



# Jointly Tackling the Climate and Nature Emergency

Bucks & MK NEP Partnership Forum

20<sup>th</sup> November 2023



# Climate and Nature Emergency

**No nature, no food. No nature, no fresh water. No nature, no clean air.**

**No nature, no climate resilience.**

**No nature...no future.**

Estelle Bailey, Chief Executive –  
Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust  
[estellebailey@bbowt.org.uk](mailto:estellebailey@bbowt.org.uk)



**Berkshire  
Buckinghamshire  
& Oxfordshire**  
Wildlife Trust



# Climate and Nature Emergency

The NEP: looking back, looking forward

Nicola Thomas  
Partnership Manager, Bucks & MK NEP

[nicola.thomas@buckinghamshire.gov.uk](mailto:nicola.thomas@buckinghamshire.gov.uk)

# Bucks & MK NEP: Working in Partnership, landscape-scale



Collective

Strategy

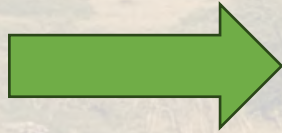
Voice

Action

# Working in partnership: *Set Strategy*

BUCKINGHAMSHIRE AND MILTON KEYNES NATURAL ENVIRONMENT PARTNERSHIP FINAL SEP 2016

## Vision and Principles for the Improvement of Green Infrastructure in Buckinghamshire and Milton Keynes



**Buckinghamshire and Milton Keynes: State of the Environment Report July 2016**

Bucks and MK has less priority habitat than the average English county.

Aylesbury Vale is the most deficient in accessible large-scale green space (nearly 70% households met none of the accessibility requirements).

Over 1,000 ha urban green space in over 350 sites across Aylesbury, Chessham and High Wycombe. Most is accessible.

10.1m day visits to Bucks each year. £261m is spent.

Only c.11% electricity consumed in Bucks is met by renewables (2014). Far short of national targets. Reliance on landfill gas to meet current levels (93%).

Chiltern and South Bucks use more gas per household than any other districts in England.

62% of the Buckinghamshire adult population takes "regular" exercise – improving, and above regional (59%) and national (57%) levels.

9,286 properties at risk of a flood across Districts and MK (2014 data).

Household waste: 56% recycled (exceeds national rates and EU targets). But slight increase in total waste generated.

Chalk streams: 0% "good" in Bucks compared with 23% nationally.

Health Walk uptake: 30% increase in footfall 2013-14 (excl MK).

52% of the adult population of Bucks visit the countryside at least once a week (2014 – 2015).

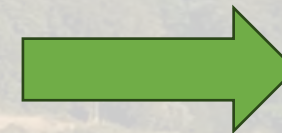
## Buckinghamshire Pilot Draft Local Nature Recovery Strategy

Authors:  
Prue Addison – Berks, Bucks and Oxon Wildlife Trust  
Nicola Thomas – Buckinghamshire and Milton Keynes Natural Environment Partnership  
Annie Ottaway – Berks, Bucks and Oxon Wildlife Trust  
Philip Simpkin – Buckinghamshire Council  
David Sutherland – Buckinghamshire Council  
Ellen Satchwell – Natural England  
Zoe Collis – Buckinghamshire Council

## Forward to 2030: Biodiversity Action Plan

More, Bigger, Better and More Joined-up across Buckinghamshire and Milton Keynes

The Buckinghamshire & Milton Keynes Natural Environment Partnership



Local Nature Recovery Strategy

Connecting People and Nature?  
Nature Finance?

# Working in Partnership: *Speak with one voice*

## *Ensuring the environment is properly taken into account in decision-making*

### National Policy Consultation Responses

Biodiversity Net Gain proposals  
Local Nature Recovery Strategy  
25YEP indicator framework, NPPF review, etc.

### Local Plans

Commitment to BNG & the mitigation hierarchy  
*Next.... Environmental Net Gain?*



**Response of The  
Buckinghamshire and Milton Keynes Natural Environment Partnership**

The Buckinghamshire and Milton Keynes Natural Environment Partnership (NEP) is grateful for the opportunity to comment on the proposed plan. We would like to offer some standard advice and information from the main strategies, policies and principles that need to be taken into account during assessment. An essential underlying goal of a Local Plan should be to support, manage and protect natural capital to allow it to provide the broadest spectrum of ecosystem services. In this way, the environment is an economic asset and driver of growth to the Buckinghamshire economy; and it contributes to physical health and mental wellbeing of our Buckinghamshire societies.

**The Tables in this Section act as check-lists for compliance.** They list the questions that need to be addressed and answered in order to assess whether the objectives of the NEP, as well as the requirements of the NPPF, are delivered through your Local Plan.

**Contents**

Tables – check lists for compliance:	Page
1) Landscape-scale biodiversity, protected sites and ecological networks	2
2) Green Infrastructure – connecting people and nature	12
3) Energy and Resources Management	17
4) The Environment and the Buckinghamshire Economy	19

# Working in Partnership: *Action*

## Nature Recovery Delivery

*Including*

*The NEP's Farmer Advisor Workshops*



## Connecting People and Nature Group

Connecting the health, nature, housing and community sectors



## Facilitating Action...

Connect (e.g. Kew, GroWet)  
Collaborate  
Coordinate  
Demonstrate and share good practice  
Collective initiatives (BNG, BAP, LNRS)  
Support

Partnership Working = greater than sum of the parts

## Funding Nature

“Meet the funder” webinars;  
Training - writing funding applications

Next steps – facilitating finance to nature....



# Working in Partnership: *Action*



Supporting Partner Projects  
e.g. River Chess Smarter Water Catchment; Rivers Week; Chalk, Cherries & Chairs



Monitoring nature:  
Exploring the potential for biodiversity monitoring with our area's satellite and drone capabilities and new technologies at Westcott





# Working in Partnership: *Action*



BMERC's Local Wildlife Sites Project  
475 LWS in Bucks and MK. Surveys, identify sites, ongoing management advice to landowners. Partnership working - to protect LWS and to connect and integrate them into other projects



Black Poplars: the most endangered native timber tree in Britain.  
Alan Holmes Memorial Project: Lindengate and Emberton Country Park – 100 trees to be planted, MK, 17<sup>th</sup> Jan 24



Reconnecting Bernwood-Otmoor-Ray: supporting development of a new farming cluster – BBOWT



# Considerations for today...

**Urgency**

**Scale**

**Partnership working**





# Nature Recovery Working Group (NRWG) & Biodiversity Group

Charlotte Newberry, Head of Landscape Recovery, Berkshire,  
Buckinghamshire & Oxfordshire Wildlife Trust (BBOWT)

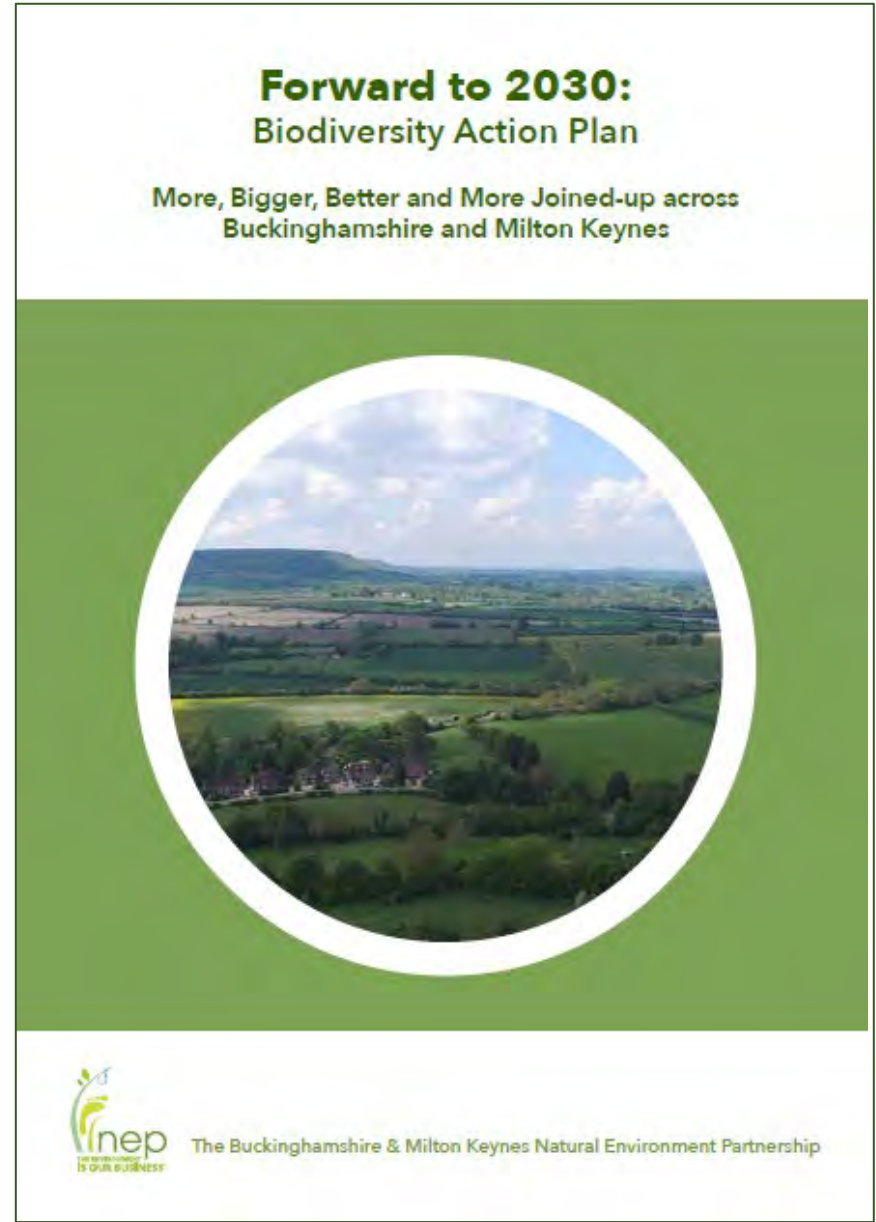
[charlottenewberry@bbowt.org.uk](mailto:charlottenewberry@bbowt.org.uk)

# NRWG Purpose & Membership

- To realise The Bucks & MK NEP’s Biodiversity Action Plan “Forward to 2030”
- Partner organisations to work collaboratively
- Over 30 individuals from 15 organisations including
  - Environmental eNGOs
  - Local Planning Authorities
  - Landowners
  - Statutory Authorities

## Forward to 2030: Strategic Aim

The Forward to 2030 Biodiversity Action Plan aims to reverse biodiversity decline by working together to create **more, bigger, better and more joined-up habitats** across Buckinghamshire and Milton Keynes by 2030



# Farmer Advisor Workshops

- 3 Workshops with a total of 48 participants
- Topics we have covered
  - The BAP and how we can work together
  - Local Nature Recovery Strategy
  - Biodiversity Net Gain
- Also had case studies on projects funded via HLF, Landscape Recovery and EA
- Acknowledge and assist with blockers to positive land management
- 6 Monthly – good feedback



# What have we achieved & what next?

## **Biodiversity Group Funding**

- 5 Farmer cluster 'pie and pint' nights
- Gro Wet – preparing for Bucks expansion
- Rivers Week design templates for catchments

## **Monitoring**

- Successful Natural England Seedcorn application to look at one potential method of monitoring impacts of the Local Nature Recovery Strategy

## **Partnership working**

- LNRS document for farmers
- Fostering links between organisations

## **What next?**

- Continue working with landowners/ farmers – more joint bids?
- New topic – community?





# Local Nature Recovery Strategy

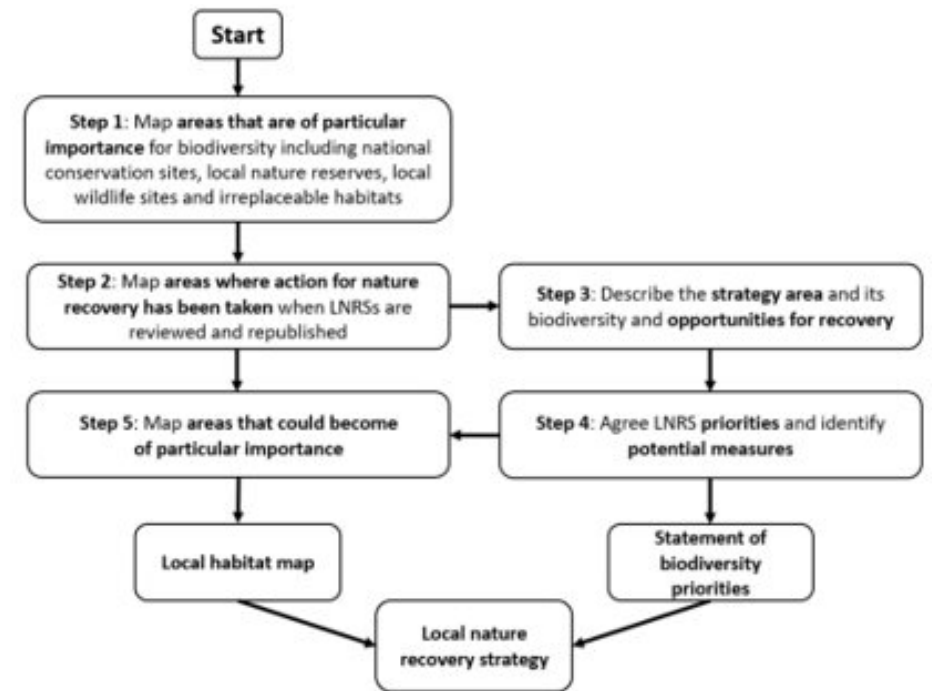
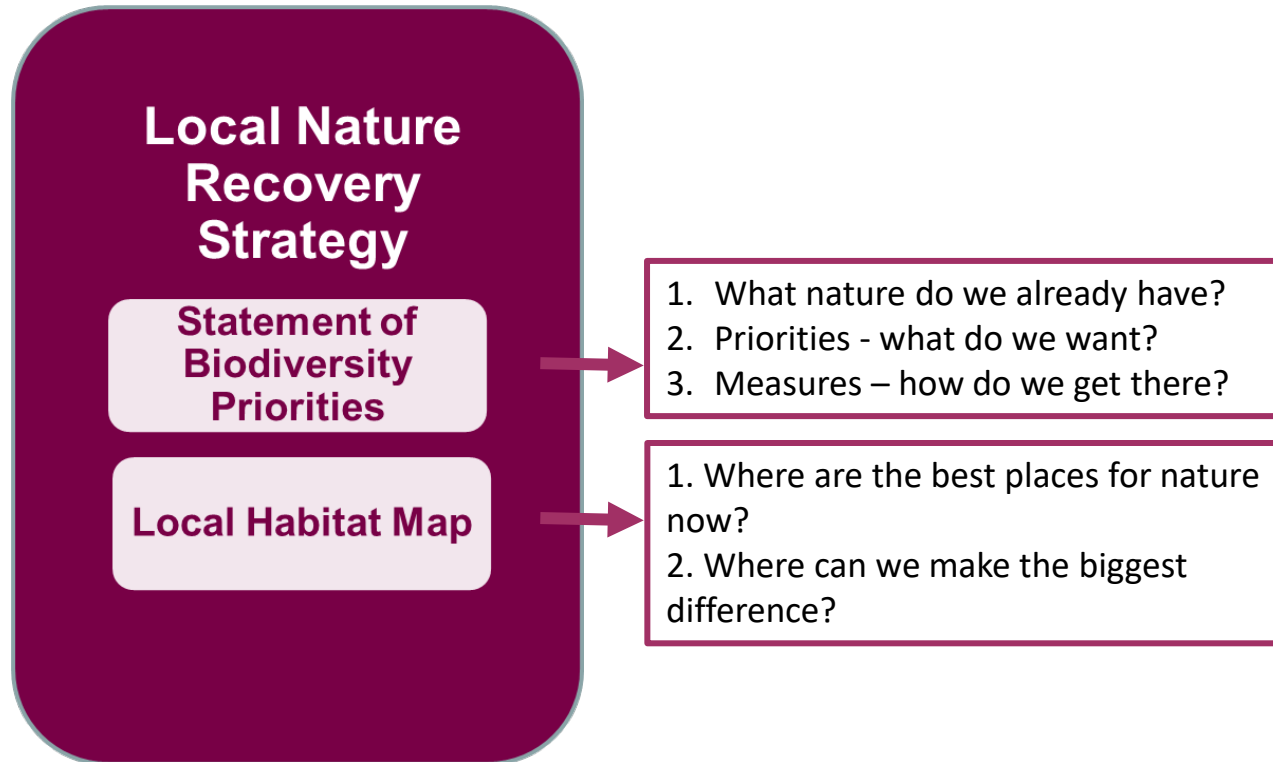
## Buckinghamshire & Milton Keynes

Sachi Shah, LNRS Project Manager, NEP

[sachi.shah@buckinghamshire.gov.uk](mailto:sachi.shah@buckinghamshire.gov.uk)

# What is the LNRS?

England-wide government initiative to develop plans that identify which natural spaces need to be improved and which ones we should focus on to provide us with the most benefits, including health & wellbeing and climate change adaptation benefits, among others.





# Where are we now?



## Our Process

- Use pre-existing work and map updated landscape scale possibilities
- Consult extensively with people, communities and organisations
- Coordinate with neighbouring areas
- Distil strategic priorities
- Map areas and sites for nature recovery
- Present the LNRS in a user-friendly and useful format

# How can you get involved?

**Co-ordination and collaboration is key! We want to enable your vision for nature!**

- 1. Sign up to stay updated and learn about the LNRS delivery mechanisms and funding opportunities**
- 2. Join a stakeholder consultation group – March & June 2024**
- 3. Answer our public survey next year in July 2024**
- 4. Suggest land for delivery (upcoming)**
- 5. Tell us about your work and share your data with us!**



<https://bucksmknep.co.uk/nature-strategy/overview/>



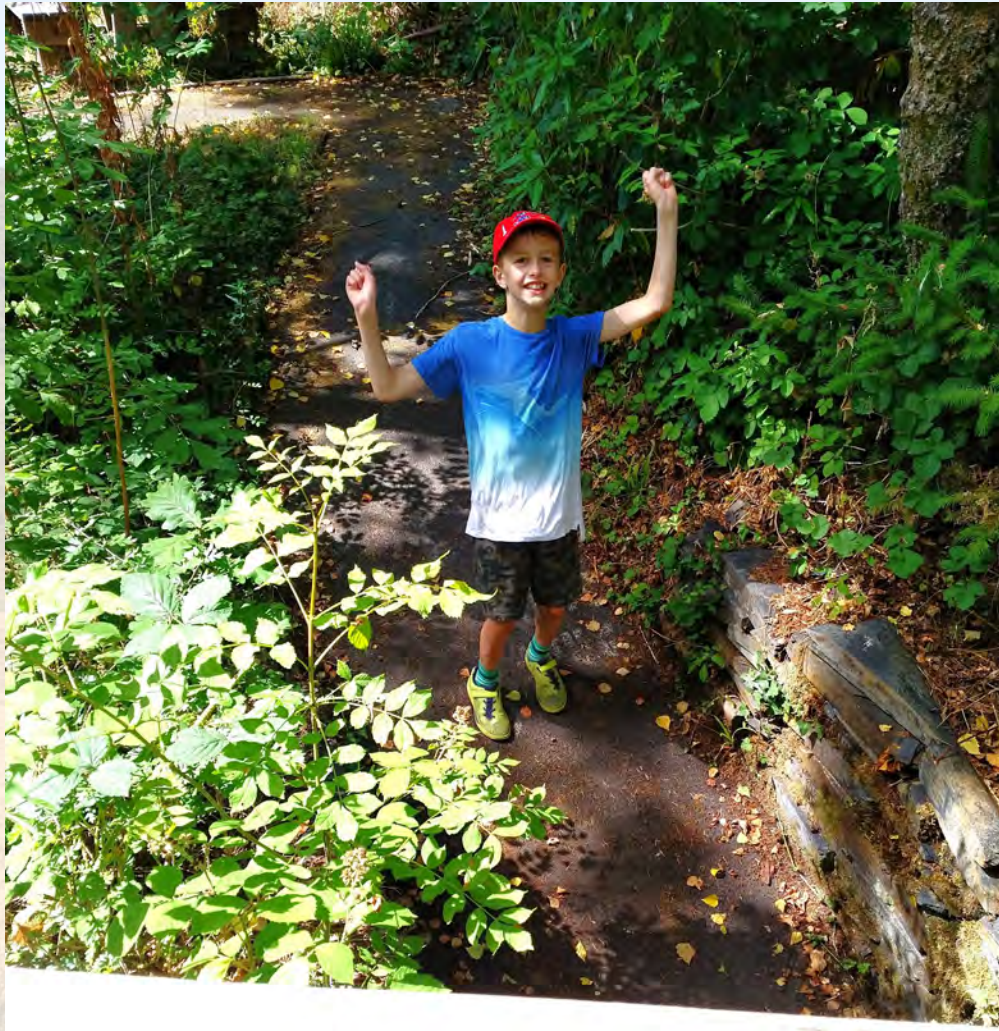
# People and Nature Group

## Buckinghamshire & Milton Keynes

John Shaw, Chiltern Rangers

[john@chilternrangers.co.uk](mailto:john@chilternrangers.co.uk)

# Working together: *People and Nature*



## Connecting People and Nature

*Health, Nature, Housing and  
Community organisations*

- *Urban Nature*
- *Green Social Prescribing*
- *Volunteering*



# Buckinghamshire Council

## BNG, Climate Strategy and tree planting

David Sutherland and Alex Beckett



# Biodiversity Net Gain - What is Buckinghamshire doing to prepare?



# BNG - How

## ON-SITE (UNITS)



Delivered through habitat creation/enhancement via landscaping/green infrastructure

## OFF-SITE (UNITS)



Delivered off-site through habitat creation/enhancement, including via habitat banks, with public and private landowners

## STATUTORY CREDITS- option of last resort



Delivered through large-scale habitat projects delivering high value habitats which can also provide long-term nature-based solutions

# When?

- Mandatory BNG requirement starts **in Jan 2024**
- ‘Small Sites’ BNG mandatory requirement start **in April 2024**
- Nationally Significant Infrastructure Projects – BNG required by **November 2025**
- Still lots of detail to come in **secondary legislation and guidance at end of Nov**



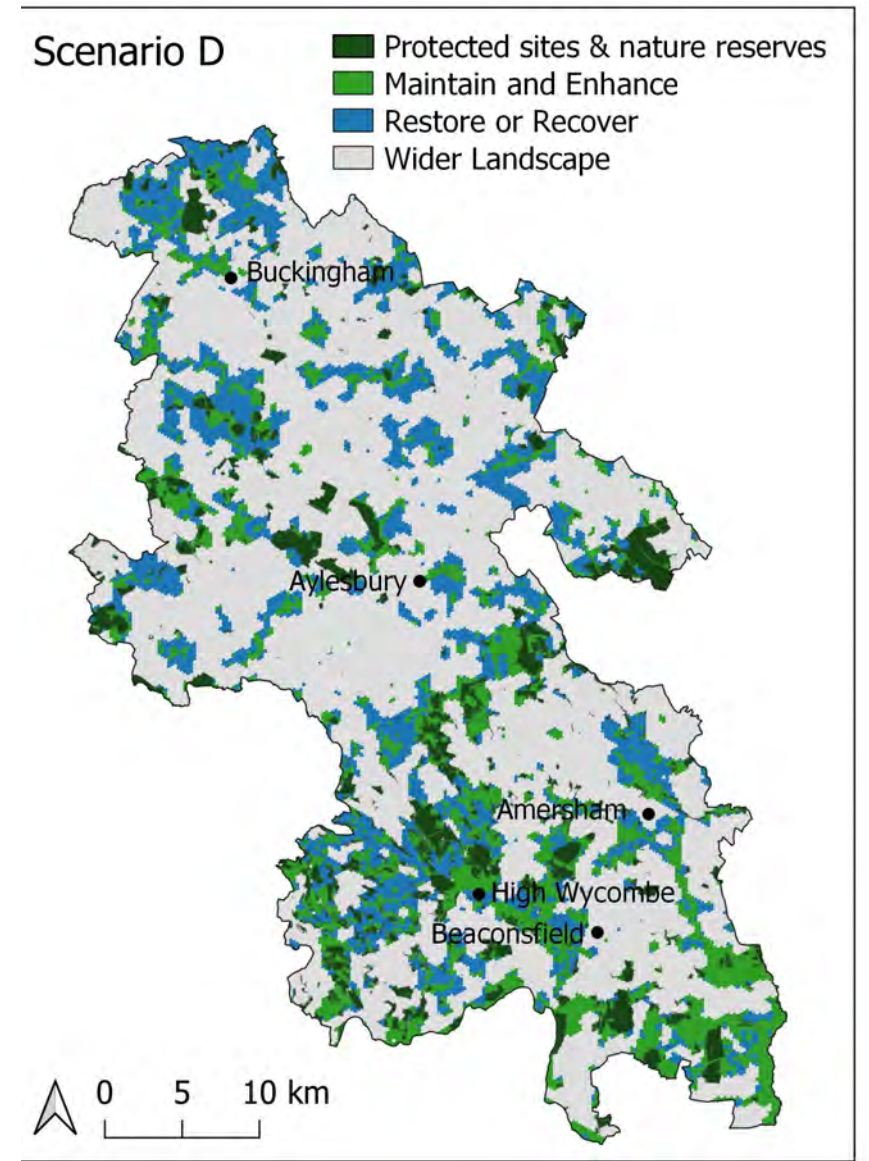
# Development Management Preparations

- Supporting mechanisms, guidance and templates produced
  - **Supplementary Planning Document**
  - **Legal agreement templates** for planning applicants, offset sites and habitat bank providers
  - **Strategic Significance guidance** for use with **BNG metric**
  - **Draft BNG text and condition wording** for use by ecologists to send to planners
  - **Financial calculator** to work out detailed cost of local habitat creation and maintenance over 30 yr period
  
- Resource **1.6FTE BNG officers**



# Ensuring a strategic approach

- **BNG needs assessment** commissioned taking account of development allocations in local plan and national infrastructure projects
- Pilot LNRS - looking at **spatial location for creation of habitat.**
- Commissioning a **review of own landholdings and surveying of shortlisted sites** to understand opportunities for BNG



# Offsite BNG - New regulatory role for Buckinghamshire Council

- **Getting local offsite BNG market up and running by Jan 24** so developers have local options to buy local BNG units and not resort to purchase of **National Credits**
- **Legal agreements with habitat bank providers**
  - **Local Habitat Bank Criteria** - guidance on what information is required prior to entering a legal
- Two large sites very close to signed legal agreements - **landscape scale conservation in line with LNRS**
- **Schedule of fees for our role in BNG**
  - Monitoring
  - Review of technical info in relation to habitat banks



Credit: BMERC

# Where can the Partnership help?

- Sharing of expertise in relation to offsite BNG in terms of delivery, finance?
- Partnerships to bring forward and deliver strategic offsite BNG sites in line with LNRS priorities?
- Monitoring in support of LNRS



# Nature Based Solutions to Climate Change

20/11/2023

NEP Event 'Jointly Tackling the Climate and Nature Crises'

*Alexander Beckett*

*Climate Change Programme & Partnership Manager*

*Buckinghamshire Council*



# Contents

1. Defining Nature Based Solutions to Climate Change
2. Environmental Impacts from Air Pollutants
3. Tree Planting
4. Ecosystem Services
5. Woodland Carbon Code
6. Working in partnership

# 1. Defining NbS to Climate Change

Nature-based solutions (NbS) to climate change, sometimes called “natural climate solutions,” involve **conserving, restoring, or better managing ecosystems** to:

- **remove carbon dioxide (CO<sub>2</sub>)** from the atmosphere
- **reduce emissions of greenhouse gases**, and
- **assist with the adaptation to a changing climate**

‘Research highlights that **NbS could provide around 30% of the cost-effective mitigation needed by 2030 to stabilise warming to below 2°C**. They can also provide a powerful defence against the impacts and long-term hazards of **climate change, which is the biggest threat to biodiversity.**’

*International Union for the Conservation of Nature (IUCN), Global Standard for Nature-based Solutions*

**Improving ecosystem health includes all activities that reduce negative and improve positive impacts.....**

## 2. Environmental Impacts from Air Pollutants

Acidic (e.g. oxides of nitrogen and sulphur dioxide) air pollutants or those that are powerful oxidizing agents (e.g. tropospheric ozone) corrode organic and inorganic material.

Specific pollutant objectives have been set for the protection of vegetation and ecosystems

Pollutant	Applies	Objective	Concentration measured as	Date to be achieved by and maintained thereafter	European obligations	Date to be achieved by and maintained thereafter	New or existing
National air quality objectives and European Directive limit and target values for the protection of vegetation and ecosystems							
Nitrogen oxides	UK	30 $\mu\text{g.m}^{-3}$	annual mean	31 December 2000	30 $\mu\text{g.m}^{-3}$	19 July 2001	Retain existing in accordance with 1 <sup>st</sup> Daughter Directive
Sulphur dioxide	UK	20 $\mu\text{g.m}^{-3}$	annual mean	31 December 2000	20 $\mu\text{g.m}^{-3}$	19 July 2001	Retain existing in accordance with 1 <sup>st</sup> Daughter Directive
	UK	20 $\mu\text{g.m}^{-3}$	winter average	31 December 2000	20 $\mu\text{g.m}^{-3}$	19 July 2001	
Ozone: protection of vegetation & ecosystems	UK	Target value of 18,000 $\mu\text{g.m}^{-3}$ based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	Average over 5 years	1 January 2010	Target value of 18,000 $\mu\text{g.m}^{-3}$ based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	1 January 2010	New EU target

Initiatives such as the Energy Doctor scheme, GHGLAD, HUG, electrifying a refuse collection vehicle, and transitioning to active travel modes not only helps decarbonise Buckinghamshire but also improves local air quality thereby helping protect plants and animals.



# 3. Tree Planting

England Tree Action Plan 2021-2024 sets out a target of 30,000ha woodland being planted per annum.

In 2021, the Council

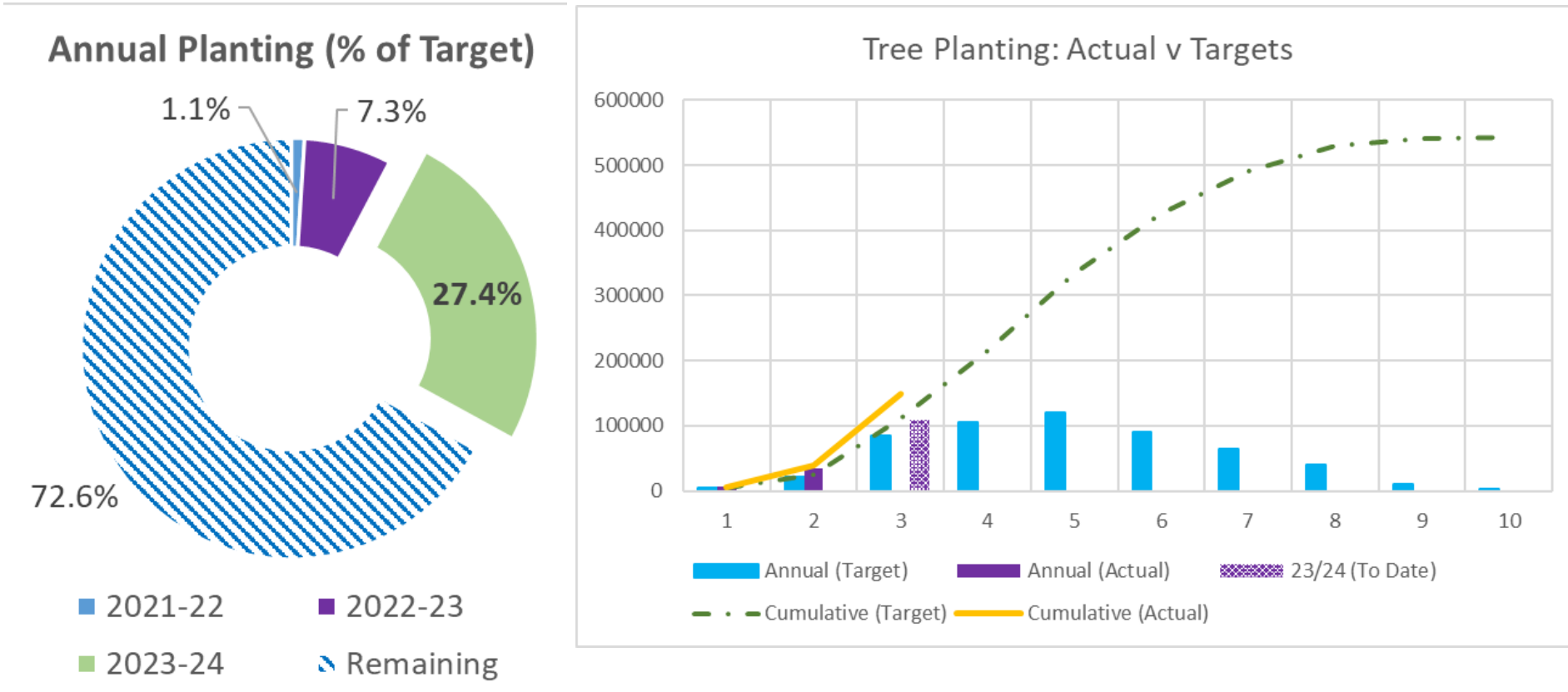
- committed to planting 543,000 trees on Council land by 2032
- launched the Bucks' Tree Mission in 2021 - a shared mission encouraging everyone to plant trees for a greener future.

## Considerations when planting trees

1. Soil type and suitability
2. Proximity of natural water features
3. Biodiversity and ecology of the area proposed for planting (e.g. chalk grassland?; local tree species)
4. Landscape
5. Historic environment (e.g. statutory designations)
6. Presence of utility services
7. Climate (e.g. rainfall, wind)
8. Protection against weeds and pests (e.g. mulch mats, and rabbit netting)
9. Stakeholder access
10. Maintenance, security, and safety
11. Property ownership, rights and covenants
12. Biosecurity
- 13. Purpose (e.g. for fruit; roadside tree)**
14. Conformance (e.g. UK Forestry Standard)
15. Cost

# 3. Tree Planting

## Council Land Tree Planting Programme: Rate of planting to date



**35.8% of the 543,000 target met**

# 3. Tree Planting

## Funding Awarded to the Council to Date

Funding	Amount (£)	Site
England Woodland Creation Offer (EWCO)	<b>28,380</b>	Billet Field
EWCO	<b>105,693</b>	Bury Farm
EWCO	<b>110,186</b>	Grange Farm
EPREC	<b>1,765</b>	Billet Field
Local Authority Treescapes Fund (LATF) 21/22	<b>203,000</b>	Various
LATF 22/23	<b>184,000</b>	Various
Total	<b>633,024</b>	

We have secured over £633,000 in funding to support tree planting in Bucks

**INFO:**  
We have also received £144,000 of **capacity funding** from the Woodland Creation Accelerator Fund

# 3. Tree Planting – '22/'23

## Local Authority Treescapes Fund

- Supports tree planting and maintenance (3 years) in stands of  $\leq 0.5$ ha
- Upper tier local authority led with a primary focus on community projects



Dorneywood Scout Camp were awarded just over £1,600

- 686 whips and 22 feathers were planted
- Volunteers contributed 125 volunteer hours to plant the trees



Releaf Marlow planted 62 whips, 39 feathers and 14 standards across four locations including:

- Two planting sites on farmland near Marlow
- Spade Oak Nature Reserve, Little Marlow
- Harleyford Golf Course, Marlow

# 3. Tree Planting – '22/'23

## Local Authority Treescapes Fund

- Miyawaki “Tiny” Forests
  - ~30,000 stems per ha
  - large amount of ground preparation
  - claims that they can grow ten times faster than other newly planted woodland

600 trees planted at Princes Risborough School

- 150 students aged 4 to 16 involved
- Attended by the Lord Lieutenant
- Part of the Queen’s Green Canopy

600 trees planted at Bourton Park (Buckingham), supported by:

- Buckingham Parish Council and Earthwatch
- 65 Volunteers from the local community
- Part of the Queen’s Green Canopy



# 3. Tree Planting – '22/'23

## Contractor Planting

### Bury Farm (Amersham)

- 7.15 ha
- 14,300 trees
- 1,900 tCO<sub>2</sub>e predicted to be sequestered over the coming century



### Grange Farm (Hazlemere)

- 7.44 ha
- 14,700 trees
- 1,900 tCO<sub>2</sub>e predicted to be sequestered over the coming century



# 3. Tree Planting – '22/'23

## Forestry England Woodland Partnership Scheme

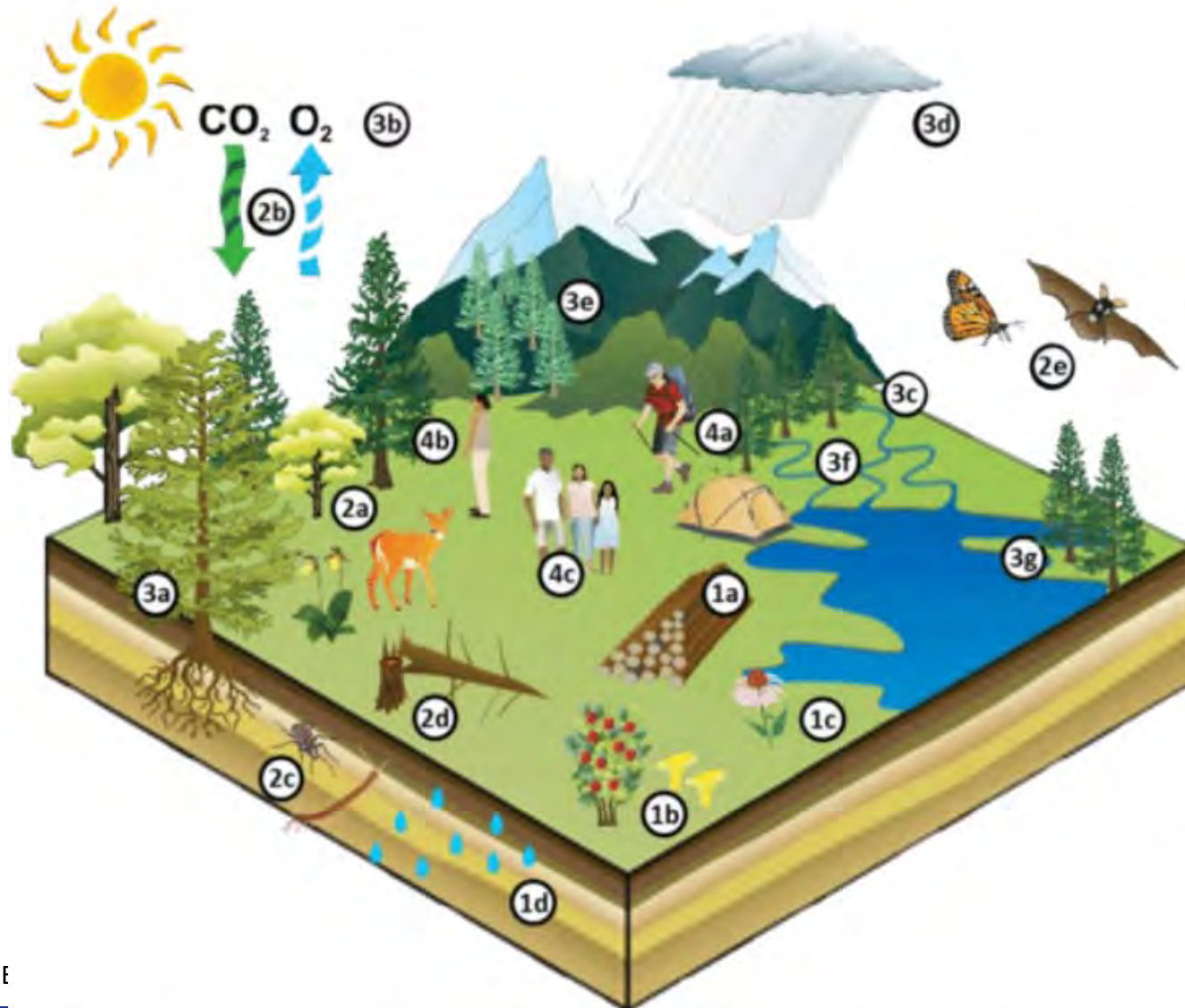
A new 51Ha woodland is being created near Wing:

- Under the Forestry England Woodland Partnership Scheme, the Council have leased 51Ha to FE for 100 years
- By 23/24, 132,000 trees will be planted at the site
- Public consultation undertaken in 2022 [Public Consultation Response](#)
- Ongoing work with local community and Members to progress connection to Long Spinney Woodland
- Over 109,000 trees already in the ground



# 4. Ecosystem Services

Trees provide a diverse range of ecosystem services



## 1. Provisioning Services

- a. Timber/Fibre (construction, energy)
- b. Food (deer, fruits, herbs, seeds, honey)
- c. Chemical and medicinal products
- d. Water

## 2. Supporting Services

- a. Habitats for fauna and flora (biodiversity)
- b. Photosynthesis/Primary production
- c. Soil formation
- d. Nutrient cycling
- e. Pollination, seed dispersal

## 3. Regulating Services

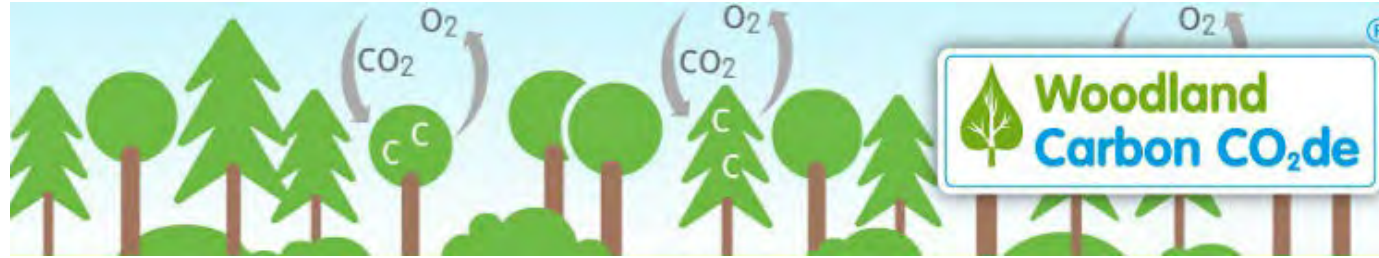
- a. Carbon storage (above/below ground)
- b. Purification of air
- c. Purification of water
- d. Climate regulation
- e. Protection against erosion/avalanches
- f. Flood mitigation
- g. Protection against coastal erosion and storms

## 4. Cultural Services

- a. Recreation/Aesthetics
- b. Spirituality
- c. Education



# 5. Woodland Carbon Code



- Backed by the UK Government
- For UK Forestry Standard compliant 5ha woodland creation projects where there is the desire to generate verified woodland carbon units (and used for offset purposes: 1 WCU = 1 tonne of CO2 sequestered)
- Projects must be registered to the Land Carbon Registry (currently operated by IHS Markit Register)
- An accredited body needs to validate the project within three years
- Ongoing verification needs to happen by an accredited body up to 100 years (from year 5 then every 10 years)
- Pending Issuance Units ('the promise of carbon sequestered') are issued initially at 3p per unit and then converted to Woodland Carbon Units at each verification milestone
- WCUs currently being traded up to £25 per WCU

# 6. Working in Partnership

General thoughts.....

1. Could local organisations deliver tree planting work required under the contractor-based planting model?
2. Delivering the numbers of planted trees under the Council's programme and nationally invites consideration of establishing a tree nursery..... who could run this?
3. Is there interest from partners in managing new woodland sites?
4. What's required to ensure that products from the new woodlands benefit local stakeholders?
5. What information about the Council's tree planting programme would be of benefit to partners developing their own schemes etc?



# Farm Carbon Impacts

Kate Heppell, Head of Landscape



Understanding  
GHG emissions  
from farm  
activities

Preventing soil  
erosion and  
off-site  
sediment  
transport

Improving on-  
site carbon  
storage in soils



# CHILTERNs

LANDSCAPE PARTNERSHIP



# GHG emissions from farm activities

Farm carbon assessment using calculator:

CO<sub>2</sub>: fuel energy use, creation of fertiliser

N<sub>2</sub>O: crop residues, fertiliser use

CH<sub>4</sub>: livestock production, manure storage

Provides baseline

Assess areas of high emissions to help consider efficiency measures:

- fuel efficiency to reduce carbon dioxide (direct drilling)
- fertiliser efficiency to reduce nitrous oxide
- alter manure management practices



# Improving SOC & SOM content

## For farmers:

- Baseline soil organic matter & carbon content
- Learn how practice impacts on soil health
- Trial methods to improve SOM (cover crops)

## For our organisation:

- Identify where carbon and nature priorities align
- Provide evidence for climate action plan
- Inform nature recovery plans



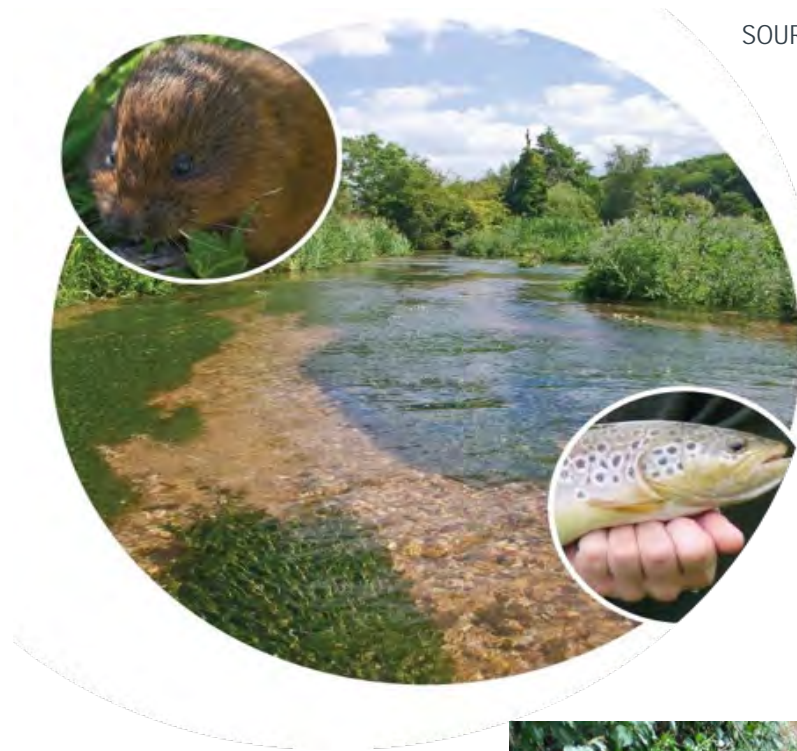
# Off-site transport of soil containing carbon





## Issues associated with fine sediment in chalk streams

- Fine sediment infills gravels and prevents exchange of ground and surface water
- A coating of fine sediment smothers the riverbed, preventing fish from finding suitable areas to lay eggs, and aquatic plants from taking root
- Fine sediment carries pollutants such as metals and hydrocarbons from urban runoff
- Fine sediment lowers oxygen levels in the spaces between gravels preventing fish eggs from developing
- Creates **enhanced habitat for methane production**



SOURCE: River Chess Association

## Issues associated with fine sediment in chalk streams

- Fine sediment infills gravels and prevents exchange of ground and surface water
- A coating of fine sediment smothers the riverbed, preventing fish from finding suitable areas to lay eggs, and aquatic plants from taking root
- Fine sediment carries pollutants such as metals and hydrocarbons from urban runoff
- Fine sediment lowers oxygen levels in the spaces between gravels preventing fish eggs from developing
- Creates enhanced habitat for methane production

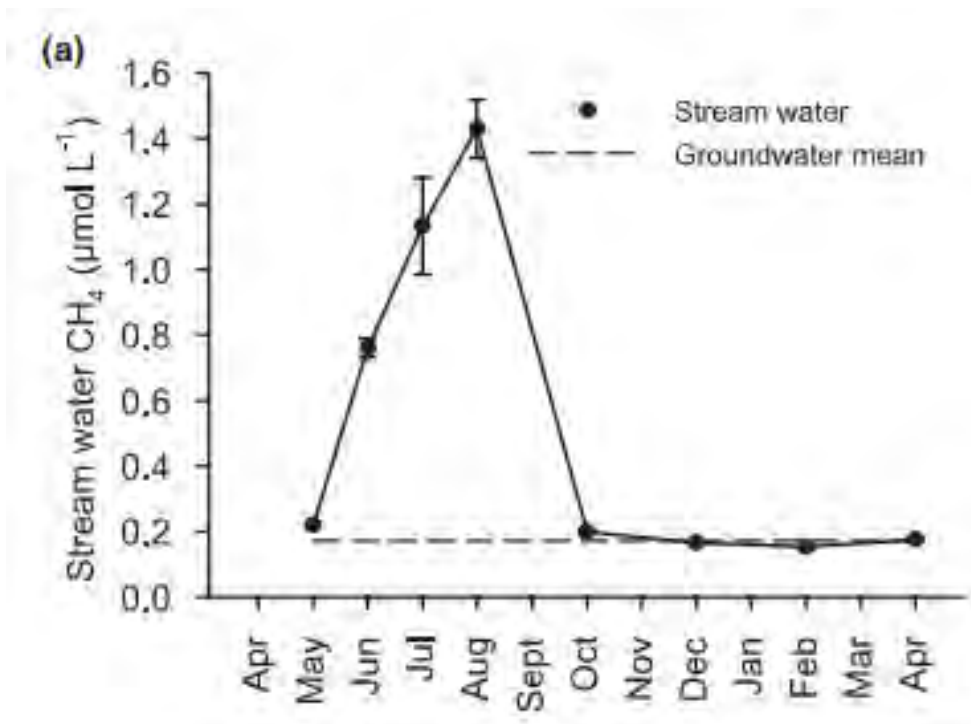
### APPLIED ISSUES

## Emission of methane from chalk streams has potential implications for agricultural practices

I. A. SANDERS,\* C. M. HEPPELL,<sup>†</sup> J. A. COTTON,<sup>†</sup> G. WHARTON,<sup>†</sup> A. G. HILDREW,\*  
E. J. FLOWERS\* AND M. TRIMMER\*

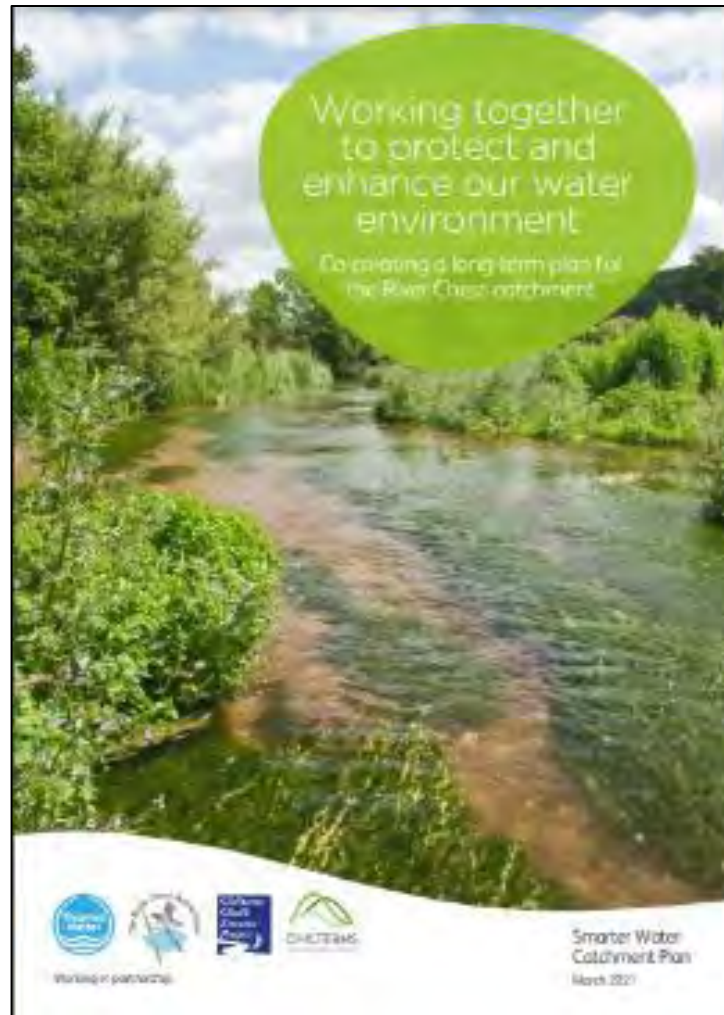
\*School of Biological and Chemical Sciences, Queen Mary, University of London, U.K.

<sup>†</sup>Department of Geography, Queen Mary, University of London, U.K.



# Chess Smarter Water Catchment programme

The partners – led by Chilterns Conservation Board and River Chess Association - have co-created a shared 10-year plan which aims to restore the health of the River Chess



Working in partnership



CHILTERN  
CHALK STREAMS  
PROJECT



**Chiltern**  
Society  
We Care for the Chilterns



Environment  
Agency

**AffinityWater**



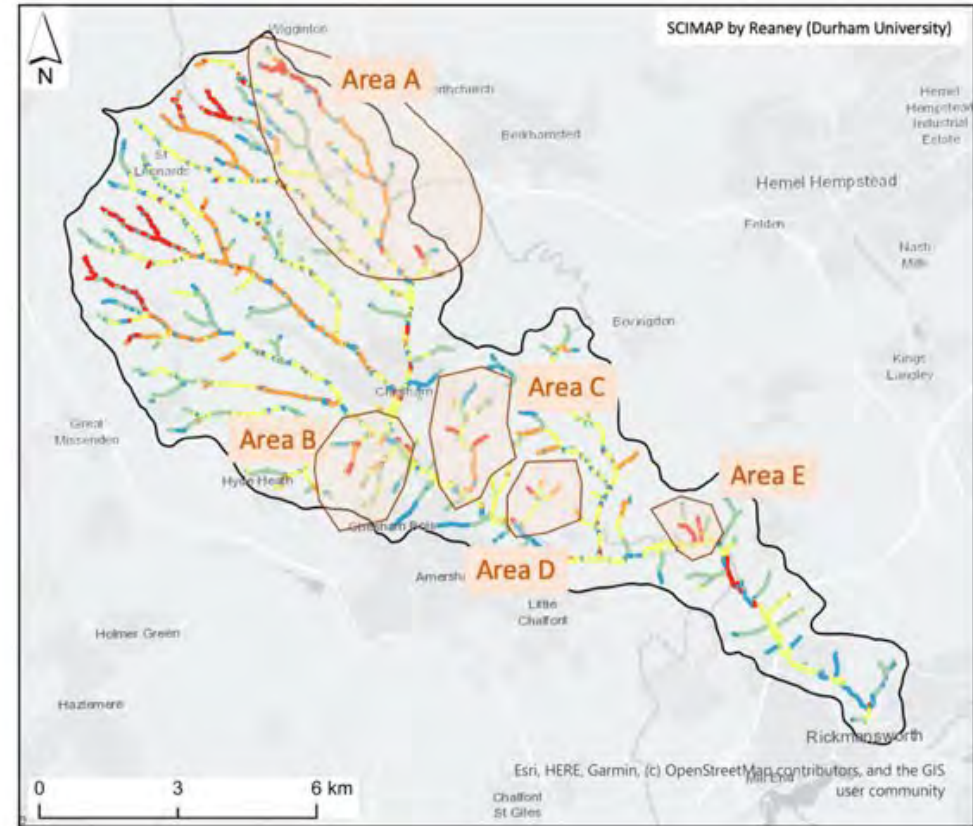
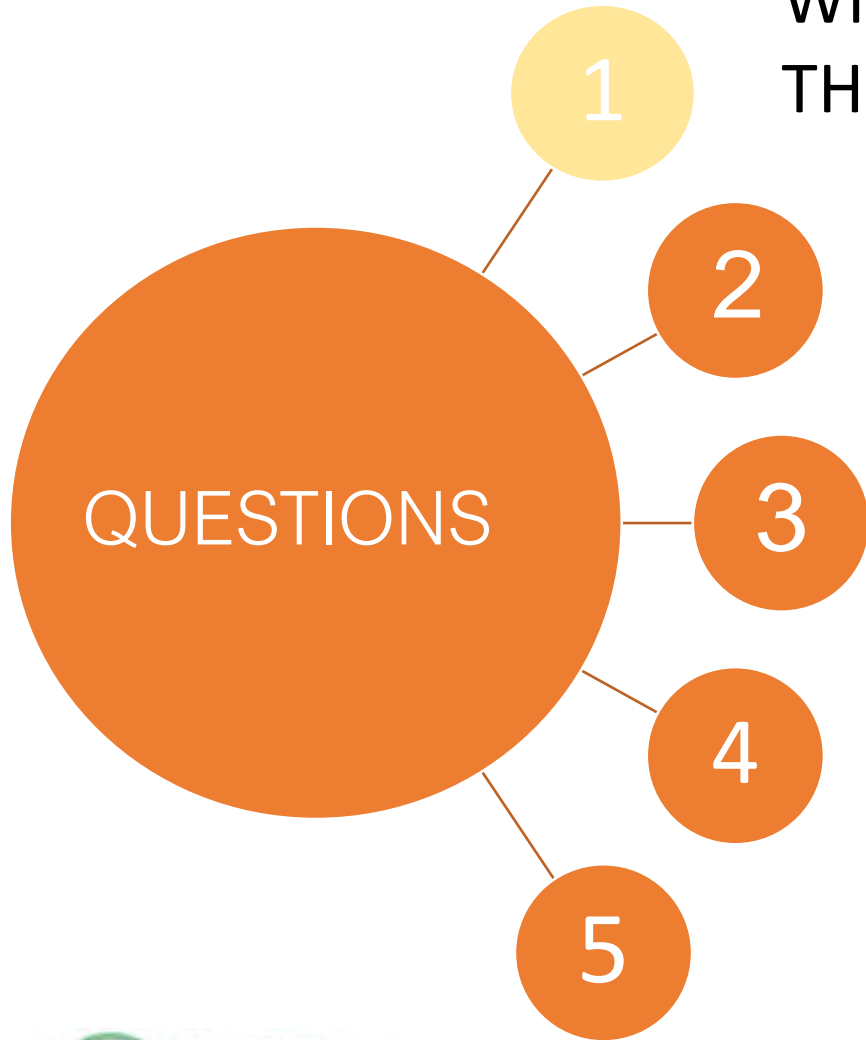
**Herts &  
Middlesex**  
Wildlife Trust



**Queen Mary**  
University of London

# Address FIVE questions concerning fine sediment in River Chess

Where are areas at high risk of soil erosion?  
**THEORETICAL**



Used SCIMAP developed by Durham University

# Address FIVE questions concerning fine sediment in River Chess

Where are areas at high risk of soil erosion?  
**GROUND TRUTH**

1

2

3

4

5

QUESTIONS



Developed and trialling Walkover Survey to work with farmers on potential mitigation actions e.g. use of cover crops

# Address FIVE questions concerning fine sediment in River Chess

## Where do we observe fine sediment transport?

QUESTIONS

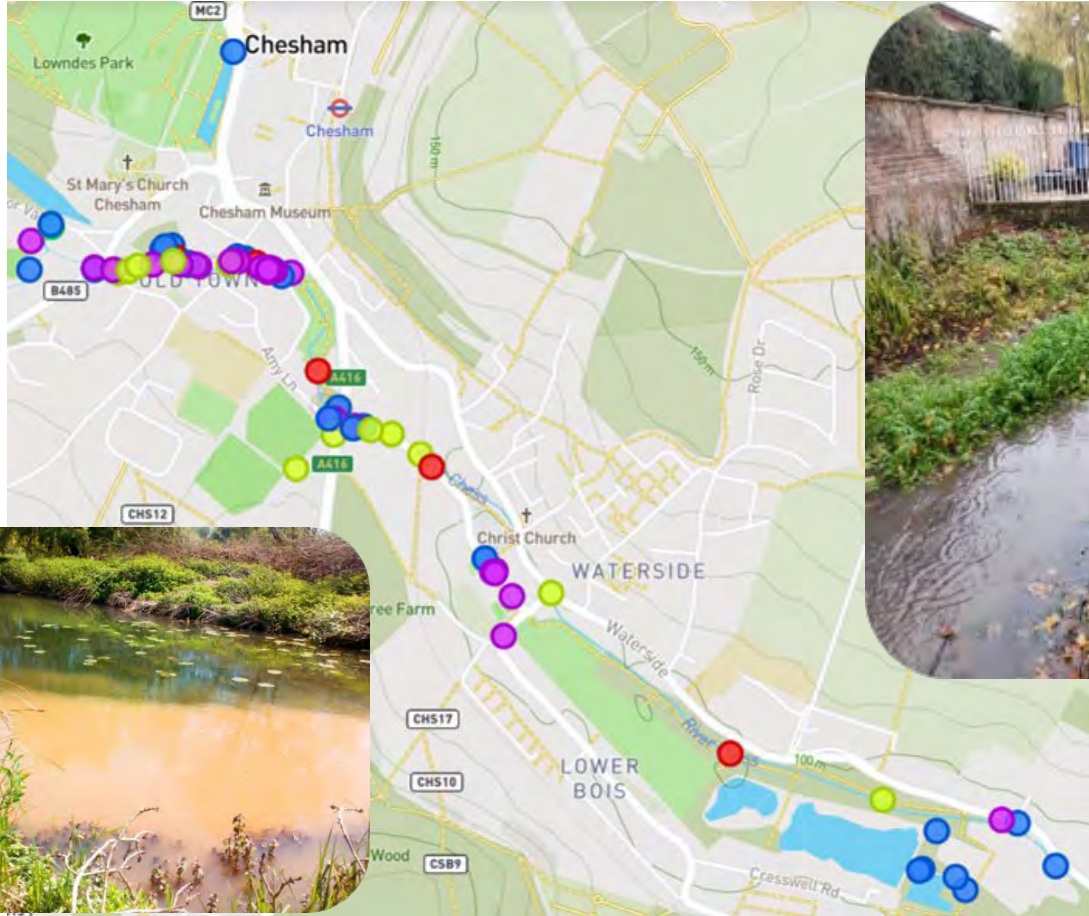
1

2

3

4

5



Working with local rivers groups and citizen scientists to observe fine sediment transport on roads and in the river

# Address FIVE questions concerning fine sediment in River Chess

What is the greatest source of fine sediment to the river?

1

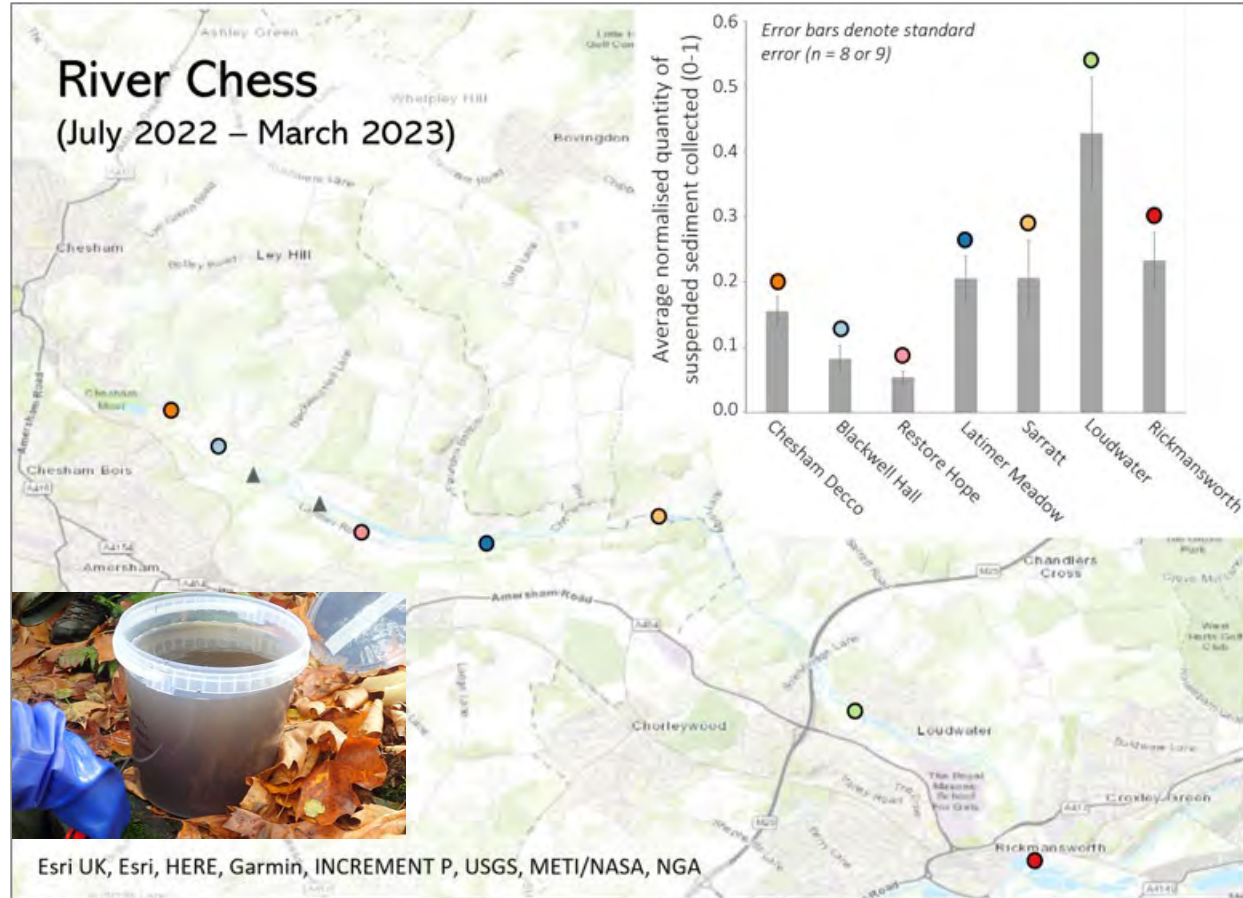
2

3

4

5

QUESTIONS



Worked with scientific community and agricultural advisors to determine critical sources of sediment in the river

# Address FIVE questions concerning fine sediment in River Chess

## How can we prevent fine sediment from entering the river?

QUESTIONS

1

2

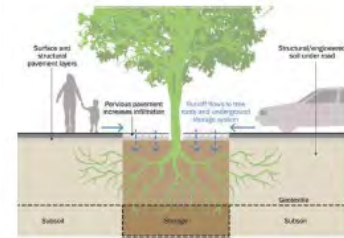
3

4

5



Downstream Defender Unit (Source: [Hydro International](#))



Example of Bioretention Tree Pit (Ciria, 2015)

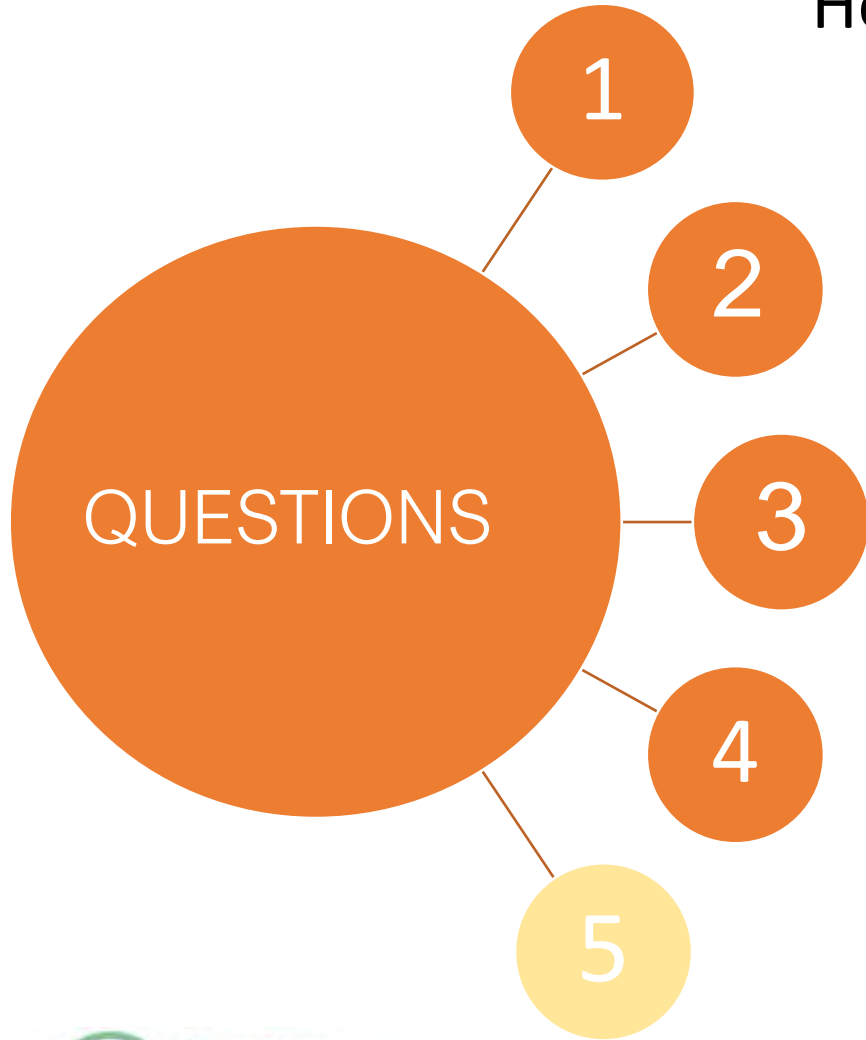


Working up and implementing solutions to prevent sediment input to the river in partnership with farming community and local authority



# Address FIVE questions concerning fine sediment in River Chess

How can we flush fine sediment from the riverbed?



Working up and delivering river restoration projects that narrow an over-widened river channel encouraging a diversity of flows



# Scoping the opportunity for unlocking nature recovery in Buckinghamshire

## Defra Test & Trial Project

Project number 378A  
Led by Pilio





# The Project Aims

The aim of this project is to explore whether the existing networks in Buckinghamshire can be aligned and supported to incentivise and deliver sustainable land management projects.

We will focus on:

What organizations, delivery partners, farming networks, and investors are in the network within Buckinghamshire who can deliver these projects.

How this can be organized around local and governmental priorities.

What is the role of the government in helping mobilize this network



# Project Partners

This project is being led by Pilio, an environmental innovation company out of Oxford University, developing products, services, and business models for achieving net zero and nature positive outcomes.

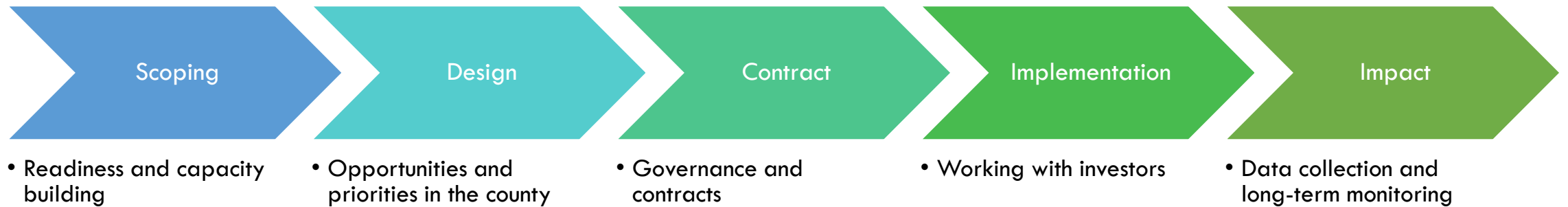
Our steering group includes:

- Buckinghamshire Council (LNRS & NEP)
- Chilterns Conservation Board
- Emerald Network
- Joint Nature Conservation Committee
- River Thame Conservation Trust
- Chair: Garth Clark (Trustee at BBOWT)





# Thematic Projects





# The Opportunity

We are looking to engage with various stakeholders in Buckinghamshire to shape and inform our project and findings for Defra policy makers.

This includes:

- Farmers/landowners
- Businesses
- Government bodies
- Local initiatives and groups
- Local delivery partners
- Anyone else relevant working in Buckinghamshire

**If you would like to be involved, please reach out to [phoebe@piliogroup.com](mailto:phoebe@piliogroup.com)**

**How can Biodiversity Net Gain  
help deliver Buckinghamshire's  
Biodiversity Action Plan?**  
**NEP Partnership Forum, Nov  
2023**



# The Challenge

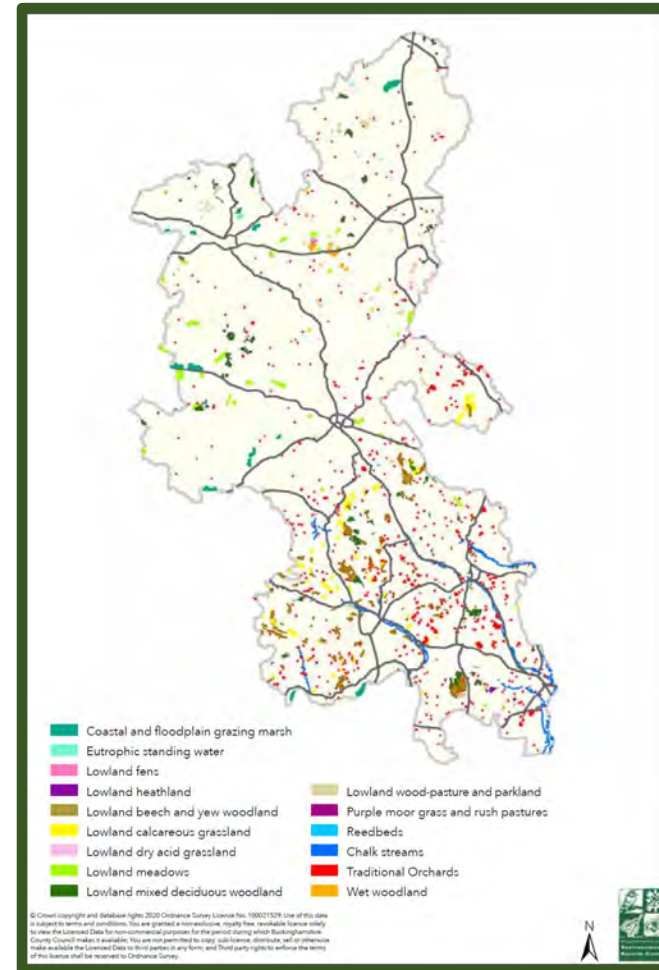
- **UK government committed to protect 30% of land for nature by 2030 ('30-by-30').**
- **Recognises it's not good enough to offset only *future* losses in nature – we need to restore historical losses too (principle of 'net gain').**
- **Buckinghamshire & Milton Keynes' Biodiversity Action Plan**
  - **Seeks 'doubling of nature [i.e. doubling of land for nature]' by 2030**
  - **Works from 'Lawton Principles' – Bigger, Better, More Joined-Up**



# Where are we now?



- **Currently, 13% (20,000 hectares) of Bucks is semi-natural habitat (e.g. neutral grassland)**
- **5.5% has designated status and 3% is high-quality ‘priority habitat’ (e.g. calcareous grassland)**
- **Meanwhile, 63% of the land area of the county is in agricultural use for arable or pasture.**

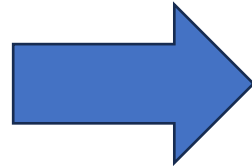




# Key strategic challenge

**How do we effect a  
proportionate strategic  
shift in land use?**

**Arable & Pasture**



**Semi-natural /  
priority habitat**

**Land purchase may be part of the picture, but bulk will need to come from existing land-owners changing land use ... and how Local Nature Partnerships work to incentivise / support that change.**

**Caveats:**

- **This isn't about wholesale 'wilding' of high-quality agricultural land. Most of this can be achieved on marginal farmland, where the loss to food production will be minimised.**
- **In many cases, land put into nature recovery can still be farmed (e.g. low intensity pasture).**



# Biodiversity Net Gain

- **Policy applied to new developments, designed to leave biodiversity in a measurably better state than before**
- **Key plank of the Environment Act (2021), makes 110% biodiversity offset mandatory for most development (some exceptions)**
- **Specialised 'metric' used to calculate habitat loss/ gain, measured in 'biodiversity units'.**
- **'Polluter pays' - the developer is responsible, either for creating habitat on a development site ('on-site') or for purchasing units to deliver offset on another site ('off-site').**
- **Offsets must be maintained for minimum of 30 years**

# BNG as a tool for LNRS

- **Applied correctly, BNG can be a way to support a shift in agricultural land use, putting land into long-term management for nature.**
- **TOE's experience shows that BNG can be a viable way for landowners to manage their land for nature, as a part of farm business diversification.**
- **So far, we have delivered 7 projects with BNG funding, creating approx. 100 hectares of high-quality habitat.**





# Key take-aways

- **Bellwethers: This is a very new income stream and there are risks. We need to identify, support and champion ‘early adopter’ landowners.**
- **KISS: Local gov should keep administration as light as possible, while guarding against a ‘race to the bottom’.**
- **Enabling capital: Recognise that this is an emerging market which requires capital - consider developing financing mechanisms?**
- **Recognise the skills-gap: Bucks is well placed, through LNP, BAP and having invested in council capacity to manage and guide BNG.**
- **Nurture partnerships: Nature recovery is complex and requires multi-sector partnerships. Invest time (money?) in developing these.**

# The New Local Plan

Phillip Snell

MKCC Local Plan Studies

15/11/2023





# Evidence base

Accessibility Study

Integrated Water Management Study

Nature, Green and Blue Infrastructure (GBI) Study

Landscape Character Assessment

Open Space Assessment

Transport Modelling

Habitats Regulation Assessment

Sustainability Appraisal

Equality Impact Assessment

Health Impact Assessment

Design Code and Guidance

Density Study

Carbon and Climate Study

Mass Rapid Transit (MRT) Study

MK Infrastructure Study and Strategy

Retail Capacity and Leisure Study

Land Availability Assessment (LAA)

Housing and Economic Development Needs Assessment (HEDNA)



# Ecosystem services and NGBI

Review of ecosystems services and benefits provided by various NGBI assets

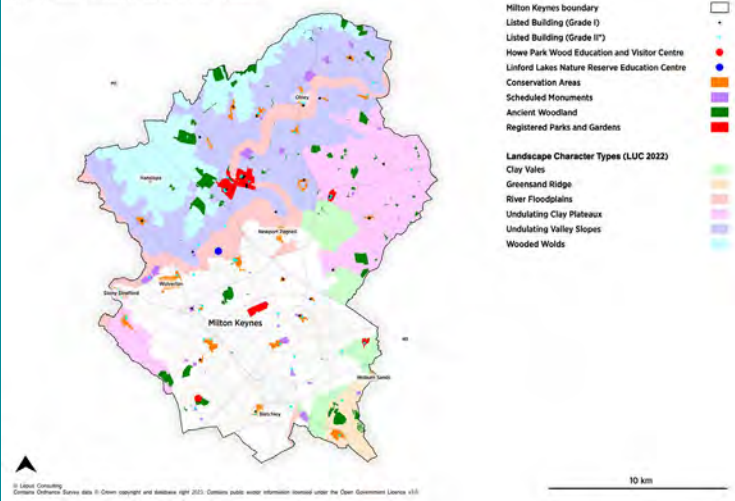
Ecosystem disservices

Review of five benefit principles (NE) in the context of MK

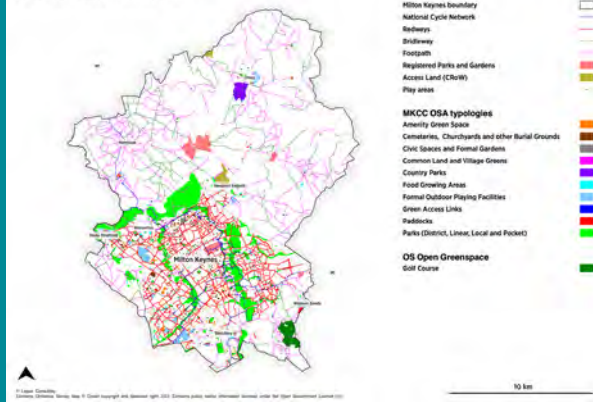
Table 5.2: NGBI assets and ecosystem services

NGBI Typology	NGBI Asset	Timber, hay and other materials	Fish and other marine products from wild sources	Plant-based energy	Cultivated crops	Water supply	Livestock	Water quality	Air quality	Noise regulation	Erosion control	Flood protection	Pollination	Biodiversity – thriving plants and wildlife	Climate regulation	Cultural services	Geodiversity services	Total
Parks and gardens	Country parks							1	1	1		1	1	1	1	1		8
	District parks									1		1		1	1	1		8
	Linear parks									1		1		1	1	1		8
	Local parks									1		1		1	1	1		8
	Pocket parks									1		1		1	1	1		5
	Private domestic gardens									1		1		1	1	1		5
Amenity greenspace	Formal gardens									1				1	1	1		4
	Common land (RCL)									1				1	1	1		4
	Village greens									1				1	1	1		4
Natural and semi-natural greenspaces	Children's natural play space									1				1	1	1		4
	Paddocks						1									1		2
	Broadleaved woodlands	1		1		1		1	1			1		1	1	1		9
	Coniferous woodlands	1		1		1		1	1			1			1	1		8
	Mixed woodlands	1		1		1		1	1			1		1	1	1		9
	Grasslands	1				1	1	1				1	1	1	1	1		9
Hedgerows								1	1				1	1	1		5	

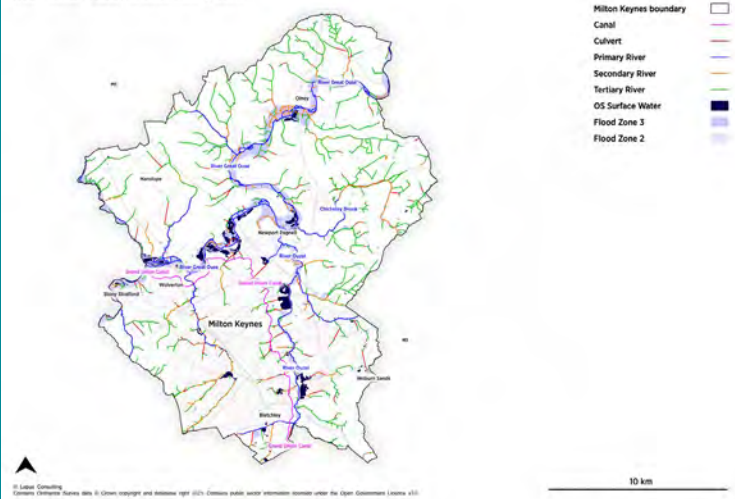
NGBI assets - Thriving and prosperous places



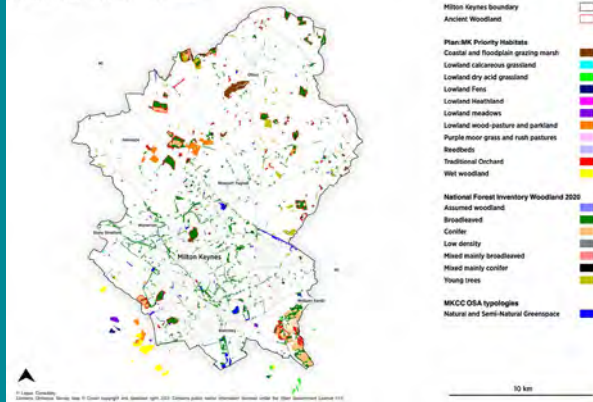
NGBI assets - Active and healthy places



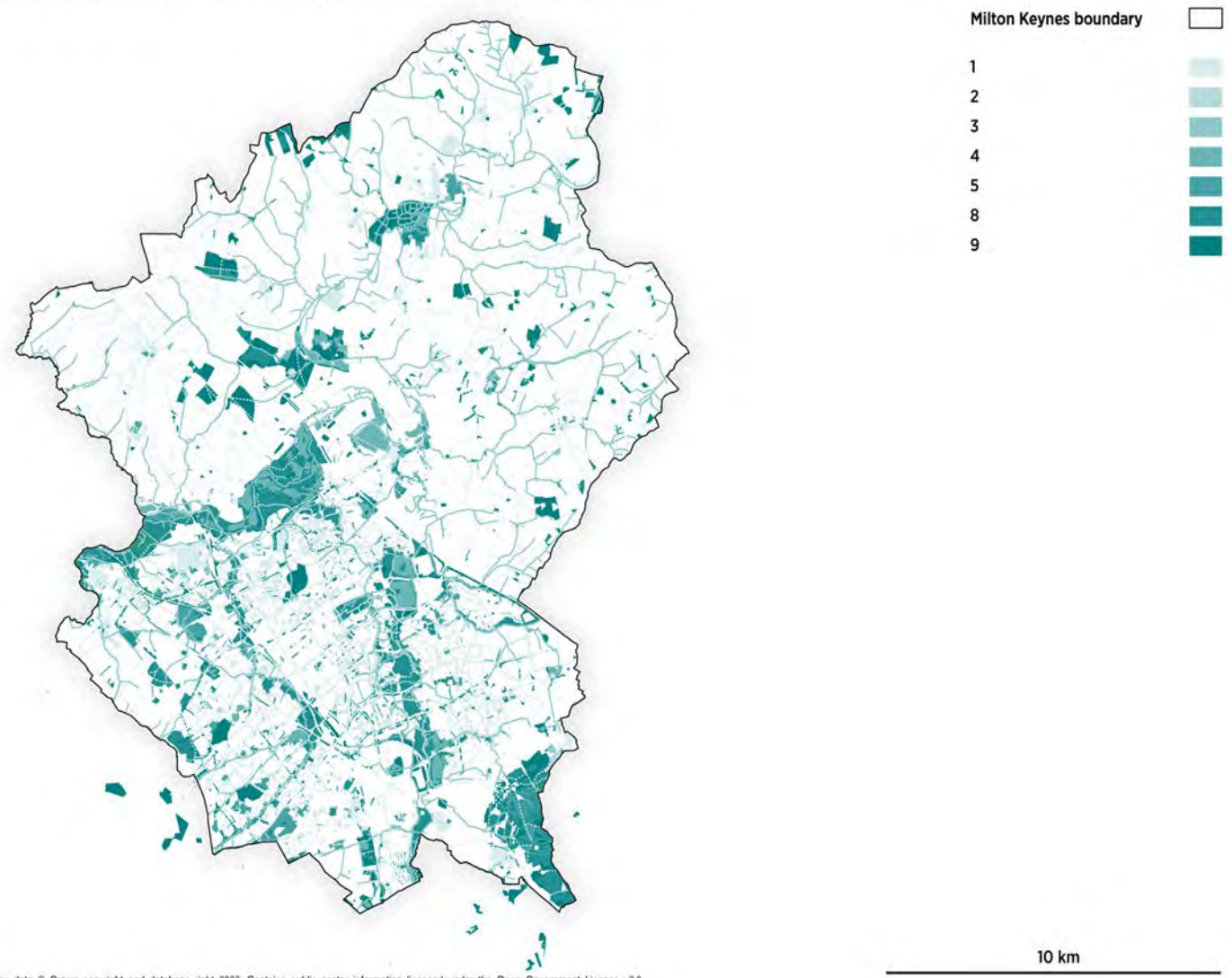
NGBI assets - Improved water management



NGBI assets - Nature rich beautiful places



# Number of ecosystem services provided by the NGBI assets in Milton Keynes



# Delivering the Strategy and Policy Recommendations

NGBI



Monitoring and  
evaluation framework



Policy Recommendations  
by 5 themes

# Thank You



**Milton Keynes**  
City Council

# Buckinghamshire Business First

**Daniel Cope**

**20<sup>th</sup> November 2023**

# Tackling the Climate and Nature Crises:

## *Our work so far*

Net Zero Projects	Carbon Reduction (tnCO <sub>2</sub> e)
Low Carbon Workspaces Phase 1	16,221
Low Carbon Workspaces Phase 2	41,220
Boost Green	4,387
Energy Resilience Programme	2,241
Net Zero MK 2022/3	523
Net Zero MK 2023/4	181
Net Zero Bucks	1
<b>TOTAL</b>	<b>64,775</b>

This is the same as..

13,102 medium petrol cars annually



19,637 homes average annual carbon emissions



0.02% of the UK's annual carbon emissions



# The work we're doing

## net zero: Bucks

- Supports businesses in Buckinghamshire on their Net Zero journey.
- Providing ongoing 1-2-1 specialist support and carbon footprint calculations.
- Funded by the UK Shared Prosperity Fund through Buckinghamshire Council.



**LEVELLING  
— UP —**

## net zero:MK

- Supports businesses in Milton Keynes on their Net Zero journey.
- Year 2 of the programme has a 37% retention rate from year 1 participants.
- Funded by Milton Keynes City Council through the Green Business Recovery Fund.





# The work we're doing

## Low Carbon Workspaces

- Supported 933 unique businesses (SMEs) to cut emissions by 5,033 tonnes of CO<sub>2</sub>e annually.
- Installed measures are expected to deliver lifetime carbon savings of 57,220 tonnes of CO<sub>2</sub>e.



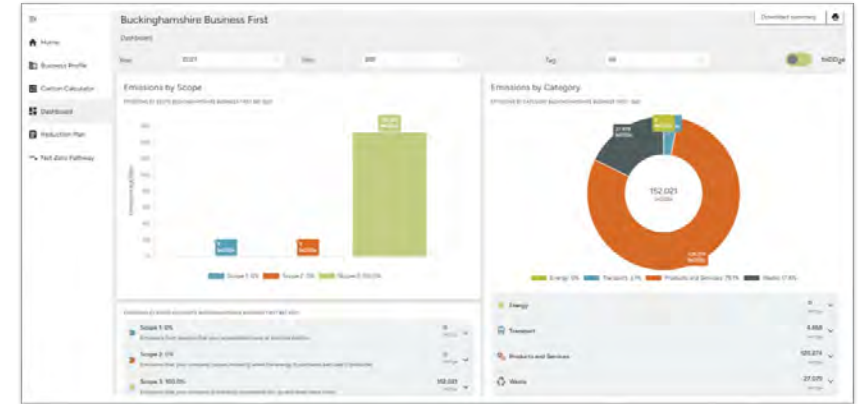
## What BBF have done as an organisation

- BBF have made the SME Climate Commitment, to be a Net Zero organisation by 2050, with emissions halved by 2030.
- Ensuring employees are kept updated with best practices for working from home, implementing net zero requirements within procurement, and offsetting emissions through a gold standard certified Malawi cookstove programme.



# Working in Partnership

- Tackling the Climate and Nature Crisis is part of what we do best.
- We work closely with Buckinghamshire local authorities, in addition to other councils within the region.
- We collaborate with consultants such as Climate Essentials, and global non-profit initiatives like the SME Climate Hub which helps grow the knowledge of both BBF and the businesses we support.



# Working in Partnership

- Working closely with Heart of Bucks and the Charity sector, as well as government funded organisations like The Greater South East Net Zero Hub.
- Being the voice of the business community throughout the county.
- We run events and workshops designed to inform and help businesses make sustainable steps towards Net Zero.



Greater  
South East  
**Net Zero Hub**



# Get in Touch



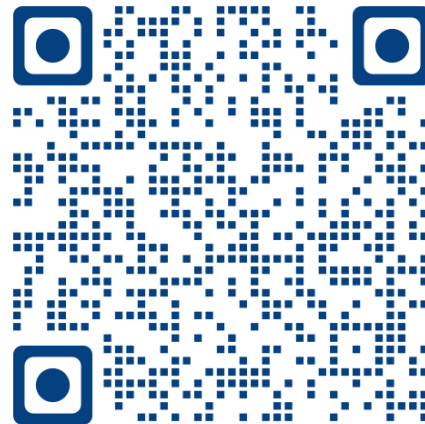
Buckinghamshire Business First website [bbf.uk.com](http://bbf.uk.com)



Net Zero team [netzero@bbf.uk.com](mailto:netzero@bbf.uk.com) or [dan@bbf.uk.com](mailto:dan@bbf.uk.com)



Daniel Cope



# Rural Business Advice Service

- Providing support and advice to rural businesses
- Focus on Funding
  - National Schemes – Farming Transformation Fund
    - Farm Investment Fund – Adding Value, Water Resource, Slurry Infrastructure Themes
    - Farm Equipment & Technology Fund
  - Farming in Protected Landscapes
  - Rural England Prosperity Fund – Bucks Rural Business Grant
    - £1.8m to be spent by March 2025.

# Rural Business Advice Service

Developing and supporting projects relevant to land based businesses.

Measuring Natural Capital using Trinity Agtech's SANDY platform.

SANDY is a toolkit for measuring and optimising a farm's:

- Carbon balance
- Biodiversity
- Water quality
- Productive and financial performance

Ability to use Sandy's artificial intelligence to predict the impact of various management decisions on these assets - enabling farm businesses to make decisions that boosts profitability & sustainability.



## Reduce risk and uncertainty with predictive scenario analytics.

Predict the productive, financial, and environmental outcomes of hundreds of potential management options, including reducing tillage and implementing agroforestry initiatives. Reduce the risk associated with management changes with Sandy's cutting-edge predictive artificial intelligence.

### Understand hundreds of potential management scenarios



How do I get to net zero?



Impact of tree planting and hedgerow management?



What are the benefits of moving to no-till?



Impact of changing grazing management?



Changing feed additives?



Reducing nitrogen applications?

# Rural Business Advice Service

Promoting and coordinating wider activity raising awareness of:

- Agri living Lab and SA Catapult
- Agri tech development opportunities
- Farm Clusters
- Bucks Rural Forum
- SEMLEP Rural Forum
- Local food and drink partnerships/projects
- Defra Policy Team and Consultations

Supporting businesses to ensure land-based industries are both financially and environmentally sustainable

# Get in touch

We're here to help!



## Online

Extensive information and links to a vast range of business support, tools and templates  
[bbf.uk.com](http://bbf.uk.com)



## Email

Benefit from our team's expert knowledge  
[BusinessSupport@bbf.uk.com](mailto:BusinessSupport@bbf.uk.com)



## Hotline

For all business enquiries  
**01494 927130**

Will Dallimore  
Rural Business Development Manager

DD: 01494 927167  
M: 07802 411040  
E: [william.dallimore@ngagesolutions.co.uk](mailto:william.dallimore@ngagesolutions.co.uk)  
W: [bbf.uk.com/rural-ngage](http://bbf.uk.com/rural-ngage)







# Floodplain meadows: a model of sustainability

David Gowing

Floodplain Meadows Partnership

Open University





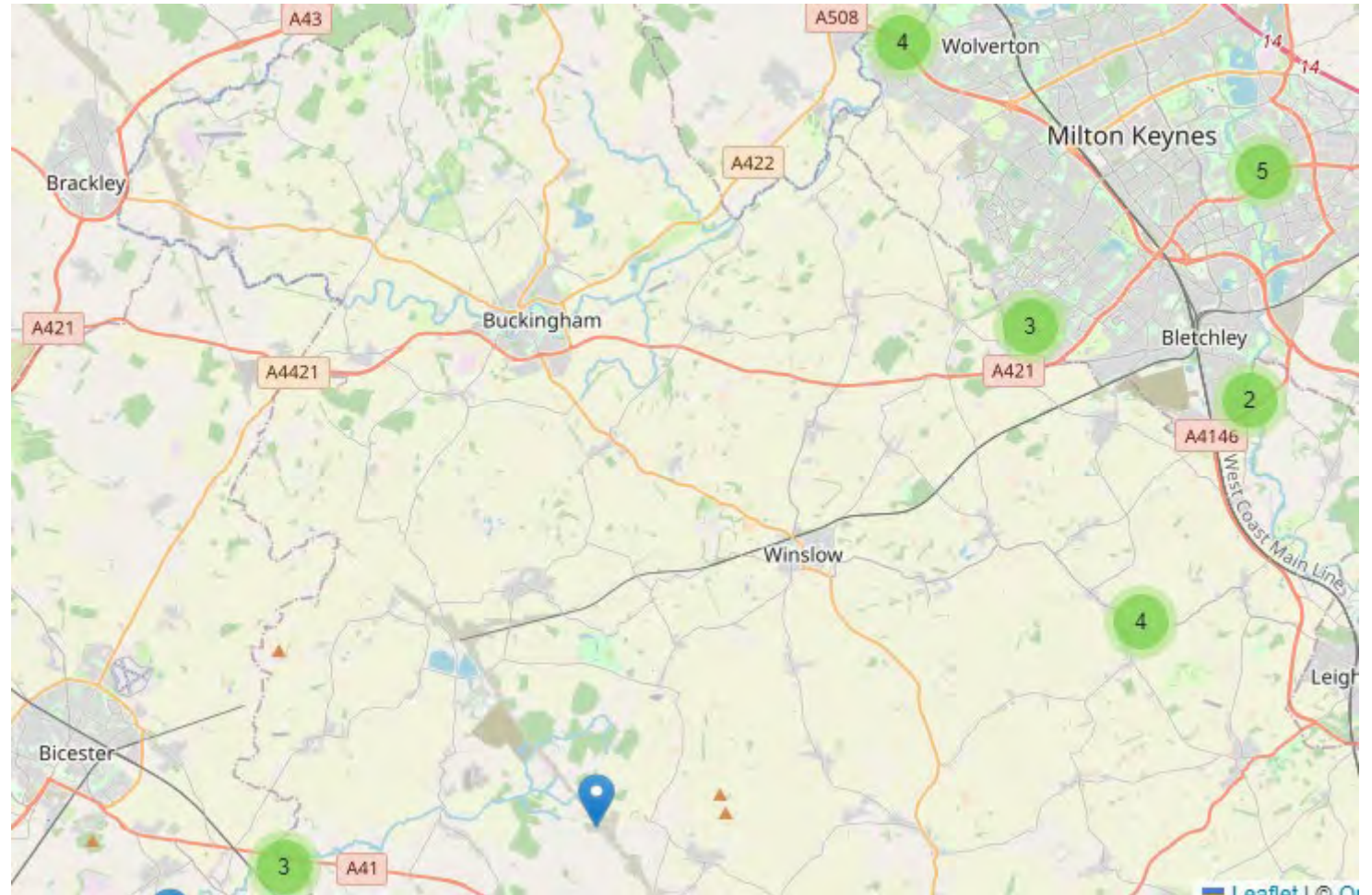
# Floodplain Meadows in Buckinghamshire

## River Great Ouse

- Oxley Mead
- Tattenhoe

## River Ray

- Leaches
- Long Herdon



# Floodplain Meadow restoration

## Why restore?

- Biodiversity
- Aesthetics
- Sustainable food
- Flood-risk management
- Cleaner water
- Carbon capture



We have collected data from over 200 restoration schemes nationwide to share best practice:

- Key finding – it's not what you do but the way that you do it!

# Floodplain Meadows Partnership



[www.floodplainmeadows.org](http://www.floodplainmeadows.org)

[floodplain-meadows-project@open.ac.uk](mailto:floodplain-meadows-project@open.ac.uk)

@Floodplainmead



# Carbon vs Biodiversity?

Harmonising two global challenges.



# The Parks Trust Milton Keynes



# Delivering for Climate & Nature



## *Be Carbon Neutral by 2030*

Establish a baseline carbon footprint and work to reduce our scope 1 and 2 emissions in our programmes and operations



## *Deliver Quality Spaces For Nature*

Utilise wildlife assessments to set action for creating and restoring habitats to their highest possible condition





# Farming and Ecosystem Services



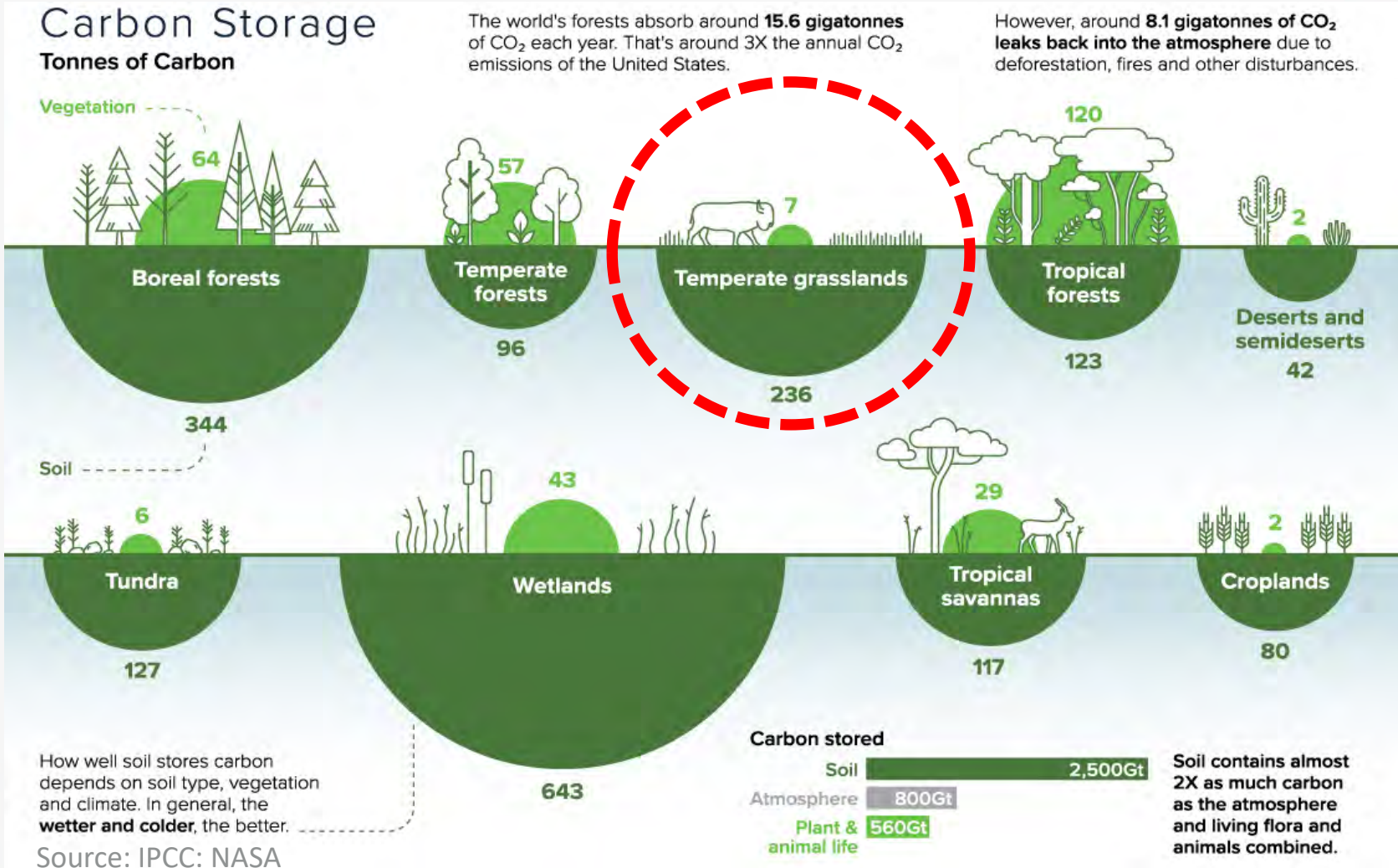
# On (and in) the Ground

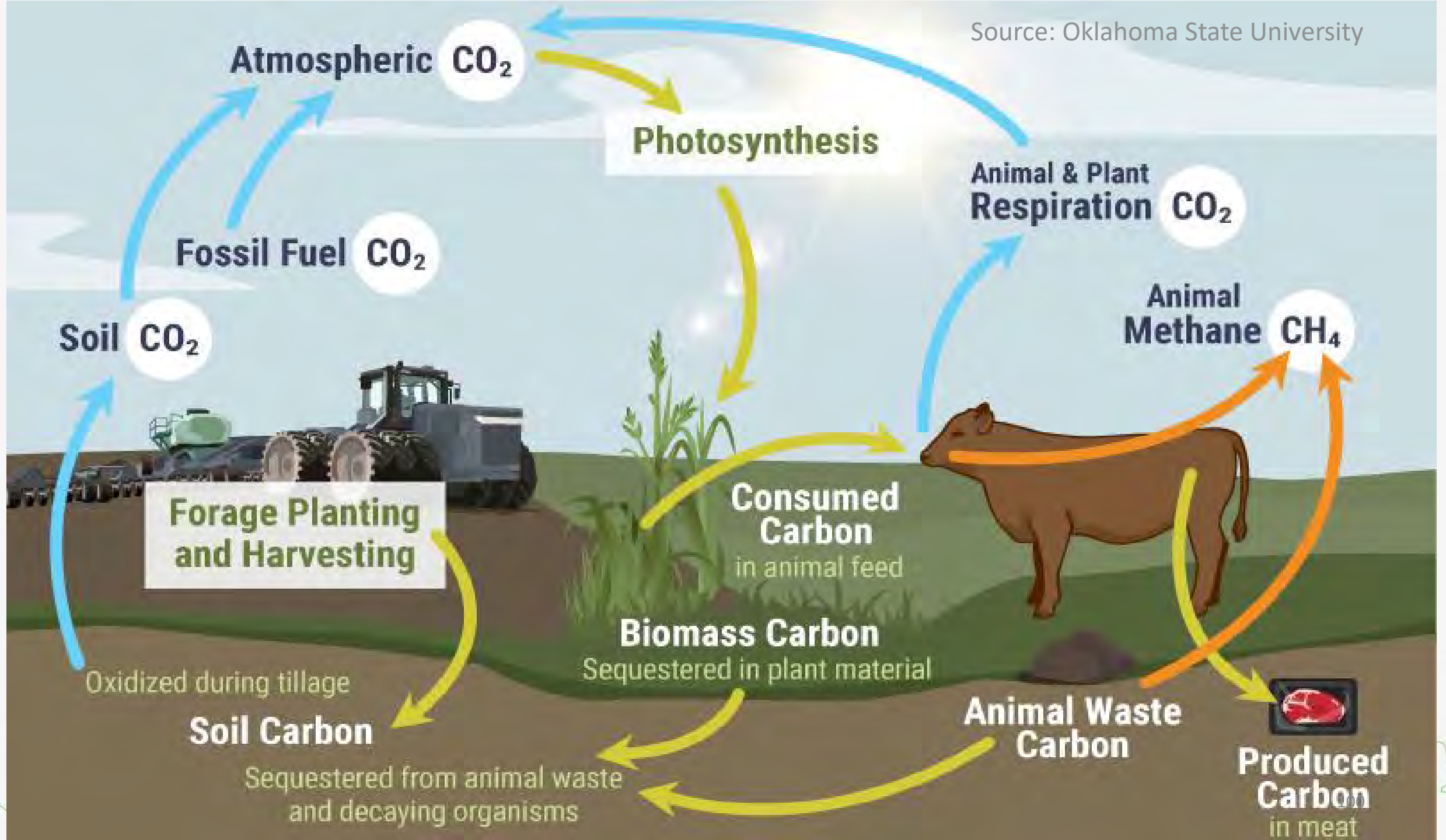
## What this means for the Trust...

- Creation and regeneration of habitat through grazing
- Allowing for larger and rougher margins
- Hedgerow thickening and connectivity
- Creation of wood pasture
- Creation of buffer strips along rivers
- Protecting soils from erosion
- Understanding and managing stocking densities
- Preserving soil structure to increase carbon sequestration
- Better slurry management
- Better water management (rainwater harvesting & treatment)
- Support for innovation

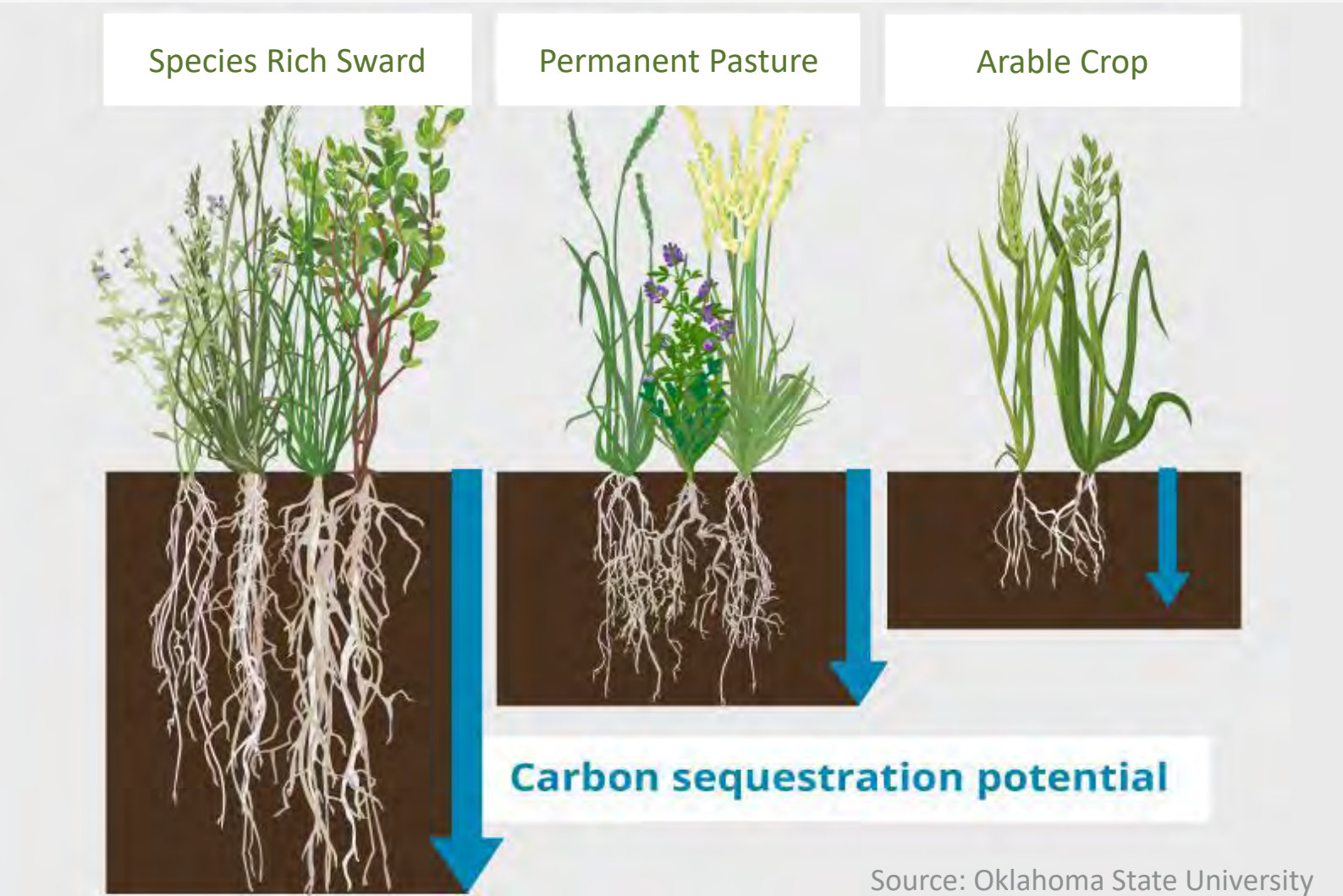


# Biodiversity vs Carbon





# Biodiversity vs Carbon



Source: Oklahoma State University



# Summary

- We currently farm as a means of effective land management
- Multiple changes and challenges are ongoing that require adaptations
- In farming for the future, we are seeking to optimise biodiversity and ecosystem services outcomes





# WORKING LUNCH! — *Proposals for the Dragons!*

*What more can the NEP as a partnership do to jointly tackle the climate and nature emergency?*

*(Esp with the Health, Farming, Business sectors)*

*Priorities, opportunities, enablers, challenges, immediate next steps*

*1 idea per table, spokesperson please! Feedback at 12.50!!*



# Jointly Tackling the Climate and Nature Emergency

Bucks & MK NEP Partnership Forum

# THANK YOU!