Local Nature Recovery Strategy

for Hampshire

2025

Part 4: Technical Appendices

Hampshire County Council

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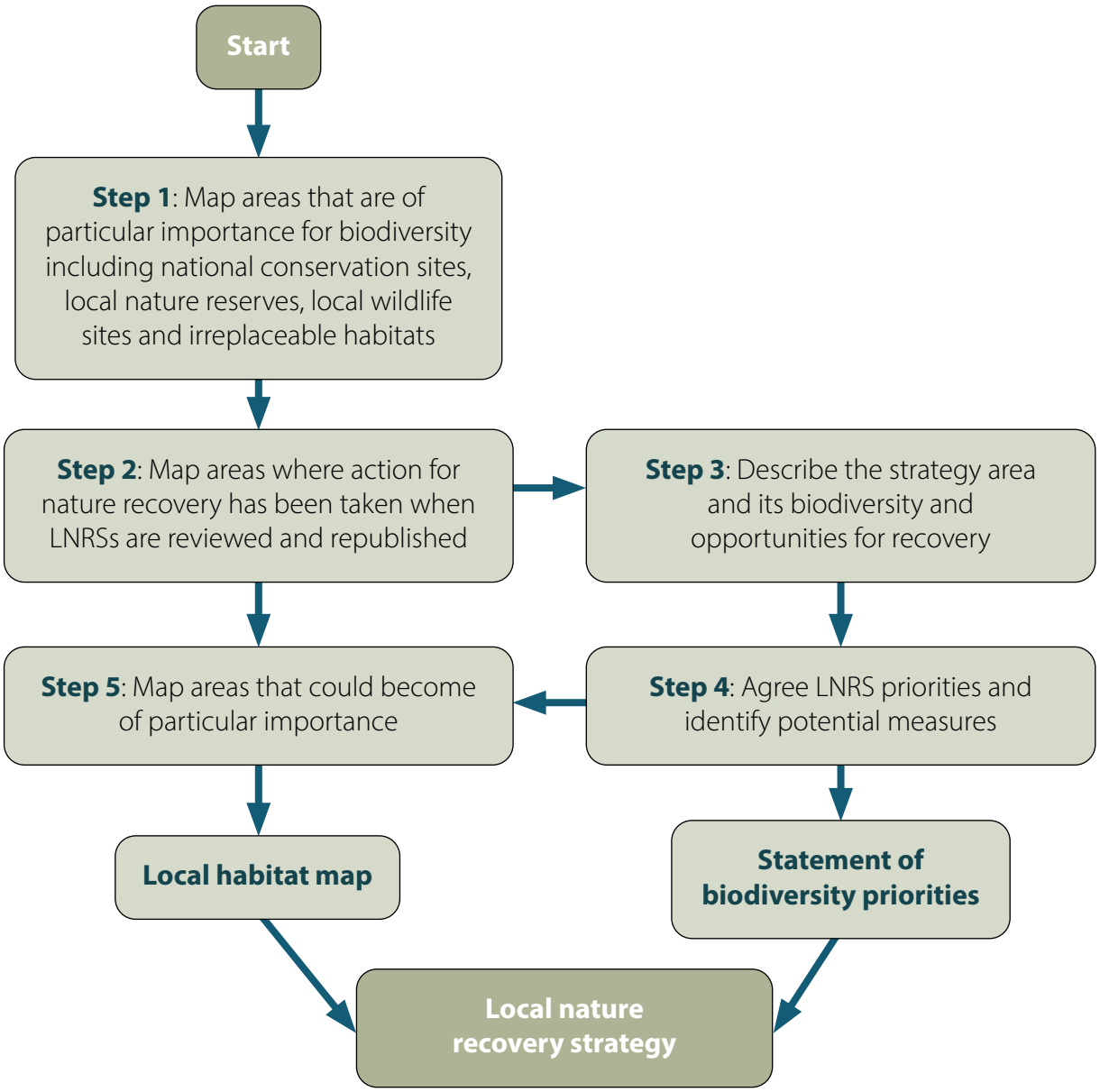
Introduction

This document outlines the legislation, regulation, policy, information sources and technical methodologies that were followed and applied throughout the preparation of the Local Nature Recovery Strategy for Hampshire 2025.

Local Nature Recovery Strategy Process

The preparation of the LNRS has followed a systematic and rigorous approach. Figure 1, below, is an outline of the process undertaken to create and shape the LNRS for Hampshire's Priorities, Measures and Mapping, and follows the five step process proposed by Defra within LNRS regulations and statutory guidance.

Figure 1: LNRS Regulations and Guidance process diagram



Appendix 1: Policy context and national objectives

Local Nature Recovery Strategies (LNRSs) operate within a national and local policy framework, and should contribute to national environmental objectives, commitments and targets for nature recovery and other environmental goals.

25 Year Environment Plan

The 25 Year Environment Plan (25YEP)[1], published in 2018, provides a national framework and vision for improving the environment over a 25-year period. It sets out long-term goals and targets for various aspects of environmental conservation, including biodiversity, air and water quality, and climate change mitigation. LNRSs are aligned with and support the objectives of the 25YEP at a local level. They translate the overarching goals and principles of the 25YEP into actionable plans and initiatives tailored to specific regions or localities. By addressing local environmental challenges and opportunities, LNRSs help advance the broader aims of the 25YEP, such as enhancing biodiversity, improving ecosystem resilience and promoting sustainable land management practices.

Environment Act 2021

The Environment Act 2021[2] makes provision for targets, plans and policies for improving the natural environment. LNRSs are introduced as spatial strategies in the Act to map out the action needed to restore, enhance, and create spaces for nature in England. The Act requires local authorities to prepare and implement LNRSs as part of their environmental planning responsibilities. This statutory requirement ensures that LNRSs are embedded within the planning framework and given due consideration in local decision-making processes. The Act emphasises the integration of LNRSs with existing planning systems, including local plans and spatial strategies. By mainstreaming nature recovery considerations into planning processes, the Act seeks to ensure that LNRSs are effectively implemented and integrated into broader land use planning and development decisions.

The Environment Act is supported by the Environment (Local Nature Recovery Strategies) (Procedure) Regulations 2023[3], which provides additional details and requirements in the preparation of LNRSs.

Environmental Improvement Plan 2023

The Environmental Improvement Plan (EIP) 2023[4] is the government's delivery plan for the environment, and building a green, more prosperous country. It is the first revision of the 25YEP. The EIP reinforces the intent of the 25YEP. Where the 25YEP sets out the framework and vision, the EIP sets out the plan to deliver these organised around the ten goals in the 25YEP. The 10 goals of the EIP provide the overarching basis for LNRSs, which include:

1 25 Year Environment Plan - **https://www.gov.uk/government/publications/25-year-environment-plan**
2 Environment Act 2021 - **https://www.legislation.gov.uk/ukpga/2021/30/contents**
3 The Environment (Local Nature Recovery Strategies) (Procedure) Regulations 2023- **https://www.legislation.gov.uk/uksi/2023/341/made**
4 Environment Improvement Plan 2023 - **https://www.gov.uk/government/publications/environmental-improvement-plan**

- 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.

Goal 1, the 'apex goal', towards which all other goals will contribute, is to "halt the decline in our biodiversity so we can achieve thriving plants and wildlife". The eight points of focus for this goal over the coming decade are:

1. **Creating more joined up space for nature on land**: protecting land and increasing interconnections to boost natural resilience.

2. **Restoring our protected sites on land**: tackling increasing pressures on our most valuable sites and building their long-term resilience.

3. **Managing our woodlands for biodiversity, climate and sustainable forestry**: delivering co-benefits for nature and climate.

4. **Enhancing nature in our marine and coastal environments**: taking a holistic approach to coastal and marine protection *[please note that LNRS boundaries only extend to the intertidal mean low water mark]*.

5. **Taking targeted actions to restore and manage species**: such as tailored conservation strategies and habitat creation.

6. **Mobilising green finance and the private sector**: drawing on the increasing interest in investing in nature.

7. **Taking action to restore our global environment**: supporting other countries to take the action we role-model domestically.

8. **Unlocking private and public finance**: ensuring that we grow new sources of finance for nature.

Both the EIP and LNRS share the overarching goal of improving the environment, albeit with different scopes. While the EIP may encompass a broader range of environmental issues, such as air quality, waste management and sustainable development, the LNRS specifically targets nature recovery and biodiversity conservation.

In 2022, the UK government signed up to the Convention on Biological Diversity in Montreal (Target 3 of the Kunming-Montreal Global Biodiversity Framework)[5]:

"Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes,

5 Convention on Biological Diversity – COP15: Final Text on Kunming-Montreal Global Biodiversity Framework - **https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222**

recognizing and respecting the rights of indigenous peoples and local communities including over their traditional territories.

One of the main commitments made in the EIP, therefore, is that the government[6] will "protect 30% of our land and sea for nature through the Nature Recovery Network (NRN)". The LNRSs underpin the foundation of the nationwide nature recovery network. They play a crucial role in achieving the aspirations set out by the NRN and 30% protection by 2030 (referred to as 30by30 or 30x30).

EIP targets and commitments

The following national targets and commitments set out in the EIP, relevant to the LNRS, deliver requirements in the Environment Act 2021:

- Halt the decline in species abundance by 2030, and then by the end of 2042 increase abundance so that it is greater than in 2022 and at least 10% greater than in 2030.
- Restore or create more than 500,000ha of a range of wildlife-rich habitats outside protected sites, compared to 2022 levels, by the end of 2042.
- New interim target to restore or create 140,000ha of wildlife-rich habitats outside protected sites by 2028, compared to 2022 levels.
- Improve the GB Red List Index for species extinction by 2042 compared to 2022 levels.
- 50% of SSSIs on track to achieve favourable condition by 31 January 2028.
- Increase tree canopy or woodland cover from 14.5% to 16.5% of total land in England by 2050 (interim target is 0.26% = 34,000ha by 31 January 2028).
- Ensure that 70% of designated features in Marine Protected Areas (MPAs) are in favourable condition by 2042, with the remainder in recovering condition (interim target of 48% of designated features to be in favourable condition, with the remainder in recovering condition, by 31 January 2028).
- Reduce nitrogen, phosphorus, and sediment pollution from agriculture into the water environment by at least 40% by 2038 (against a 2018 baseline). Interim Target 1: reduce by 10% by 31 January 2028. Interim Target 2: reduce by 15% in catchments containing protected sites in unfavourable condition due to nutrient pollution by 31 January 2028.
- Reduce phosphorous loadings from treated wastewater by 80% by 31 December 2038, against a 2020 baseline (interim target - reduce by 50% by 31 January 2028, against a 2020 baseline).
- 65% to 80% of landowners and farmers will adopt nature friendly farming on at least 10-15% of their land by 2030.

6 **https://www.gov.uk/government/publications/delivering-30by30-on-land-in-england/delivering-30by30-on-land-in-england#annex-1---30by30-criteria-explanation-of-terms**

Biodiversity duty

The Environment Act 2021 establishes mechanisms including a strengthening of the NERC Act[7] biodiversity duty on public authorities. The strengthened biodiversity duty states that public authorities who operate in England must consider what they can do to conserve and enhance biodiversity in England. This means that public authorities must consider what they can do to conserve and enhance biodiversity, agree policies and specific objectives based on their considerations, and act to deliver policies and achieve objectives. In complying with the biodiversity duty, public authorities must "have regard to any relevant LNRS". Local planning authority biodiversity strategies, outlined in Appendix 5, have some weight in this regard.

Duty to take account of LNRS

The Levelling Up and Regeneration Act (LURA) 2023[8] requires that minerals and waste plans, local plans and neighbourhood development plans, "must take account of LNRS that relates to all or part of the local planning authority's area, including in particular –

> (a) the areas identified in the strategy as areas which -
>
> I. are, or could become, of particular importance for biodiversity, or
> II. are areas where the recovery or enhancement of biodiversity could make a particular contribution to other environmental benefits,
>
> (b) the priorities set out in the strategy for recovering or enhancing biodiversity, and
>
> (c) the proposals set out in the strategy as to potential measures relating to those priorities."

National Planning Policy Framework (NPPF)

Paragraph 192(a) of the NPPF (2024) states that plans should identify, map and safeguard areas identified by national and local partnerships for habitat management, enhancement, restoration or creation. Local Nature Recovery Strategies are prepared through local partnerships (involving all local planning authorities) established under a national legislative framework and will identify and map proposed areas for habitat management, enhancement, restoration and creation for biodiversity and the wider natural environment.

Planning Practice Guidance (PPG) adds further context to the NPPF. PPG states that "Local planning authorities should be aware of those areas mapped and identified in the relevant Local Nature Recovery Strategy and the measures proposed in them and consider how these should be reflected in their local plan. In doing so, they should consider what safeguarding would be appropriate to enable the proposed actions to be delivered, noting the potential to target stronger safeguarding in areas the local planning authority considers to be of greater importance. This will enable local planning authorities to support the best opportunities to create or improve habitat to conserve and enhance biodiversity, including where this may enable development in other location."

Furthermore, PPG states that "The Local Nature Recovery Strategy is an evidence base which contains information that may be a 'material consideration' in the planning system, especially where development plan documents for an area pre-date Local Nature Recovery Strategy publication. It is for the decision-maker to determine what is a relevant material consideration based on the individual circumstances of the case."

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7 Natural Environment and Rural Communities (NERC) Act 2006 - **https://www.legislation.gov.uk/ukpga/2006/16/contents**
8 Levelling Up and Regeneration Act 2023 - **https://www.legislation.gov.uk/ukpga/2023/55/enacted**

Local plans, minerals and waste plans, and neighbourhood development plans

A local plan, also known as a local development plan (LDP) or a local planning policy framework, is a statutory document prepared by a local planning authority. It sets out land use policies and proposals for guiding development and managing growth within a specific area or local authority jurisdiction. Local plans are statutory documents that provide a framework for making planning decisions and determining planning applications and in view of the LURA 2023 requirement, must take account of relevant LNRSs.

A minerals and waste plan is a statutory document prepared by a minerals and waste planning authority that identifies sites for mineral extraction and waste management facilities and an appropriate policy framework. Minerals and waste planning authorities must consider the potential impacts of the plan on biodiversity and ecosystems, identify areas of ecological importance, priority habitats, and protected species, and ensure that sensitive sites are safeguarded from development. In doing so, and in view of the LURA 2023 requirement, minerals and waste plan preparation must take account of relevant LNRSs.

A neighbourhood development plan is a community-led initiative that sets out policies and proposals for guiding development and shaping the future of a specific neighbourhood or area within a local authority's jurisdiction. Neighbourhood development plans are prepared by local communities, often with the support of local councils and planning authorities. They provide a framework for managing land use, development and environmental conservation at the local level. In view of the LURA 2023, neighbourhood development plan preparation must take account of relevant LNRSs.

Local plans, minerals and waste plans, and neighbourhood development plans must work together with an LNRS to achieve shared objectives for biodiversity enhancement, habitat creation, and sustainable development. Local planning authorities, as per the LNRS regulations, must take account of their LNRSs in planning matters.

Local plans, minerals and waste plans, and neighbourhood development plans should align their objectives and policies with the goals and priorities outlined in the LNRS. This ensures that nature recovery considerations are integrated into land use planning decisions and that development activities support them. Local plans should incorporate specific actions and recommendations from the LNRS into their policies and proposals. This may include designating areas for habitat creation, restoration, and enhancement, as identified in the LNRS, and integrating green infrastructure to support nature recovery.

Local plans and minerals and waste plans should integrate spatial planning considerations from the LNRS into their land use allocations and zoning decisions. This involves identifying and protecting key wildlife habitats, ecological corridors, and biodiversity hotspots identified in the LNRS.

Local plans and minerals and waste plans should have regard to the strategic opportunity sites identified in the LNRS as potential biodiversity net gain (BNG) off-site delivery locations. Where onsite delivery of BNG is not possible, the LNRS can be used to target off-site BNG. This will be determined by a strategic significance score, which provides additional unit value to habitats located in preferred locations (ACB and measures maps) for biodiversity and other environmental objectives. This encourages BNG habitats to be delivered as close to the development site as possible, and within the strategic locations. This is likely to be within the same authority boundary or National Character Area.

Minerals and waste planning authorities can align with the principles of BNG to ensure that development projects deliver a measurable increase in biodiversity value. By incorporating BNG requirements into planning policies and development proposals,

they can contribute to the objectives of this LNRS by enhancing biodiversity, restoring habitats, and creating new wildlife corridors as part of development schemes.

Local plans and minerals and waste should involve stakeholders, including local communities, environmental groups and landowners, in the development and review process. This includes consulting with stakeholders on the content and implementation of the LNRS, ensuring that local plans reflect the priorities and aspirations of the community for nature recovery.

Neighbourhood development plans should incorporate specific recommendations and actions from the LNRS into their policies and proposals. This may include identifying and protecting local wildlife habitats, greenspaces and ecological corridors identified in the LNRS, and integrating nature-based solutions into neighbourhood development projects.

Hampshire 2050

Hampshire 2050[9] is a vision for the whole of Hampshire, prepared by expert commissioners and endorsed by a range of partners. The 2050 Commission identified climate change as the most significant factor that will have an impact on Hampshire's future. On 23 November 2023, the Hampshire 2050 Partnership was relaunched at the 2050 Summit.

The Hampshire 2050 Vision under changing environment states:

"Recognise Hampshire's natural and historic environment and the services it provides as its most valued asset and an essential component of Hampshire's attractiveness and prosperity".

The policy associated with this statement is:

"Develop and promote a focus on sustaining and enhancing Hampshire's environment to strengthen Hampshire's economy and society".

The Hampshire 2050 Vision under changing climate states:

"Recognising the changing climate as the biggest threat, a well-adapted and resilient Hampshire will be essential to ensure that Hampshire's economy, environment and society continues to thrive and prosper".

The policy associated with this statement is:

"Develop and promote a focus on embedding climate resilience and mitigation across key policies and sectors, working with communities across Hampshire".

In enabling nature recovery, the LNRS is consistent with the Hampshire 2050 Vision and policies in terms of the changing environment and changing climate.

Hampshire Health and Wellbeing Strategy 2025-2035

One of the aims of this strategy is to have healthier communities. The strategy highlights that one of the ways to achieve this is through improving access to green spaces (such as parks and other open spaces), blue spaces (such as canals, ponds, rivers and beaches) and other leisure facilities. Access to nature and greenspace has been proven to have significant benefits for mental and physical health and wellbeing. This LNRS is therefore consistent with this Strategy.

Nationally Significant Infrastructure Projects (NSIP)

Impacts on the natural environment are to be considered through the development of NSIPs. NSIP developers must monitor the environmental impacts of their projects and report on their compliance with

9 **https://www.hants.gov.uk/aboutthecouncil/haveyoursay/visionforhampshire2050**

biodiversity commitments. This monitoring is often coordinated with local authorities, where alignment with the LNRS should be considered. By aligning NSIPs with the LNRS, large-scale infrastructure projects can contribute to meaningful biodiversity improvements and nature recovery. This integrated approach helps balance development needs with environmental sustainability.

Net zero

The UK is legally committed to delivering net zero emissions of greenhouse gases (GHGs) by 2050, which means that the UK will not be adding to GHGs in the atmosphere. Any residual GHG emissions will, therefore, need to be offset by an equivalent amount being removed from the atmosphere.

The UK government recognises the valuable role that nature can play in sequestering carbon. A £640 million Nature for Climate Fund has been made available for the creation and restoration of habitats that will help the country reach net zero.

So far, the main focus nationally has been on tree planting and woodland creation, and the restoration of peatlands. There is also an increasing recognition of the role that other habitats, such as saltmarsh and intertidal habitat, can play in sequestering carbon.

In developing this LNRS, we have considered the best opportunities for sequestering carbon afforded by habitat creation and restoration across the area. The most significant of these in their ability to sequester carbon are:

- Woodland creation.
- Lowland peatland restoration.
- Creation of wetland and saltmarsh habitat.
- Restoration and management of unimproved meadows.

Nevertheless, restoration of a range of other habitats can also sequester carbon, though at a lower rate. In addition, nature-friendly farming practices, especially those that restore soils, can also be effective in sequestering carbon.

Appendix 2: Engagement and key partners

Stakeholder engagement is crucial in ensuring that the LNRS for Hampshire reflects the priorities of people across the area and is realistic and achievable. This has taken the form of surveys, workshops, one-to-one meetings, and attendance at regional events. This section provides a brief overview of engagement undertaken in the development of the Strategy.

Key partners

Hampshire County Council has worked collaboratively with a range of key partners in preparing the LNRS for Hampshire. The following partners have made a significant contribution to the development of the LNRS:

Organisation	Supporting authorities	Steering group	Local Planning Authority working group	Stakeholder engagement task and finish group	Farmer and landowner task and finish group
Hampshire County Council (Responsible Authority)		X	X	X	X
Natural England (also representing the Environment Agency and the Forestry Commission)	X	X	X		X
Environment Agency		X			X
Basingstoke and Deane Borough Council	X	X*	X	X	
East Hampshire District Council	X	X*	X		
Eastleigh Borough Council	X		X		
Fareham Borough Council	X		X		
Gosport Borough Council	X		X		
Hart District Council	X		X		
Havant Borough Council	X		X		
New Forest District Council	X	X*	X		
New Forest National Park Authority	X	X	X	X	X
Portsmouth City Council	X	X	X	X	
Rushmoor Borough Council	X		X		
South Downs National Park Authority	X	X	X	X	

Southampton City Council	X	X	X	X	
Test Valley Borough Council	X		X		
Winchester City Council	X		X		
Hampshire & Isle of Wight Wildlife Trust		X		X	X
National Farmers Union		X			X
Country Land and Business Association		X			X
Hampshire and Isle of Wight Local Nature Partnership		X			
Environmental Farmers Group					X
Cluster Farm Facilitators					X

*Representing the Local Planning Authority working group

In developing the priorities and mapping for the LNRS, we have worked closely with organisations that have expertise and/or a particular stake in the Strategy. This has helped map areas that are impactful and realistic.

The Hampshire and Isle of Wight Local Nature Partnership (LNP) Board brings together organisations working to deliver more for nature's recovery locally. They have provided an important steer on the content of the LNRS for Hampshire.

The Hampshire & Isle of Wight Wildlife Trust (HIWWT) has significant nature conservation experience and has provided access to its extensive network of supporters.

Organisations such as the National Farmers Union (NFU) and the Country Land and Business Association (CLA) have acted as a conduit and provided useful guidance in our engagement with the farming and landowner sector.

We have worked closely with Hampshire's protected landscapes (New Forest and South Downs National Parks, and North Wessex Downs, Cranborne Chase, and Chichester Harbour National Landscapes) in relation to their work on nature recovery, and through Natural England with the Forestry Commission and the Environment Agency.

Representatives of Hampshire's catchment partnerships and other freshwater-related organisations, such as the Wessex Rivers Trust, have also been helpful in understanding the priorities relating to the freshwater environment, and how to integrate these into the LNRS.

We have held numerous one-to-one conversations with other key stakeholders to understand their priorities for nature recovery. This has included national conservation organisations, other local non-governmental organisations (NGOs), charitable bodies, and many others.

In particular, we engaged with all the main species recording groups and local species experts to determine which species should be a priority for recovery in the LNRS. These recording groups included the Hampshire Ornithological Society, Butterfly Conservation, the Botanical Society of the British Isles, the Hampshire & Isle of Wight Amphibian and Reptile Group, the Hampshire Bat Group, the British Lichen Society and the British Bryological Society to name but a few.

Wider engagement

Over a nine-week period, starting at the beginning of January 2024, a series of 20 workshops were held. Ten community workshops were hosted by the HIWWT on behalf of Hampshire County Council. These workshops were aimed at interested individuals and community organisations. Ten thematic workshops were hosted by Hampshire County Council. These workshops were aimed at landowners, organisations and specialist groups. Over 450 attendees representing more than 100 organisations attended this mix of online and in-person workshop sessions, resulting in 2,064 responses, generating 257 potentially mappable priority outcomes. Outputs from the workshops are available on the LNRS webpages[10].

The format of the workshops was informed through the work of a number of specialist task and finish groups, as well as the LNRS Steering Group, which includes representatives from the CLA, NFU and the Hampshire & Isle of Wight Wildlife Trust.

In preparing the ACB map, an additional prioritisation workshop was held. This was attended by all Hampshire local planning authorities, together with Natural England, Environment Agency, Forestry Commission, HIWWT, CLA and NFU. The purpose of the workshop was to further refine draft opportunity areas in order to better target the delivery of biodiversity enhancement and wider environmental benefits.

Farmer and landholder engagement

Farmers and landowners are critical to the delivery of nature recovery. They have unique knowledge and experience of what would be deliverable and most impactful for nature on their land and the surrounding area. Therefore, we have worked closely with farmer and landowner representatives and advisors, including the NFU, CLA, Cluster Farm Facilitators and the Farming and Wildlife Advisory Group (FWAG) South East throughout the development of the LNRS.

Engagement with this sector (in 2024) included:

- A Farmers and Landowners Task and Finish Group - meetings with organisations representing farmers and landowners, including cluster farm facilitators, NFU and CLA to advise on workshop content and wider engagement.
- Farmers and landowners were invited to attend all workshops in the engagement programme. This included invites through CLA and NFU local newsletters, cluster farm facilitators, and Natural England land management advisers, etc.
- LNRS project team attendance at the New Forest and Hampshire Show (30 July – 1 August).
- Dissemination of LNRS for Hampshire publicity leaflets to the farming/landowning sector at the Alresford Agricultural Show (7 September); the Romsey Show (14 September); and the Newbury Show (21 and 22 September).

Community engagement

It is crucial that the LNRS is informed by communities' priorities and perspectives on nature recovery. This ensures that the LNRS reflects local opportunities and priorities, and is useful for people across the area covered by the Strategy.

An analysis of previous and concurrent work in understanding local priorities for nature recovery was undertaken to ensure the best use of existing information.

Additionally, community engagement workshops were held across Hampshire in the following areas:

10 **https://www.hants.gov.uk/landplanningandenvironment/nature-recovery-hampshire/get-involved**

- Basingstoke (25 January 2024).
- Brockenhurst (29 January).
- Winchester (31 January).
- Test Valley (8 February).
- Meon (19 February).
- Southampton (20 February).
- Portsmouth (28 February).

These were supplemented by county-wide online workshops held on 26 and 27 February and 5 March 2024.

In conjunction with the workshops, a public survey ran for three months. This gathered the views of Hampshire's communities regarding their priorities for nature recovery. The public survey was advertised through the LNRS for Hampshire Newsletter, social media and press releases. Over 1,500 responses were received, highlighting those areas across Hampshire, including Southampton and Portsmouth, that would benefit from nature recovery. A summary of the results of the public survey is set out in Appendix 2.1.

Community engagement specific to the LNRS was also achieved at the following events through:

- LNRS team attendance at the New Forest Show (30 July - 1 August 2024).
- Dissemination of LNRS for Hampshire publicity leaflets at the Alresford Agricultural Show (7 September), the Romsey Show (14 September), and the Newbury Show (21 and 22 September).

The public consultation on the draft LNRS for Hampshire (12 May – 23 June 2025) was also an important part of our community engagement. In particular, we wanted to use the consultation to understand:

- if there are any other areas that could be mapped as a focus for nature recovery; and
- if the priorities and measures proposed reflect the aspirations of communities and community groups.

Theme, habitat, and species engagement

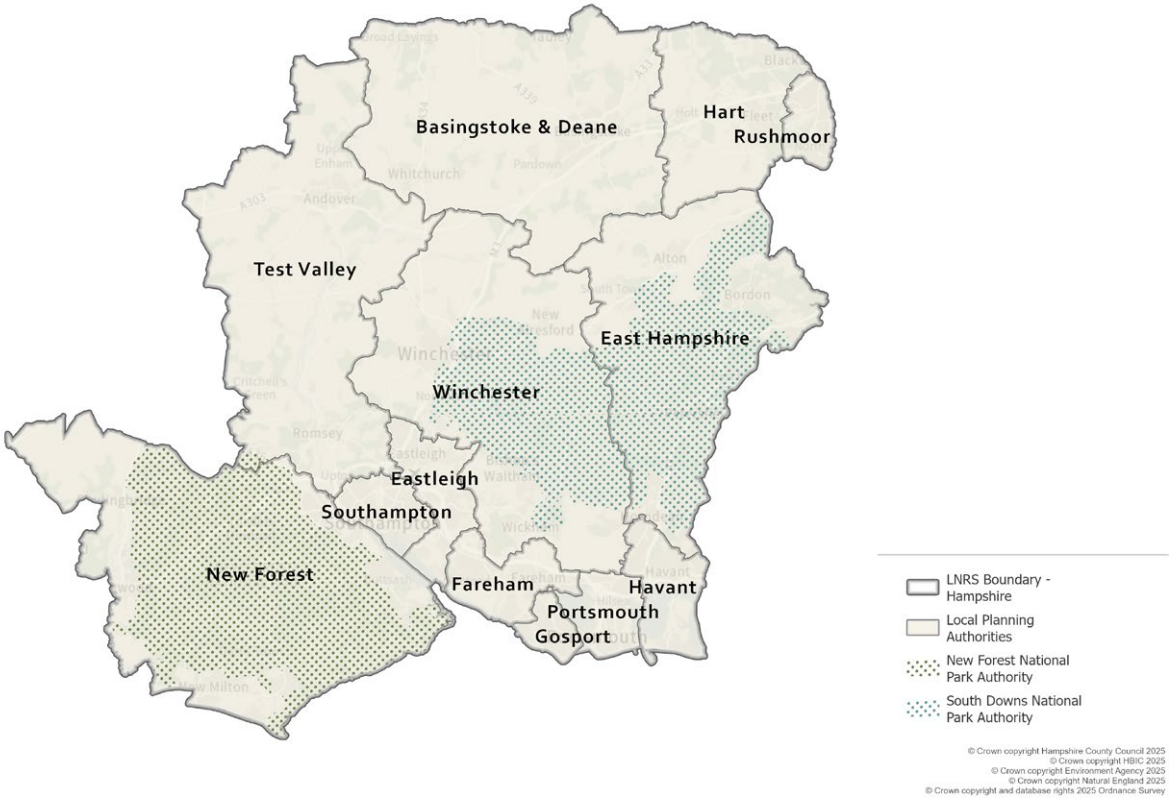
It was important to engage with a wide range of stakeholders and key organisations interested in particular habitats, species and natural areas across Hampshire. Engagement with these key stakeholders included through the following workshops:

- Woodlands and forestry (10 January 2024).
- Coast and marine (16 January).
- North Hampshire farming and conservation (17 January).
- Rivers and wetlands (24 January).
- New Forest and forest fringes (1 February).
- South Hampshire farming and conservation (14 February).
- Central chalk belt farming and conservation (21 February).
- Thames and Wealden Heaths (28 February).
- Health and access to nature (6 March).
- Species recovery and prioritisation (9 March).
- Opportunity mapping prioritisation (4 December).

Local Planning Authority engagement

The local planning authorities, including the national park authorities, in the LNRS area hold significant ecological and land management data and have relevant nature conservation strategies and plans. They may also be involved in practical nature recovery projects of relevance to the LNRS. An early workshop was held with local planning authorities in October 2022. These authorities attended the programme of workshops and engaged in additional one-to-one conversations and meetings. They also attended the opportunity mapping prioritisation workshop along with statutory agencies and other key stakeholders in December 2024. The local planning authorities, as supporting authorities for the strategy area were also represented on a working group that met monthly and helped to guide the preparation of the LNRS. The LNRS area's local planning authorities are shown in Figure A2.1.

Figure A2.1: LNRS area's local planning authorities



Business engagement

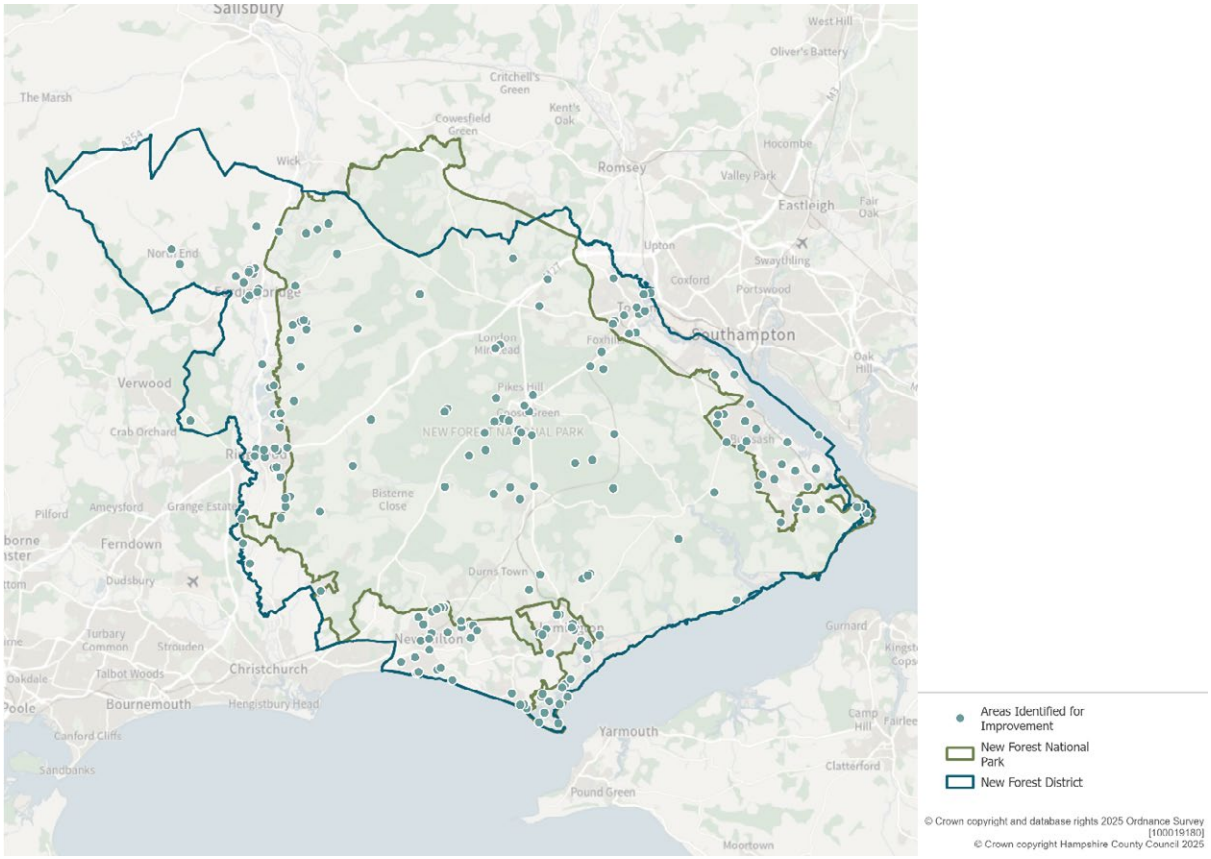
Businesses have an important role in nature recovery through investment in the natural environment and supporting nature around the workplace and in local communities. The LNRS programme of workshops benefitted from the presence of a number of Hampshire businesses.

Appendix 2.1: LNRS for Hampshire - public survey

The public survey ran for three months from 14 December 2023 to 17 March 2024. The aim was to explore the views of Hampshire's communities about their priorities for nature recovery and where they would like to see improvements.

There were 1,234 individual responses to the survey identifying 1,574 specific geographical locations for nature improvement. Each location is plotted on an interactive map provided on the LNRS for Hampshire webpages[11]. Figure A2.1 below provides an example of the map for the New Forest area.

Figure A3.1: New Forest example of public survey response locations



In identifying these locations for improvement, respondents told us that they want to see:

- A balance between conservation and access.
- Wildlife protection.
- Habitat restoration and management.
- Community engagement.
- The provision of alternative recreational space and increased waterside access.

Common themes that emerged from respondents' comments centre around habitat restoration, biodiversity conservation, sustainable land management, community engagement, and infrastructure improvement, as follows:

11 **https://lnrs-hampshireonline.hub.arcgis.com/pages/Survey%20results%20map**

Habitat restoration

- Participants emphasised the importance of restoring natural habitats like wetlands and woodlands by reducing mowing, planting wildflowers, and reintroducing native species to create thriving ecosystems.

Biodiversity conservation

- There is a strong desire to protect and enhance biodiversity through creating wildlife corridors, connecting habitats, and conserving endangered species like the Duke of Burgundy butterfly.

Sustainable land use

- Calls for nature-friendly management practices, reduced pesticide use, and the preservation of greenspaces to minimise pollution and support wildlife to thrive.

Community engagement

- Suggestions include involving local communities in conservation efforts, establishing nature reserves, and providing educational opportunities to raise awareness about local wildlife.

Infrastructure improvement

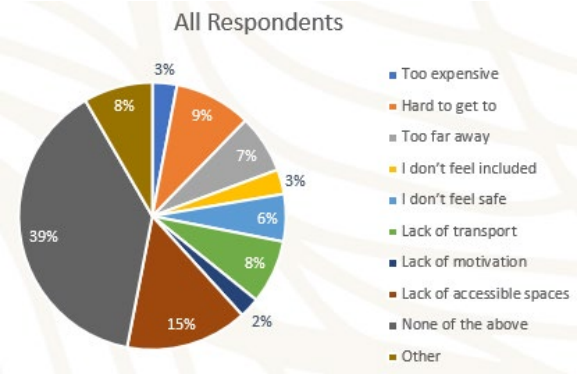
- Recommendations focus on enhancing access to greenspaces, improving pathways, and installing wildlife-friendly features like bird and bat boxes.

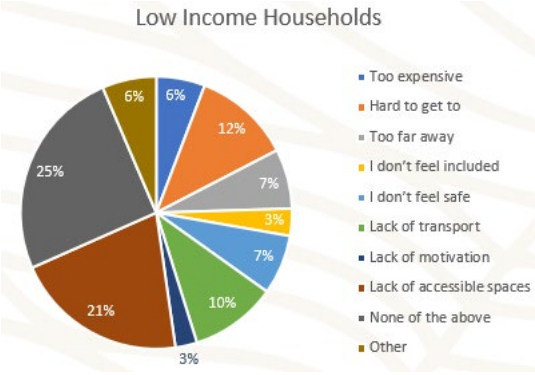
Overall, these themes underscore a collective commitment to prioritise nature conservation, protect wildlife habitats, and promote sustainable practices to ensure the well-being of ecosystems and biodiversity in Hampshire.

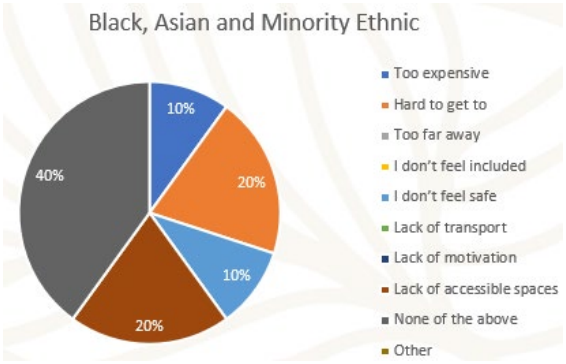
Responses to the statement: 'Helping nature recover is important because...', were grouped around the following beliefs:

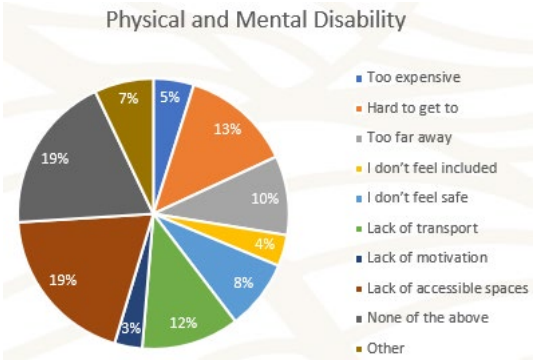
- We are part of nature and should undo the damage we have done.
- The natural environment is essential for tackling climate change.
- Nature is good for our health and wellbeing.
- Nature protects us from flooding and pollution.
- The natural environment provides us with food and raw materials.
- Nature is good for our jobs and businesses.

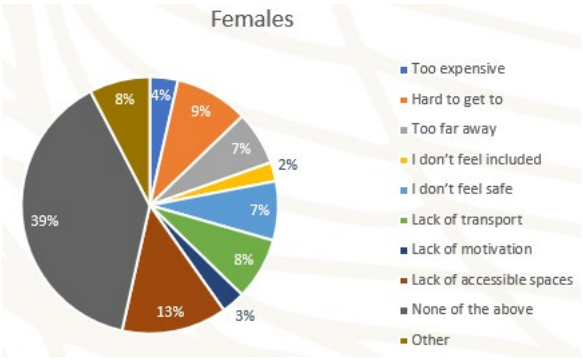
When asked what they thought were the most significant barriers to accessing nature, respondents provided the following information:

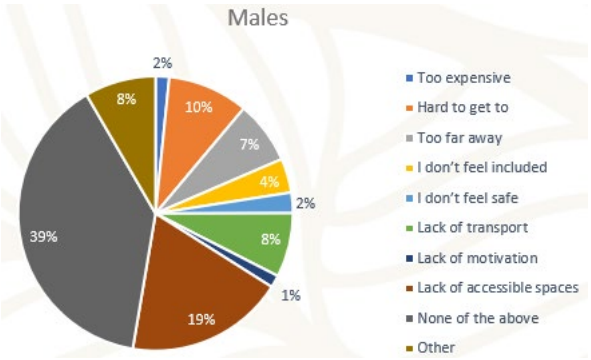


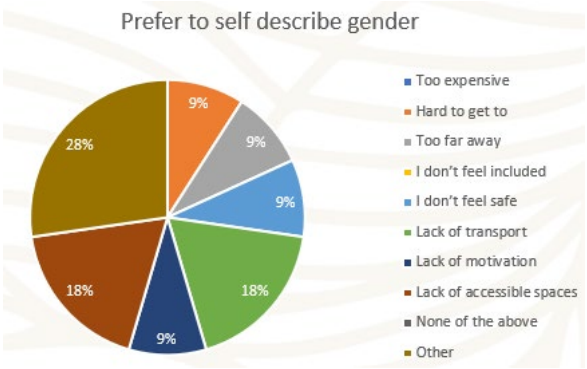






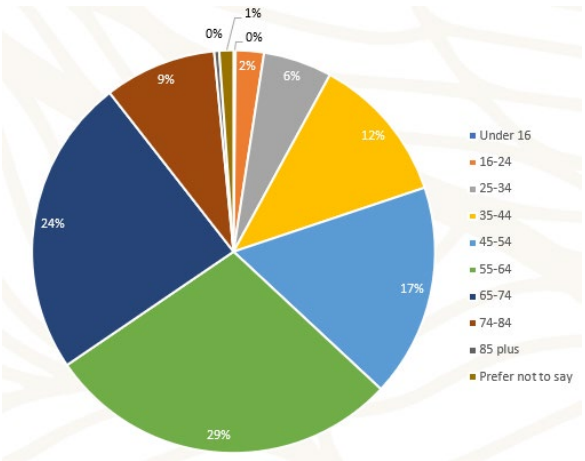


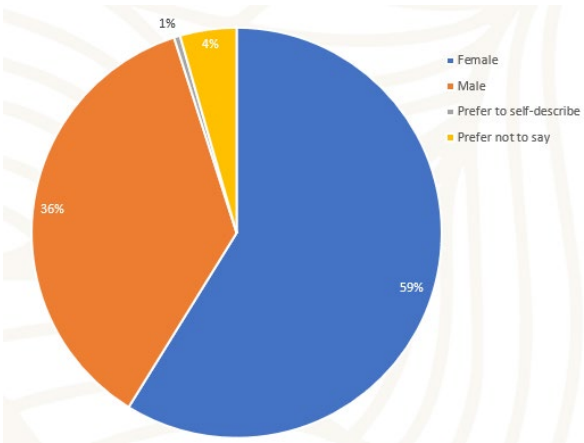




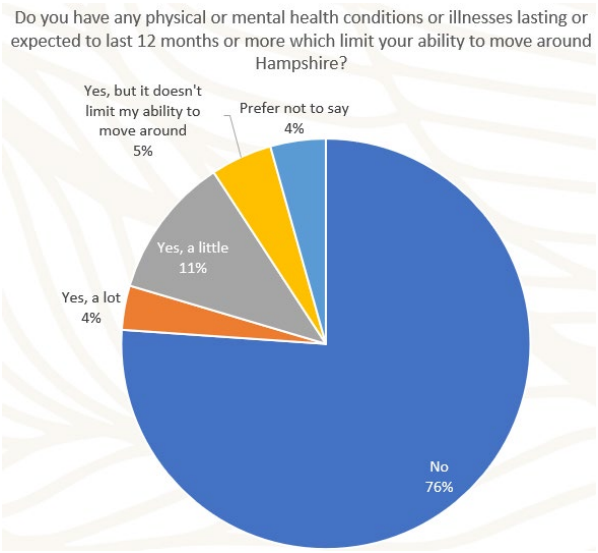
The demographic composition of respondents is as follows:

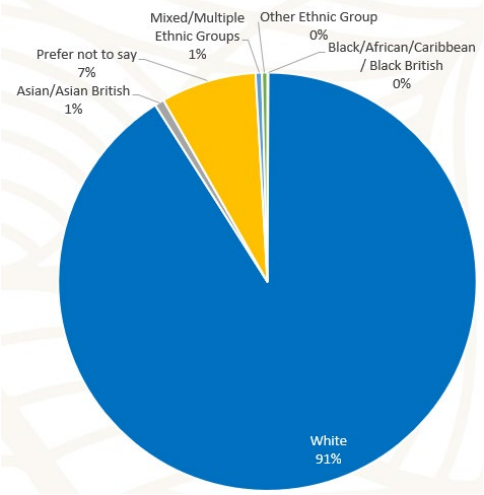
Age and gender



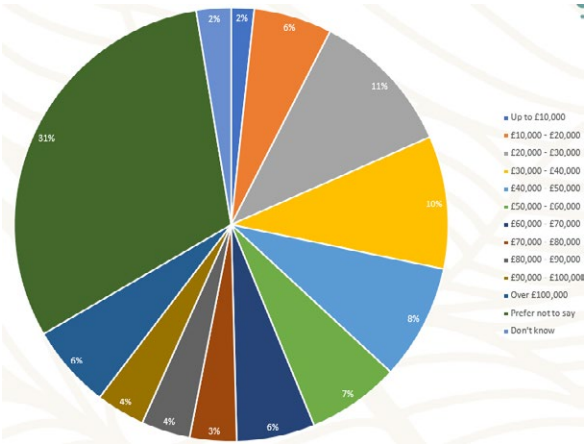


Disability and ethnicity





Household income of respondents



Appendix 3: Support mechanisms

Environmental Land Management (ELM) schemes

ELM schemes represent an important mechanism to help farmers and landowners contribute to the delivery of the LNRS. The schemes provide financial incentives, grants, subsidies or payments to landowners and managers who implement nature-friendly practices on their land. There are three schemes currently available to pay for environmental and climate goods and services.

Sustainable Farming Incentive (SFI)

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

Countryside Stewardship (CS)

CS rewards farmers for looking after and improving the natural environment, which includes increasing biodiversity, enhancing habitat, expanding woodland areas, improving water and air quality and utilising natural flood management. 'Countryside Stewardship Higher Tier' aims to build on the success of its predecessor by rewarding farmers for coordinated actions that support climate and nature aims, including collaboration with neighbouring farms and landowners. Funding is targeted towards actions in places where they can have the biggest impacts, in ways that are joined up across larger areas. The LNRS will help to identify suitable areas to enter CS agreements.

Landscape Recovery Scheme

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

England Woodland Creation Offer (EWCO)

Landowners, land managers and public bodies can apply to the England Woodland Creation Offer (EWCO) for support to create new woodland, including through natural colonisation, on areas as small as one hectare. The LNRS will help to identify suitable areas for woodland creation to expand and enhance woodland habitat and increase ecological connectivity.

Biodiversity net gain (BNG)

Biodiversity net gain (BNG) is an approach to development and land management, that aims to leave the natural environment in a measurably better state than it was beforehand. It aims to create new habitats as well as enhance existing habitats, ensuring the ecological connectivity they provide for wildlife is retained and improved.

Most developments are required to deliver BNG of at least 10% net gain for biodiversity as measured by the statutory biodiversity metric. This is achieved by delivering habitat onsite or, if that is not possible, through the purchase of off-site biodiversity units[12]. A habitat will contain a number of biodiversity units, depending on factors such as its size, quality, location, and type.

The LNRS supports a strategic approach to off-site BNG delivery, agreeing evidence-based locations to expand and connect existing habitat and provide wider environmental benefits. This will support BNG in creating locally driven, joined-up outcomes for nature.

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

There are three ways a developer can achieve BNG[13].

1. They can create biodiversity on-site within the red line boundary of a development site.

2. If developers cannot achieve all their BNG on-site, they can either deliver through a mixture of on-site and off-site, or just off-site. Developers can buy off-site biodiversity units on the market.

3. If developers cannot achieve on-site or off-site BNG, they must buy statutory biodiversity credits from the government. This should be a last resort. The government will use the revenue to invest in habitat creation in England.

On-site BNG delivery enhances any lost or damaged biodiversity and habitats directly impacted within a development area, promoting greater climate resilience and connecting urban and natural environments. The LNRS for Hampshire identifies and prioritises areas for BNG delivery through on-site and off-site biodiversity creation and enhancement. When off-site compensation is required, it should be located as close to the development site as possible.

The LNRS includes nature recovery opportunity areas, which show the locations identified as having strategic significance due to their high potential to deliver benefits for nature and the wider environment. These locations have been mapped on the ACB (Areas that Could become of importance for Biodiversity) Map and Measures Map. All sites mapped on the Measures Map offer up to a 15% uplift in biodiversity units compared with other sites. Therefore, developers and land managers can produce or sell more biodiversity units on sites within these opportunity areas. In order to qualify for BNG uplift, a landowner or developer must carry out the appropriate actions and follow correct procedures related to BNG policy.

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

12 **https://www.gov.uk/guidance/understanding-biodiversity-net-gain**
13 **https://www.gov.uk/guidance/understanding-biodiversity-net-gain**

Woodland Carbon Code

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

Other funding schemes

There are a range of other funding schemes available to farmers and land managers to deliver improvements to the environment, including the Water Restoration Fund which provides funding for projects that are used to restore and enhance the water environment and the Farming in Protected Landscapes programme, which awards grants to farmers and landowners for a variety of projects including nature recovery. Details of existing and new funding schemes are available at: **www.gov.uk/guidance/funding-for-farmers.**

There are also a range of funding streams for local community groups and projects within the LNRS area including (see also page 53 of Part 2):

- Beelines Fund (within SDNPA) - **South Downs Trust**.
- **Bird Aware Solent**.
- **Community Infrastructure Levy (CIL)**.
- **Hampshire Forest Partnership (HFP)**.
- Local Authority conservation project funding.
- **Nutrient mitigation funding**.
- **ReNature Fund (within SDNP).**
- **ReNature Credits for BNG (within SDNP).**
- **Solent waders and brent geese mitigation funding**.
- **Urban Tree Challenge Fund**.
- Woodland Trust **MOREwoods** and **MOREhedges** funding.
- **Big Chalk Nature Recovery Fund**

Appendix 4, below, sets out the wide range of projects that are ongoing or planned within Hampshire. Collectively, they utilise a wide range of funding sources, including those listed above.

Appendix 4: Current projects and schemes

There are many projects and schemes across Hampshire delivering biodiversity, wider environmental, and health and wellbeing benefits. These are listed below and categorised as Hampshire-wide, area specific or habitat or species specific. The list informed the preparation of the ACB map and measures map. The compilation of the list was informed by the:

- Programme of LNRS workshops.
- LNRS for Hampshire public survey.
- Contributions from supporting authorities and other stakeholders.
- Review of relevant plans and strategies.

The list of projects below is also included in a 'live' table of projects, a link for which is available on the LNRS webpage[14].

Hampshire benefits from the hard work and dedication of numerous local groups and thousands of volunteers delivering nature recovery across the area. Without these groups and volunteers, the delivery of the LNRS would not be possible.

Hampshire-wide projects and schemes

- **Environment Land Management (ELM) schemes**:
  - Sustainable Farming Incentive (SFI).
  - Countryside Stewardship (CS).
  - Landscape Recovery Scheme (LRS).

A description of ELM schemes is provided in Appendix 3: Support Mechanisms.

- **Biodiversity net gain (BNG)**.
- **Farmer Clusters**.
- **Hampshire Forest Partnership projects** including:
  - **Million Trees Challenge.**
  - **Shoots Along the Roots project.**
  - **Mini Forest project.**
  - **Community Orchards project.**
  - **Linking Leaves project.**
- **Road Verges of Ecological Importance project**.
- **Parish Pollinators Pledge**.

Area specific projects and schemes

Thames Basin and Wealden Heaths

- Western Thames Basin Landscape Partnership (Hampshire County Council, RSPB, Forestry England, Hampshire & Isle of Wight Wildlife Trust and others).

14 **https://www.hants.gov.uk/landplanningandenvironment/nature-recovery-hampshire/hampshire-strategy**

- **Blackbush Airfield Environmental Enhancement project (RSPB).**
- **Wealden Heaths strategic access management and monitoring (SAMM) project**. Bird monitoring data.
- **Mink eradication project on the River Wey.**
- **Loddon Catchment Partnership projects**.
- Loddon Farmers Group.
- **Selborne Landscape Partnership**.
- Deer survey work in the South Downs.
- **South Downs Farmers Group**.
- **Farming in Protected Landscapes (South Downs National Park Authority)**.
- **Pylon mitigation project in the South Downs National Park**.
- **Heathlands Re-united: Wealden Heaths SAMM project**.
- **Heathland Connections Nature Recovery Project. (Surrey, cross border)**

Central chalk belt

- **Newton Valence/ Colemore/ East Tisted House Sparrow recovery project.**
- **Newton Valence toad patrol project.**
- **Kestrel Conservation Monitoring project** - Hawk Conservancy Trust.
- **Rotherfield Game Restoration project** - Game and Wildlife Conservation Trust.
- **Hampshire Hedge project**.
- **Watercress and Winterbournes project** - Hampshire & Isle of Wight Wildlife Trust.
- Farm clusters:
    - Southern Streams Farmer Group.
    - Wessex Farm Conservation.
    - Candover Valley Farmers Group.
    - Martin Down Farmer Cluster.
    - Allenford Farmer Cluster.
    - Avon Valley Farmer Cluster.
    - New cluster on North Hampshire/ Berkshire border.
- **Farmer Clusters – South East.**
- **Parish Pollinators Pledge projects.**
- **South Downs Farmland Birds Initiative.**
- **Lapwing project** across North Wessex Downs and Cranbourne Chase National Landscapes.
- **Hawk Conservancy** raptor/owl monitoring.
- **Hampshire Forest Partnership.**
- **Welcome To Meon Valley Partnership**: Meon Valley Partnership - Work to improve the River Meon - Himalayan Balsam control, River bank restoration, Review of in-stream structures and water vole reintroduction.
- British Trust for Ornithology (BTO) bird transects.
- Water company schemes.
- **Farming in Protected Landscapes (South Downs National Park Authority)**.
- **Farming in Protected Landscapes (Cranborne Chase National Landscape)**
- **Farming in Protected Landscapes (North Wessex Downs National Landscape)**.
- **Catchment Sensitive Farming Advice and Schemes**.
- **Test and Itchen Catchment Partnership projects.**
- **Itchen Catchment Conservation Group projects.**
- **Environmental Farmers Group.**
- **Big Chalk project.**
- **Test Valley Dormouse project.**
- **Project work on the western portion of the River Rother in Hampshire.**

North Hampshire

- Species projects investigating causes of additional mortality to birds of prey: rodenticides, microplastics, and lead.
- Captive release of beavers for rewilding wetland. Recently reintroduced at Ewhurst Park as part

of a rewilding scheme - **Beavers are back in Hampshire after 400 years! - Beaver Trust.**

- Multiple Farmer Clusters.
- Arable environmental schemes.
- Chalk stream restoration projects.
- Woodland / tree planting schemes and focus by Hampshire County Council Tree Strategy (**tree-strategy.pdf (hants.gov.uk**).
- **River Loddon Catchment Partnership projects.**
- **Wey Catchment Partnership projects**.
- Supporting existing river catchment groups and partnerships, e.g. River Kennet Action Group, to help support delivery of river catchment action plans.
- Chalk habitat restoration/creation via **Big Chalk initiative.**
- Projects investigating species abundance for a range of avian species and relating these to landscape-scale data.
- **Farming in Protected Landscapes - North Wessex Downs National Landscape.**

New Forest and Eastern Dorset Heaths

- **Linking Environment and Farming (LEAF)**. demonstration farms on the forest fringes.
- Farm Clusters projects.
- **The Environmental Farmers Group.**
- Work with the Beaulieu Estate on habitat for red-listed birds.
- Freshwater Habitats Trust promoting and delivering **Blue Horizons Project** - wetland/ standing water restorations on private land in collaboration with range of landowners - these complement larger SSSI FE work.
- National Peat mapping across the New Forest.
- Higher Level Stewardship wetland restoration work being undertaken by Forestry England (FE) across New Forest Sites of Special Scientific Interest (SSSI) **(New study reveals success of New Forest wetland restoration - HLS New Forest).**
- **The Hampshire Hedge** project.
- **Youth for Climate and Nature scheme** - New Forest National Park Authority.
- **New Forest National Park Recreation management strategy projects.**
- **Green Halo Partnership** - New Forest National Park Authority.
- **Greenprint Initiative** - New Forest National Park Authority, University of Southampton, University of Portsmouth, and Southern Policy Centre, working with Partnership for South Hampshire.

South Coast Plain and South Hampshire Lowlands

- **Habitat Compensation and Restoration Programme (HCRP) – Solent and South Downs** - Environment Agency.
- **ReMEDIES Project** (Solent seagrass) - Natural England.
- **Coastal resilience and saltmarsh restoration project** - Chichester Harbour Conservancy.
- **Life on the Edge project** - RSPB.
- **Return of the Tern project** (Langstone to Medmerry) – RSPB.
- **Beneficial use of dredgings in the Solent project** - ABPmer.
- **Chichester Harbour Protection and Recovery of Nature Initiative (CHaPRoN)** -partnership led by Chichester Harbour Conservancy, working collaboratively with specialist organisations including the Environment Agency, Natural England, Sussex IFCA, Coastal Partners, RSPB, Chichester District Council, and Southern Water.
- Concurrent **Defra Hampshire Convenor Test and Trials** is looking at a way to deliver ELMS (and LNRS) aims alongside continuation of productive agriculture in a simplified way for farmers with local governance.
- HIWWT's **Nature Based Solutions Programme** has been developed to provide nitrate mitigation for developments that we accept into the scheme. Acquiring former farmland (that has been releasing nutrients into the Solent) and rewilding it to remove nitrate pollution, create

space for nature and support nature's recovery. Funded through the sale of nitrate credits.

- **Hampshire Hedge** project covers area around Romsey, CPRE Hampshire.
- Hampshire Flora Group's ongoing **Threatened Plant Project:** detailed recording of rare/scarce plant species. Can inform distribution maps (and LNRS) and help target action to protect and enhance habitat for key plant groups e.g. arable flora.
- **NatureSpace District Licencing** for great crested newts creating and restoring wetland and terrestrial habitats.
- The **East Hampshire Catchment Partnership** are currently developing a project covering headwaters/reaches in East Hampshire catchments that link land use and nature with the upstream thinking of source to sea approaches in waterways (targeting multiple benefits, awareness/training/skills/trialling techniques etc).
- **East Hampshire Catchment Partnership** project with local groups monitors riverfly, water quality, and outfall using volunteers. Predominantly lower sections of the rivers (from West Brook, Emsworth, across to River Wallington and its Potwell tributary). The project will extend to upper catchment communities too in time.
- **Hampshire Dormouse Group** continuing to run county footprint tunnel surveys to gain a better idea of distribution across the county. Working with landowners to survey hedgerows across the county.
- **Havant Thicket Reservoir** scheme.
- **Three Harbours Project.**
- **Test and Itchen river restoration projects** in conjunction with Wessex Rivers Trust and angling organisations.
- **River Itchen Flood Alleviation Scheme** looking at habitat enhancements via BNG.
- Campaign for the Protection of Rural England (CPRE) has produced a **solar farm map of Hampshire** - working with the University of Southampton to map potential of rooftops for renewable energy.

Habitat specific projects and schemes

Woodlands and forestry

- Woodland Trust: **MOREwoods**, **MOREhedges**, Trees For Your Farm (all with flexibility in planting design) and free advice and support (funding where available/guidance to grants) for landowners on AW/PAWS restoration, AVTs and creation.
- **Hampshire Forest Partnership funding for Community Orchards**.
- **Agroforestry** options in Defra's funding schemes.
- **Shoots along the Routes scheme** currently focusing on several B Roads, including hedgerow trees and woodland corridors. It is looking to considering strategic transport routes.
- Juniper restoration projects with **Plantlife** across the North Wessex Downs and other protected landscapes.
- **RSPB Priority Landscape Programme** looking at landscape-scale approach, collaborative restoration. In Hampshire, this includes the Thames Basin and Wealden Heaths, and the New Forest.
- **Green Infrastructure Strategy project** to development strategic tree planting strategy in Rushmoor Borough Council facilitated by the Urban Tree Challenge Fund.
- The Woodland Trust **Tree Equity Score** designed to assess urban areas most in need of greenspaces.
- **Woodland Wildlife Toolkit**.
- The **3-30-300 Rule**. A recommendation for urban forestry and greener cities - 3 trees visible from every home, 30 percent tree canopy cover in every neighbourhood, 300 metres from the nearest park or greenspace.
- **Farming in Protected Landscapes**: source of funding in National Parks and National Landscapes to March 2025.
- **Ancient Woodland Inventory** update: Ancient woodlands under 2ha have been mapped by HBIC, funded by Natural England, the Woodland Trust and local planning authorities. New layers will be added to **MAGIC**.
- Local Planning Authority tree planting targets, e.g. **Eastleigh Borough Council: 160,000 trees**.
- The **Hampshire Hedge** project.
- **Andover Trees United projects**.
- Venison charcuterie initiatives in North Wessex Downs National Landscape.

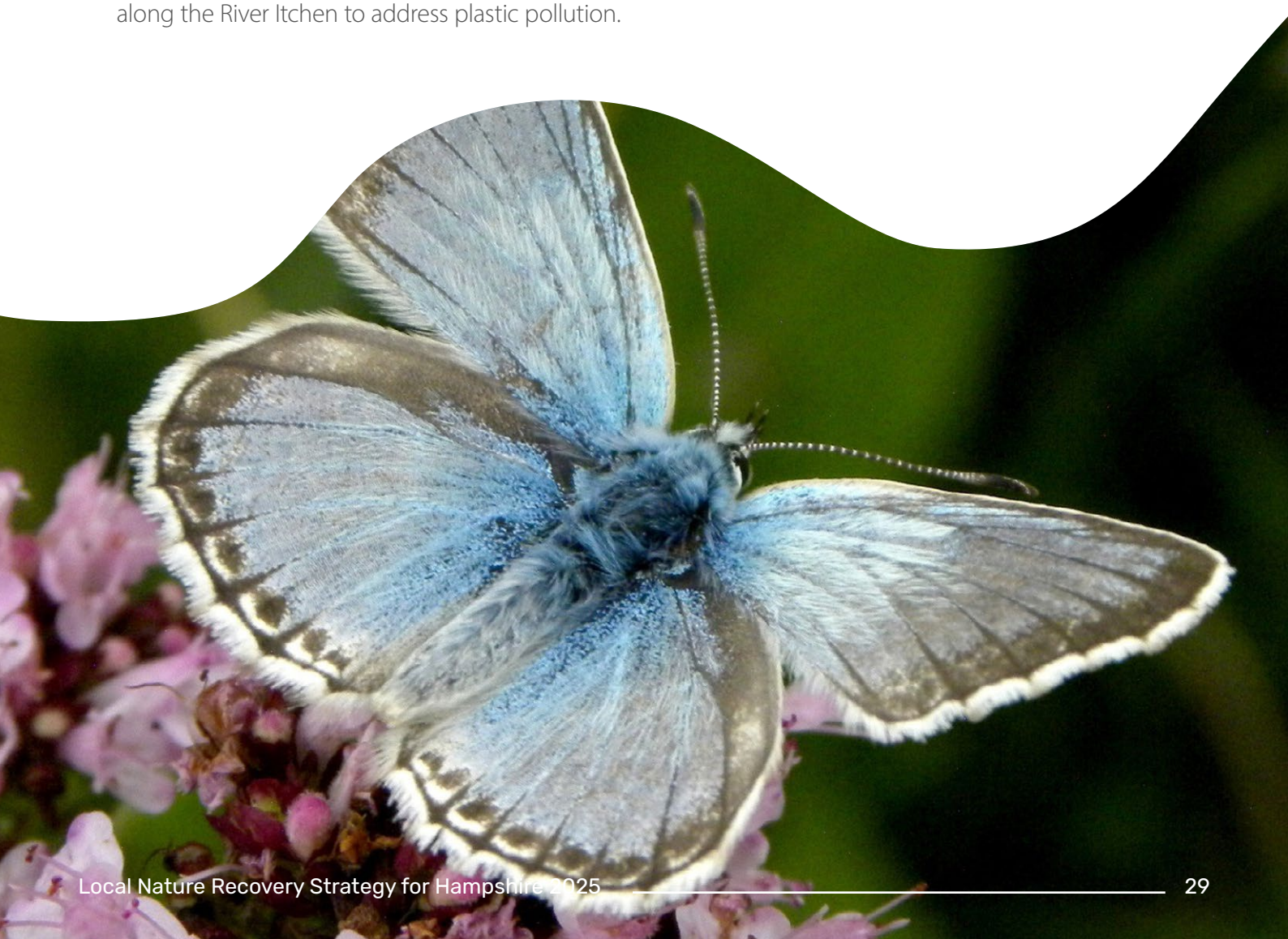
Improving access to nature and our health and wellbeing

- **National Trails UK projects in Hampshire**, including:
  - South Downs Way.
  - King Charles III England Coastal Path. The establishment of the remaining sections of the England Coastal Path and the maintenance and management of both National Trails.
- **Team Wilder** is a supportive network of people, organisations and groups, taking action for nature, sharing knowledge, resources and help. Within Hampshire, the initiative is hosted by the Hampshire & Isle of Wight Wildlife Trust.
- **The Greening Campaign** lottery project, supporting communities to map and identify potential greenspaces that could be created or improved within their community.
- The **Incredible Edible Willow Community Garden** at Froton Medical Centre Gosport.
- Test Valley Borough Council led initiative to find a more strategic approach to development mitigation for the New Forest Special Area of Conservation (SAC).
- **Improvements at the Alver Valley Country Park SANG**, including new land, improved paths and signage.
- Alternative SANG opportunities outside of the New Forest and South Downs National Parks, working with property developers to improve awareness and engagement around responsible behaviours.
- **Local Cycling and Walking Infrastructure Plans** being developed for New Forest National Park and New Forest District areas.
- **Hampshire Public Health** are working with partners to develop sensory walking routes in accessible greenspaces for people with sensory impairments, long term conditions, and neurodiversity to engage with nature.
- **New Forest Recreation Management Strategy** work has many actions to improve connection to greenspace and to reduce impacts on SAC.
- **NHS Forest** planting trees on NHS land.
- **Strategic Access Management and Monitoring project** near Bordon.
- Public rights of way (PRoW) improvements outside SAC in New Forest funded through development contributions.
- South Downs National Park Authority operates an outdoor learning grant to help schools access sites in the National Park. They are also about to launch a community travel grant scheme to support groups with transport costs
- Work of **Hampshire County Council Sites (Countryside Service)** on improving facilities on sites and creating nature trails, sensory walks, events, school visits.
- New off-road Trampers at Queen Elizabeth Country Park - a Hampshire County Council and South Downs National Park Authority partnership.
- Coast and Country Canines are promoting responsible dog walking and providing funding via developer contributions for provision of dog walking facilities – part of **Bird Aware Solent**.
- Youth for Climate and Nature Scheme (YouCAN) is a partnership project aimed at 11- to 25-year-olds to encourage more community-led action to tackle the nature and climate emergencies.
- Southampton National Park City is a group working to enrich spaces and opportunities throughout Southampton with the purpose of strengthening relationships across the city. The initiative focuses on bringing people closer to the urban nature on their doorsteps to support a sense of belonging, while igniting a collective reimagining of what steps can be taken to steward communities.

Rivers and wetlands

- Farmer Clusters projects.
- Catchment Partnership Projects.
- **The Environmental Farmers Group**
- **Higher Level Stewardship wetland restoration work** being undertaken by Forestry England (FE) across New Forest Sites of Special Scientific Interest (SSSI).

- **Shawford Lake Stream river improvement project**.
- **Hampshire Forest Partnership** is the strategic delivery mechanism for Hampshire County Council's goal to plant one million trees by 2050.
- **Beaver reintroductions in Ewhurst Park** and in **adjacent areas of Dorset**.
- **The Freshwater Habitats Trust** are promoting and delivering wetland and standing water restoration on private land in collaboration with a range of landowners - these complement larger SSSI Forestry England work
- **Great crested newt (GCN) district licencing** now live across many districts in Hampshire, which should help create and restore high quality habitat across the county for GCNs.
- **Water Vole Reintroduction** in the Lower Avon Valley.
- **Waders in the Avon Valley.**
- **The River Meon and South Downs National Park see water vole number success**.
- **Environment Agency** working with businesses along the River Itchen to address plastic pollution.
- **For Love of Water (FLOW) CIC** running a citizen science project aiming to improve the River Avon.
- **Wilder for Water** – Freshwater Habitats Trust.
- **Blue Horizons Project** – Freshwater Habitats Trust.
- **Watercress and Winterbournes** Landscape Partnership Scheme.
- East Hampshire District Council **Councillor community grant** funding pot that can be spent on environmental' projects in the District. Also, a **community climate action fund** and bids to use **s106 developer contributions** could be used to fund projects to improve rivers/ water courses could be used to fund projects to improve rivers/water courses.
- **Western Sussex Rivers Trust** is working with partners to improve the habitats within two local nature reserves owned by East Hampshire District Council, through which the western stretch of the River Rother flows.



Coastal and marine

- Solent Forum - **Greater Solent Project Tracker.**
- **Chichester Harbour Protection and Recovery of Nature Initiative (CHaPRoN)** - partnership led by Chichester Harbour Conservancy, working collaboratively with specialist organisations including the Environment Agency, Natural England, Sussex IFCA, Coastal Partners, RSPB, Chichester District Council, and Southern Water.
- **Solent Seascapes Project** – Blue Marine Foundation. This includes:
    - Saltmarsh restoration - Beneficial Use of Dredged Sediments (BUDS) trial. Following the 2023 trial in Chichester Harbour led by the Chichester Harbour Protection and Recovery of Nature Initiative (CHaPRoN), CHaPRoN, the Isle of Wight Estuaries Project and Coastal Partners will be delivering further saltmarsh restoration activity throughout the Solent .
    - Project Seagrass - CHaPRoN and the Hampshire & Isle of Wight Wildlife Trust are conducting extensive habitat surveys across the Solent to map and monitor current distributions. Both the Trust and Project Seagrass are preparing for active restoration efforts by trialling innovative seagrass restoration techniques, with the support of local volunteers. .
    - Oyster reef project - Blue Marine Foundation's team is creating new oyster reefs in suitable areas across the Solent by placing mature "brood stock" oysters at high densities in cages hung in the water beneath pontoons, facilitating the release of millions of larvae into the Solent. The cages have been shown to provide a refuge for other marine life, including critically endangered European eels, juvenile spiny seahorse and sea bass.
    - Seabird habitat restoration project – the active restoration, enhancement and creation at least ten nesting sites for seabirds within the project area. The aim is to reverse the decline in seabirds, stabilise populations of ducks, geese and wading birds and then support the growth of breeding pairs in the Solent
- **Bird Aware Solent** - raises awareness of the **ducks, geese and other migratory birds** that travel to the Solent coastline to feed and rest in the winter, and to breed in the summer. Bird Aware Solent rangers engage with visitors and communities along the coast around the New Forest, Southampton Water, Portsmouth, Chichester and Langstone Harbours, and northern Isle of Wight.
- **ReMEDIES Project** (Solent seagrass) - Natural England.
- **Coastal resilience and saltmarsh restoration project** - Chichester Harbour Conservancy.
- **Return of the Tern project** (Langstone to Medmerry) – RSPB.
- **Beneficial use of dredgings in the Solent project** - ABPmer.
- **Hurst Spit to Lymington** Coastal Flood Defence Strategy. This is being developed by the Environment Agency, in partnership with New Forest District Council, Hampshire County Council, and Natural England. The Strategy covers the coastline from Hurst Spit to Lymington, 15km of coastal frontage encompassing Keyhaven and Pennington Marshes, extending up the Lymington River to the east. The aim of the Strategy is to recommend options to manage flood and erosion risk that are sustainable and adaptive in the long term. It will focus on the next 100 years, with the aim of having a completed and approved Strategy by summer 2026.

Appendix 5: Evidence used in the development of the LNRS for Hampshire

In identifying and agreeing priorities and potential measures within Local Nature Recovery Strategies, Defra guidance states that:

"RAs *[responsible authorities]* should look to a variety of existing local plans and strategies when identifying possible priorities and potential measures. This can provide stakeholders with assurance that any previous work on identifying opportunities for nature recovery and wider environmental benefits are being considered in the LNRS. However, in doing this RAs should engage stakeholders on these additions to build consensus and ensure they are in the right format for LNRS.

RAs can draw on other plans and strategies, such as marine management plans or river basin management plans, when identifying possible priorities or potential measures addressing cross boundary issues. For example, planting trees in upper catchments that slow the flow of water to communities at flood risk".

Plans, strategies, data and mapping considered in the identification of priorities and potential measures for the LNRS for Hampshire are set out below.

Plans, strategies, programmes, and projects

Principles of Nature Recovery Networks across the South East of England (October 2020)

This document was prepared by the South East Nature Partnerships, including Hampshire, Isle of Wight, Kent, Sussex, and Surrey, in response to the launch of the government's ambition to create a Nature Recovery Network (NRN), set out within its 25 Year Environment Plan (25YEP). It provides a set of principles to guide the preparation of LNRSs and the delivery of a NRN across the South East.

Hampshire and Isle of Wight's Natural Wealth (April 2022)

This report was developed as the beginning of an important initiative to plan and coordinate collective investment in the natural capital of Hampshire and the Isle of Wight. This document provides an evidence base to define the direction of travel, the vision, and wider programme of work, to restore nature and bring it back into recovery.

State of Hampshire's natural environment (September 2020)

To inform our understanding of Hampshire's natural environment, Hampshire County Council prepared a report providing a high-level snapshot of many key elements of Hampshire's natural environment. The report was prepared with input from a wide range of partners and stakeholders. It identifies key trends and emerging issues under the following headings:

- Air quality.
- Noise.
- Water.
- Soil.
- Coastal.
- Landscape.
- Biodiversity (woodland, farmland birds, notable species and habitats, designated sites, insects and pollinators).
- Recreational use of the natural environment.

Designated landscape management plans

Required by the Countryside and Rights of Way Act 2000, designated landscape management plans set out the vision and policies of the respective partner organisations for the county's designated landscapes. The plans set out the special qualities and features of the protected landscapes, and determine what actions are required to ensure their conservation and enhancement, and people's enjoyment of them.

- **Partnership Plan for the New Forest National Park 2022-2027.**
- **South Downs National Park Partnership Management Plan 2020-2025.**
- **North Wessex Downs National Landscape Management Plan 2019-2024.**
- **Cranborne Chase National Landscape Management Plan 2019-2024.**
- **Chichester Harbour National Landscape Management Plan 2019-2024.**

Designated landscape nature recovery plans

Each of Hampshire's designated landscapes have prepared nature recovery strategies or have nature recovery Initiatives to help deliver the recovery of nature within their respective protected landscapes. These have helped inform the preparation of this LNRS.

- **North Wessex Downs National Landscape Recovery Plan.**
- **Chichester Harbour Protection and Recovery of Nature (CHaPRoN).**
- **ReNature: Nature Recovery in the South Downs National Park.**
- **Cranborne Chase National Landscape - Nature Recovery Plan**

Green infrastructure plans and strategies

Many local planning authorities within Hampshire have prepared green infrastructure (GI) plans or strategies for their areas. These assess the extent, quality and accessibility of local GI networks (which include blue infrastructure, the water environment). They set the policy context and provide action plans to deliver GI network enhancement.

- A Green Infrastructure Strategy for Rushmoor (July 2022).
- South Downs People and Nature Network (PANN): Green Infrastructure in the South Downs National Park and the Wider South East March 2020.
- Portsmouth Green Infrastructure Delivery Plan 2018-19.
- A Green Infrastructure Plan for Test Valley (2014-2019).
- Green Infrastructure Strategy for Basingstoke and Deane (2018-2029).
- South Hampshire Green Infrastructure Strategy 2017-2034 (updated 2018).
- South Hampshire Green Infrastructure Implementation Plan (June 2019).
- Green Infrastructure Strategy for Fareham Borough (September 2014).
- East Hampshire Green Infrastructure Strategy May 2019.
- Hart Green Infrastructure Strategy 2017.
- Winchester District Green and Blue Infrastructure Strategy Scoping Study 2021.
- Southampton City Council Green Infrastructure Strategy 2024.

Hampshire Countryside Action Plan (CAP) 2015-2025

The plan describes how rights of way and access to Hampshire's countryside will be managed over the coming years. There are three themes:

- Focusing resources on those paths which provide the most benefit to the most people.
- Working with other organisations, including volunteers.
- Listening, informing and education.

The CAP should be read in conjunction with the seven area plans, which are rich in detail and provide the background on which this plan is based. These are retained, unchanged, for reference and to provide information about how the strategic policies may be implemented at a more local level: **Forest of Bere**; **Forest of Eversley**; **Hampshire Downs**; **New Forest & South-West Hampshire**; **Solent**; South Downs; **Test & Itchen**.

Local Biodiversity Action Plans

Local Biodiversity Action Plans (LBAPs) set the strategic direction for how we:

- Respond to the need to protect, enhance and restore key biodiversity across the LBAP areas.
- Translate national and regional biodiversity targets into local action.
- Identify habitats and species of local importance.
- Enhance biodiversity through the implementation of objectives and actions.

Most local planning authorities have prepared LBAPs. Some LBAPs are also published at a community or development scale.

- Eastleigh Biodiversity Strategy 2024-34.
- Test Valley Biodiversity Action Plan 2008.
- The Biodiversity Strategy for Basingstoke and Deane 2023 to 2029.
- Nature in the New Forest: Action for Biodiversity 2013.
- Winchester City Council Biodiversity Action Plan Updated 2023.
- Southampton City Council Biodiversity Action Plan 2005.
- Biodiversity Action Plan for Eastleigh Borough 2012-2022.
- Fareham Local Biodiversity Action Plan Review 2008.
- Biodiversity and Portsmouth Background Paper 2019.
- Havant Borough Biodiversity Strategy 2019.
- Biodiversity Action Plan for Hart 2018-2023.
- Biodiversity Action plan for Rushmoor 2016-2021.
- Wessex Water Biodiversity Action Plan Updated Spring 2023.
- Growing Nature to 2035 Our strategy for nature recovery (South West Water and Bournemouth Water).
- Biodiversity Action Plan for East Hampshire 2009.
- Southampton City Council Biodiversity Strategy 2024.

Greenspace assessments, plans, and strategies

Local planning authorities determine community requirements for greenspace within their areas, together with current and future provision, through the preparation of greenspace assessments, plans and strategies.

Forestry England Forest Plans

Forest plans for each local forest area set out how Forestry England aim to manage the woodlands in its care over the next 30 years or more. This includes providing a description of the woodlands as they are now, outlining the main points considered when deciding what is best for the woodlands, describing how the woodlands will develop over time, and providing specific information about approved tree felling, replanting and regeneration over the next ten years. The following plans are particularly relevant to the LNRS for Hampshire:

- Alice Holt Forest Plan.
- Basing Wood Forest Plan.
- East Dorset Forest Plan.
- Forest of Bere Forest Plan.
- Hampshire Downs Forest Plan.
- New Forest Inclosures Forest Plan 2019-2029.
- South Downs Phase 1 Forest Plans.
- South Hampshire Forest Plan.
- Thames Basin Heaths Forest Plan.

Catchment management plans

The purpose of these plans is to set out the actions that will deliver environmental improvements to achieve the vision of a healthy water environment that is valued and nurtured by residents, businesses, and the wider community. Recognition of the role

of ecosystems services is highlighted, with actions covering the themes of water quality and quantity, channel and habitat, as well as recreation and community engagement. Action at the catchment level is seen by the UK Government as the principle delivery mechanism for River Basin Management Plans.

- Hampshire Avon Catchment.
- Stour Catchment.
- New Forest Catchment.
- Test and Itchen Catchment.
- Kennet Catchment.
- Loddon Catchment.
- Wey Catchment.
- East Hampshire Catchment.
- Arun and Western Streams Catchment.

Bird Aware Solent Revised Strategy, Solent Recreation Mitigation Partnership, 2024

The strategy provides background information on the rationale for the mitigation package linked to recreational pressures on three Special Protection Area (SPA) designations within the Solent. It includes details of a mitigation package to address the identified issues and the need for this to be monitored and reviewed. Sites inland from the SPAs can be important breeding, feeding, and roosting areas for important SPA bird populations.

Solent Waders and Brent Goose Strategy, 2024 (and associated mitigation guidance) solent-waders-brent-goose-strategy-2024.pdf

The strategy considers areas of land that are ecologically linked to the Solent SPAs that are important to the designated bird species, so they can be properly considered when at risk. A series of policies is provided to help ensure such areas are appropriately considered, with additional advice available in relation to providing mitigation.

Coastal flood and erosion strategies

These strategies set the strategic policy approach for the management of the coastline and adjacent areas at risk of tidal flooding and coastal erosion. They are developed by coastal groups, including the Environment Agency, local authorities and others with an interest in coastal management.

- North Solent Shoreline Management Plan, New Forest District Council, 2010.
- River Itchen to Hamble Coastal Study, 2011.
- Southampton Coastal Flood and Erosion Risk Management Strategy, 2012.
- River Hamble to Portchester Coastal Flood and Erosion Risk Management Strategy, 2016.
- Draft Hurst Spit to Lymington Strategy (publication expected summer 2026).

Strategic flood risk assessments

Local planning authorities are required to prepare a strategic flood risk assessment (SFRA) for their areas. SFRAs help various parties consider flood risk when making planning decisions about the design and location of any development, flood risk management features and structures. In the SFRA, the following are assessed: risk from all sources of flooding; cumulative impact that development or changing land use would have on the risk of flooding; and effect of climate change on risk. SFRAs also identify opportunities to reduce the causes and impacts of flooding, and any land likely to be needed for flood risk management features and structures.

- New Forest District Council Level 1 Strategic Flood Risk Assessment (2018).
- Partnership for South Hampshire Level 1 Strategic Flood Risk Assessment (2024).
- South Downs National Park Water Cycle Study and SFRA Level 1.
- East Hampshire Level 1 SFRA, East Hampshire District Council (2022).
- Hart District Council Strategic Flood Risk Assessment December 2016.

Water utilities plans and strategies

In planning the delivery of water resources and services, water utility companies also identify where biodiversity improvements will be undertaken by them through the management of infrastructure and nature conservation/recovery projects.

- Southern Water - Natural Capital in our Catchments - Developing natural capital accounts for all 11 catchments in our area March 2024.
- Thames Water – "From 2020 to 2025 we've committed, with our regulator Ofwat, to enhance biodiversity by 5% at 253 of our most important sites for nature. The area of land to be improved by this five-year biodiversity programme is c.4,000 ha. This area is about two and a half times the size of Heathrow Airport. We'll achieve this by improving the condition of existing habitats through changes in management regimes

of grassland. We'll also create new habitats with improved connectivity, such as wetlands, woodlands and hedgerows."

Landscape Character Assessments

Landscape Character Assessments (LCA) systematically and rigorously assess and characterise the landscape using standard methodology and national typology. Most local planning authorities within Hampshire have undertaken LCA and this provides essential evidence base for land use planning. The LCAs also provide guidance on the vulnerability and sensitivity of landscape types within Hampshire to development and land use change.

- Hampshire Integrated Character Assessment 2010.
- New Forest National Park Landscape Character Assessment 2015.
- New Forest District Landscape Character Assessment 2000.
- Test Valley Landscape Character Assessment 2018.
- Landscape Character Assessment for Eastleigh Borough 2011.
- Winchester District Landscape Character Assessment 2004.
- Fareham Landscape Assessment 2017.
- Havant Borough Townscape, Landscape and Seascape Character Assessment 2007
- Landscape Character Assessment - Portsea Island Coastal Defence Flood Risk Areas 2012.
- East Hampshire Landscape Character Assessment 2024.
- Basingstoke and Deane Landscape Assessment 2001.
- Hart District Landscape Assessment 1997.
- Landscape Assessment of Rushmoor 2009 Update.
- South Downs Landscape Character Assessment 2020.

Local plans

Local Planning Authorities in the area covered by the LNRS are at various stages in the preparation or implementation of their respective local plans. These local plans set out planning policies for their respective areas and include proposed or allocated sites for development, including residential sites, employment sites, and sites for renewable energy. We have used the proposed sites in each local authority's local plan to inform where new developments are likely to be located and, therefore, where land is less likely to be available for nature recovery. We have also worked with the planning services of each local authority to determine how other aspects of the local plans, such as policies related to the natural environment, may influence the LNRS.

Hampshire Minerals and Waste Plan 2013

The Hampshire Minerals and Waste Plan (HMWP) seeks to promote sustainable development within the Plan area with a focus on minerals and waste development. This includes making provision for a reliable supply of minerals and appropriate waste infrastructure, whilst protecting the environment and local communities and supporting the local economy. The 2013 Plan is currently subject to a partial update.

In addition to the inclusion of environmental policies, the HMWP Partial Update contains four mineral extraction allocations. The restoration of these and other sites provides opportunities for nature recovery both locally and as part of wider ecological networks.

Neighbourhood Development Plans

A Neighbourhood Development Plan is a community-led initiative that sets out policies and proposals for guiding development and shaping the future of a specific neighbourhood or area within a local authority's jurisdiction. Neighbourhood Development Plans are prepared by local communities, often with the support of local councils and planning authorities, and provide a framework for managing land use, development and environmental conservation at the local level.

National Character Areas (NCA)

England is subdivided into 159 Character Areas, broad divisions of landscape that form the basic units of cohesive countryside character, on which ecological strategies can be based. NCAs are areas that share similar landscape characteristics, which follow natural lines in the landscape, making them an effective decision-making framework for the natural environment. The Character Area framework is used to describe and shape objectives for the countryside, its planning and management and is maintained by Natural England.

Within Hampshire, eleven areas have been defined by Natural England as National Character Areas (NCAs):

- Dorset Heaths and Cranborne Chase.
- Dorset Heaths
- Hampshire Downs.
- New Forest.
- Salisbury Plain and West Wiltshire Downs.
- South Coast Plain.
- South Downs.
- South Hampshire Lowlands.
- Thames Basin Heaths.
- Thames Basin Lowlands.
- Wealden Greensand.

NCAs are utilised in Part 1 of this Strategy to provide a detailed area-based description of the biodiversity of the strategy area.

Mapping and data

A wide range of local, regional, and national evidence has been used in preparing this Local Nature Recovery Strategy. A summary of how key datasets have been used is provided below and set out in the following tables:

- Data on designated sites (both nationally and locally designated for their value to nature) and priority habitats, has been used to identify where there are habitats that are already of value to nature. Hampshire Biodiversity Information Centre (HBIC) has provided all locally designated sites and priority habitat data.
- Mapping of land that is in Countryside Stewardship schemes has been used as part of the opportunity modelling to help us understand where there is additional land that may already be becoming of value to nature.
- Species records held by the HBIC have been used to identify where priority species have been recorded recently or in the past, to identify sites for recovery and to draw up the species priority shortlist.
- The Natural England Habitat Network mapping model, using HBIC's priority habitat data, has been used by HBIC to identify the best opportunities to inform the Habitat Opportunity Areas to expand and connect these habitats.
- Soil types and flood zones data has been used in the model to inform where potential habitats could be created.
- The mapping of riparian buffers using the Detailed River Network centre lines has been used to identify priorities for improving the ecological status of rivers and provide more wetland vegetation.
- The location of parks and greenspaces have been used to help identify areas where nature recovery could provide the most benefit to people's health and wellbeing.

Credit: Nicky Court

Ecology – existing biodiversity dataset

Data	Description	How it was used	Source(s)	Last updated
Sites of Special Scientific Interest (SSSI)	Mapping of sites designated nationally for their importance to biology and/or geology.	Mapped as areas that are of particular importance for biodiversity.	Natural England	2025
Special Areas of Conservation (SAC)	Mapping of sites designated as SACs for their European interest for fauna and flora. Note that all SACs are designated as SSSIs.	Mapped as areas that are of particular importance for biodiversity.	Natural England	2025
Special Protection Areas (SPA)	Mapping of sites designated as SPAs for their European interest for birds. Note that all SPAs are designated as SSSIs.	Mapped as areas that are of particular importance for biodiversity.	Natural England	2025
National Nature Reserves (NNR)	Locations of National Nature Reserves.	Mapped as areas that are of particular importance for biodiversity.	Natural England	2025
Sites of Importance for Nature Conservation (SINC) (Local Wildlife Sites)	Location and description of locally designated sites of value to nature at a regional/local level.	Mapped as areas that are of particular importance for biodiversity.	HBIC	2025
Ancient woodland Inventory	Location of ancient woodland (defined as woodland that has existed since at least 1600).	Defined as irreplaceable habitat and mapped as areas that are of particular importance for biodiversity.	Natural England and HBIC	2025
Local Nature Reserves (LNR)	Location of Local Nature Reserves (which differ from SINCs).	Mapped as areas that are of particular importance for biodiversity.	Natural England	2025
Priority habitat mapping	Mapping of priority habitats as defined by Natural England and HBIC.	Re-verified and used to identify important priority habitats to inform the Habitat Network Model and habitat opportunity areas.	HBIC and Natural England	2025
Status of protected and designated sites (SSSI)	The status of each SSSI (unfavourable, favourable etc.) and an explanation of why this status has been assigned.	Provided additional information on presence of priority habitat to be used above.	Natural England	Varies

Data	Description	How it was used	Source(s)	Last updated
Detailed river network	The detailed river network including those designated as main rivers, which is managed by the Environment Agency.	Used to identify all rivers and streams, and map buffers alongside them that 'could become of importance' to biodiversity.	Environment Agency	2025
Traditional orchards	Mapping of traditional orchards.	Used to verify important habitat that was not already mapped through the Hampshire SINCs. None were found	Natural England	2024
Wood pasture and parkland	Mapping of open wooded habitats (wood pasture and parkland).	Used to identify additional important habitat within the Habitat Network model.	Natural England and HBIC	2025
Local records of species	All records of species held by HBIC, including the location in which the species was recorded and the date. HBIC hold c11 million records.	Used to draw up the shortlist of priority species and identify woodlands supporting priority species for targeting.	HBIC	2024
Countryside Stewardship schemes	Countryside Stewardship schemes active over past five years.	Used to inform the Habitat Network model where action is being taken to enhance the natural environment.	Natural England	2024
Tree Planting Schemes	Woodland and other wooded habitats (e.g. orchards) that have recently been planted or proposed for planting through the Hampshire Forest Partnership and other schemes.	Used to identify newly created woodland and other wooded habitats that are likely to be of importance to biodiversity in the future and may not be otherwise mapped.	Hampshire County Council	2024
Solent Wader and Brent Geese Strategy areas	Sites of importance to populations of birds found on the Solent SPA, which have been identified as core, primary or secondary supporting areas to the SPA.	Used to map land that is deemed to be of functional importance to bird populations using the Solent and that has not been mapped under any other designation.	Hampshire & Isle of Wight Wildlife Trust	2024

Ecology – opportunity mapping models

Data	Description	How it was used	Source(s)	Last updated/ extracted
National Habitat Network model	A spatial model that maps the geographic extent and location of Habitat Networks for 10 priority habitats in Hampshire. This is based on HBIC's priority habitat data and identifies habitat restoration-creation areas, restorable habitat areas, plus fragmentation action and network enhancement zones.	Used to identify potential areas for expanding and connecting existing habitats, as well as helping to inform opportunities for cross-boundary connectivity.	Natural England / HBIC	2024
Saltmarsh potential	Currently defended floodplain areas in England which could be suitable for managed realignment and / or Regulated Tidal Exchange (RTE) to create mudflats and saltmarshes.	Used to identify areas that are potential priorities for restoration of saltmarsh or mudflat habitat.	MMO/CABA	2024
Seagrass potential	The majority of the seagrass potential areas are derived from wave and current energy, elevation and salinity criteria. The data contains a subset of 'preferred' sites' which include areas with minimal overlap with pressures and existing activities that may hinder restoration.	The 'preferred sites have been used to identify areas that have potential for seagrass recovery – they also include areas known to support or have supported seagrass in the past	Environment Agency **Seagrass Potential - data.gov.uk**, and Hampshire & Isle of Wight Wildlife Trust	2025
Working with Natural Processes (WWNP) floodplain reconnection potential	The Environment Agency's best estimate of locations where it may be possible to establish reconnection between a watercourse and its natural floodplain, especially during high flows.	To help prioritise opportunities for reconnecting rivers to the floodplain.	Environment Agency	2024

Land use

Data	Description	How it was used	Source(s)	Last updated/ extracted
Soil type	Map of 27 soil types across the UK.	Used to inform potential habitat types in different areas and, alongside ALC data, areas would be most suitable as priorities for nature recovery with the least impact on food production.	LandIS Soilscapes	2024
Planned developments, including for renewable energy	Location of currently planned developments (residential, employment, infrastructure, renewables etc).	Used to ascertain where future development would mean land would not be available for prioritisation for nature recovery.	Hampshire Local Planning Authorities	2024
Scheduled Monuments and battlefields	Locations of Scheduled Monuments (e.g. stone circles), which are given protection against unauthorised change, and registered battlefields, which are given weight in the planning system.	Used to inform where certain actions may not be appropriate due to potential impacts on heritage, and where mapping areas as potentially being of importance to biodiversity would not be appropriate.	Historic England	2023
Land ownership mapping	Mapping of known land ownership, including for environmental NGOs, Forestry England, National Trust, and Water Utilities.	Used to identify sites that are or could be managed for nature due to known interests of the landowners.	Various	Various
Built up areas	Mapping of areas defined as 'built up' by the ONS by 25m grid squares.	Used to identify areas that are built up, and where opportunities for nature recovery may be limited.	ONS	2022
Local plan proposed development locations	Sites where new development is proposed in forthcoming local plans.	Used to identify areas that are likely to be built on in the future, and where opportunities for nature recovery may be limited or would inform BNG.	Hampshire Local Planning Authorities	2024

Water

Data	Description	How it was used	Source(s)	Last updated/ extracted
Water body classifications and RNAGs	Classification of water bodies (ecological status) under the Water Framework Directive and 'reasons for not achieving good' (RNAGs).	Used to identify priority interventions for improving the quality of waterbodies.	Environment Agency/ Rivers Trust	2021
River barriers	Mapping of barriers to fish passage (weirs, dams, impoundments, culverts etc) that can restrict the upstream and downstream movement of fish, preventing access to important spawning and feeding areas.	Used to help identify priorities for opening up rivers and streams to fish passage and potential barriers to river restoration.	Environment Agency and Partners - **River Obstacles**	2025
Flood zones	Mapping of flood zone 3 (more than 1% chance of flooding in a given year).	Used to help identify areas that could be suitable for creation of wetland habitats.	Environment Agency	2024
Risk of flooding from rivers and sea	Mapping of the chance of flooding from rivers and/or the sea for England, using local expertise and taking into account flood defences and their condition.	Used to help identify areas that could be especially suitable for creation of coastal floodplain grazing marsh.	Environment Agency	2024
Groundwater Source Protection Zones (SPZs)	Identify areas of land through which water infiltrates into a groundwater borehole, well or spring that is used for public drinking water supply. These zones show the risk of contamination from potential pollution.	Used to help identify areas where there may be opportunities for nature recovery based on the protection of groundwater sources through lowering inputs and moving to less intensive farming .	Gov.uk	2024

Appendix 6:
Habitat opportunity mapping methodology

The habitat opportunity layers used to inform the identification of Habitat Opportunity Areas in the ACB map in Part 2, have been constructed using Natural England's habitat network model[15] . This model uses a data integration software tool called Feature Manipulation Engine (FME). The Hampshire Biodiversity Information Centre (HBIC) adapted the model as follows:

- By exchanging Natural England's England-wide habitat layers for its own local habitat layers.
- Adding additional priority habitats to the list of associated habitats.
- Developing a model for coastal and floodplain grazing marsh.

The habitat network model produces the following zones:

- **The layer's existing primary habitat.**
- **Nearby associated habitat (see Table A6.1).** This includes other priority habitat types that form a mosaic or an ecologically coherent group within the landscape, and may be essential for some species associated with the primary habitat.
- **Habitat creation/restoration areas.** This is where work is underway to either create or restore the primary habitat, and uses Countryside Stewardship data from the past five years.
- **Restorable habitat.** Areas of land, predominantly composed of existing semi-natural habitat, where the primary habitat is present in a degraded or fragmented form, and which are likely to be suitable for restoration.
- **Network enhancement zone 1.** Land connecting existing patches of primary and associated habitats, which is likely to be suitable for creation of the primary habitat. Factors affecting suitability include proximity to primary habitat and associated habitats, current land use, soil type, slope, and proximity to coast. The action within this zone is expanding and joining up existing habitat patches and improving the connections between them.
- **Fragmentation action zone.** Land within enhancement zone 1 that connects existing patches of primary and associated habitats, which are currently highly fragmented, and where fragmentation could be reduced by habitat creation.
- **Network enhancement zone 2.** Land connecting existing patches of primary and associated habitats, which is less likely to be suitable for creation of the primary habitat. Action in this zone, which improves biodiversity value through land management changes and/or green infrastructure provision, can be targeted here. Please note that this zone was only used for the woodland creation layer.

15 Natural England habitat network model - **https://magic.defra.gov.uk/Metadata_for_magic/Habitat%20Network%20Mapping%20Guidance.pdf**

- **Network expansion zone.** Land beyond the network enhancement zones with potential for expanding, linking, and joining networks across the landscape. For example, areas that are potentially suitable for habitat creation for the specific habitat in addition to enhancement zone 1. Please note that this zone was not used in the HBIC modelling. It would have covered the whole of Hampshire and the premise of the opportunity layers is to inform areas that would be of strategic significance to achieve the best impact and outcome for nature recovery.

Table A6.1: Associated habitats

Primary habitat network*	Wood pasture and parkland	Lowland beech and yew woodland	Lowland mixed deciduous woodland	Wet woodland	Coastal saltmarsh	Lakes and ponds	Lowland meadow	Purple moor grass and rush pasture	Reedbed	River	Coastal sand dune	Lowland calcareous grassland	Lowland fen	Lowland heath	Hedgerow	Coastal vegetated shingle	Saline lagoon	Lowland acid grassland	Coastal and floodplain grazing marsh
ASNW	x	x	x	x															
CFGM				x	x	x	x	x	x	x									
CSM									x		x					x	x		
LAG		x	x				x				x	x	x	x	x				
LCG		x	x								x		x			x		x	
LFN							x	x	x			x		x				x	x
LHL							x	x					x					x	
LMW	x		x					x				x	x		x			x	x
PMG							x	x	x				x	x				x	x
RBD					x	x	x	x		x	x		x				x		

** See below for expansion of initialisations in the first column*

Data layers used in the Hampshire model:

- **Urban areas**. HBIC used a combination of a layer with urban areas defined by Office for National Statistics (ONS), and the built-up areas from HBIC's own broad habitat layer. The ONS layer was, in parts, too generalised and included some parks and open greenspaces as urban areas. These areas can be important elements of a habitat network and were therefore, as far as possible, manually cut out of the urban layer.
- **Flood zone 3.** This covers those areas with at least 1% chance (rivers) or at least 0.5% (sea) of

annual flooding. The data was provided by the Environment Agency[16].

- **Soils.** NatMap Soilscapes layer from Cranfield University[17].
- **Countryside Stewardship schemes from the Rural Payments Agency.** These show all options that have been active over the past 5 years, based on the reporting period 1 April 2019 – 31 March 2024[18].
- **Ancient woodland inventory layer**. This is based on the published layer by Natural England[19], and includes updates from the 2024 HBIC review, which added ancient woodlands smaller than 2ha in Hampshire.
- **Broad habitat layer.** HBIC's broad habitat layer was used to inform land use type in the model to avoid habitats where it would not be sensible to create a priority habitat, particularly overlaying an existing priority habitat.
- **Priority habitat layer.** HBIC's layer of priority habitats was used. For the areas in the neighbouring counties of Dorset and Sussex (up to 2km from the border), their own priority habitats were used. For the other neighbouring counties, the Natural England priority habitat inventory was used.
- In all cases, the layer was then cut down to the area of the statutory LNRS boundary (LNRS45)[20].

Habitat networks constructed using the model were:

- Lowland calcareous grassland (LCG).
- Lowland acid grassland (LAG).
- Lowland heathland (LHL).
- Lowland meadow (LMW).
- Purple moor grass and rush pasture (PMG).
- Lowland fen (LFN).
- Reedbed (RDB).
- Coastal and floodplain grazing marsh (CFGM).
- Coastal saltmarsh (CSM).
- Ancient woodland (ASNW).
- Wood pasture and parkland (WPP).

16 Flood Zone 3 - **https://www.data.gov.uk/dataset/bed63fc1-dd26-4685-b143-2941088923b3/flood-map-for-planning-rivers-and-sea-flood-zone-3**
17 National soil map of England and Wakes (NATMAP) - **https://www.landis.org.uk/data/nmsoilscapes.cfm**
18 Local sites in positive conservation management - **https://www.gov.uk/government/statistics/local-sites-in-positive-conservation-management--2**
19 Ancient woodland (England) - **https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::ancient-woodland-england/about**
20 **https://www.gov.uk/government/publications/local-nature-recovery-strategies-areas-and-responsible-authorities**

No opportunity mapping was carried out for coastal vegetated shingle and sand dunes as those habitat types are already designated in Hampshire with little scope for expansion without major engineering works and impact on other priority habitat. Very little mapping was undertaken for restoring or creating lakes and ponds, except for known sites, due to insufficient data available.

For each habitat network:

- The model ran with a 1ha minimum area for priority habitat and associated habitats.
- Results up to and including network enhancement zone 1 were used apart from ASNW, which also incorporated network enhancement zone 2.
- The model produces rasterised outputs. To create smoother shapes, the function 'smooth polygon' with the parameters smoothing algorithm '= PAEK' and the smoothing tolerance of 75 metres in ArcMap, were used.
- Urban areas and larger rural settlements were then removed, due to lack of opportunity for habitat creation. Some greenspaces, however, were re-added.
- The layers were then cut to high mean high water mark, apart from saltmarsh and reedbed, which were cut to low mean high water mark.
- To achieve a coherent layer, holes in the layer up to a certain size (mainly covered by small rural settlements and other hard land use types) were removed.
- At each stage the layer was checked and then manually corrected for the following:
    - Tiny fragments were either removed or merged with neighbouring polygons.
    - Implausible areas were removed where it was obvious from aerial photographs or local knowledge that they could not be part of the network, such as runways, sports pitches, campus style sites etc
    - Removal of overlaps with urban areas or larger settlements.
    - For coastal saltmarsh, the layer titled saltmarsh potential from the Catchment

Credit: Nicky Court

Based Approach (CABA) Data Hub[21] was merged into the result. This layer extends some of the HBIC mapping and creates several new areas.

    - For coastal and floodplain grazing marsh, the resulting layer was merged with the flood zone 3 layer for better connectivity.

- The model was not run for wood pasture and parkland. It instead uses the habitat layer from Natural England[22], re-digitised to reflect more accurate boundaries, along with updates from the 2024 HBIC Ancient Woodland Review, which also mapped ancient wood pasture. The Natural England layer maps all Registered Historic Parks, and the measures will refer to these parks and areas of wood pasture.

Supplementary opportunity maps

The Opportunity mapping can be shown in the form of six supplementary maps, which show habitat creation opportunities for the following twelve priority habitats:

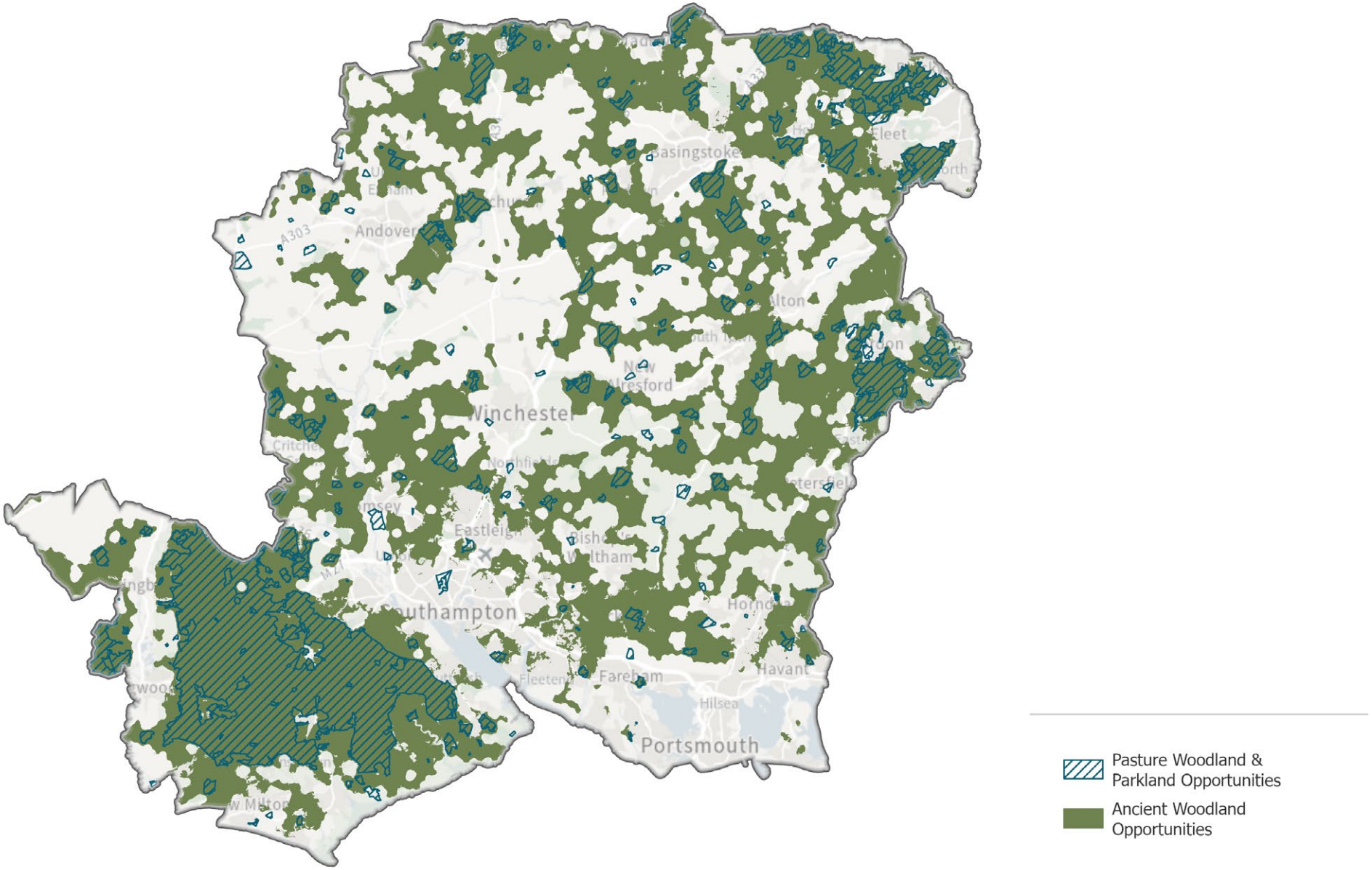
- Map A6.1
    - Ancient woodland
    - Wood pasture and parkland
- Map A6.2
    - Lowland calcareous grassland
- Map A6.3
    - Lowland meadow
    - Purple moor grass and rush pasture
- Map A6.4
    - Lowland heath
    - Lowland acid grassland
- Map A6.5
    - Floodplain and coastal grazing marsh
    - Coastal saltmarsh
    - Reedbed
    - Lowland fen

These maps are provided below.

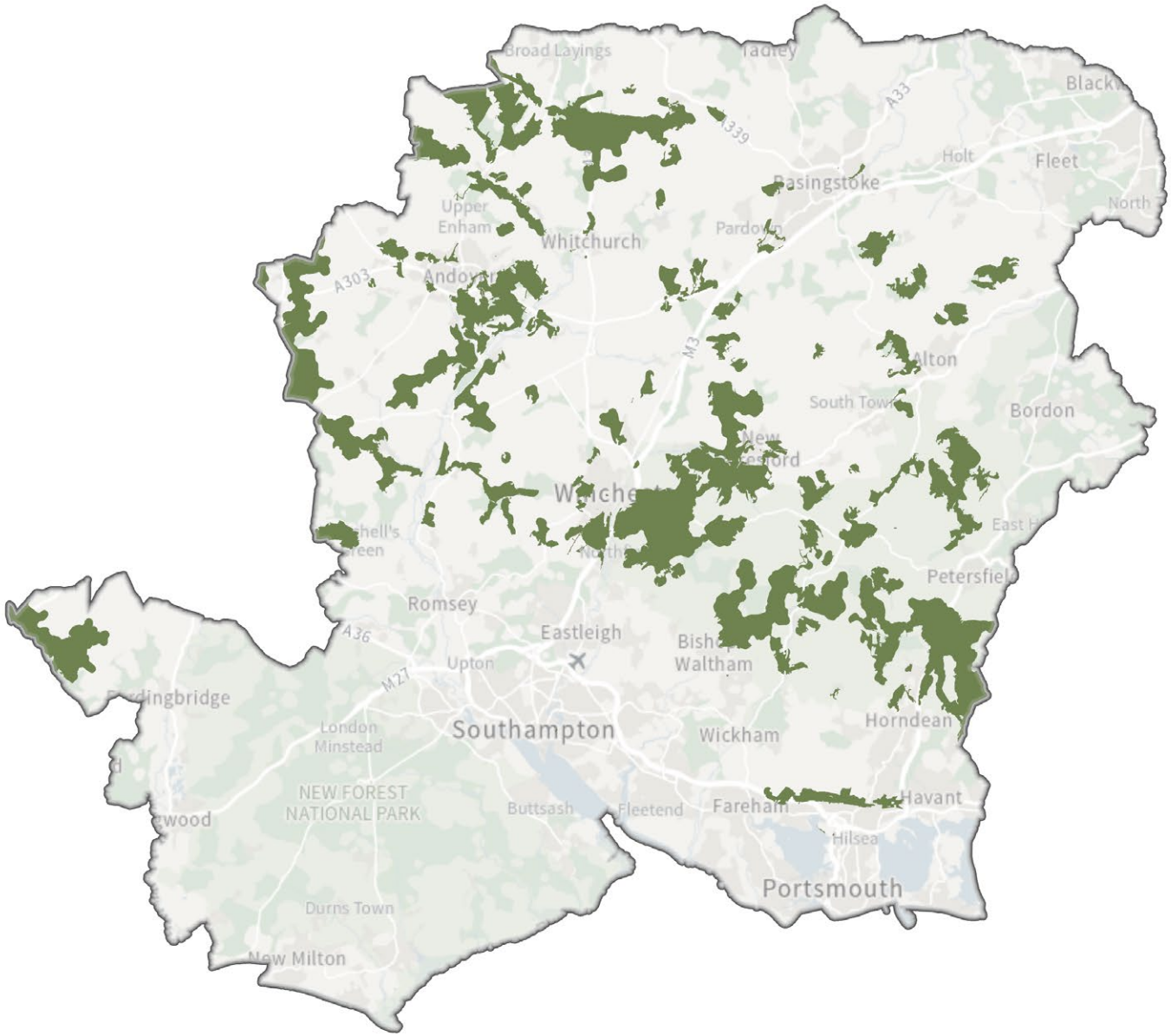
21 **https://data.catchmentbasedapproach.org/datasets/theriverstrust::saltmarsh-potential-mmo-potential-habitat-creation-sites-within-floodplain/explore?location=52.682253%2C-1.880650%2C6.72**

22 Wood pasture and parkland (England) - **https://www.data.gov.uk/dataset/bac6feb6-8222-4665-8abe-8774829ea623/wood-pasture-and-parkland-england**

Map A6.1: Ancient woodland, and wood pasture and parkland opportunities map

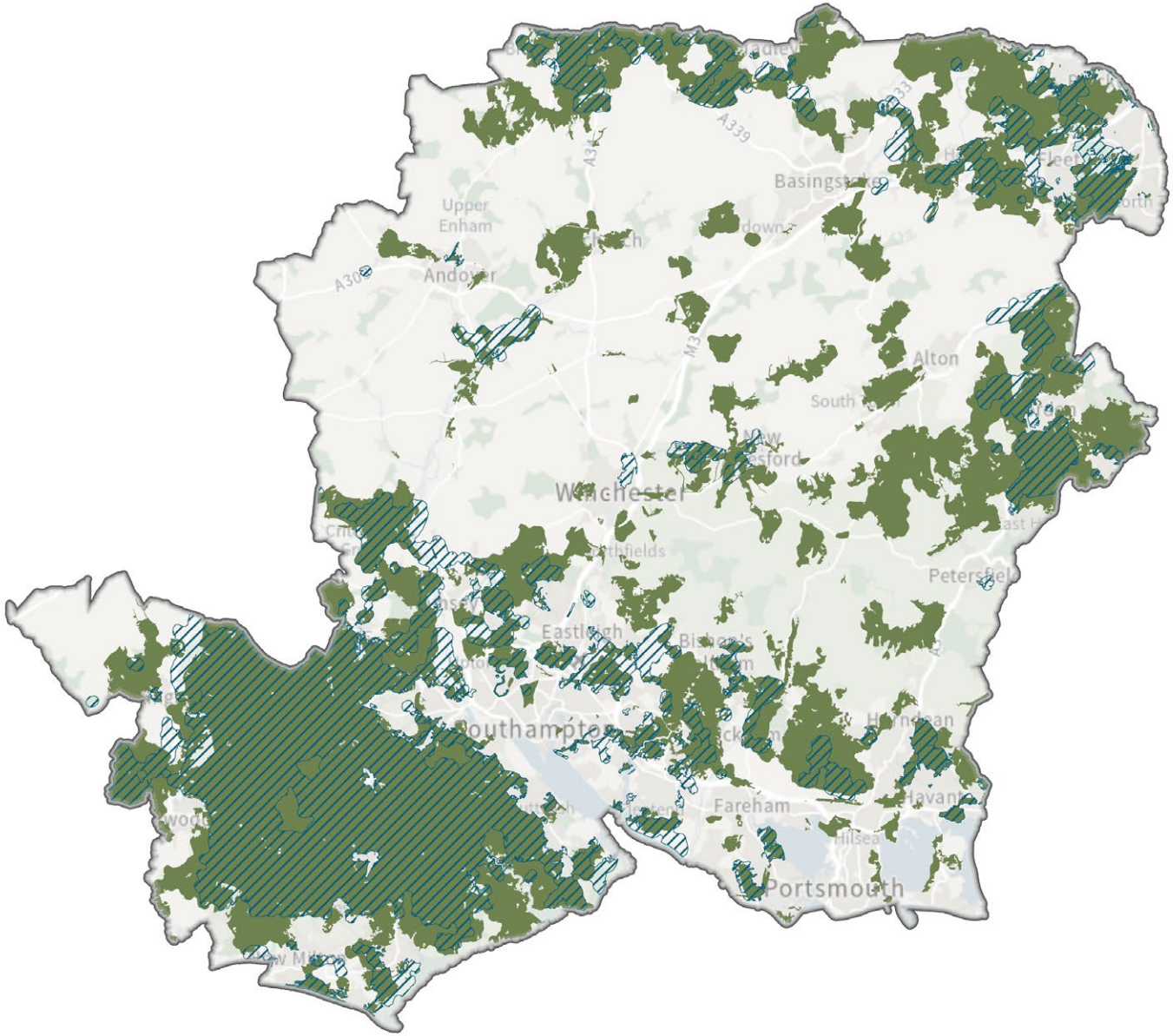


Map A6.2: Lowland calcareous grasslands opportunities map



Lowland Calcareous Grassland Opportunities

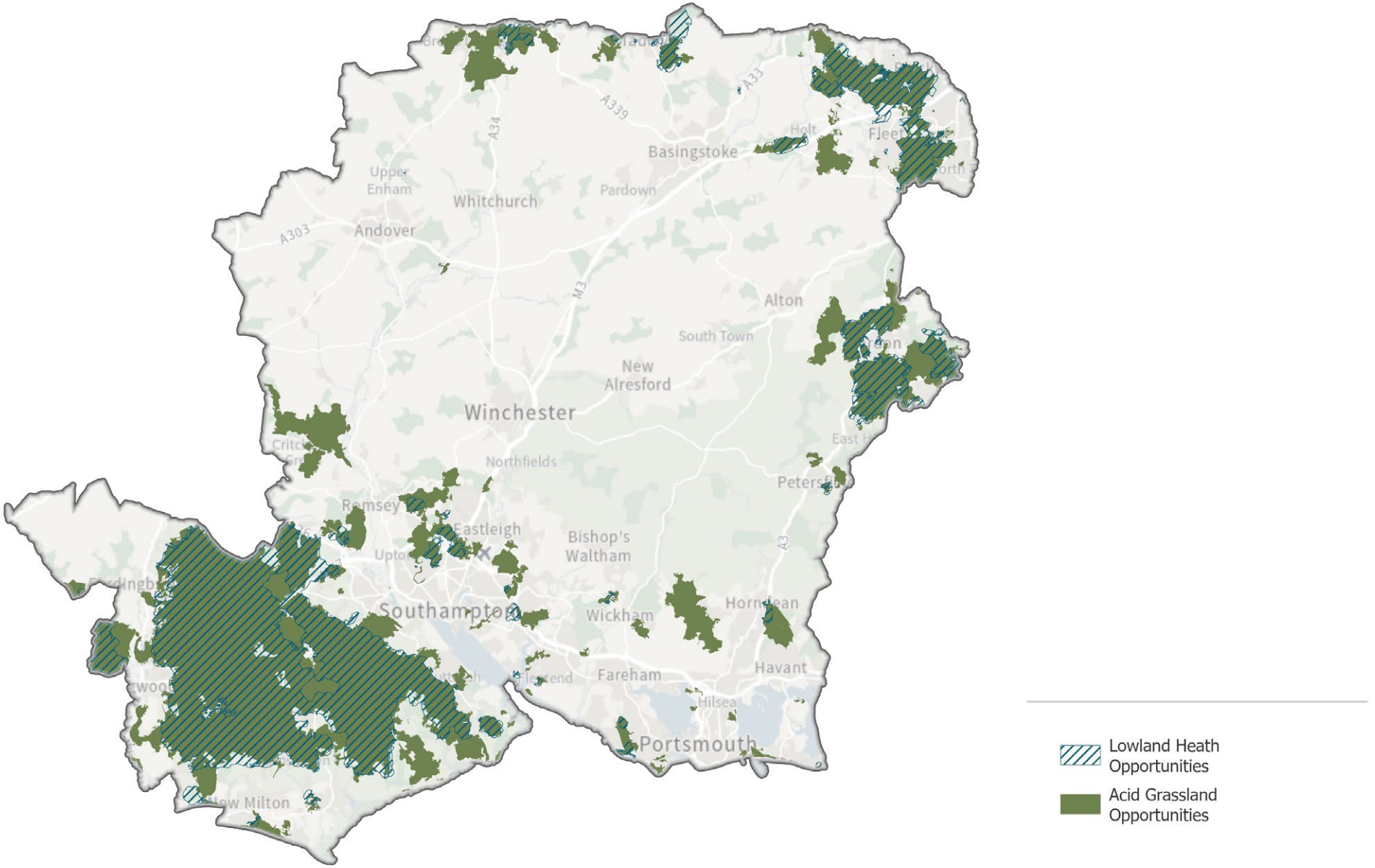
Map A6.3: Lowland meadow, and purple moor grass and rush pasture opportunities map



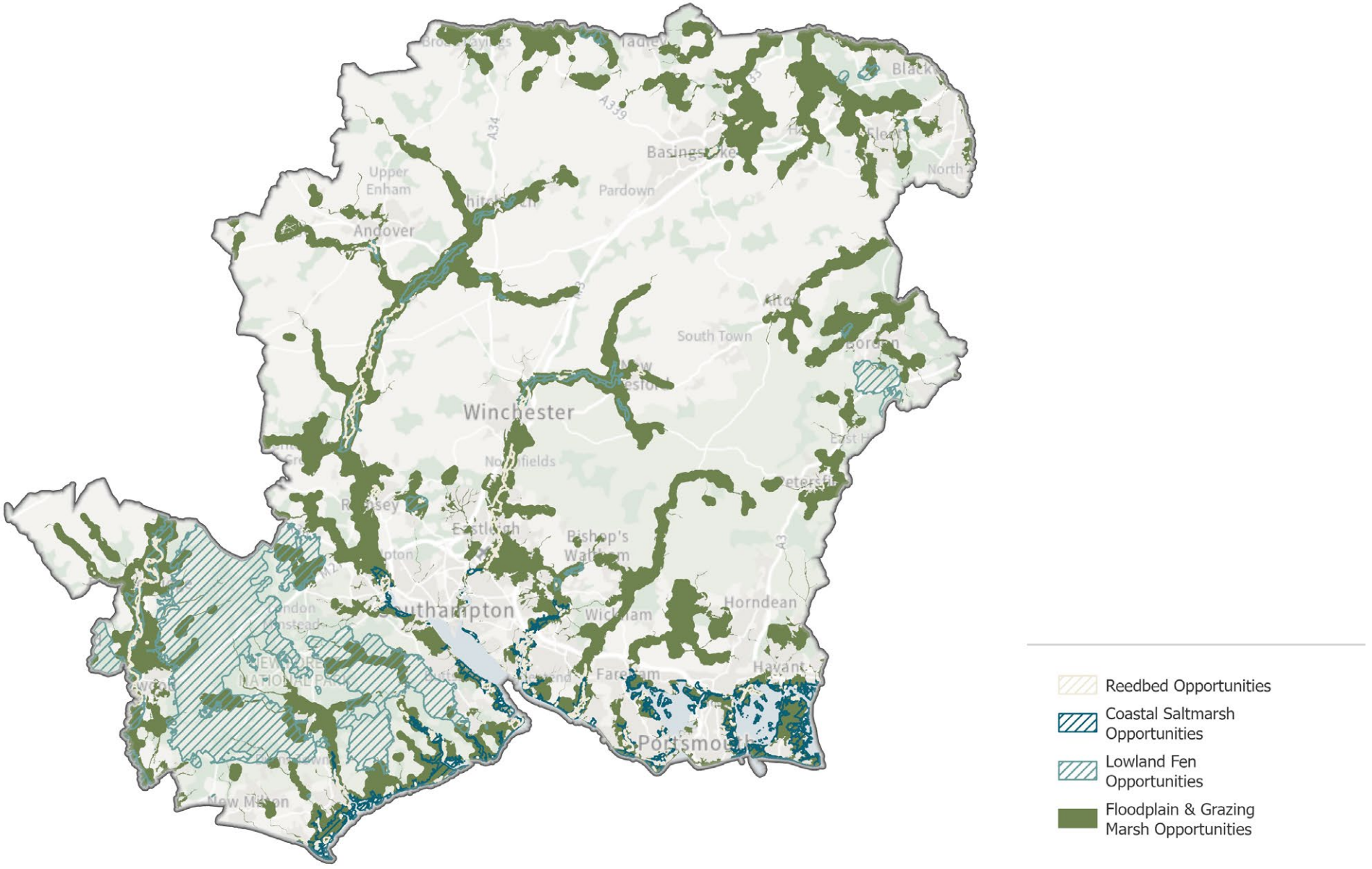
Purple Moor Grass & Rush Pasture Opportunities

Lowland Meadow Opportunities

Map A6.4: Lowland heath and acid grassland opportunities map



Map A6.5: Floodplain and coastal grazing marsh, saltmarsh, reedbed, and lowland fen opportunities map



Appendix 7: Method for mapping Habitat Opportunity Areas and other components of the Potential Measures Map

Habitat Opportunity Areas (HOAs) – areas where multiple habitats can be restored or created

GIS data sources used:

- Existing priority habitat data (HBIC).
- Priority habitat opportunity mapping for 11 priority habitats (HBIC) using the NE Habitat Network Model and removing enhancement zones – see Appendix 6.
- Detailed survey reports (HBIC).
- SSSIs (Natural England) and SINCs (HBIC).
- The updated Ancient Woodland Inventory (NE/HBIC).
- The Natural England Parkland and Wood Pasture Inventory.
- 'Lost Ancient Woodlands' – ancient woodland shown as 'cleared' in the original Ancient Woodland Inventory (between 1920 and 1979) and which has been digitised by HBIC.
- Ancient Woodland SINCs supporting one or more LNRS priority woodland species[23].
- Aerial photographs.
- Historic mapping.

The key objective has been to map areas of land that buffer, connect and expand existing designated sites (SSSIs and SINCs) and their constituent habitat(s), along with other areas of undesignated priority habitat, using the appropriate habitat opportunity mapping as a guide, and extending out by, on average, one parcel or field or slightly further if it links existing sites. This follows the Lawton principles of 'bigger, better, more and joined-up'[24].

Most of the HOAs have several habitat restoration measures listed due to the nature of the changing soils and hydrology across an area, such as restore to lowland heathland, lowland acid grassland, and/or purple-moor grass/rush pasture. This will depend upon the underlying opportunity mapping and prevailing conditions or constraints on site. Creating a mosaic of such habitats with structural diversity would be a potential and desirable outcome.

Parcels within the boundaries of the HOAs must overlie the opportunity mapping, which in some cases has included areas of the 'enhancement zone' for completeness.

Boundaries of the HOAs align closely with Ordnance Survey Master Map (OSMM) boundaries, and SSSI/SINC boundaries. Any designated sites that lie within HOAs will be removed from the ACB layer, but SINCs will remain on the measures map if they themselves have measures attached.

Developed land and roads have been removed from the HOAs, where possible, but areas can cross over rivers and streams and cover some dwellings. Existing areas of non-designated woodland have not been removed, the intention being to retain semi-natural woodland, where possible, whilst allowing surrounding areas to be restored back to heathland or floodplain grazing marsh, for example. Some HOAs may also overlap with each other (floodplain.

23 Hazel Dormice, barbastelle & Bechstein's bats, Duke of Burgundy, pearl bordered fritillary, white-letter hairstreak, brown hairstreak, drab looper, Devil's bolete, cheese snail, hawfinch, lesser spotted woodpecker, tree pipit, woodcock, nightingale, wood warbler, marsh tit, spotted flycatcher, narrow-leaved helleborine, green-flowered helleborine, violet helleborine, bastard balm, bird's-nest orchid.

24 **https://webarchive.nationalarchives.gov.uk/ukgwa/20130402151656/http:/archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf**

HOA across a larger HOA) although this has been minimised as far as possible for clarity.

Other sites and areas that have been mapped on the measures map, which reflect priorities in the strategy include:

Native Woodland Creation and restoration of ancient woodland

Existing ancient woodland has not been buffered with new woodland. Instead the priority has been to focus on:

- Existing ancient semi-natural woodlands which support priority species.
- New woodland areas where they establish connections between ancient woodlands, which support priority species.
- The 'lost woodland' polygons that lie adjacent to extant ancient woodland. These have been added for woodland re-creation on the basis they re-connect with many ancient woodlands and may still support relic hedge banks that support an ancient woodland flora. They also fit well back into the landscape. Any that have been built upon since clearance, have been removed.
- Coniferous PAWs woodland that directly abuts ancient semi-natural woodland which has been mapped for restoration back to (>80%) native woodland.

Wood Pasture and Historic Parkland

- All sites mapped on the Natural England Wood Pasture and Parkland BAP Priority Habitat layer on MAGIC have been mapped on the Measures map except where they fall within SSSIs – such as the New Forest. Additional areas have been added from the recent ancient woodland review.

River corridors

- Riparian buffers cover up to 10m either side of all rivers and streams. All culverted stretches have been retained where they lie beneath development, roads and, in some cases, farmland on the basis that some may be recoverable back to a more natural state. The buffers are also shown where they route through SINCs on the measures map (but not SSSIs).
- Barriers to fish migration using data supplied by the Environment Agency (EA) and **River Obstacles** website as point data and mapped as small polygons on all rivers and streams.

Groundwater Source Protection Zones (SPZs)

- All SPZs have been mapped on the Measures Map to indicate where lowering inputs and moving to less intensive farming would protect groundwater quality and ultimately river water quality. Main urban areas have been removed.

'Additional' sites – these have now been amalgamated with the HOA layer

- They include sites supplied by local planning authorities and proposed for
    - Biodiversity net gain.
    - Nutrient mitigation.
    - Nature recovery in general through local plans, neighbourhood plans, and local biodiversity action plans.
    - Sustainable alternative natural greenspaces, local green spaces, and other land they own/manage.
    - Minerals sites with planned restoration to priority habitat.
    - Sites supporting open mosaic habitat on previously developed land (where already not designated).
- Woodlands owned by Forest England (not within SINCs) where nature recovery is planned.

SINCs in poor or uncertain condition requiring active management. These include:

- SINCs where their condition has been assessed from habitat survey reports and found to be in negative or nil management.
- Woodland SINCs supporting declining priority species requiring targeted management.
- SINCs where the last habitat survey report pre-dates 2005 so condition is uncertain.
- Woodland SINCs owned by Forest England where nature recovery is planned.

Solent wader and brent geese sites

- All class types have been mapped on the basis a fully functional network is required to support the coastal SPAs.
- Seagrass Beds although they mostly occur within SSSIs they can occur within the inter-tidal areas within the LNRS boundary and are an important priority for recovery and expansion.

Road Verges of Ecological Importance (RVEI) and other road verges receiving planned reduced cuts – those which are also SINCs have been mapped within the SINCs measures layer.