

## Part B: Opportunities Identified



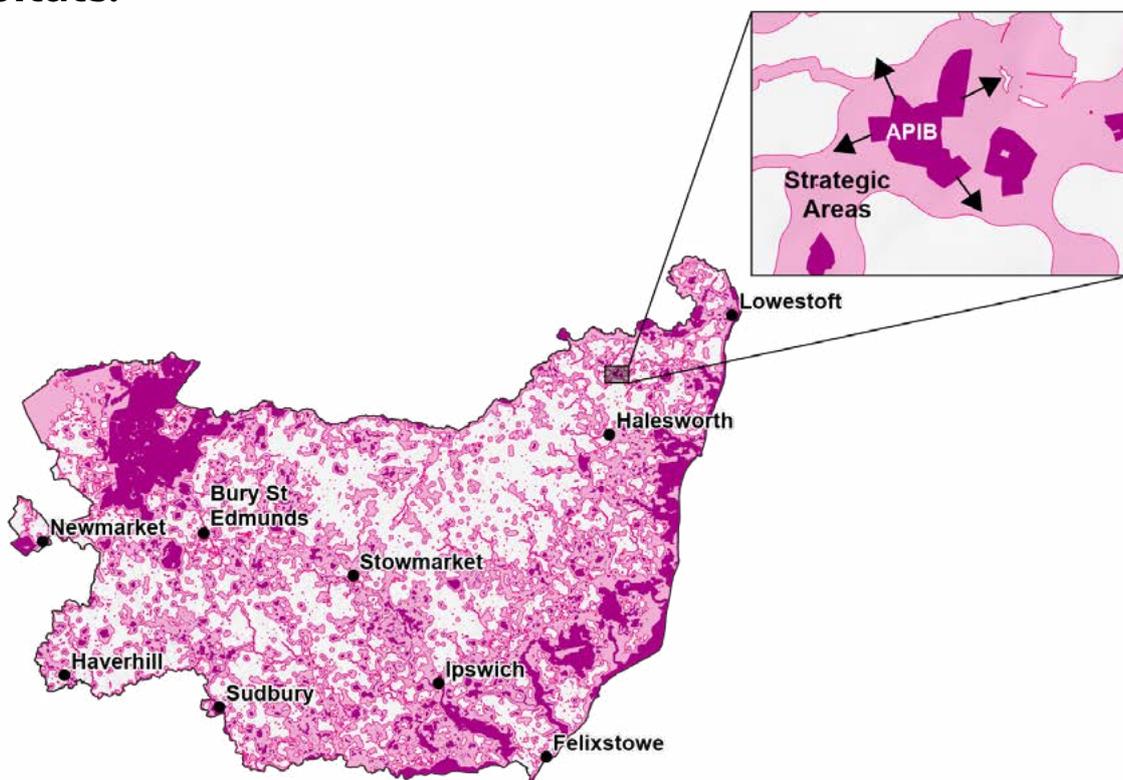
Wildflower field margin and hedgerow showing how agricultural fields can support wildlife and farming together.

# Nature recovery principles

The Lawton Principles, introduced in the 2010 report Making Space for Nature [24], provide a clear way to think about improving nature. They focus on making space for wildlife and ensuring habitats are better connected, more robust, and able to support biodiversity in the long term. These "more, bigger, better, and joined" principles are summed up as:

- **more** means increasing the amount of natural habitat, so there's more space for plants and animals to thrive
- **bigger** refers to making habitats larger. Larger areas are more resilient and support more species over time
- **better** focuses on improving the quality of habitats. This ensures they are healthy and able to support a wide range of wildlife
- **joined** is about linking habitats so species can move between them. This helps wildlife adapt to changes in the environment and reduces the risks to species that live in isolated areas.

**Figure 9. Map of biodiversity priorities in Suffolk showing existing APIB habitats (purple) surrounded by a 250 metres buffer or "Lawton Zones" (pink) to expand and connect habitats.**



Explore Suffolk's Lawton Zones map through the [NSNRP website](#) or scan the QR code.



In Suffolk's LNRS, these principles are being used to guide decisions about where and how to focus efforts for nature recovery. By following these principles, the strategy identifies opportunities to create a stronger, more connected natural environment that benefits both wildlife and people (**Figure 9**).

In order to address the Lawton Principles, we have applied a 250m buffer around Areas of Particular Importance for Biodiversity, **Priority Habitats** and churchyards across the county. This size of buffer was chosen as it provides ample opportunity and choices for expanding and connecting habitats across the county.

In addition to "more, bigger, better, and joined", the strategy also incorporates other nature recovery principles to ensure a comprehensive approach:

- **recover** aims to actively restore degraded habitats to their full ecological potential. This could involve enhancing soil health, rewetting drained peatlands, or removing invasive species to allow ecosystems to function naturally again. The actions also aim to support the recovery of existing species
- **reintroduce or translocate** is about bringing species back to areas where they have been lost or establishing populations in new locations to help them thrive. This can help rebuild balanced ecosystems and restore missing links in food webs
- **control** involves managing factors that

threaten biodiversity, such as invasive species, grazing pressure, or pollution. Effective measures ensure restored and existing habitats stay healthy and productive.

Building on the nature recovery principles, Suffolk's LNRS identifies specific opportunities to restore and enhance habitats across the county, creating more green and blue spaces where most appropriate. These opportunities focus on practical actions that target key habitat types, addressing biodiversity loss and strengthening ecological resilience. By tailoring these measures to Suffolk's unique landscapes, the strategy provides a clear pathway for nature recovery and long-term environmental sustainability. These opportunities are not considered to be an exhaustive list, and there may be other actions and interventions that contribute positively.

This strategy details and refers to specific Landscape Recovery Schemes (LRS) across the region within case studies, highlighting the work planned or already undertaken at a landscape scale. There is an expectation that alignment between the schemes and the LNRS will present future opportunities as they work together, outlined in a guidance note issued by Defra. Information will be shared between the two policy areas dependent on the phase. This can include information on aims, environmental activities planned and maps of project areas, including more detailed mapping and environmental data where appropriate.

Opportunities indicated by partnership between the LNRS and LRS include:

- links to funding potential, such as BNG, including private sector investment
- inclusion in long-term and large-scale nature recovery actions
- demonstration of mutual stakeholder engagement, for example with large farm clusters, eNGOs and landowners, alongside engagement with relevant spatial strategies and plans.

Within Suffolk, there are three projects in differing stages. A specific stakeholder group has been established with project leads across Norfolk and Suffolk to maintain communication and enable data sharing and therefore inclusion within the LNRS where applicable. These are also discussed across county boundaries with neighbouring RAs as necessary.

- Breckland Farmers Wildlife Network (BFWN)
- Habitat enhancement and connectivity in Gainsborough and Constable Country
- Waveney and Little Ouse Headwaters (WaLOR)

The creation of targeted, spatial measures and actions within the priority areas which have been identified and have emerged from the LNRS process will also provide the opportunity to align with and contribute to the legally binding national environmental objectives and targets introduced by the Environment Act (2021):

- restore or create in excess of 500,000 hectares of wildlife-rich habitat outside of protected sites by 2042, compared to 2022 levels
- halt the decline of species abundance by 2030, ensuring abundance in 2042 is greater than in 2022, and at least 10% greater than 2030
- reduce the risk of species' extinction by 2042, when compared to 2022
- increase total tree and woodland cover from 14.5% of land area to 16.5% by 2050
- improve water quality and availability – reduce nitrogen, phosphorus and sediment pollution by at least 40% by 2038
- increasing total tree and woodland cover
- improving water quality and availability
- ensuring that everyone in England lives within 15 minutes' walk of a green or blue space
- restoration of 280,000 hectares of peatland in England
- restoration of water bodies to good ecological status
- protecting 30% of land and sea in the UK for nature's recovery by 2030
- supporting farmers to create or restore hedgerows
- managing woodlands for biodiversity, climate and sustainable forestry
- restoration of Sites of Special Scientific Interest to favourable condition
- ensuring climate change adaptability is included in actions and policies
- inclusion of proposals for nature-based solutions which improve flood risk management where appropriate
- reduction in the rates of introduction and establishment of invasive non-native species.

The measures and actions identified for the habitat assemblages and key species in Suffolk's LNRS are aimed to contribute, where possible, to the national objectives of:

- halting the decline of species abundance
- reducing the risk of species' extinction
- reducing the rates of introduction and establishment of invasive non-native species

It should be noted some measures could have the potential for increasing adverse effects for example increased connectivity allowing for spread of diseases, pests and wildfires.



Bumblebee on a cornflower

# Letting nature take over: Black Bourn Valley

Black Bourn Valley is a 300-acre reserve located near the village of Thurston. For over 20 years Suffolk Wildlife Trust has been 'wilding' the Black Bourn Valley by taking fields out of arable farming and allowing nature to take over.

The site is composed of a mix of former arable land, grassland meadows, wet woodland and scrub. As nature recovers, we are seeing this land transform into a scrub and grassland mosaic. Eventually, we hope to establish species rich grassland and scattered scrub as well as maintaining wetland features to increase biodiversity on the site.

## What have they achieved?

### Pond creation

One of the larger projects has been pond creation, with 24 ponds being managed sensitively to support a range of species.

The bare pond edges are providing feeding ground for endangered turtle dove and invertebrates. The cattle 'poach' the pond edges to maintain this bare ground for feeding.

### Hedgerows

Hedgerows have been left unmanaged allowing scrub to spill out and encroach. This has created a graded habitat that is supporting a wide range of breeding birds.

## Floodplain connection

In 2017 a project was undertaken to reconnect the river channel with the floodplain by excavating the old river channel, allowing it to flood out on to the meadows. Scrapes were created alongside this to provide habitat for wintering wildfowl. There were instant results with waders and wintering wildfowl using the entire area.

## Species recovery

Since adopting a wilding vision, the species response has been extremely positive. There are now have at least three pairs of breeding turtle dove on site and four pairs of breeding nightingale (both of which are endangered).

The ability to graze the site with cattle extensively roaming through woodland, grassland and ex-arable areas has helped create and maintain a much more natural landscape.

Insect abundance has dramatically increased across the former arable areas as grassland meadows naturally establish. This further illustrates the ecosystem recovery that's taking place.

Find out more by visiting  
[www.suffolkwildlifetrust.org/blackbournvalley](http://www.suffolkwildlifetrust.org/blackbournvalley)



## Scrub and mosaic at Black Bourn Valley

### **How do they do it?**

The main outcome of the work is to have a nature reserve that is nature led. A low intervention approach to site management is being taken and the main management technique is to extensively graze with cattle. The cattle can access the whole site and help to manage the meadows and scrub through grazing.

Ponds are managed rotationally. Some ponds are allowed to scrub over and vegetate, while others will be de-silted to maintain open water. This creates diversity in the age structure of ponds and caters for a wide range of invertebrates.

This approach enables nature to be the driving force for ecological gain and ecosystem recovery. Subtle interventions such as pond management and grazing ensure certain species are catered for, such as the great crested newt and dragonflies.

Volunteers assist with work at Black Bourn Valley. This can include installation and repair of livestock fences and cutting back vegetation on footpaths. The volunteers also install nest boxes for barn owls and carry out surveys.

### **What is next?**

Black Bourn Valled are currently monitoring the changes on site - from soils (as they transition from arable to natural grassland) to key species such as turtle dove, bats, dragonfly and reptiles. The long-term goal is to provide species space and time to adapt in the face of climate change and intensive surrounding land use.

The hope is that this project will act as an exemplar site to show what wilding land looks and feels like. The site could also have the potential to demonstrate to local farmers and landowners the wider benefits of wilding their land.

## Habitat Opportunities

The following opportunities outline key actions across Suffolk, linking to the habitat areas outlined in the description of the strategy area.

### Coastal opportunities

within maritime cliffs, sand dunes, vegetated shingle, saline lagoons, saltmarsh and mudflats.

- Allow natural coastal processes where possible and appropriate to enable habitats to develop, move, and function naturally, also incorporating creation of replacement habitat inland to mitigate for climate change and losses.
- Manage recreational pressures through key strategic solutions such as the Suffolk Coast Recreation Disturbance Avoidance and Mitigation Strategy (RAMS) and it's public facing brand Wildlife Wise [27a and b].
- Provide benefits to the marine environment and align with appropriate environmental plans for example [Shoreline Management Plans](#), the East Inshore and East Offshore Marine Plans [46].
- Beneficial use of dredged materials (BUDM) for habitat creation and restoration.
- Improve conservation techniques to restore and enhance existing habitats.

### Woodland, Trees and Scrub opportunities

Creating new woodlands and improving existing areas, including wet woodlands, wood pasture and parkland and trees outside of woodlands. This incorporates both planned planting schemes following

the principle of 'the right tree in the right place' alongside natural regeneration and colonisation where possible.

- Improve resilience through appropriate management techniques to promote structural and age diversity.
- Connect existing woodlands and create new areas using a diverse mix of appropriate native tree species and shrubs.
- Protect and conserve significant trees and woodlands.
- Identify new sites for planting orchards in rural and urban areas.
- Increase urban planting.
- Manage deer populations to sustainable levels and control invasive species such as grey squirrels.
- Create new areas of scrub and open space as transitional habitats.

### Freshwater opportunities

- Restore and enhance existing rivers, streams, and ditches, including control of invasive species and enhanced biosecurity.
- Improve water resource and water quality management through nature-based solutions, including at source in headwater areas, at water recycling centres and by upgrading small rural water sewage works.
- Strengthen the mosaic of wetland habitats along river channels.
- Enhance river, riparian, and floodplain habitats.
- Restore and enhance chalk stream habitats.
- Enhance opportunities for fish pass installation or barrier removal.
- Create and restore where appropriate still water habitats eg ponds and lost or ghost ponds.
- Restore, maintain, and enhance lake and broad habitats.

- Create new freshwater habitats, such as reedbeds, grazing marsh, and lowland fen.
- Include former gravel pits and mineral workings, especially in river valleys as potential sites for restoration to wetlands, including open water, fen and reedbed.
- Reduce greenhouse gas emissions from freshwaters by improving water quality and through restoring heavily overgrown ponds to an open-canopy state.
- Benefit the marine environment by improving the quality of freshwater entering it.

### Grassland and Heathland opportunities

- Connect, expand, and enlarge grassland and heathland areas.
- Restore and enhance grassland and heathland.
- Protect and conserve significant existing habitat areas.
- Promote effective management techniques and controlled grazing regimes.
- Incorporate mosaic features within habitats.
- Remove encroaching habitat where appropriate.

### Farmland opportunities

- Connect, expand and enhance areas of arable field margins.
- Enhance and restore hedgerows and hedgerow trees.
- Promoting effective management techniques and controlled grazing regimes.
- Incorporate mosaic features within

habitats.

- Restore farmland ponds and improve riparian habitats.
- Use sustainable and regenerative practices to improve soil and water quality, including where appropriate **paludiculture** in high water table areas.
- Implement varied planting techniques to enhance biodiversity eg mixed cropping, agroforestry.
- Support and increase resilience of farming, eg through ecosystem services such as pollination and pest control.

### Urban Opportunities

- Create corridors to connect the urban landscape with the countryside beyond, in the existing built and new developments.
- Increase the numbers of trees and other appropriate vegetation within urban areas.
- Improve green infrastructure aspects including green crossings and buffer areas, sustainable drainage systems and schemes, green roofs and walls.
- Encourage nature friendly management practices and activities within public spaces, communities and new developments. For example, local plan site allocations require the provision of open spaces and seek to improve connectivity to existing networks.
- Establish connectivity between gardens and public spaces.
- Incorporate retrofitted features into building work and transport networks.
- Creation of new areas for education, community projects and engagement within all urban settings.

## Mosaic habitat creation opportunities

Using combinations of habitat types within the Suffolk landscape, there is the possibility to create dynamic mosaic areas, where diversity can be maximised using varied vegetation structure and **successional or transition zones** and ecotones.

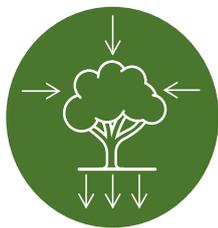
These areas will become naturally messy and be representative of allowing natural processes to occur. Mosaic habitats are beneficial to species as they can maximise the resilience of an area to change, due to the presence of varied habitat features eg still water habitats, trees and scrub.

# Wider environmental benefits and co-benefits of nature recovery

## Wider environmental benefits



Air quality



Capturing carbon



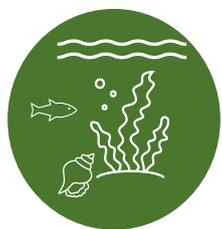
Clean water source



Erosion prevention



Flood mitigation



Improving marine environment



Managing climate resilience



Nutrient cycling



Pollination



Soil health

## Co-benefits



Clean water source



Cooling urban areas



Cultural, heritage and aesthetic services



Erosion prevention



Flood mitigation



Food provision



Pest and disease control



Physical and mental wellbeing



Pollination



Raw materials

The impact of planning actions and measures to recover nature is not limited to species and habitats. Maintaining enough healthy 'natural capital' such as healthy soils, clean rivers and non-polluted air, alongside a diverse range of plants and animals, provides flows of environmental or '**ecosystem services**' over time. This shows how nature recovery can play a key role in other priorities for the county, including **climate resilience**, disease resilience, health and wellbeing, air and water quality, and wider socio-economic benefits such as job creation and alignment with green infrastructure.

The 'other environmental benefits' are split into two areas within this LNRS:

- the 'wider environmental benefits' which can address the environmental issues such as climate adaptation as well as priorities for recovering or enhancing biodiversity
- the 'co-benefits' which focus more on the societal and cultural impacts eg improved access to nature

The measures proposed within this strategy are designed to support these additional benefits where possible and these are identified within the tables in **Part C**. These benefits have been highlighted by stakeholders and groups

throughout our engagement processes and are integral to this strategy. Some benefits are considered applicable as both wider environmental and co-benefits, and these are depicted within **Part C**.

Types of ecosystem service can be defined in several ways, but a common approach (originally proposed by the Millennium Ecosystem Assessment, 2005) [25] is shown in **Table 1 (a-d)**.

Key examples are identified below, demonstrating the main benefits that each group of actions could provide alongside achieving the biodiversity priorities. Where appropriate, these can be defined as nature-based solutions, especially those opportunities and suitable locations for undertaking **natural flood management**, through the creation or improvement of habitat for biodiversity. In addition, actions can link to addressing and controlling access issues, by increasing appropriate areas and protection of sensitive habitats using planned re-direction.

**Table 1a. Co-benefits of nature recovery actions for provisioning services (outputs from ecosystems that meet human needs)**

Service	Main Benefits
Pollination of food crops	Pollination of crops and wild plants.
Food production	Arable crops, horticulture, orchards, allotments and community gardens, livestock, wild food and foraging.
Wood production – productive or mixed forestry	Timber, biofuel production, paper, coppiced wood and wood waste.
Fish production	Aquaculture, commercial and recreational fishing.
Water supply	Impact of soil and vegetation on rainwater runoff and infiltration, restoring natural processes for groundwater and aquifer recharge or surface water flow, including drainage.

**Table 1b. Co-benefits of nature recovery actions for regulating services (ecological processes that regulate and reduce pollution and other adverse effects)**

Service	Main Benefits
Filtering air and water	<ul style="list-style-type: none"> <li>Water: Direct uptake by terrestrial or aquatic vegetation of pollutants, interception of overland flow and filtering or trapping pollutants and sediment within vegetation before it reaches watercourses. Natural processes such as nitrogen cycle converting nitrates into nitrogen gas. Infiltration into ground, allowing soil filtration and minimising watercourse pollution.</li> <li>Air: Removal of air pollutants via deposition and absorption or breakdown via vegetation; includes fine particles, ozone and nitrogen oxides.</li> </ul>
Reduction in flooding	Reduction of surface run off, peak flow, flood extent and flood depth through canopy interception, evapotranspiration, soil infiltration and physical slowing of water flow.
Erosion protection	The ability of vegetation to stabilise soil against erosion and mass wastage – providing protection from the power of rainfall and overland flow, trapping sediment and binding soil particles together with roots.
Capturing carbon	Carbon stored in vegetation and soil types. Sequestration is impacted by land use change, habitat loss and soil disturbance. New habitat areas take time to reach the sequestration rate of a mature habitat.
Cooling urban areas	Shade, shelter and the cooling effect of vegetation, in particular in urban areas or parks with trees close to buildings, green roofs and green walls. These can in turn increase efficiency and reduce heating and cooling costs.
Noise reduction	Attenuation of noise by trees and vegetation.
Pest control	Predation of crop or tree pests by natural predators.

**Table 1c. Co-benefits of nature recovery actions for cultural services (environmental settings that enable cultural interaction and activity)**

<b>Service</b>	<b>Main Benefits</b>
Supporting physical and mental health and wellbeing (also referred to as physical and mental wellbeing)	Evidence that nature-rich green spaces can improve human physical and mental health and wellbeing and can have wider socio-economic benefits. For example, interaction with nature can improve a range of health conditions including heart and lung health, high blood pressure, diabetes, immune function, depression and anxiety.
Interaction with nature	Formal and informal positive nature-related activities, balanced with accessibility and human impacts on nature eg bird watching.
Recreation and leisure	Provision of green and blue spaces used for any leisure activity, linking to target to ensure everyone has access within 15-minute walk.
Aesthetic value and tranquillity	Provision of views, surroundings and inspirational experiences – linked to artistic expression and creation.
Education and knowledge	Opportunities for formal and informal education, scientific research, citizen science, local knowledge sharing, volunteer and career opportunities. These could include: <ul style="list-style-type: none"> <li>• encouraging nature areas in school grounds, lessons delivered outdoors, regular field trips to nature reserves or natural areas and Forest Schools or similar.</li> <li>• the creation of new large-scale nature reserves with visitor centres</li> <li>• encouraging and promoting interpretive exhibits, talks, workshops, events, walks, learning activities, field survey events and more to help people, of a variety of ages, experience and learn about nature and the natural environment.</li> </ul>
Community and sense of place	<ul style="list-style-type: none"> <li>• Inspiring and informing community action for nature.</li> <li>• Aspects of an area promoting special and distinctive features – characteristic species, habitats and landscapes, alongside physical, social, spiritual or emotional importance.</li> </ul>

**Table 1d. Co-benefits of nature recovery actions for supporting services (functions provided by ecosystems that underpin other services)**

<b>Service</b>	<b>Main Benefits</b>
Keeping soils healthy	Healthy soils are essential to food production, water filtration and storage, nutrient cycling and carbon sequestration.
Biodiversity and primary production	Complex ecosystem processes eg photosynthesis and natural system functions of species and habitats.

## Historic environment

In addition, the varied habitats, landscape parks and open spaces in our cities, towns and villages often have a heritage interest. Therefore, the consideration of nature recovery measures and actions should take into account the positive links and benefits to the historic environment [26].

These could include:

- preserving and enhancing **heritage assets**, both above and below ground – this could be achieved via arable reversion to permanent grassland on archaeological sites or to parkland and wood pasture. Alternatively, planting techniques eg direct drill, can prevent harm to assets, whilst improving soil health and reducing water pollution
- improving the setting of heritage assets
- improving access to heritage assets
- creating a sense of place and a tangible link with local history, supporting community engagement, encouraging stewardship and public understanding
- creating links between heritage assets and local nature recovery sites.

Specific actions could include:

- ensuring that key historic views or vistas within designed historic landscapes and the wider landscape are maintained and enhanced
- the creation of wildflower meadows in areas of previously cultivated land, protecting these assets from further degradation and damage
- restoration of historic hedgerow areas
- restoring traditional orchards
- improvements to the water quality of historic lakes or ponds
- supporting the continuation or revival

of traditional land management practices that contribute to the historic character of landscapes and biodiversity.

Planned nature recovery projects must be informed by an understanding of heritage sensitivity, particularly in relation to scheduled monuments and registered parks and gardens, to avoid unintended harm to or loss of significance through management or enhancement works.

## Health and wellbeing

The Health, Wellbeing and Access sector across Suffolk and Norfolk are considered integral in supporting the possible co-benefits developed, particularly within the Cultural Services sector. The Norfolk and Suffolk Nature Recovery partnership aims to facilitate these opportunities across the county as implementation of this strategy takes place. Throughout the engagement processes employed, key messages and aims linked to these co-benefits were determined:

- develop a vision of people and nature thriving together in Suffolk
- acceptance that on some sites, nature needs to come first
- ensure that everyone has access to green and natural space
- maintaining designated routes such as National Trails and the King Charles III England Coast Path alongside the Public Rights of Way network
- co-create nature recovery actions with local communities to maximise engagement
- provide support for schools, community groups and other appropriate landowners to develop connections and take action on their own estates.

## Potential Benefits

For each of the key habitat areas identified within this strategy, the wider environmental benefits and co-benefits that could result from the priority measures identified are summarised below. The actual benefits delivered will depend on a range of factors including the type of action, the related habitat, location and access. These factors are considered during the development and determination of the strategic opportunity areas. There are also important actions outside of the scope of the LNRS, such as reduction of emissions and pollution at source.

### Coastal

- Sustainable food production linked to increased and varied biodiversity in productive areas, including through conservation grazing to restore and maintain habitats.
- Flood protection due to managed habitat creation.
- Pollution control and improving water quality from creation of new wetland areas.
- Erosion control and climate resilience from realignment projects.
- Carbon sequestration from the creation of intertidal and saltmarsh habitats.
- Opportunities for recreation, exercise and supporting health and wellbeing.
- Aesthetic value and tranquility.

### Farmland

- Food production; increased yield due to pollinator increase and natural pest predators.
- Pollution control and improving water quality from use of buffer strips.

- Reduced soil erosion from increased permanent vegetation planting, using cover crops, terracing, agroforestry or adopting conservation tillage techniques.
- Soil formation and protection from erosion.
- **Climate resilience** due to increased connectivity and improved shade and shelter created by mosaics of diverse habitats.
- Opportunities for recreation, exercise and supporting health and wellbeing.

### Woodland, trees and scrub

- Wood production due to new planting schemes and management.
- Improved air quality due to increased vegetation.
- Carbon sequestration from woodland creation and healthy soil development.
- Soil formation and protection from erosion due to planting schemes.
- Flood protection due to increased tree planting in riparian areas, buffer strips, woody debris and floodplain restoration.
- Increased soil infiltration due to increased organic matter.
- Climate resilience due to increased connectivity and improved shade and shelter created by mosaics of diverse habitats.
- Opportunities for recreation, exercise and supporting health and wellbeing.

## Freshwater

- Food production due to increased biodiversity.
- Increased water availability and enhanced water quality as a result of appropriate processes and reduction in pollution.
- Flood protection due to managed habitat creation, river restoration and reconnection of rivers to floodplains.
- Pollution control due to reduced agricultural run-off.
- Erosion control and climate resilience from habitat creation.
- Carbon sequestration through the creation of lowland fen habitat.
- Opportunities for recreation, exercise and supporting health and wellbeing.
- Aesthetic value and tranquillity.

## Grassland and heathland

- Improved air quality due to increased vegetation.
- Carbon sequestration from healthy soil development.
- Soil formation and protection from erosion due to planting schemes.
- Climate resilience due to increased connectivity and improved shade and shelter created by mosaics of diverse habitats.
- Opportunities for recreation, exercise and supporting health and wellbeing.
- Aesthetic value and tranquillity.

## Urban and built environment

- Food production within allotments and community gardens.
- Improved air quality due to increased vegetation at high infrastructure.
- Noise reduction created by planting schemes.
- Carbon sequestration within existing and new urban trees.
- Vegetation creating cooling effects, providing shade and soaking up heavy rainfall, thereby reducing urban flooding.
- Opportunities for recreation, exercise and supporting health and wellbeing, targeted green space improvements in deprived areas.

# Landscape recovery: Waveney and Little Ouse Recovery project

The Waveney and Little Ouse Recovery project is a Landscape Recovery pilot being led by Suffolk Wildlife Trust working in partnership with the Environment Agency and 16 other landowners and land managers. The project covers an area of about 1,650 hectares in the Waveney and Little Ouse headwaters catchment on the Suffolk/Norfolk border.

The project is creating a way to fund large-scale efforts to restore and protect nature, using the concept of natural capital (the value of nature's resources) and ecosystem services (the benefits nature provides, like clean water, flood control, and recreation). This approach will deliver a range of benefits for wildlife and people, from opportunities to access and enjoy nature, to improving the health of the rivers and helping protect homes and businesses further down the rivers from flooding.

The project development phase is being supported and funded by Defra through the Landscape Recovery pilot programme under the Environmental Land Management Scheme (ELMS).

## What have they achieved?

To date the project has:

- assessed and measured the current state of biodiversity, soil carbon, nutrient inputs, surface water run-off into rivers, and flood storage capacity to set natural capital baselines in the project area
- tested a range of ways to measure and track the benefits from different habitat and ecosystem restoration scenarios and changing the land use.

Based on these, the project worked with landowners to develop proposed restoration and land use changes that would deliver an estimated:

- 266,803 tonnes of CO<sub>2</sub> removed from the atmosphere over 50 years
- more than 5,000 Biodiversity Units
- 9,969 kg reduction in phosphorous inputs to land
- 450,948 m<sup>3</sup> additional flood water storage capacity
- 204,286 m<sup>3</sup> reduction in water run-off into local rivers

The project also developed a proposed legal framework and business model that will enable these ecosystem services to be valued, marketed, and sold to pay for their delivery.



The Waveney Valley

## How do they do it?

The development phase of the project has involved extensive consultation and engagement with landowners (farmers) to secure buy-in for an ambitious vision for landscape scale habitat and ecosystem restoration.

The innovative approaches being taken by the project include:

- use of natural capital and ecosystem services metrics to quantify the public benefits delivered by proposed habitat and ecosystem restoration and land-use change
- developing a bespoke approach to valuing these to make their delivery attractive to landowners and competitive with other land management options without undermining food production
- developing the legal and business structures to enable multiple landowners to pool the ecosystem services (or credits) they can offer and sell them through a single legal entity.

Planned habitat and ecosystem restoration includes ‘Stage Zero’ river restoration on a section of the River Waveney just upstream of Roydon Fen nature reserve. This would see the river restored to its natural, meandering course from its current canalised channel alongside the restoration of a functional floodplain and wetland habitats.

## What is next?

The project is looking to move from the development phase into delivery, which will see habitat and ecosystem restoration works starting. Engaging and working with a wide range of stakeholders will be crucial to implementing the project’s vision.

In the future, the Waveney and Little Ouse Recovery project could provide a template for other projects taking an ecosystem services approach to fund landscape scale nature recovery and nature-based solutions.

# The largest wetland creation in a decade: Carlton Marshes

In 2018, having received over £4m from the National Lottery Heritage Fund (NLHF) and raised £1 million from public and business donations, Suffolk Wildlife Trust set about transforming over 400 acres of land (178 ha) to create a southern gateway to the Broads. This was the biggest wetland creation in the Broads for over a decade and saw former farmland transformed into an accessible nature reserve.

## Who's involved?

Suffolk Wildlife Trust – Grant recipient and project lead.

NLHF – Principal funder.

Broads Authority – Key partner.

## What have they achieved?

The historic & cultural landscape that defines the Broads National Park as a distinctive and globally important wetland has been restored through the raising of water levels and reintroduction of grazing, to reinstate a functional wetland landscape.

The damage done by intensive arable farming in this part of the Broads National Park has been reversed through the creation and restoration of 155 ha of semi-natural habitat (fen meadow, reedbed, wet grazing marsh, marginal upland habitats).

The adjoining European & international designated habitats are less isolated and more resilient in this better connected landscape.

The future of the historic heritage of Oulton Broad has been secured, through the beneficial use of dredgings within the reserve habitat management programme.

Wildfowling adjacent to the designated habitats has stopped.

Within two years Carlton Marshes was the most productive breeding wader site in Suffolk and the reserve supports one of the most diverse dragonfly/damselfly assemblages in the UK.

Find out more by visiting [www.suffolkwildlifetrust.org/carlton](http://www.suffolkwildlifetrust.org/carlton)



The visitor centre at Carlton Marshes nature reserve



Aerial view of Petos Marsh

## How did they do it?

- On Peto's Marsh 41.6 ha of reedbed habitat and 20 ha of wet grazing marsh has been created from former arable land.
- On the eastern side of Share Marsh, 12.4 ha of wet grazing marsh habitat has been created along with 8.1 ha of fen habitat.
- On the western side of Share Marsh, 27.4 ha of wet grazing marsh habitat has been created and 14.5 ha of fen and reedbed habitat.
- Over 5,300m of dyke habitat has been created and restored.
- 6.8 ha of dry grassland and scrub habitat has been created on former arable land.
- The full ecotone of Broadland habitats, from dry valley side to wetland, identified in the Broads Audit as of principle importance for biodiversity, has been restored.
- Water quality across the whole hydrological unit has been improved through the change in land use from intensive arable farming.

## What can we expect to see?

- Within 10 years, the 15km of restored Broadland dykes will support a Special Area of Conservation (SAC) quality assemblage of species.
- Broadland specialist plant species recorded within 10 years including water soldier, bladderwort & flowering rush.
- The restored fen meadow (29 ha) will support a SAC quality assemblage of species within 25 years.
- Within 5-10 years the restored wet grazing marsh (54 ha) and new reedbed (50 ha) will be of similar quality to existing designated habitats.
- SSSI units in unfavourable recovering condition (Sprat's Water) will be moved to favourable within 5 years.
- Breeding populations of birds which are characteristic of the Broads SSSI will increase in size and range.
- Populations of rare and threatened species, identified in the conservation plan, will be larger, more widespread & more resilient to future change.