

Natural Capital Mapping in Gloucestershire

A CASE STUDY

Boosting nature recovery,
opening up opportunity



Landscape and Opportunity

Setting a greener course for the future

The UK Government's 25 Year Environment Plan of 2018 set out a comprehensive, long-term approach to protecting and enhancing the UK's natural landscapes and habitats for the next generation. "By using our land more sustainably and creating new habitats for wildlife, we can reverse the decline in native species and improve our biodiversity, enabling us to build a cleaner, greener country and reap the economic rewards of the green growth revolution."

By focusing on nature recovery and regeneration, we now have a great opportunity to support growth that will bring great and tangible benefit to all. And the importance of nature-based solutions are particularly salient in the context of COVID-19: as we recover, we have an opportunity to protect and restore nature. A data- and science-led recovery plan will help to create employment in the industries of the future, while ensuring we address the linked challenges of public health, climate change, and biodiversity ●

Smarter decisions for the long term

Gloucestershire is at the forefront of the nature-recovery movement, and has consistently shown how embracing a 'technology with nature' approach can accelerate regional economic growth.

1990s Gloucestershire was one of the first regions to invest in biodiversity mapping

2000s Pioneered nature recovery planning

2020s Has invested in natural capital mapping and an open access portal to accelerate the nature recovery agenda.

By building on such tech-enabled initiatives, the region is taking practical steps to ensure that the ecology and economy of the future will be strong and sustainable.



Doug Hulyer

Chair, Gloucestershire
Local Nature Partnership

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Natural capital provides a lens through which partners from all sectors can view the benefits provided by Gloucestershire's wonderful natural environment. We recognised a need for an evidence base to guide strategic spatial planning and multi-functional environmental investment, building resilience to the climate emergency, speeding nature's recovery and supporting health and wellbeing.

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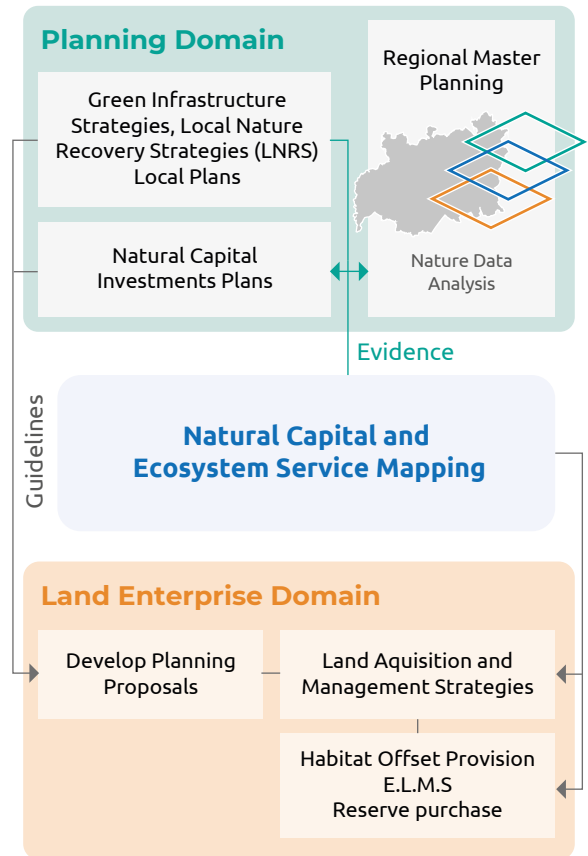
What is Natural Capital Mapping and why do we need to do it?

Understanding risk, planning for the future

Natural Capital refers to stocks of natural assets which occur in a region, and which generate ecosystem services (ES) and benefits for society, such as pollination, natural flood management, and outdoor recreation. Understanding the natural capital of a region helps us to locate where it is currently generating ecosystem services, the places where people currently most need these services, and where we should invest in creating or enhancing natural capital assets.

By mapping our natural capital, we can create a workable framework for integrating its present and potential value into spatial decision making. By strategically managing and investing natural capital, we can move to a richer, healthier environment and benefit a wide cross-section of society.

Nature-positive investment at a regional scale can be designed to deliver nature-based solutions to social and environmental challenges, such as population growth, climate change and development. By highlighting this, we can make a significant strategic contribution to the delivery of the Government's promise of leaving the Natural Environment in a better state than we found it ●



The Opportunities in Gloucestershire

Gloucestershire is home to some of the most outstanding landscapes in the British Isles, including the Forest of Dean, the Severn Vale and Cotswolds. This natural environment is not only beautiful, it also delivers significant benefits for people, wildlife and the economy.

Wetland and woodlands help reduce flood risk to homes and businesses, as well as capturing and storing carbon. Species-rich limestone grassland provides habitat to biodiversity, which underpins the provision of ecosystem services such as pollination and natural flood management. And landscapes across the county provide places for outdoor recreation, creating a sense of place, heritage and local pride.

However the county has a set of specific challenges:

- Coastal and Surface Flooding - a projected 850mm increase in peak river levels in Severn catchment by 2050.
- Water Shortages - the Environment Agency predicts increasing impacts on large businesses, new developments and agriculture.
- Ecosystem Downgrading, leading to impoverished natures.
- Lack of access to high quality green space for people – exacerbated by lockdown

In this context, Local Planning Authorities will need to build 100,000 new homes in the next thirty years. Partners agree that the creation of a firm evidence base to guide the planning for all these challenges is vital.

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“Natural capital and ecosystem service mapping supports innovation at the intersection of nature recovery, technology and commerce. Working with LNPs and other partnerships massively increases the value and quality of mapping outputs.”

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Paul Jepson

Nature Recovery Lead,
Ecosulis



Working with Ecosulis

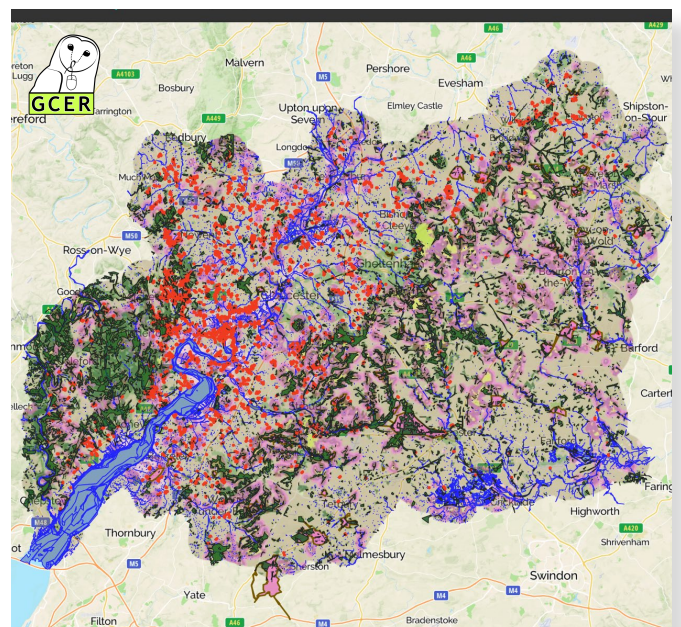
Drawing on their deep knowledge and collective expertise, the team uses pioneering methods, building on the habitat-service scoring approach developed by Oxford University's Environmental Change Institute. Crucially, they are open and transparent about their methodologies, encouraging and feeding into a culture of shared knowledge and collaborative working that aims to advance the nature agenda, and be of benefit to all.

A Fresh Approach to Nature Recovery

Applying pioneering methods and deep expertise

Against this backdrop, the Gloucestershire LNP was commissioned by the Gloucestershire Joint Economic Growth Committee and the Local Enterprise Partnership (LEP) to develop a Natural Capital Baseline for the county, to allow planners, developers, ecologists and land managers to understand the spatial distribution of the ecosystem services in Gloucestershire.

In March 2020, the Gloucestershire LNP engaged Ecosulis to develop a natural capital baseline map for the county, using pioneering methods to gather crucial data points. This map builds on and enhances existing natural capital mapping methodologies, allowing stakeholders to get the fullest possible picture to guide future decisions, including biodiversity offsetting (linked to net gain), spatial planning, climate change policies, and natural capital investment ●



Natural Capital Mapping portal developed by the Gloucestershire Centre for Environmental Records



Outcomes, Applications and Impact

For now, and for generations to come

In Gloucestershire, the outcomes of natural capital mapping are already being applied.

- The Environment Agency is using the maps as part of an opportunity identification process to assess blue and green infrastructure interventions in Gloucestershire.
- The maps will guide the delivery of the Gloucestershire tree strategy, which follows the mantra of 'the right tree, in the right place, for the right reason'. These maps will help demonstrate the right place, and in many cases will guide the right reason too.
- Gloucestershire LNP partners are using the mapping to guide prioritization of investment decisions and project design.
- The LEP is using the tool to inform a natural capital assessment of their growth projects. Created by the Local Environmental Record Centre (LERC), this report uses the map to highlight local environmental impacts of development, and priorities for delivering a net environmental gain.

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Natural Capital is vital to the wellbeing of society in its broadest sense. We understand that the natural environment can underpin all economic and social activity, through the services it delivers. GFirst LEP recognised this in the Gloucestershire Local Industrial Strategy, in which we committed to establish Gloucestershire as a leader in sustainable growth, realising Gloucestershire's potential to be the greenest place to live and work in Britain. We have invested in the development of a natural capital baseline to determine how best to protect, maintain and enhance our natural capital assets.

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David Owen
CEO, GFirst LEP

The Covid-19 pandemic has created multiple economic challenges, but it has also highlighted opportunities for society to change and become more resilient to future shocks. To build a truly green recovery we must act swiftly to invest in our natural environment, creating more green space for people, enhancing biodiversity and increasing resilience to climate change through adaptation and mitigation.

Natural capital mapping provides an evidence base for informing decisive action to kick-start nature recovery, and the outcomes will be far-reaching, self-sustaining, and valuable for generations to come.



Explore the possibilities that Natural Capital Mapping can unlock in your region.



info@ecosulis.co.uk



www.ecosulis.co.uk

For further information on the Gloucestershire Local Nature Partnership, visit:



www.gloucestershirenature.org.uk