

## **Biodiversity Challenge Awards 2025**

### *Network for Nature* **National Highways and the Royal Society of Wildlife Trusts**

National  
*New build*

#### **Entry 36**

**Award category:**

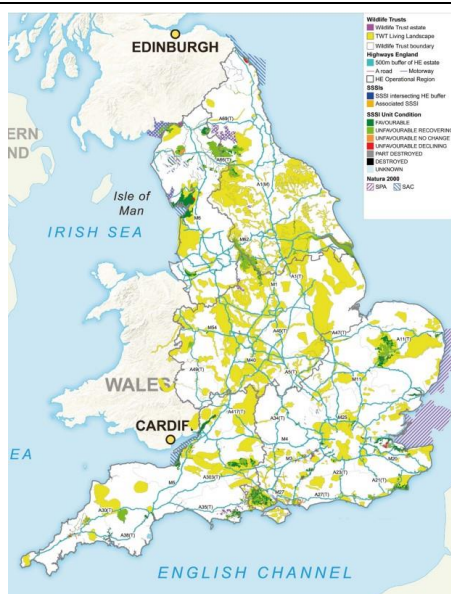
6. Biodiversity Feature Award: Infrastructure Networks

#### **1. Project overview:**

National Highways partnered with the Royal Society of Wildlife Trusts to deliver a nationwide Network for Nature (N4N), to enhance habitats benefiting people, nature, and wildlife.

N4N delivered measurable gains for biodiversity above and beyond business-as-usual compliance, legislation or mitigation obligations; connecting, creating, restoring and enhancing a range of habitats. This has helped reverse historic habitat fragmentation, and degradation linked to roads in over 46 locations across England.

This landscape-scale project reflects a proactive approach to nature recovery, driven by a national partnership and implemented with local expertise, enhancing habitats such as grasslands, wetlands, peatlands, woodlands and riparian zones.



Output of National Highways and the Royal Society of Wildlife Trusts Mapping Exercise  
(credit: the Royal Society of Wildlife Trusts)

Volunteers seeding Chalk Grassland at  
N4N20 “J10 Chalk Grassland Restoration”  
(credit: the Royal Society of Wildlife Trusts)

2. Please provide an explanation of the planning stages and how this project was set up for success.

The project's vision was to enhance habitats across every National Highways region, achieving a network for nature and measurable gain for biodiversity, whilst enhancing natural connectivity within the UK landscape. This supports the Government's commitment to nature recovery and other drivers including:

- The Lawton Review
- The 25-Year Environment Plan's target of developing a Nature Recovery Network and restoring 500,000ha of habitats

This project's 46 locations were identified through an iterative design and review process, from concept and feasibility through to design and implementation.

During concept development, the Wildlife Trusts' estate was mapped alongside the Strategic Road Network (SRN) to identify sites which:

- Were highly sensitive to the SRN due to proximity and presence of designations, and/or
- Were most impacted by the SRN from factors such as pollution or fragmentation, and/or
- Presented opportunities for enhancement, protection and mitigation, and
- Promoted a nature recovery network.

An output map for areas which met these criteria was created and combined with ground-based knowledge of local experts to produce a portfolio of locations.

This project was an 'above and beyond' enhancement and not associated with any direct impacts or losses that required avoiding or minimising through the mitigation hierarchy. Instead, this project compensated for historic impacts from the SRN and mitigated against ongoing natural degradation of habitats.

Stakeholder, landowner, and community engagement was key to this project's success. It engaged with over 24 local Wildlife Trusts and 280 other organisations from landowners to schools.

Site N4N20 was located on Southern Water land over which the local Wildlife Trust has a grazing licence. Early buy-in from Southern Water was key to restoring chalk grassland in this largely degraded and abandoned area. Design and management of this site was also required to be in line with the wider National Parks Landscape plan of working towards nature recovery and enhancing an area of nature for all.

Monthly collaborative meetings were held to review progress and highlight risks. This included instances where additional assessments were identified, such as at a wildflower restoration site in Cumbria where a priority fungi species led to management interventions being reconsidered. Additionally, a pond located in a Shropshire site was identified as better condition than originally anticipated and was therefore descoped. This ensured funding was spent at sites where it would have the greatest benefit for nature.

### **3. Please provide an explanation of what has been delivered as a result of the project.**

A range of habitat types were enhanced, including calcareous grassland, acid grassland, heathland, woodland, wetland and lowland bog. Multiple rivers and ponds were also restored and improved.

All interventions were recorded within the Defra Biodiversity metric version 2.0 (the version used by National Highways from 2020-2025) and changes were checked by Ecologists and Biodiversity Specialists from the Wildlife Trusts, National Highways and Jacobs to ensure they were technically sound.

Across the 46 sites this project delivered:

- 3,687.96 biodiversity units
- 169ha habitat creation
- 1,204ha habitat restoration
- 142ha peatland improvement
- 35km waterway restoration and improvement
- 12km hedgerows planting and management
- Creation and management of 129 ponds
- 13,733 trees planted

Other benefits include:

- Improved condition of 30 SSSI sites
- The writing of 7 ecology research papers
- £31k invested into visitor infrastructure (e.g. bird hides, interpretation boards)
- Training of 288 volunteers and National Highways staff (e.g. in specialist pollinator surveys)
- Identification of a Dormouse Bridge site (to be installed)
- Sequestration of over 1,200 tonnes of CO<sub>2</sub> per year from restoring peatland habitats (e.g. natural/rewetted fen and bog).

Opportunities to boost resilience to extreme weather events were also identified, including:

- Site N4N54, Chobham Common, which regularly suffers from wildfires. When habitat condition here was improved, the fire resilience was also improved through

scrub clearance. Fire breaks were also created to reduce the immediate threat of fire and smoke to the surroundings.

- Site N4N40, West Yorkshire, which has historic issues with Japanese knotweed within its riparian habitats. This was removed alongside clearance, management and restoration works on a 28km stretch of river to improve bank stability and resilience to flooding.



Before: Creation of wetland scrapes at N4N7 “The Lugg Living Landscape” (credit: the Royal Society of Wildlife Trusts)



After: Creation of wetland scrapes at N4N7 “The Lugg Living Landscape” (credit: the Royal Society of Wildlife Trusts)

#### 4. Please provide an explanation of how on-going benefits are being monitored and maintained.

Field surveys were undertaken for each site in this project to identify the baselines. Some sites also used specialist surveying and monitoring methods such as Site N4N4 in the Manchester Mosses SAC where monitoring equipment was installed within and adjacent to restoration works. This allowed changes in water table, vegetation and greenhouse gasses to be monitored to determine the success of restoration works to rehydrate and protect the peat soils and reverse degradation of the bogs from historic poor management. This has evidenced that water levels are now higher, and bog species have started to spread

From concept stage, National Highways prescribed that long-term maintenance was required. Each site had to demonstrate how it would be managed for 30 years through a bespoke management plan outlining the objectives and vision for the site and the management and monitoring prescriptions. All plans contain:

- An annual management programme of yearly works, such as managing scrub encroachment between September to March and undertaking species and botanical surveys from May to July.
- A long-term management programme of which of the yearly works will be undertaken and reported each year for the next 30 years, such as condition



assessments occurring every year for the first 10 years and then every two years for the subsequent 20 years.

- A monitoring table for indicators of success ensuring changes in condition can be rated (green = okay for that habitat, amber = an early warning of increased negative indicators, red = action needed to target specific indicators and maintain the condition).

This approach ensures there is a clear plan in place to ensure the habitats can be maintained in their desired condition.

Volunteering was integral for the N4N project, inspiring communities and enabling users to connect with and value wildlife, such as:

- N4N28 where Cumbria Wildlife Trust created pollinator habitat by engaging nearby communities in wildflower plug planting into meadows and training them to identify and survey insects

This project involved 797 volunteers and 99% of respondents to a volunteer survey reported the activity had impacted their well-being 'positively' or 'very positively'.



National Highways volunteers plug planting at N4N4 “Improving Connectivity and Biodiversity of the Manchester Mosses SAC” (credit: the Royal Society of Wildlife Trusts)



Scrub clearance at N4N54 “Improving Fire Resilience and Habitat Condition at Chobham Common” as part of fire resilience and heathland restoration works (credit: the Royal Society of Wildlife Trusts)