Map Impact

Wiltshire Council

MAPPING WILTSHIRE'S LOCAL NATURE RECOVERY

Case Study

EXECUTIVE SUMMARY

This white paper presents Wiltshire's Local Nature Recovery Strategy (LNRS) Mapping, a collaborative initiative between Wiltshire Council and Map Impact to deliver data-driven insights for nature recovery across the county.

Through advanced geospatial analysis, high-resolution habitat mapping, and ecological connectivity modelling, the project demonstrates how we can transform conservation planning into an evidence-based, spatially coherent framework.

By combining national datasets with local ecological intelligence, the initiative identifies key opportunities to restore habitats, strengthen biodiversity networks, and enhance landscape resilience.

The outcome is a detailed measures map that pinpoints where targeted actions can deliver the greatest ecological benefit.

Nina Moiseeva
Chief Scientific Officer
Map Impact

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Key insights

Measures Mapping: The LNRS measures mapping pinpoints where actions can deliver the greatest ecological benefit. It converts complex spatial analysis into clear, practical locations for restoration and enhancement.

Habitat Connectivity: Fragmented landscapes limit species movement and ecosystem resilience. The mapping highlights key corridors and stepping stones to reconnect habitats and reinforce ecological networks.

Collaborative Framework: Consultation ensures local knowledge complements technical modelling, aligning stakeholders around shared restoration goals.

Evidence-Based Decisions: Integrating multiple ecological datasets into one analytical system ensures transparency, consistency, and confidence in identifying priority areas for recovery.

Benefits and applications

Strategic Planning: Enables local authorities to integrate LNRS priorities into planning processes, ensuring actions are spatially coherent, policy-aligned, and focused on the most beneficial areas for long-term improvement.

Targeted Restoration: Directs investment to locations with the highest biodiversity potential, optimising resources and delivering measurable outcomes that enhance habitat quality and ecological value.

Climate and Nature Resilience: Enhances landscape adaptability by improving connectivity, supporting carbon storage, and restoring natural buffers to environmental stress across both rural and urban settings.

Monitoring and Collaboration: Provides a framework to track progress, assess ecological gains, and coordinate action across councils, partners, and communities to sustain lasting recovery.

Wiltshire's Local Nature Recovery Strategy (LNRS) marks a progressive step in environmental planning, using mapping as a foundation for strategic decision-making and collaboration. It demonstrates how analytical mapping can clarify priorities for habitat restoration.

The initiative strengthens coordination across organisations, supporting a shared vision for nature recovery and long-term landscape resilience. Developed in line with the UK's national framework, it translates insight into practical measures.

This work helps to shape a more connected and adaptable natural environment. It reflects how data-led mapping can guide effective and lasting ecological recovery.

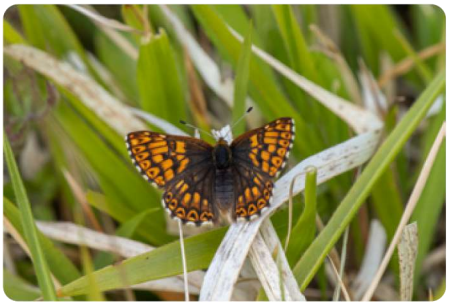
BACKGROUND

Imagine your local region as a giant jigsaw puzzle made up of green spaces, rivers, woodlands, and wildlife. The Local Nature Recovery Strategy (LNRS) aims to ensure that every piece of this puzzle fits together seamlessly, allowing nature to thrive.

The strategy focuses on identifying areas where nature needs support through connecting fragmented habitats. By applying advanced mapping tools and satellite images, the LNRS can work to restore wildflower meadows, lush woodlands, and vibrant wetlands.

This initiative aims to create environments where foxes, frogs, flowers, and all their companions can flourish in interconnected green spaces, even amid troublesome human activity. It involves developing wildlife corridors and restoration hotspots that significantly enhance biodiversity and climate resilience.

Not only does a LNRS contribute to making local areas greener and home to more species, but it also provides us with beautiful spaces to enjoy.

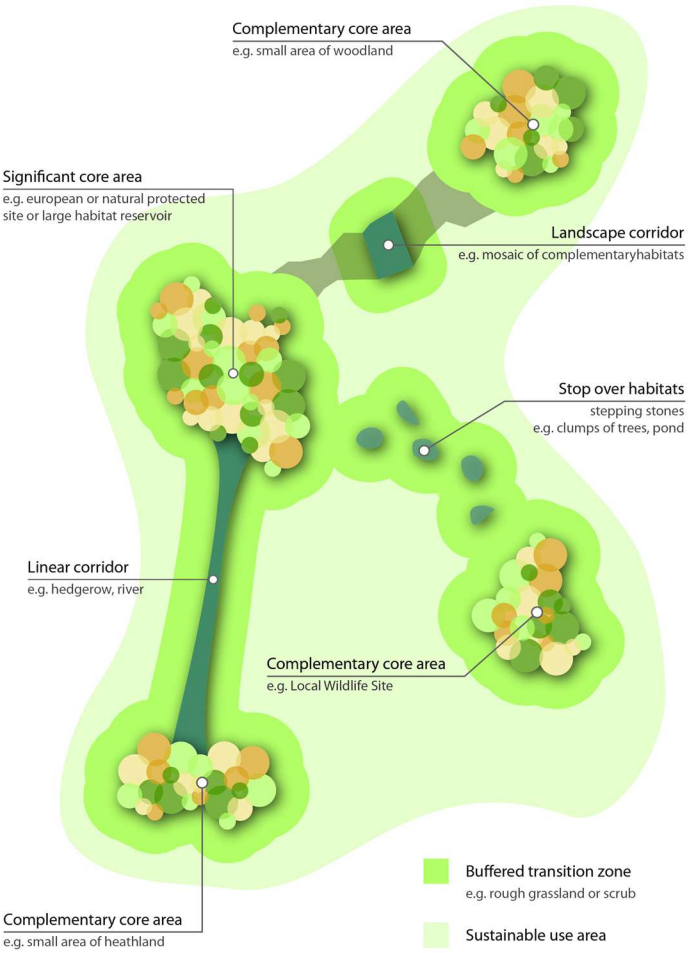


Introduction

This case study examines how Map Impact played a crucial role in delivering Wiltshire Council's LNRS through innovative mapping technology to enhance their internal processes. Mapping is essential for LNRS as it provides the necessary data to make informed conservation decisions, track progress, and engage stakeholders regarding priority habitats to focus investment on delivering the best LNRS outcomes.

Map Impact conducted a collaborative mapping exercise to identify key habitats and synergies using a semi-automated, repeatable approach.

The findings provided Wiltshire Council with the tools to identify potential locations for nature recovery. This follows the principles outlined in the Lawton Review for improving ecological networks, which can be summarised as enhancing wildlife sites to be "Bigger, Better, and More Joined Up." This framework emphasises the importance of habitat connectivity (Lawton, 2010).



Above: Ecological network mapping showing habitat connectivity

Bigger

Expanding habitats provides more space for species to live, feed, and reproduce, which is crucial for their survival. Creating larger habitats gives wildlife more room to explore, play, and grow.

Better

This involves restoring degraded habitats, maintaining or enhancing their natural features to make them more suitable for species. When we improve the quality of habitats, they transform into vibrant spaces full of life and colour.

More Joined Up

Paths, corridors, and stepping stones enable wildlife to move safely between areas, encounter new species, and adjust to changes. It's like nature's version of urban planning, where everything flows.

The problem

LNRS implementation often demands substantial time, funding, and expertise against resource constraints that make it challenging to cover the costs of long-term planning, staffing, data analysis, and public engagement.

Furthermore, LNRS success depends on collaboration among multiple stakeholders, including landowners, conservation organisations, local communities, and government bodies. Conversely, some regions designated for nature recovery are also used for agriculture, urban development, or recreation. Balancing biodiversity goals with these existing land uses can be complex, and finding mutually beneficial solutions can involve lengthy consultations and creative compromise.

> **"Presenting data in a way everyone can understand is a real challenge in nature conservation."**
>
> **Alison Levy**

The Wilshire Council decided that high-quality mapping work, requiring a consistent methodology and stakeholder input, would be too impractical and time-consuming to manage in-house alongside their LNRS development. Exploring external options emerged as the most viable solution to address the crucial mapping component of their LNRS implementation. Building trust and confidence in a collaborative partner was deemed essential, given the new and unexplored complexities associated with initiating a LNRS.

"I must admit, I wish I'd reached out sooner," says Alison Levy, Local Nature Recovery Strategy Officer for Wiltshire Council (see box-out, right). Adding, "Presenting data in a way everyone can understand is a real challenge in nature conservation."

"It just took us a while to really understand the depth of what was needed and that this was something we were going to have to look elsewhere for, and it took me a while actually to find competent companies who I felt could undertake the task given how many unknowns we had to deal with, this being the first time anything like this has been attempted at such scale."

ALISON LEVY

Alison is the Local Nature Recovery Strategy Officer for Wiltshire Council. In her role, she leads the development of a county-wide strategy for implementing Nature Recovery projects. This includes initiatives such as Biodiversity Net Gain (BNG), green finance, and agricultural grants, all aimed at working with landowners to achieve the goals outlined in the Government's 25-Year Environment Plan.

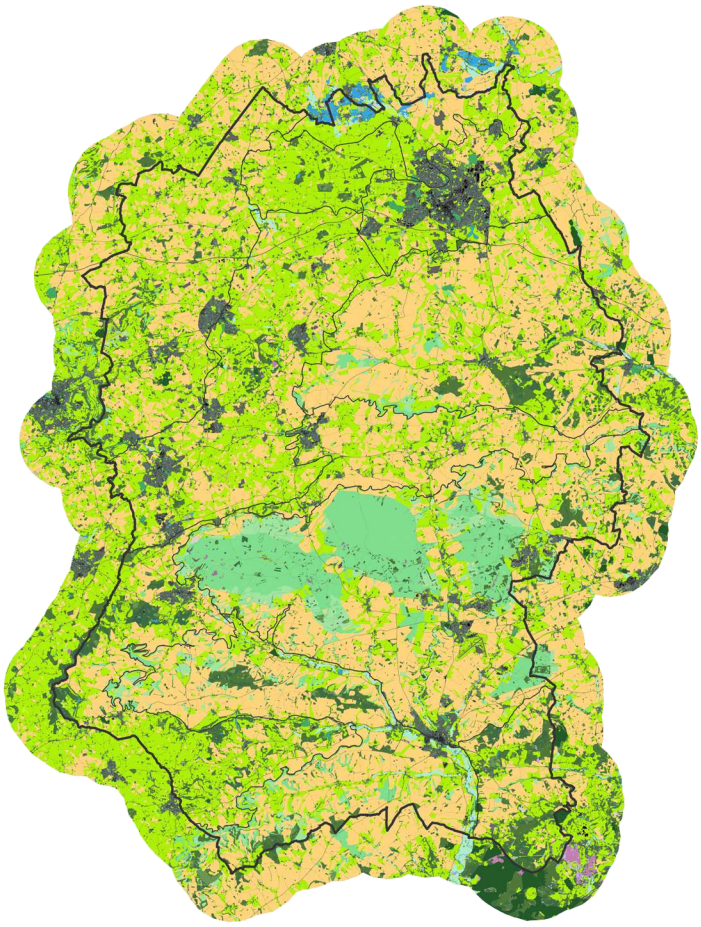
Alison was integral in forming Wiltshire Council's relationship with Map Impact when developing their LNRS. These are visionary plans designed to lead the charge in nature recovery across England. Introduced under the Environment Act 2021, they strive to restore biodiversity, enhance ecosystems, and connect habitats.

Above: The 11 biodiversity areas spanning Wiltshire

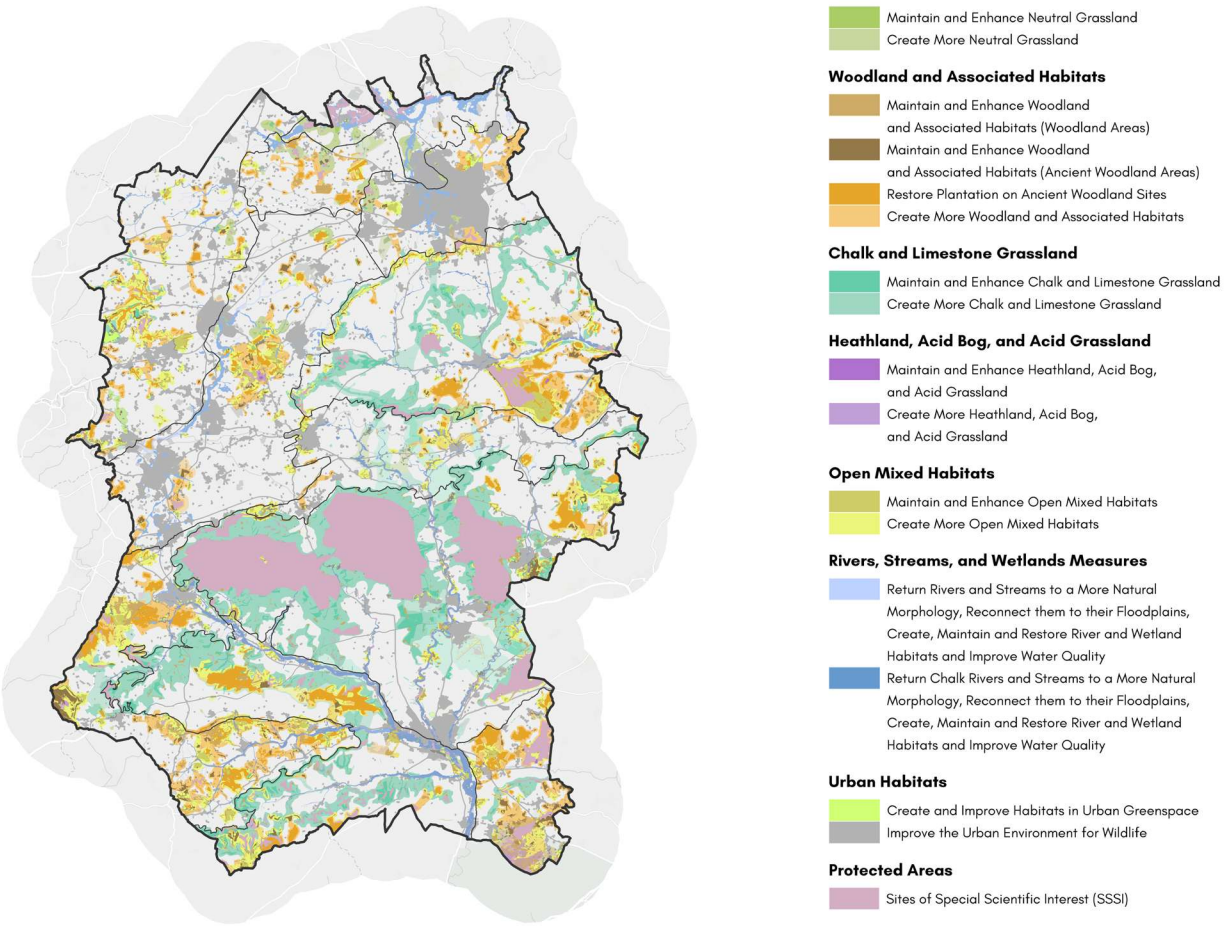
The solution

The Council's Area of Interest encompasses a vast region that has been divided into 11 distinct biodiversity areas. To develop this LNRS, Map Impact used a combination of high-quality ecological data and detailed maps to identify key habitats and biodiversity hotspots. By implementing geospatial analysis and modeling, strategic measures can be mapped, establishing the most efficient pathways for maintaining and enhancing existing habitats, improving habitat connectivity, and creating additional habitats.

"Map Impact have enabled us to create this map utilising least-cost paths and functional connectivity," says Alison.



Above: Habitat map using BiodiversityView®



Above: Measures mapping results

Map Impact's BiodiversityView® nationwide habitat layer, along with the advanced geospatial analysis and least-cost modeling, provided a basis to understand how priority habitats can expand and connect. This process was based on the concept of habitat permeability, which measures the resistance to thriving or expansion.

As a result, Map Impact identified the best areas and exact measures to deliver the Council's LNRS. This process involved finding common ground between two fundamentally different organistions. The solution emerged through establishing a means of communication to connect technical and specialised environmental mapping technology with local knowledge and application.

> **"The rules to follow, the sort of the algorithms to apply, the understanding of what certain things will and won't look like. It's really hard to talk about these things without a visual cue"**
>
> **Alison Levy**

The impact

Wiltshire Council are now positioned to foster a strong partnership with local stakeholders to strategically address areas of ecological significance through Map Impact's measures mapping. This initiative will empower the development of nature restoration projects that will enhance the environmental health and biodiversity of the entire county.

The mapping created for the LNRS will offer residents and landowners in Wiltshire valuable information on how to actively engage with the landscape to promote nature recovery opportunities.

"I think it's good to have developed beyond that empirical process point of view to know that we are talking about something subjective," says Alison. "It gives us a really strong place to start from when doing anything in the future."

Furthermore, this effort will reach into community settings, where residents will receive tailored advice on how they can actively participate in environmental restoration within their neighbourhoods. The interactive community mapping tool is undergoing scrutiny by a broad spectrum of local ecologists, Local Environmental Record Centres (LERCs), and representatives from National Parks. These experts contribute essential datasets and localised guidance to refine the mapping, working collaboratively with Wiltshire Council and Map Impact. In 2025, a public consultation was held to invite community feedback and review the progress of this mapping initiative, ensuring transparency and community involvement throughout the process.

> **"The Map Impact team has met the challenge, and produced something that's understandable, usable, and gets the conversation started. It gives us a really strong place to start from when doing anything in the future."**
>
> **Alison Levy**

Beneficiaries

of the Wiltshire nature recovery strategy


Duke of Burgundy Butterfly

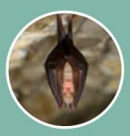

Juniper


Lapwing


Stone Curlew


Eurasian Curlew


Wart Biter Bush Cricket


Bats


Arable Plants

The future

The Wilshire Council's LNRS aims to create a strategically important area with significant potential for ecological improvement. This initiative will enforce mandatory Biodiversity Net Gain (BNG) requirements for all relevant stakeholders. The mapping component of the LNRS will effectively support this effort, laying a solid foundation for the future:

Setting the stage for biodiversity

LNRS acts as a guide for nature, showing precisely where BNG projects will make a real splash for biodiversity and will dictate areas of strategic significance within BNG calculations.

Connecting nature's dots

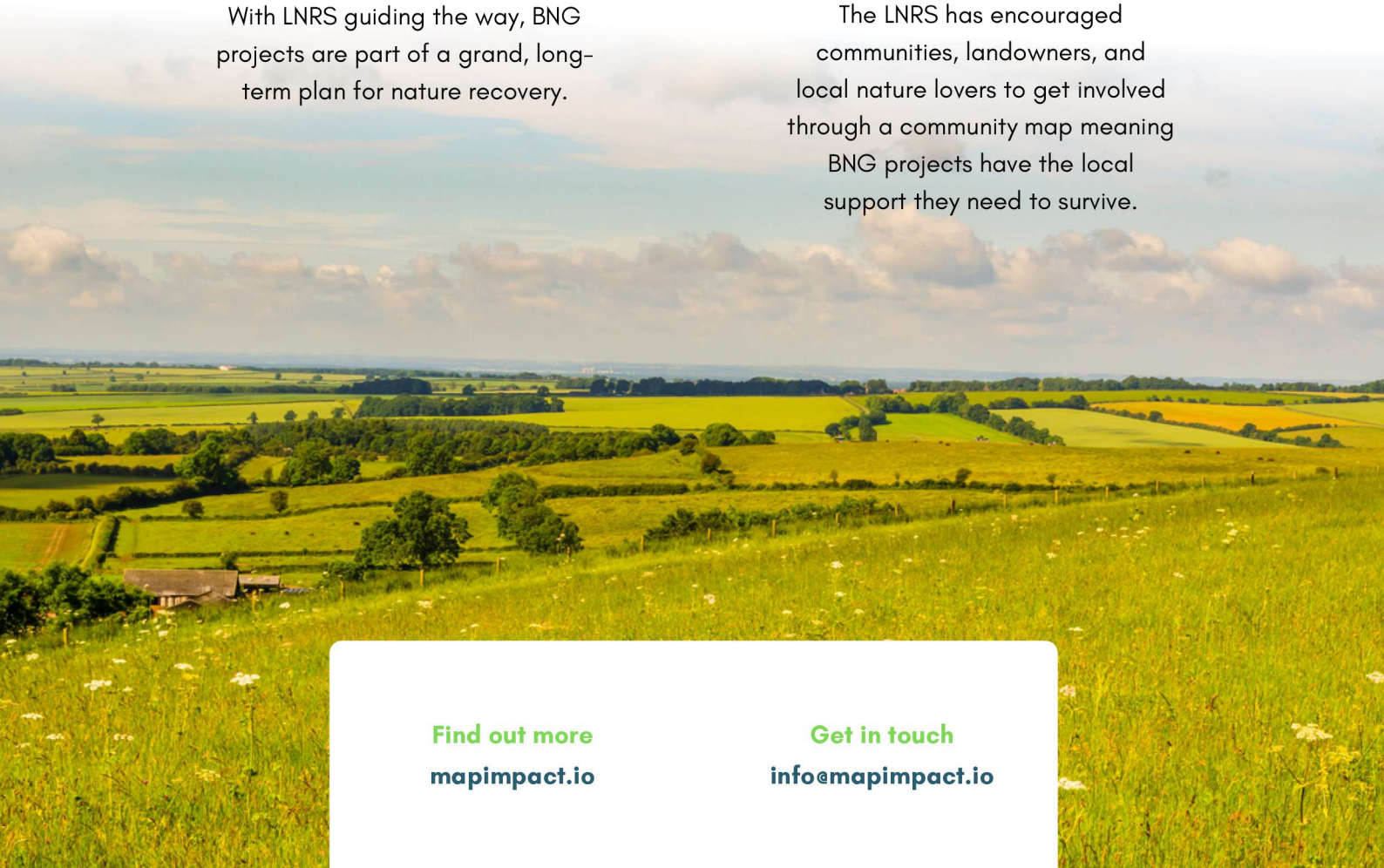
Helps BNG projects know where to plant trees, restore meadows, or create ponds that line up with existing habitats, making green spaces more connected.

Building a long-term nature vision

With LNRS guiding the way, BNG projects are part of a grand, long-term plan for nature recovery.

Getting everyone involved

The LNRS has encouraged communities, landowners, and local nature lovers to get involved through a community map meaning BNG projects have the local support they need to survive.



Find out more
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