

Potteric Carr Habitat Connectivity M18 Doncaster South Yorkshire

A-one+

BIG Biodiversity Challenge Award category: Maintenance & Management Award

Project overview

The natural environment and the necessity for transportation can have conflicting values. The Potteric Carr Habitat Connectivity project balances these conflicts by blurring the boundaries of the post and rail fence, providing an enhanced biodiversity corridor by marrying together the diametrically opposed tranquil wetland habitat with the noise and movement of an arterial motorway through South Yorkshire.

The Potteric Carr project represented a unique opportunity to manage the highway soft estate to achieve tangible biodiversity benefits. Collaboration with YWT enabled specific woodland and grassland management techniques to be introduced over 4.35ha of the highway soft estate, contributing biodiversity gain to this green transport corridor.

What were the biodiversity conditions on site, prior to the enhancement?

The site was a typical motorway embankment consisting of an overgrown ditch, dense woodland patches with rank grassland. Woodland consisted of three main species Pine Ash and Sycamore but was inter mixed with self set Silver Birch.

Were there any specific conditions that led to you carrying out this work?

Currently Highways England is aiming to undertake environmental improvement projects in collaboration with partners to demonstrate actions resulting from the Natural Environment White Paper (NEWP).

The Humberhead Levels Nature Improvement Area (NIA), is part of the predominantly low lying, flat landscape of the 2,000 km² Humberhead Levels National Character Area (NCA), the area offers the best opportunity in England to develop a major multi-functional wetland landscape in a largely unrecognised biodiversity hotspot.



Typical Embankment

What were the biodiversity measures taken?

Potteric Carr is a designated site and represents an extensive wetland mosaic of open water, reedbed, wet grassland and carr habitats, and signifies the largest and most diverse wetland of its type in the county.. The Potteric Carr Habitat Connectivity project delivers against **HE's** specific targets namely:

- Landscape scale biodiversity projects that reduce habitat fragmentation
- Managed woodland areas that are meeting their intended purpose; landscape screening, connectivity or biodiversity

This has been achieved by:

- 1.5ha of woodland thinning, incorporating specific measures to enhance the willow tit habitat. This was achieved by coppicing of silver birch on the soft estate to a height of 1 – 1.5m
- 1800 bare root shrub planting to increase the understorey and species diversity.
- Grassland pockets created and planted with 32,000 wildflower plug plants.
- Creating 1.8km enhanced water vole habitat by clearing drainage ditches.
- Designed to reflect and enhance the **area's** locally distinctive character, including local landscapes and habitats. It also supports specific local priorities and strategies for environmental management.

Material generated from the woodland thinning exercise were either retained on site for the construction of habitat refugia or taken off-site for biomass.



The Potteric Carr habitat connectivity project delivers on three sustainability fronts:

- Environmental – ecosystem services benefits e.g. water vole and willow tit habitat enhancement.
- Social – contribution to a positive visitor experience at Potteric Carr nature reserve.
- Economic – soft estate benefits without compromising the functionality of the motorway network i.e. the scheme has been delivered and will be maintained by access away from the M18, not requiring costly traffic management / causing delays to road users.

How would you best describe the project?

Enhancement

Further information

This project is an exemplar for collaborative working and stakeholder engagement. The key lesson learned from the project is to ensure a sufficient design phase to account for stakeholder input and balancing their competing demands, so that all parties are clear on the outcomes achieved.

For example, due to the risk of disturbance to hibernating reptiles 6,300 wildflower plug plants were planted by YWT volunteers within the nature reserve rather than on Highways England land.

The project demonstrates how the soft estate adjacent to the transport corridor can be used to enhance green infrastructure that delivers biodiversity gain, ecological connectivity, and ecosystem services. This meets the **Government's** commitment to 'green up' the transport corridor, making it a more attractive area for wildlife to thrive and develop.

Potteric Carr will be the catalyst for future construction projects to deliver benefits against Humberhead Levels NIA by embedding sustainability objectives throughout the team and supply chain and encouraging innovation to deliver better sustainability outcomes. The Scheme demonstrates the mutual benefits that can be obtained by looking **'over the fence'** and not treating the soft estate in isolation.

The project mitigates the impact of the surrounding area on Potteric Carr which is bounded by motorway and the railway lines. Embankments now compliment the nature reserve and create corridors for biodiversity to move around the area which enhance the visitor experience, helping to mitigate the impact of the motorway network.



Infill planting on motorway embankment

What was your personal motivation for carrying out the enhancement?

The project **wouldn't** be possible without the enthusiasm and commitment from our employees. As a business it is essential that sustainability becomes embedded in our corporate governance, we shall ensure that sustainability becomes a core part of our staff appraisals, within our monthly team briefings and that we celebrate the successes achieved.