References

- Lawton, J. et al. (2010) Making Space for Nature: A review of England's wildlife sites and ecological networks
- As measured by Global Biodiversity Intactness Index. See https://www.nhm.ac.uk/ourscience/data/biodiversity-indicators/globalbiodiversity-intactness-index.html for more detail.
- 3. State of Nature Partnership (2023). State of Nature
- Fuller, R.M 1987. The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930-1984. Biological Conservation 40, 281-300.
- 5. Fluet-Chouinard, E., Stocker, B.D., Zhang, Z et al. 2023. Extensive global wetland loss over the past three centuries. Nature 614: 281-286.
- 6. National Forest Inventory, 2019
- 7. Pisa, L.W., Amaral-Rogers, V., Belzunces, L.P. et al (2015). Effects of neonicotinoids and fipronil on non-target invertebrates. Environ Sci Pollut Res 22, 68-102
- 8. Goulson, D. et al (2018). Rapid rise in toxic load for bees revealed by analysis of pesticide use in Great Britain. Peerl, 6:e5255
- Defra (2019). The British survey of fertiliser practice fertiliser use on farm crops for crop year 2018. https://assets.publishing.service. gov.uk/government/uploads/system/ uploads/attachment_data/file/806643/ fertiliseruserreport2018-06jun19.pdf
- Biological Conservation (2020). Light Pollution is a driver of insect declines. https://doi. org/10.1016/j.biocon.2019.108259.
- Rouquette, J. (2019). Mapping natural capital and opportunities for habitat creation in Cambridgeshire.
- Cambridgeshire County Council 2024). Carbon footprinting: how big is the problem? Available from: https://www.cambridgeshire.gov.uk/ residents/climate-change-energy-andenvironment/carbon-footprinting-how-big-isthe-problem [Accessed 30.04.24]
- 13. Cambridgeshire County Council (2022)
 Recognition of Cambridgeshire population

- growth essential for its success, says Leader
- Cambridgeshire and Peterborough Combined Authority (2024) Cambridgeshire and Peterborough Combined Authority Corporate Plan 2023-25
- Natural Capital Solutions (2024). Data analysis as part of LNRS production.
- 16. Natural England (2014) National Character Area Profile 88: Bedfordshire and Cambridgeshire Claylands
- 17. Natural England (2015) National Character Area Profile 87: East Anglian Chalk
- 18. Natural England (2015). National Character Area Profile 46: The Fens
- Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (2024). Big ideas: Wet Farming. Available from: https://www.greatfen. org.uk/big-ideas/wet-farming [Accessed 29.04.24]
- 20. Natural England Green Infrastructure Standards Green Infrastructure Home
- Crick, H. Q. P., Crosher, I. E., Mainstone,
 C. P., Taylor S. D., Wharton, A., Langford,
 P., Larwood, J., Lusardi, J., Appleton, D.,
 Brotherton, P. N. M., Duffield, S. J. and
 Macgregor N. A. (2020) Nature Networks
 Evidence Handbook. Natural England Research
 Report NERRO81. Natural England, York.
- 22. https://naturalcambridgeshire.org.uk/priority-landscapes/
- 23. Baker, M.P., Bullock, M.P., Wilson, L.A. (2021). The Cambridge Nature Network: A Nature Recovery Strategy for Cambridge and its Surrounds. Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire and Cambridge Past, Present and Future
- 24. Baker, M.P. and Wilson, L.A. (2022). An Interim Nature Recovery Network for East Cambridgeshire. Wildlife Trust BCN
- 25. Baker, M.P. (2023). An Interim Nature Recovery Network for Fenland. Wildlife Trust BCN
- 26. Baker, M.P. (2024). An Interim Nature Recovery Network for Huntingdonshire. Wildlife Trust BCN
- 27. ukcp18_headline_findings_v4_aug22.pdf
- 28. CCRA3-Chapter-3-FINAL.pdf

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Comma butterfly - Alconbury Weald in Spring (April 2020) @ Urban&Civic

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Wicken Fen sunrise © National Trust, Rob Coleman

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Photo competition winner, Ely sunrise © Chris Barton

Glossary

Abstraction

The removal of water from its natural source for human use.

Agri-environment schemes

Set up by the Department for Environment, Food and Rural Affairs (Defra), these schemes provide funding for farmers and landowners to manage their land in a way that aids biodiversity and the air, water and soil quality of the land.

Biodiversity

The variety of species to be found within a particular area. A wide variety of species is an excellent indicator of ecosystem health.

Calcareous grassland

Grassland situated on a chalk or limestone soil, relatively rare in the UK and an important habitat for those plant species adapted to this soil type.

Carbon sequestration

Any process that converts carbon dioxide in the atmosphere into stored carbon, preventing it from acting as a greenhouse gas.

Catchment-scale

The entire geographical area that drains water into a river or other water body, also known as the 'catchment area'.

Chalk streams

Streams that come from springs in chalk bedrock. They are characterised by clear water and a diverse number of plant species.

Colonisation

The movement of a species into a new area.

County Wildlife Sites (CWS)

See Local Wildlife Sites.

Droves

Roads within the Cambridgeshire Fens that were originally used to move livestock.

Ecosystem

The species and physical environment existing within a particular area. It is referred to as a system due to the back-and-forth interactions between both species and their environment.

Ecosystem Services

Benefits that humans derive from a thriving ecosystem, such as improved water and air

quality, climate regulation, provision of resources, and improved health and wellbeing.

Eutrophication

An increase in nutrients within a body of water, often caused by fertiliser run-off, that can cause algal blooms that deprive the water of oxygen and harm or kill animals living within the water.

Fenland SOIL

A not-for-profit organisation that aims to develop farm policies to help achieve climate change mitigation and improved biodiversity within the Fenland region.

Fragmentation

The breaking up and separation of similar habitats into smaller parts. This can have a negative effect on the movement and reproduction opportunities for a species.

Germination

The process by which a plant develops from its seed.

Grade 1 and 2 land

An agricultural land classification that determines the quality of existing farmland or undeveloped land. Grade 1 and Grade 2 land is considered 'excellent' and 'very good' respectively.

Green infrastructure

Building projects with ecosystem services at the forefront of its development.

Groundwater recharge

The movement of water downwards from surface water to groundwater.

Habitat network mapping

Mapping undertaken to identify areas that provide the best opportunities for re-building a resilient nature network. The areas identified comprise the six priority natural landscapes within the region.

Herbicides

A type of pesticide targeted at plants.

Insecticide

A type of pesticide targeted at insects.

Invasive species

Any non-native species that has been introduced and is harmful to its new environment.

Invertebrate

Any animal without a backbone, such as insects, spiders, and crayfish.

Landscape Character Areas

Landscape Character Areas are regions that share distinct and recognisable landscape characteristics such as geology, vegetation and land use.

Landscape Character Assessment (LCA)

Landscape Character Assessment is the process of identifying and describing variation in character of the landscape.

Landscape-scale approach

A nature conservation approach working with farmers and landowners across entire landscapes rather than individual sites.

Lawton Principles

Principles from the 'Lawton Review' paper, set out in 2010 and commissioned by the Environment Secretary. The key principles are that nature sites should be more, bigger, better, and joined up.

Local Nature Reserves (LNR)

Nature reserves established by local authorities they are places with wildlife or geological features that are of special local interest.

Local Wildlife Sites (LWS)

Areas of land that are especially important for wildlife. They are identified and selected locally using scientifically-determined criteria and surveys.

Mapped actions

These are actions for the priority habitats that have been mapped onto the local habitat map. Mapped actions are eligible for Biodiversity Net Gain (BNG) uplift.

National Character Areas

159 Character Areas have been established by Natural England, covering the entirety of England. Each area represents a distinct and recognisable region based on landscape features rather than county or district boundaries.

Natural capital

The value of resources naturally available, such as water, air, and soil.

Natural Capital Assessment

A method for quantifying the total value of natural capital (resources such as water, air and

soil quality) within a region.

Nature Recovery Network

See Priority Natural Landscapes.

Nature-based solutions

Actions taken that are designed to protect and restore existing ecosystems to benefit both people and nature.

Neonicitinoids

A specific class of insecticide. Its name comes from the fact they are chemically similar to nicotine. They are banned from general use in the UK.

Nitrates

Chemicals that are a common component of fertilisers. Along with phosphates, their existence in water bodies are responsible for the process known as eutrophication.

Nutrient enrichment

See Eutrophication.

Paludiculture

Farming on rewetted peat, for the production of wetland crops.

Pesticides

Any chemical substance used to control species considered pests. They can be damaging to the wider environment by entering water through agricultural run-off.

Phosphates

Chemicals that are a common component of fertilisers. Along with nitrates, their existence in water bodies are responsible for the process known as eutrophication.

Point source pollution

The point at which pollution is discharged, such as a sewage pipe or ditch.

Pollarding

A technique for regularly cutting back trees to their trunk. It encourages a denser and stronger tree canopy.

Priority natural landscapes

These are six priority areas set out by Natural Cambridgeshire for nature recovery. The areas include the Connected Fens, John Clare Countryside, Nene Valley, Great Ouse Valley, West Cambridgeshire Hundreds, Cambridge Nature Network.

Ramsar sites

these are wetland sites designated as being of international importance, as defined by the Ramsar Convention on Wetlands.

Regenerative agricultural techniques

techniques used for farming that emphases methods such as minimal soil disturbance and composting, to ensure a healthy, regenerating layer of topsoil.

Semi-natural grassland

grassland that is naturally occurring, without fertiliser or herbicide applied to it, but is managed through mowing or livestock grazing.

Sites of Special Scientific Interest (SSSI)

a government designation applied to those sites that support characteristic, rare or endangered species.

Special Areas of Conservation (SAC)

areas designed to protect species outlined within the European Union's Habitats Directive. Together with Special Protection Areas, they form part of the UK's national site network.

Special Protection Areas (SPA)

protected areas for birds in the UK, designated under the European Union's Bird Directive.

Together with Special Areas of Conservation they form part of the UK's national site network.

Species assemblages

the full list of species that live within a particular habitat.

State of nature reports

reports on species from the State of Nature

Partnership. They use data from biological monitoring and recording schemes to provide a benchmark for species populations throughout the UK.

Stewardship

management that involves the responsible use of natural resources.

Supporting actions

these are actions for the priority habitats that are not stand-alone, but help carry out the mapped and unmapped actions more effectively.

Terrestrial

species that are based on land, as opposed to water.

Unmapped actions

these are actions for the priority habitats that are too broad to be mapped to a specific location, so do not appear on the local habitat map.
Unmapped actions are not eligible for Biodiversity Net Gain (BNG) uplift.

UK priority species

those species that were identified by the Joint Nature Conservation Committee as the most threatened within the UK.

Unimproved grassland

areas of grassland that have never been used for agriculture.

Wider environmental benefits

benefits that include both improving the natural environment and improving human health and wellbeing, such as improved air quality and closer access to nature.