems.

Endangered: A species facing a very high risk of extinction in the wild.

Environmental Impact Assessments: a process to protect the environment by ensuring that a local planning authority takes into account the environmental impacts of granting planning permission.

Environmental Land Management Scheme (ELMS): An agricultural policy for England that pays farmers for environmental benefits.

Farming in Protected Landscapes (FiPL): A UK government-funded grant programme for farmers and land managers in National Parks and National Landscapes (formerly Areas of Outstanding Natural Beauty) to deliver projects that enhance the environment, mitigate climate change, support cultural heritage, and improve landscape character.

Flood mitigation: The strategies and measures implemented to reduce the ACB impact of flooding on communities and the environment. It includes techniques such as enhancing drainage systems, restoring natural floodplains and constructing levees and flood walls. This aims to prevent flood damage and improve resilience against flood events.

Flood risk management: The assessment and reduction of the risk of flooding to people and property.

Fragmentation: The process by which large areas of habitat are broken up into smaller, isolated patches.

Freeze-thaw cycles: occur when air temperature drops low enough to freeze water then increases enough for it to thaw again. They usually occur most frequently in the wintertime, though have the potential to occur at any time of year.

Geospatial analysis: The process of creating and analysing spatial information to understand patterns, relationships and trends.

Green and blue spaces: Areas of vegetation and water in urban environments.

Green infrastructure: A network of natural and semi-natural spaces and corridors in urban and rural areas, designed to provide environmental and quality of life benefits.

Green investment: Funding directed towards environmental and climate-related projects.

Habitat: The natural home or environment of an animal, plant, or other organism.

Habitat creation: The process of establishing new areas suitable for wildlife to live and thrive.

Heritage assets: An item that has value because of its contribution to a nation's society, knowledge and/or culture. They can be physical or non-physical, and generally have cultural, environmental or historical significance.

Hydrological surveys: investigations into the water-bearing levels of rocks and their capability for filtration under the ground surface within a particular area.

Intertidal mudflats: Coastal wetlands that form when mud is deposited by tides or rivers.

Invasive non-native species: Plants or animals that have been introduced to an area where they do not naturally occur and cause harm to the environment.

Landscape character: the way the physical components come together and can be defined as "a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another".

Landscape recovery schemes: Large-scale projects to support long-term environmental changes.

Land management: The process of managing the use and development of land resources.

Loam: A soil type composed of mostly sand, with some silt and clay.

Local authorities: Administrative bodies responsible for providing local government services and facilities within a specific area, such as counties, districts, or boroughs. They oversee various functions including planning, education, housing, transport and environmental management, playing a crucial role in implementing policies and initiatives that impact their communities.

Local and neighbourhood plans: Documents that set out local planning policies and identify how land is used.

Local Nature Recovery Strategies: Plans developed by local authorities in England to map and improve nature in their areas.

Material consideration: a matter that should be taken into account in deciding a planning application or on an appeal against a planning decision

Monocropping: the practice of growing a single crop year after year on the same land

55

National Character Areas (NCAs): England has 159 National Character Areas, each representing an area of distinct and recognisable character at the national scale. Their boundaries follow natural lines in the landscape, not county or district boundaries.

National site network: A network of protected sites across the UK that are important for conserving various species and habitats. This aims to ensure the conservation of habitats and species that are of European significance, contributing to the overall conservation objective of the UK.

Natural flood management: The use of natural processes to reduce the risk of flooding and coastal erosion.

Nature recovery: The process of helping nature and wildlife return to areas where they have declined.

Nature Recovery Network (NRN): A national network of wildlife-rich places to help nature thrive.

Nature-based solutions (Nbs): Actions to protect, manage, and restore ecosystems that address societal challenges.

Near threatened: A species close to qualifying for or likely to qualify for a threatened category in the near future.

Norfolk and Suffolk Nature Recovery Partnership (NSNRP): A collaboration of organisations working to improve nature in Norfolk and Suffolk.

Nutrient cycling: The movement and exchange of materials derived from inorganic (non-living) and organic (living) matter eg carbon, water or nitrogen. The cyclical pathways comprise cells, organisms and ecosystems.

Open Mosaic Habitat (OMH): A mix of bare ground, pioneer communities and more established grassland and scrub.

Paludiculture: or 'farming with high water tables' - system of agriculture for the profitable production of wetland crops by raising the water table whilst reducing greenhouse gas emissions.

Planning authorities: local government agencies empowered to develop policies and proposals related to land use – they have responsibility for development planning and management and making decisions on planning applications.

'Post-glacial' rebound: The rise of land masses, caused by the melting of ice sheets and loss of their great weight following the last ice age.

Potential measures: Possible actions that could be taken to achieve a specific goal.

Priorities: the outcomes which the strategy aims to achieve to benefit biodiversity.

Priority Habitats: Habitats identified as being the most threatened and requiring conservation action.

Public bodies: a formally established organisation that is publicly funded to deliver a public or government service, though not as a ministerial department

Regenerative agriculture: Farming practices that focus on improving soil health, increasing biodiversity and enhancing ecosystem services.

Back to start of section

Sites of Special Scientific Interest (SSSI): SSSIs are protected areas which contain specific features - either biological or geological - of particular interest to science. These features of interest can range from specific species all the way to whole landscapes of national importance.

Natural England are the responsible authority for designating and monitoring SSSIs, which are protected under the Wildlife and Countryside Act 1981.

Special Areas of Conservation (SAC): SACs are protected areas of habitats and species listed within international conventions to which the UK Government is a signatory. They provide protection for types of species and habitat most in need of conservation at an international scale.

Saline intrusion: The movement of saltwater into freshwater aquifers.

Saltmarshes: Coastal wetlands that are flooded and drained by salt water brought in by the tides.

Sedimentary rock: types of rock that are formed by the accumulation or deposition of mineral or organic particles at Earth's surface.

Shoreline Management Plans: Strategic documents that outline how to manage coastal areas to reduce risks from flooding and erosion. Available at: https://www.gov.uk/guidance/shoreline-management-plans.

Silt: granular material of a size between sand and clay and composed mostly of broken grains of quartz, a hard crystalline mineral

Stepping stones: anything that will help wildlife to move between isolated fragments of habitat

Strategic significance multiplier: the tool used to calculate the increased relationship between habitat creation and enhancement in areas identified within the LNRS as suitable for mapping measures

Successional or transition zones: the areas that serve as a boundary between two different regions or ecosystems, where characteristics of each intermingle as the process of species within a community change over time

Sustainable agriculture: Farming practices that meet society's food needs while preserving the environment.

Sustainable Drainage Systems (SuDS): drainage systems that manage surface water that take into account water quantity and quality (flooding and pollution) as well as biodiversity and amenity

The Department for Environment, Food and Rural Affairs (Defra): The UK Government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities.

Urban expansion: The growth and spread of urban areas into surrounding rural or natural land.

Veteran trees: Trees that are old relative to others of the same species and are of particular value to wildlife due to their age, size or condition.

Vulnerable (in context of species conservation): A species facing a high risk of extinction in the wild in the medium-term future.

Water bodies: a significant accumulation of water on the surface of the planet eg oceans, lakes and ponds.

Water management: The strategic planning, development, distribution, and management of water resources to ensure their sustainability and quality, including conserving water, controlling flooding, maintaining water quality, and ensuring access to clean water.

Wetlands: Areas where water covers the soil or is present at or near the surface for varying periods of time during the year.

Wood-pastures: Areas of land that combine trees with grazing animals.

Appendix 7: References

The following are direct references and sources of information used within the creation of the LNRS content and processes, or within this document.

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Back to start of section

Appendix 9: Acknowledgements

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- Baxter Environmental

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- Breckland Farmers Wildlife Network (BFWN)
- Brecks and Fen Edge River Partnership (BFER)
- British Arachnological Society
- British Association for Shooting and Conservation (BASC)
- British Trust for Ornithology (BTO)
- Broads Authority
- Coastwise
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- East Suffolk Council
- Eco Fund Partners
- Edible Eats Group
- Environment Agency
- Environment Bank
- Essex and Suffolk Rivers Trust
- Flagship Group
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- Natural England
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- Norfolk Coast National Landscape
- Norfolk County Council
- Norfolk Diocese
- Norfolk Farming and Wildlife Advisory Group (FWAG)
- Norfolk Geodiversity Partnership
- Norfolk Green Care Network
- Norfolk Pond Project
- Norfolk Resilience Forum
- Norfolk Rivers Trust
- Norfolk Wildlife Trust
- North Norfolk District Council
- Northumbrian Water Group
- Nortons Dairy
- Norwich City Council
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- Oxygen Conservation
- Plantlife
- River Glaven Conservation Group
- River Lark
- Royal Society for the Protection of Birds (RSPB)
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- South Norfolk and Broadland Council
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Back to start of section

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- Suffolk Naturalists' Society
- Suffolk New College
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- Suffolk Wildlife Trust
- The Great Collaboration
- The Green Partnership
- The Otter Trust
- The Rivers Trust
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- Thetford Town Council
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