

**East West Railway Phase 2 – Ecological Compensation Site Mitigation
Bicester, Oxfordshire to Bletchley, Buckinghamshire
East West Rail Alliance on behalf of Network Rail**

**BIG Biodiversity Challenge Award Category: *Habitat Creation: Project of the Year AWARD*
(> 5ha and above)**

Project overview

East West Rail Phase 2 Ecological Compensation Site project is the habitat and protected species mitigation programme facilitating the installation 37km of railway connecting Bicester and Bletchley which is associated with the overall plan to reopen the mothballed Oxford to Cambridge railway line.

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

Naturally established habitats and species had colonised the mothballed railway. Where vegetation clearance was unavoidable, these losses were offset by advanced creation of Ecological Compensation Sites (ECS). Twenty locations along the route were established, two years in advance of construction works. Previously agricultural land (predominately arable) was transformed into high quality habitat/receptor sites for the fauna and flora whilst remaining connected to the railway and existing landscape. The creation of these sites, which total over 100ha in size, prior to the granting of the Transport Work Act Order, demonstrates the commitment to enhance the biodiversity along the route.

What were the reasons behind this project ?

Recognising the ecological scale of the project and the opportunity to do something different, East West Rail Alliance (EWRA) collaborated with stakeholders to develop a forward-thinking, strategic approach to environmental mitigation. Alongside the requirement to mitigate for the loss of habitats associated with protected species, the EWRA made a commitment, through the Transport Work Act Order (TWAO), for the scheme to deliver 10% Biodiversity Net Gain. This commitment was written into the Conditions of the TWAO making East West Rail Phase 2 the first major rail infrastructure project to be committed to deliver biodiversity net gains.



One of the ponds within our ECS



View across one of our large ECS



What were the biodiversity measures taken? Critical to the development of the Ecological Compensation Sites (ECS) was sharing of information between stakeholders. To do this the Alliance developed a web-based GIS system enabling access to project data whilst providing a detailed understanding of the ecological baseline, risk and mitigation. This allowed the Alliance to develop an approved licensing strategy that included:

- Acquiring land prior to TWAO approval and securing 30-year leases to create and protect ECSs
- Management agreements for 30 years
- Implementing underutilised NE policies
- A dedicated Natural England officer embedded in the project team

This route-wide approach to protected species mitigation realised significant benefits, including:

- Less reliance on traditional translocation effort
- Significantly less fencing (single-use plastic)
- Reduced mitigation programme
- Achieving an improved/neutral impact on great crested newts (GCN) in year 1
- Creating more and better-quality habitats
- Flexible licences that allow immediate site action without amendments
- Improving communication and understanding of Natural England licensing teams, resulting in timely licence determination

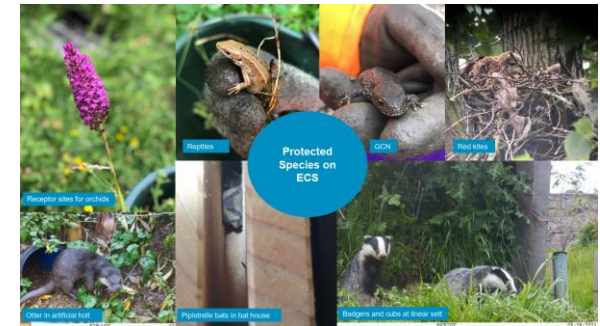
Innovations included:

- Deploying new search methods, including GCN detection dogs
- Linear badger setts in optimal locations, resulting in 100% occupation (70% breeding in year 1) and reduced risk of bTB outbreak
- Transplanting Black Poplar cuttings

This approach resulted in the creation of more, enhanced habitats, maintaining favourable conservation status whilst maximising value for money for the UK taxpayer. In total over 100ha of land has been transformed into ECS, (which include 64 ponds, 17 artificial badger setts, a bat house, over 70 bat boxes and the planting of 150,000 scrub plants and trees) with excess material from the project used to help landscape the areas. These ECS habitats then connect with the lineside vegetation to create a wildlife corridor along which animals can move but also tie into the overarching strategies of Buckinghamshire and Milton Keynes Biodiversity Opportunity Areas.



Swanbourne Bat Structure sat in an ECS, adjacent to mature woodland:



Protected Species present on ECS:



Further information

All of the ECS were created prior to the commencement of work on site, so that they could be utilised as receptor sites for protected species translocation. Monitoring of the ECS habitats has occurred throughout construction, to ensure the habitats are establishing in line with the 30-year management plans. Additional protected species monitoring in the ponds has confirmed that 14 of the 17 ECS with ponds contain GCN and that 100% of our 17 artificial badger setts are occupied. Annual bat surveys of the scheme have shown that there are at least 12 species of bat which utilise ECS and that the artificial bat structure present in one of the ECS has been used for roosting within the first year of construction.

Monitoring and adaptive management of the ECS habitats continues for 30 years to ensure that the 10% Biodiversity Net Gain objective is achieved and that the habitats provide long term refuges for protected species impacted by the scheme. So far targets are being met and we are on track to achieve our BNG commitments alongside our protected species obligations. Beyond the creation of new habitats, many of the ECSs include public rights of way and, whilst protecting sensitive ecological features, enable access to diverse landscapes, creating wellbeing benefits.

As the project progressed, we have learnt and adapted our approach, with more recent ECS construction working with existing habitats more; adding additional features which tie in with the topography, ground conditions and botanical diversity of the sites.

Project Team/What was the motivation for carrying out the enhancement?

Network Rail (NR), the Client, have been instrumental in ensuring that the mitigation for the EWR2 scheme was incorporated into the design from the very outset. The NR support to advance the ECS creation goes beyond that of a normal scheme and has ensured functioning, meaningful mitigation is already present within the scheme before a train is even run. Furthermore, their commitment for EWR2 to be the first major rail infrastructure project to deliver a 10% Biodiversity Net Gain, demonstrates their desire to set a benchmark for the rail industry, and others, to follow in the future.

Station Road Ecological Compensation Site

East West Rail
This is a 100% Biodiversity Net Gain scheme for the new East West Rail line through the Station Road area of Bicester. The Station Road Ecological Compensation Site (ECS) is a 100% Biodiversity Net Gain scheme for the new East West Rail line through the Station Road area of Bicester. The ECS is a 100% Biodiversity Net Gain scheme for the new East West Rail line through the Station Road area of Bicester.

Wildlife refuges
Wildlife refuges are essential to the success of the ECS. They provide a safe haven for protected species and help to maintain the biodiversity of the site. The refuges are designed to be a mix of habitats, including grassland, woodland, and water features.

The Meadows and ponds
The meadows and ponds are key features of the ECS. They provide a habitat for a wide range of species, including butterflies, bees, and birds. The meadows are managed to be a mix of habitats, including grassland, woodland, and water features.

Great Crested Newts
Great Crested Newts are a protected species that are found in the ECS. They are a key indicator of water quality and are an important part of the local ecosystem. The ECS provides a suitable habitat for Great Crested Newts and helps to maintain their population.

EWR Alliance

Example ECS public engagement board

The public engagement board shows the location of the ECS along the rail line between Bicester and Bletchley. It includes a map of the area with several inset photos showing the different habitats and features of the ECS, such as meadows, ponds, and woodlands. The board also includes information about the ECS and how it will be managed over the 30-year period.

EWR Alliance

ECS are located right across the scheme from Bicester to Bletchley