



**the BIG
Biodiversity
Challenge**
do one thing

**Tarmac Crown Farm Quarry
Oakmere, Cheshire, England
Atkins Tarmac**

BIG Biodiversity Challenge Award Category: *Biodiversity Legacy Award*

Project overview

Atkins/Tarmac have implemented habitat enhancement, above and beyond planning requirements, at Tarmac Crown Farm Quarry (TCFQ) since 2003. These habitat enhancements demonstrate a long-term commitment to improving biodiversity at the site. Monitoring impacts of intervention (and non-intervention, i.e. re-wilding) has taken place over a 19 year period.

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

Prior to mineral extraction at TCFQ the site mainly comprised arable land of low ecological value. During the mineral extraction phase at the site the arable land was removed and mineral extraction has created a number of waterbodies throughout the site and large vertical sand faces. Parts of the site have been restored and now contain species rich grassland and parts of the site have been left to re-wild naturally and now contain a diverse mosaic of scrub, birch woodland and short ephemeral vegetation, including a regionally important population of small cudweed (listed as 'near threatened' on the England Red List).

What were the reasons behind this project ?

Atkins and Tarmac strived to ensure that TCFQ is accessible to a range of flora and fauna during and following the mineral extraction phase of the work. The restoration work at the site is undertaken to discharge planning conditions but the habitats retained, enhanced or allowed to re-wild through natural processes are measures taken above and beyond the planning conditions. These measures are taken to achieve a lasting biodiversity legacy at the site by enabling a wide range of species to utilise a range of enhanced or naturally developing habitats during and following mineral extraction.



One of many woodland and wetland areas at TCFQ which has been left to re-wild



A bee orchid, one of many different orchid species thriving at TCFQ

What were the biodiversity measures taken?

A number of habitats created by mineral extraction, such as waterbodies and large areas of bare sand have been allowed to rewild, and this natural process has enabled a wide variety of flora and fauna species to utilise a range of developing habitats, including a large population of the near threatened small cudweed which is considered to be regionally important.

Direct restoration and enhancement alongside the active quarry has also led to huge biodiversity gains at the site in terms of habitats and species present, including a rich diversity of pollinators such as solitary bees and specialist grassland butterflies. Waterbodies created by mineral extraction have been left to establish naturally and additional waterbodies have been created specifically to allow for biodiversity gains as this has led to a huge increase in the great crested newt and grass snake population at the site which are both now considered to be regionally important populations.

A wide variety of bat and bird species forage over the habitats restored, enhanced or rewilded at the site and in the active part of the quarry a number of vertical sand faces are left undisturbed each year for sand martins to utilise for nesting.

One area of the restored and rewilded quarry has been handed to the Cheshire Wildlife Trust to manage as a nature reserve and Tarmac have developed a 'discovery centre' at the site which allows people to engage with nature. The work undertaken at TCFQ is a fantastic example of the biodiversity legacy that can be achieved through pioneering rewilding work, habitat restoration and enhancement work along with collaboration with ecologists and the local community. The work here is also replicable.



The grass snake population at TCFQ has expanded and increased at a significant scale



Reed buntings are one of many bird species that nest at TCFQ

Further information

The site has been restored, enhanced or rewilded in stages alongside ongoing mineral extraction. Once an area has been worked and minerals have been extracted the land will either be restored or allowed to rewild naturally depending on the final restoration requirements within the planning permission. Monthly ecological site visits are undertaken by Atkins at the site and great crested newt population monitoring takes place every other year. The ecological site visits over a total of 19 years have recorded a steady increase in the diversity of species utilising the site and the fauna and flora assemblages have increased and diversified hugely over the last 19 years. TCFQ is a fantastic example of how a biodiversity legacy can be achieved by using staged restoration, enhancement and rewilding techniques. The collaboration with Cheshire Wildlife Trust which has allowed a 17ha part of the TCFQ site to become a nature reserve, to benefit biodiversity but also to allow people to engage with nature, further demonstrates the positive outcomes that have been achieved.

Project Team

- Atkins/Tarmac
- Cheshire Wildlife Trust

What was the motivation for carrying out the enhancement?

Tarmac and Atkins had a clear vision to ensure that mineral extraction at TCFQ would leave a lasting biodiversity legacy. Restoration, enhancement and pioneering work into rewilding has helped to achieve this vision, and collaboration with the Cheshire Wildlife Trust has enabled people to visit the nature reserve to connect with nature which brings social and wellbeing benefits alongside biodiversity gains.



The great crested newt population at TCFQ has grown from a small population to a regionally important large population



A wide range of bat species are present at TCFQ, the woodland and waterbodies within the site provide excellent foraging areas