# Local Nature Recovery Strategy for Cambridgeshire and Peterborough

# Case Studies of Nature Recovery in Action

# Contents

## 1. Cambridge Nature Network

In May 2021 the Cambridge Nature Network was launched with a long-term vision for Cambridge to have significant areas of downland, fens, meadows, waterways and woodlands around it, where nature can recover and thrive and where people can experience a wilder countryside and nature on their doorstep. The Cambridge Nature Network provides the natural framework within which Cambridge can grow sustainably.

Soon after, funding was secured from the government's Green Recovery Fund (£249k) and Natural England's Nature Recovery Programme (£238k) and this has helped to drive the Cambridge Nature Network vision. The grants are helping to support 24 nature recovery projects, of which 18 are at or near completion.

The range of organisations and people involved in these projects is really inspiring, it includes local charities, local councils, community groups, local landowners, schools, contractors and individual people helping to plant trees and sow seeds.

The projects range from creating new woodlands, wetlands and meadows, to working with school children to provide nature in their grounds, to helping landowners and communities take their own action and connecting people to nature through a Cambridge Nature Festival.

More information: https://cambridgenaturenetwork.org/

## 2. Cowles Drove extension to RSPB Lakenheath Fen

In 2023 the RSPB began work reverting 67 hectares of arable land back to wetland, which helps enlarge the existing reserve to a total of 490ha.

The project aims to create fen and wet and dry grassland on the Norfolk/Suffolk border and to protect the remaining carbon held in the peat-based soils of these fields. When the land was being farmed, the peat had oxidised, releasing significant amounts of carbon dioxide.

The land lies within the Fens National Character Area with fen and wet grassland being priority habitats. The previously created nature reserve at Lakenheath, begun in 1995, now qualifies as a Site of Special Scientific Interest (SSSI) and as a Special Protection Area (SPA) for Common Crane, Eurasian Bittern and Western Marsh Harrier (but has yet to be designated).

### Who's Involved?

RSPB is the landowner and project manager of this scheme, which has been funded by a donation from the Morgan Sindall Group. The RSPB is also part of the Fens East Peat Partnership (FEPP). The Lakenheath Fen project contributes to a larger effort to restore peatland sites in low-lying areas across Lincolnshire, Cambridgeshire, Norfolk and Suffolk. FEPP received grant aid from the Natural England Nature for Climate Peatland Grant Scheme.

Consultation has involved King's Lynn and West Norfolk Council, Southery and District Internal Drainage Board (IDB), Environment Agency, Natural England, neighbouring landowners and the Ministry of Defence.

### What Have They Achieved?

- 67 ha of arable land has been restored back to fen and wet and dry grassland
- We have raised the water levels across a wider 118 ha area to prevent peat erosion and carbon release
- New habitat has begun to be used by wading birds, waterfowl and egrets.
- Cattle grazing on the land has commenced

### How Do They Do It?

The project started with extensive survey work to measure soil quality, peat depth, protected species and vegetation of the fields and ditches. We made use of existing data on peat depth, water transport through the soil and LiDAR (light detection and ranging) topography

Water levels were raised by damming internal ditches and installing water control structures (including 7 sluices and 16 culverts) as well as removing field drains to prevent water loss, and the re-routing of an IDB drain.

Badgers and Water Voles were relocated, and new habitat was created for them.

Manual dipwells and auto-loggers were installed for ongoing monitoring of water levels and surface level change rods to monitor peat depth.

## What's Next?

- Installation of additional stock fencing.
- Installation of an electric pump (and its connection to the grid), to maximise the movement of water for our target habitats (fen and wet grassland) and species (waders, egrets, crakes, cranes).
- Finishing the validation process by the IUCN Peatland Code
- Continue ongoing monitoring of the water, species and habitat
- Registering the land (where eligible) for Biodiversity Net Gain
- In the longer term, we will install predator exclusion fencing around one field
- Much of the work to date has been done by contractors or RSPB staff but as the site transitions into more regular maintenance work RSPB will make increasing use of its volunteer team to assist with managing the land.

## 3. Future Fens: Integrated Adaptation

The project is taking place on a landscape scale, covering the Fenland region. The entire landscape is below 6m AOD and contains 17,000 flood risk and water level management assets.

Facing the challenges of sea-level rise, drought, and flood risk, the Fens are the most vulnerable area of the UK to climate change. To help adapt our environment and communities to this growing threat, FF:IA is working with 70+ stakeholder organisations who provide a variety of expertise and priorities. This affords the group a unique ability to holistically assess what this landscape requires. Consequently, FF:IA understands that nature recovery is intricately related to health, transport, socioeconomic development etc., and so our method to recovery is not a siloed approach.

An example of this cross-disciplinary method is the Transition Lab, which will align economic development with nature recovery. Currently in its' early stages, this specific work will open the opportunity for private investment to directly establish landscape scale transformations. This is a pioneering approach to delivering green infrastructure and nature recovery, that has not yet been achieved elsewhere in England.

- c.£1.3 million of funding has been secured by FF:IA so far
- 70+ organisations are involved

More about the project can be found here:
www.awinnovationhub.co.uk/project/future-fens-integrated-adaptation-ffia/

# 4. Greater Cambridge Chalk Stream Project

In the heart of Cambridgeshire, a network of unique and fragile chalk streams weaves through the countryside and into the city, providing essential lifelines for a myriad of species and vital water sources for local communities. However, these delicate ecosystems are facing increasing pressures from human activities. Recognising the urgency to preserve these precious waterways, the Greater Cambridge Chalk Stream Project (GCCSP) was launched. This ambitious initiative aims to demonstrate solutions using an evidence base that can transform these streams into thriving, resilient ecosystems through innovative restoration and sustainable management practices.

## A vision for change

The GCCSP was born out of a need to address the lack of a functioning catchment partnership and the scarcity of evidence-based research in Cambridge. Without comprehensive pre- and post-monitoring data, it was challenging to assess the true ecological benefits of river restoration. The project seeks to fill these gaps by establishing case study sites that provide critical baseline and post-project data, guiding effective water resource management strategies and re-established catchment partnerships.

## A project with a long-term vision

While the GCCSP is a small project, its pivotal role is contributing to the long-term vision of preserving these precious ecosystems. Decision-making within the project is firmly rooted in evidence-based practices. The project aims to provide evidence to demonstrate and support essential holistic thinking and gather vital data that can support broader, more comprehensive chalk stream restoration strategies in the future.

## Innovative approaches to restoration

The project employs a multifaceted approach to restore and enhance the chalk streams, focusing on several key activities:

- In-Channel River Restoration: Enhancing the physical structure of the streams to improve habitat complexity and ecological health. This includes creating riffles, pools, and meanders to mimic natural stream processes and support diverse aquatic life.
- Managed Aquifer Recharge (MAR): Implementing MAR solutions to replenish groundwater supplies and maintain stream flows during dry periods.
- Rainwater Capture: Reducing reliance on borehole abstraction by harnessing rainwater for various uses.
- Habitat Enhancement: Improving habitats to support biodiversity and ensuring ecological connectivity along the streams.
- Pollution Mitigation: Using nature-based solutions and sustainable drainage systems (SuDS) to reduce pollution and improve water quality.
- Regenerative Farming: Promoting sustainable farming practices that minimize landscape pollution and manage water resources efficiently.

- Community Engagement: Involving local communities in environmental stewardship through educational programs and active participation.
- Citizen Science: Encouraging community involvement in monitoring water quality and pollution, fostering a sense of ownership and responsibility.

## Holistic geology and ecology

The project will demonstrate enhanced groundwater storage to improve stream flows during dry periods through MAR and rainwater harvesting. It also reduces surface runoff and erosion, promoting soil stability and groundwater infiltration. Enhanced in-channel structures and habitat improvements support diverse aquatic life, creating a mosaic of habitats that can sustain a wide range of species. Reducing nutrient, pesticide, and sediment inputs maintains water quality and ecosystem health.

## Economic and social benefits

Rainwater harvesting lowers water bills for households and businesses. Regenerative farming practices reduce input costs and enhance agricultural productivity, fostering long-term economic sustainability by improving soil fertility and resilience. Enhanced groundwater recharge ensures reliable water supplies, particularly during droughts. Educational initiatives and community engagement promote environmental awareness and stewardship. Improved water quality reduces the risk of waterborne diseases, enhancing overall public health.

## Tackling the big issues: pollution, sediment, and abstraction

Pollution from agricultural, urban, and industrial sources poses a significant threat to chalk streams. Nutrients such as nitrogen and phosphorus, primarily from fertilizers and sewage, can lead to eutrophication, which depletes oxygen levels and harms aquatic life. Pesticides and other chemicals can also accumulate in the water, adversely affecting the biodiversity and ecological balance of the streams.

Sediment transport and deposition are natural processes that can be exacerbated by human activities such as agriculture, construction, and introduction of invasive species. Excessive sedimentation can smother aquatic habitats, reduce water quality, and disrupt the natural flow regimes essential for the health of chalk streams. In some cases, we have modified our chalk streams so much that they no longer represent the chalk stream classification in terms of their floral and faunal communities.

Water abstraction for agriculture, industry, and domestic use can drastically lower groundwater levels, reducing the base flow in chalk streams and threatening their ecological integrity. Over-abstraction can lead to the drying out of streams, loss of habitats, and increased concentration of pollutants.

The GCCSP adopts an integrated approach to address these big issues, recognising that pollution, sediment, and abstraction are interconnected and require coordinated strategies. By combining evidence-based practices, community engagement, and continuous monitoring, the project aims to create a sustainable framework for the restoration and management of chalk streams.

## Community and stakeholder involvement

Citizen science plays a crucial role in the GCCSP by involving local residents in data collection and monitoring efforts. This engagement not only provides valuable data but

also fosters a sense of ownership and responsibility towards the environment. Volunteers collect water samples, participate in habitat and species surveys, and engage in outreach efforts.

## Pre and post project monitoring

Comprehensive pre- and post-project monitoring is essential to evaluate the effectiveness of restoration activities. This involves gathering baseline data, regularly collecting data throughout the project, and conducting post-project assessments to determine the ecological and hydrological benefits. This rigorous approach ensures that the project's impact is scientifically validated and provides a foundation for future restoration initiatives.

## Challenges and future vision

Despite the complexity and costs associated with chalk stream restoration, the GCCSP serves as a beacon of hope. By showcasing pilot projects using an evidence-based approach, the initiative paves the way for future flagship projects, inspiring broader adoption of sustainable practices.

## Conclusion

The Greater Cambridge Chalk Stream Project represents a bold step towards restoring and protecting one of the region's most valuable natural assets. Through innovative approaches and community collaboration, the GCCSP aims to ensure the long-term health and resilience of chalk streams. This project not only supports ecological and hydrological integrity but also highlights the significant economic and social benefits, setting a precedent for future conservation efforts in Cambridgeshire and beyond.

## 5. Great Fen

Location: Between Huntingdon and Peterborough, centred around Woodwalton Fen and Holme Fen

The Great Fen is a long-term initiative to create 37 square kilometres of new wetlands, meadows and woodlands, connecting, buffering and expanding the nationally important wetlands of Woodwalton Fen and Holme Fen. The aim is to restore nature at scale to increase biodiversity, access to nature and reduce carbon emissions.

The Great Fen is a partnership between the Wildlife Trust BCN, Natural England, Middle Level Commissioners, Huntingdonshire District Council and Environment Agency. The Wildlife Trust and Natural England now own over 60% of the land. Over the first 20 years, relatively small-scale wetland creation has taken place, limited by the need to protect neighbouring farmland from flooding. However, over the next five years, two farms adjacent to Woodwalton Fen will be completely re-wetted. In future, further areas will be re-wetted as farm tenancies come to an end.

The Great Fen has also been involved in several major research projects looking at lowland peat and the potential to reduce carbon emissions in the Fens. The Great Fen initiated a trial paludiculture (wet farming) project and this has been the catalyst for the farming sector to explore the potential for wet farming in the Fens and alternative farming systems that will significantly reduce carbon emissions.

Community engagement has been at the heart of the project from the outset, introducing new audiences to nature, as well as connecting with the local population to explore the benefits of nature recovery at the Great Fen to them.

More details www.greatfen.org.uk

## 6. The Nature for Climate Peatland Grant Scheme

### Location: Great Fen, Wicken Fen and Chippenham Fen

At the Great Fen, Wicken Fen and Chippenham Fens, Natural England, National Trust, and Wildlife Trust, aim to create saturated, healthy peat, helping to lock in carbon as well as enhancing habitats for nature. Degrading lowland peat soils are among the largest sources of harmful greenhouse gas emissions. Peatland restoration is vital as without action, most of the remaining peat in the Fens could be lost within 30 years.

NCPGS is providing several million pounds to restore approx. 600ha peat forming vegetation in Cambridgeshire to be delivered by March 2025.

Natural England, at Holme Fen NNR are finding restoration mind boggling complex, with permissions, licences and ensuring no increase in flooding to nearby properties or infrastructure. Over many years the site drainage will be reduced and the existing peat will be re-wetted.

The National Trust at Wicken Fen are restoring peat forming vegetation on three key areas within the reserve by repairing and installing low-level clay banks to retain rainwater and managing water tables.

## 7. Nature Based Solutions (NbS) in the Upper Cam Valley

The construction and monitoring of runoff attenuation features (RAFs) aims to provide further evidence of the benefits of NbS measures for water security and allow the ground truthing of the Environment Agency's NbS for water availability mapping and modelling conducted in 2022-2023 for the Cam catchment.

Monitoring will assess RAFs for:

- Changes in seepage, groundwater recharge and evaporation processes to support water resources;
- The identification of any changes in surface water flow regimes from sub-headwater catchments to support water resources.

As well as supporting base flows, RAFs offer the potential to:

- Reduce the chance of downstream flooding;
- Reduce nutrient loads in waterbodies;
- Mitigate soil and carbon losses, by raising water tables and keeping soils wetter;
- Improve visual amenity and potentially access to nature in the farmed landscape;
- Support biodiversity recovery through creating corridors of small wetlands.

The project is in its early stages, with the aim to install the first few RAFs by September 2024. However, as an overview, the modelling conducted to date suggests, RAFs covering just 0.14% of the catchment (approximately 400 RAFs) could increase long-term baseflow by 8.1 megalitres of water per day. The project is looking to validate these modelled results via comprehensive monitoring.

More information: https://wre.org.uk/nbs-field-trials-in-the-upper-cam-valley/

## 8. Ouse Fen Nature Reserve

### Location: Needingworth, Cambridgeshire, UK

Since 1999 the RSPB has been working in a wetland creation project partnership with the minerals sector at Needingworth Quarry, one of the largest sand and gravel extraction sites in the UK, to create Ouse Fen nature reserve. With a 30-year lifespan, this carefully planned project is now more than half complete with more than 16 million tonnes of aggregates quarried from the site so far. The quarry operator, initially Heidelberg Materials (formerly Hanson UK) and now Brice Aggregates, is gradually handing the restored wetland over to the RSPB to manage in perpetuity. Following phased restoration, the reserve will include one of the largest reedbeds in Britain along with open water, scrub and rough grassland within a 700ha nature reserve adjacent the river Great Ouse. It will form a part of a near contiguous 3,000 ha wetland that also includes the RSPB's Fen Drayton Lakes and Ouse Washes reserves.

The project has been designed to create high value habitats for target species and incorporate significant public access. In the last 20 years the site has become important for rare species such as the secretive Bittern, known for its loud booming calls in Spring, Marsh Harrier and Bearded Tit.

- 3 sq km has been restored to wildlife-rich wetland so far.
- The site already holds up to 12 booming male Bitterns, 8 nesting Marsh Harriers and a pair of European Cranes annually.
- Water Voles and Otters have established themselves across the reserve alongside 22 different species of dragonfly.
- Around 19km of trails have been opened to date with 15,000 visitors a year.

## 9. Ouse Washes

### Location: 4,400ha of Ouse Washes SSSI and surrounding landscape in Cambridgeshire and Norfolk

A vision for a farmer-led approach to landscape recovery, where partners from the conservation, farming, business, drainage board, academic, local government, and community sectors act together to support the recovery of nature and contribute to climate change mitigation.

Through project partners securing private investment in ecosystem services to maximise the benefits of public investment, we will ensure that environmental outcomes and farm businesses will be sustained in tandem in the long-term.

Habitats will be created and improved to a consistently high standard; peat-soils will be safeguarded for future generations, and farms financed for delivering restorative land management.

This will enable the Ouse Washes and the species that rely on it to be better protected and insulated against ecological challenges through at least 1,000ha of targeted habitat creation in the landscape area and will reduce carbon emissions through changing practices, raising water levels and safeguarding soils.

The project will also provide opportunities for communities to better engage and connect with our landscape.

## 10. Strategic Investment in Landscape-scale Connectivity

National Highways and Network Rail have put forward a proposal to connect nature across road and rail infrastructure on a national level to aid landscape scale nature recovery. Together, they have produced a business case for strategic investment in landscape scale connectivity. Interventions funded by the business case could include:

- Green bridges;
- Wildlife underpasses;
- Replacing old culverts with single span bridges;
- Species-specific crossing features, e.g. dormouse bridges or amphibian tunnels.

In partnership with each district and the County local authority Ecology Group, five locations across Cambridgeshire and Peterborough have been identified for potential future strategic crossings in Cambridgeshire and Peterborough. These could play an important role in addressing severance across Cambridgeshire and Peterborough.

## 11. Trumpington Meadows and Cambourne

### Location: Trumpington, Cambridge, and Cambourne, South Cambridgeshire

Trumpington Meadows was conceived as part of a planned southern extension to Cambridge in the noughties. The development of the former Plant Breeding Institute research site by Grosvenor includes 1200 new homes and an extension of the strategic green corridor along the River Cam into Cambridge city centre. The Wildlife Trust BCN were chosen as the organisation to manage the new greenspace and now own the nature reserve. Trumpington Meadows nature reserve is 58 hectares in size and stretches for 1km along the River Cam. It includes 50ha of new flower-rich meadows, as well as ponds, hedges, new woods and an extensive network of surfaced and grass paths. It is well used and popular with new and existing residents alike. An independent, retrospective Biodiversity Net Gain analysis showed that the development delivered a 43% net gain in biodiversity using the Defra Metric.

Cambourne was conceived in the 1990s as three linked villages surrounded by a network of natural greenspaces. Cambourne was developed on intensive arable farmland, with few natural features. However, those natural features present including four small woodlands, a historic hedgerow and several ponds were retained and formed the framework for the network of green infrastructure. This network surrounds and passes through Cambourne. In total, over 60% of the development site is allocated to green infrastructure with over 15 Km of new paths. It is managed by Cambourne Town Council and the Wildlife Trust BCN. Cambourne has become a popular destination for families to live, not least because of the green spaces.

## 12. Wider Wicken Fen Vision

### Location: Between Cambridge and Wicken, based roughly on the Swaffham Internal Drainage Board district but not limited to it.

The Wider Wicken Vision is an ambitious 100-year plan covering 5,300ha between Wicken Fen and the edge of Cambridge. Our aim is to increase biodiversity, reduce carbon emissions, and increase access to nature.

Our vision is an expanded area of fenland that contains a network of wildlife-rich habitats. Working in partnership with stakeholders and landowners this landscape will buffer and protect Wicken Fen, one of the UK's most biodiverse sites and one of the last remaining fragments of undrained fen in East Anglia. It will provide better access to nature in an area with limited greenspace and significant growth, benefitting local people's health and wellbeing.

We are responding to three crises – the decline in nature, the climate crisis and unequal access for people to nature – and are aiming to do more, now, within the context of a productive agricultural landscape and area of significant development.

The Wider Wicken Fen Vison celebrated its 25th anniversary this year. The Vision was conceived in 1999 on the 100th anniversary of the National Trust's first acquisition at Wicken Fen. Its aim was to expand the nature reserve to the edge of Cambridge, restoring fen and wetland habitats, and to provide a landscape-scale space for wildlife and people. Selected as one hydrological unit, the Vision was one of the first re-wilding projects in the UK, restoring natural processes through careful water management and extensive grazing by Konik ponies and highland cattle on newly acquired land. The Vision epitomises and influenced the development of the Lawson principles: bigger, better and more joined up.

More details www.nationaltrust.org.uk/visit/cambridgeshire/wicken-fen-national-nature-reserve/wicken-fen-vision