BIODIVERSITY NO NET LOSS
BERKSHIRE, OXFORDSHIRE, WEST OF ENGLAND & SOUTH WALES
NETWORK RAIL

BIG Biodiversity Challenge Award Category: Client

Project overview

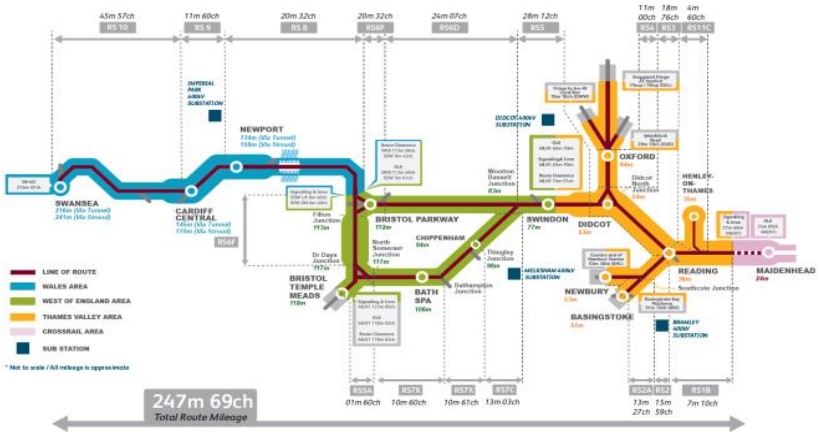
The Greater West Programme (TGWP) includes the electrification of the railway from London to Cardiff, meaning faster, greener and more reliable journeys for thousands of passengers and a quieter, cleaner environment for lineside neighbours. Biodiversity No Net Loss is an initiative, and in our case a voluntary commitment, to leave a long lasting legacy within the local environment and communities.

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

Lineside habitats are generally dominated by common habitat types, typical of neglected land on roadsides and railway corridors, including young semi-natural woodland that is secondary in origin, as well as some scrub. The vegetation clearance required to install the foundations, masts and wires that form part of the electrification system resulted in a change in the composition of the habitats along the railway. Woody vegetation within 3.5m of the overhead line was removed in order to prevent damages and delays from falling trees and branches, allowing low-lying vegetation to regrow and maintaining a 'green corridor' as a result.

What were the reasons behind this project ?

In 2013 Network Rail published its Sustainable Development Strategy based on its vision of a railway fit for the future and set a strategic output objective to "manage our land sustainably, enhancing its ecological diversity, and increasing its economic and social value".



In 2014 Network Rail Infrastructure Projects (IP) committed to "a measurable net positive contribution to biodiversity in the UK" and The Greater West Programme committed, as a pilot project, to achieve No Net Loss (NNL) of biodiversity for its electrification programme. This is a voluntary commitment, not bound to any planning obligations or client requirements.

What were the biodiversity measures taken?

A calculation of biodiversity units before and after vegetation clearance was undertaken based on the Department for Environment, Food and Rural Affairs (Defra) methodology and using the ecological information provided by the route-wide Phase 1 habitat surveys commissioned by Network Rail. This study showed that the Programme would not achieve No Net Loss without further interventions due to the limited opportunity to replant woodland along the operational railway. The Biodiversity No Net Loss initiative was then launched aiming to identify, develop and deliver scrub woodland mosaic habitats planting and enhancement projects.

The first stage of the process has been to actively engage with local stakeholders in order to discuss our approach and identify potential offset projects (Stage 1). We then contracted independent and reputable organisations to help us assess, and select projects that would deliver the best outcome to biodiversity through our funding (Stage 2): The Trust for Oxfordshire's Environment covering Oxfordshire and Berkshire and The Wildlife Trusts Services Ltd covering Wiltshire, the West of England (South Gloucestershire, BaNES and Bristol) and South Wales.

So far 6 offset projects have been selected for funding, representing 7ha of woodland planting, 58ha of existing woodland enhancement, as well as elements of pond restoration, wildflower meadow creation, grassland preservation and scrub planting. One of these projects has already started on the ground, with 26,000 trees (including box, juniper and yew) being planted by trained volunteers in the Chilterns AONB to restore box woodland, a rare native habitat with only three formally recognised as such in the UK. Another 13 projects are currently going through Stage 2 which, if successful, would deliver No Net Loss, and potentially Net Gain (if budget allows).

Yew woodland with poor understorey, Wormlsey Estate, June 2018

Box tree sapling, Wormlsey Estate, June 2018

Areas of newly planted trees, Wormsley Estate, June 2018

Further information

In order to achieve its objective, The Greater West Programme is applying the Mitigation Hierarchy by avoiding and minimising impacts on biodiversity where possible, restoring and rehabilitating impacts on-site and compensating for any unavoidable impacts off site as a last resort (also known as Biodiversity Offsetting).

Network Rail IP's approach to Net Positive is based on good practice principles of biodiversity offsetting because these provide a robust and challenging framework to achieve development with long-lasting net positive outcomes for nature conservation. These good practice principles have been developed by the Business and Biodiversity Offset Programme (BBOP), and by the UK government's Department for Environment, Food and Rural Affairs (Defra) for its national pilot test on biodiversity offsetting.

As a pilot project The Greater West Programme is leading the way in the rail industry to become the first Network Rail project of this scale to deliver Biodiversity No Net Loss. As there isn't an existing set of Network Rail processes and procedures The Greater West Programme had to develop everything from scratch from the stakeholders' engagement process to the funding and procurement mechanisms. It also assisted in developing and trialling a Biodiversity Calculator based on the Defra metric and rolled it out through its supply chain.

Project Team

- Network Rail (Client)
- The Wildlife Trust & Trust for Oxfordshire Environment (Delivery Partners)

FIGURE 1: THE MITIGATION HIERARCHY

The three-step process of the mitigation hierarchy – avoid impacts, minimize impacts (including restoration on-site and other actions), and provide offsets for remaining unavoidable impacts (also often referred to as compensatory mitigation) – may be applied to achieve policy goals for biodiversity, ecosystem services, or other resources and values.

Source: Achieving Conservation And Development, The Nature Conservancy, April 2015

What was the motivation for carrying out the enhancement?

Biodiversity No Net Loss was introduced as Guiding Principle within The Greater West Programme Sustainability Strategy in order to 'Halt the loss of biodiversity within the railway landscape' by measuring its impact on biodiversity using the DEFRA metric, applying the mitigation hierarchy and delivering biodiversity projects off site as a last resort.

With this challenging and trailblazing initiative, the Programme has committed to a complex and innovative approach to biodiversity restoration with the objective to make a real difference and deliver long lasting benefits for both nature and local communities whilst defining and setting out the processes to make it replicable across the rail industry.