

# ENHANCING BRISTOL'S ECOLOGICAL NETWORK

## Overview

In February 2020, Bristol became the first city in the UK to declare an ecological emergency. This was followed by publication of the **One City Ecological Emergency Strategy** (OCEES) in September 2020. This strategy underlines the vital importance of the city's wildlife and ecosystems for the wellbeing of its citizens. It also recognises that a radical transformation is needed in the way the city and its surrounding countryside is managed if declines in wildlife are to be reversed and a healthy ecosystem restored for the benefit of both people and wildlife.

## Project brief

Bristol has a **reputation as a progressive city**, particularly with regard to social and environmental issues - it hosts the biennial **Wildscreen Festival**, and is also home to the **The BBC Studios Natural History Unit**. As such, the city aspires to be a leader in spatial planning to enhance ecological network function and resilience.

In March 2021, Ecosulis was commissioned by Bristol City Council to assess the state of ecological network mapping in Bristol, and to provide recommendations for modelling that could analyse the functionality and resilience of Bristol's ecological network. The overall objective of this exercise was to enable the council to move beyond "business as usual" and pioneer new and more effective approaches, thereby benefitting the city's nature and its residents.

## Impact



### Biodiversity

The greening of cities needs to move beyond the mere provision of amenities and ecosystem services to one of providing habitats for native biodiversity. Enhancing Bristol's ecological network will help to address biodiversity decline and support wildlife comeback.



### Habitats

Underpinned by cutting edge technology, next generation ecological network mapping has the potential to extend habitats and connectivity through the development of features such as green roofs and dark corridors.



### People

As part of our report, Ecosulis proposed the establishment of a Bristol Nature Recovery Platform (BNRP), which would see Bristol residents engaged as citizen scientists, helping to create more dynamic models that would accelerate the nature recovery process.

# HOW WE ADDED VALUE

## A Bristol Nature Recovery Portal

Bristol's declaration of a linked climate and ecological emergency, and the publication of the city's One City strategy, signifies the intention and aspiration to embed new values and practices across all aspects of civic life. In line with this ambition, Ecosulis analysed and identified three potential approaches to the enhancement of Bristol's ecological network, these being - "business as usual", "next generation" and "pioneering" (it was made clear that these should not be considered mutually exclusive).

As part of our pioneering approach, we proposed a Bristol Nature Recovery Platform (BNRP) that would simultaneously generate EN maps and guide and empower citizens to take an active role in nature recovery. We engaged two progressive Bristol-based tech companies - **4EI** and **Riskaware** - in developing this innovative and scalable proposition.

The BNRP would enable a transition from static, data-poor ecological network maps to dynamic, data-rich ecological network models. It would engage Bristolians in meaningful practices of digital citizen science, engage and support Bristol's technology sector, integrate ecological network mapping within the city's cultural fabric, and help to attract innovation funding and investment.

## Next generation mapping

Standard approaches to EN mapping are now being extended with a suite of "add-ons" arising from advances in ecological science, the availability of new data feeds (notably LiDAR), and the rise of green architecture (i.e. green roofs). The Ecosulis report outlined how these three "next generation" approaches represent opportunities for Bristol to innovate beyond established EN mapping techniques.

## Post-normal design workshop

Ecosulis convened an interdisciplinary post-normal online design workshop involving ecological network mapping specialists and specialists in urban planning and environmental modelling and remote sensing. The idea of the workshop was to facilitate development of the "pioneering" approach to mapping and analysing Bristol's ecological networks. Spanning two sessions, it explored cutting-edge datasets and modelling approaches that are not currently applied within ecological network mapping and may offer potential advantages over current techniques.