

M6 J16 – J19 SMART MOTORWAY ALL LANES RUNNING
M6 J16 – J19 CHESHIRE
KIER WORKING OF BEHALF OF HIGHWAYS ENGLAND

BIG Biodiversity Challenge Award Category: Medium - Large

Project overview

Oakhanger Moss is an important wetland site and is designated as both a SSSI and a RAMSAR site. It is privately owned and little known in the local community. It lacks a volunteer group to support its upkeep and maintenance.

Kier are working on the M6 in Cheshire and is aware of the site due to it being directly connected to the motorway drainage network.

As part of Kier's approach to improving biodiversity, the environmental team agreed a programme of support with Natural England with a view to improving the conservation status of the site.

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

The conservation status of the site was listed as 'unfavourable declining' by Natural England. Two key factors affect the site condition. Encroachment of invasive species especially Himalayan Balsam and the growth of successional tree and scrub species are out competing key wetland flora and is leading to accelerated loss of water from the site by transpiration. Water management is also leading to the site being too dry during parts of the year and at other times being inundated by nutrient rich water both of which threaten key wetland flora which are dependent on nutrient poor rain water.

The condition of the wetland area within prior to volunteering activities which was listed as unfavourable declining



Volunteers from the project with Natural England's Lead Advisor staff during Himalayan Balsam removal



What were the reasons behind this project ?

The project management wanted to ensure the project had a positive impact on the environment and the local community. During the identification of environmental constraints it was identified that the condition of the SSSI was poor. Whilst the project was not anticipating any negative impacts, it commenced discussions with Natural England to explore how the project could benefit the SSSI and the opportunities to improve its conservation status. What was agreed was that the project would provide a programme of activities over a period of time, a new way of partnering between industry and Natural England.

What were the biodiversity measures taken?

Clearance of Himalayan Balsam, drainage improvements and a mass scrub clearance were agreed with Natural England as the most beneficial interventions.

Himalayan Balsam was preventing key wetland species from flourishing. A volunteer group from the project departments and Natural England cleared approximately 10,000m² in June 2017, pulling, breaking and leaving the dead Himalayan balsam in situ to decay. The selected area was key in preventing the spread of the invasive species onto the valuable fen and bog areas and was close to a public footpath allowing members of the public to engage in positive conversations about the site and its conservation.



Project volunteer and Natural England Hydrologist stanking the drainage ditches to control water levels in the bog

What were the biodiversity measures taken? Continued

Land drainage ditches were causing excessive drying during the summer and were conveying nutrient rich water to sensitive wetland areas during the winter. This compromised key wetland indicator plant species which are crucial to the long term health of the SSSI. Stanking of the drainage ditches provided an effective maintenance free solution to controlling water levels in the bog habitat. Under the supervision of Natural England's hydrologist, peat was won from site and compacted to create 5 new bunds. It was reported just a few weeks later that the bunds were already having a positive impact.

The project's construction and engineering apprentices provided significant manpower to undertake a mass scrub clearance of the bog habitat area. The scrub was contributing to excessive water loss and nutrient enrichment through leaf fall. After clearing approximately 5000m² of the site using loppers and hand held saws, the visual impact was immediate. It is hoped that overtime Sphagnum moss and Cranberries will flourish in areas where they have previously struggled.

Further information

The volunteering activities have been positively received by both the project, Kier Group and Natural England. Natural England reported that the working relationship and platform created to educate future generations, within the construction industry, was an exceptional experience for both parties.

Natural England's Lead Advisor for Urban and Wetlands stated that "This is the first time in a long time that I have seen the site looking so good. The impact that these focused efforts from Kier have had on this site is outstanding, I am in shock – we alone could not have achieved this."



Construction and engineering apprentices undertaking scrub clearance of the bog

Further information continued

With the work on M6 J16-19 drawing towards a close, a sister project on the M6 will take over the continuation of volunteer activities at Oakhanger Moss to build on the successes already achieved.

It is hoped that the approach undertaken at Oakhanger Moss will be the catalyst to promote future partnerships with Natural England across all Smart motorway schemes throughout the country benefitting other “less loved” SSSI sites.

Project Team

- Kier working of behalf of Highways England
- Volunteers from Kier and Natural England

What was the motivation for carrying out the enhancement?

The Project Environmental Manager realised that the SSSI site needed help to improve its conservation status and that the project was likely to have a range of relevant resources available that could make a real difference. The proximity of the SSSI to the project presented a key opportunity to create a positive relationship with Natural England. It allowed a range of project team members to be educated by specialists in an area which they would not ordinarily be exposed to in their working environment and to be involved in securing the long term future of a very special site.



Project volunteers with Natural England during the Himalayan Balsam clearance



The wetland area immediately after the scrub clearance