

**Turning A Roads into Bee Routes**  
**A38 Devon - Ivybridge to Ashburton**  
Highways England / Kier / ATM

**BIG Biodiversity Challenge Award Category: *Pollinator Award***

**Project overview**

Species rich grassland creation. Based on targeted sites surveys, detailed habitat connectivity modelling, practicality and value for money, an area of 5.9 hectares of roadside verges were selected and enhanced by the planting of bespoke wildflower seed mixes in along the A38 in Devon.

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

Low botanical diversity was one of the main selection criteria in selecting sites to be enhanced, which were identified following targeted botanical surveys. The sites included large areas of rank grasslands, tall ruderals and bramble scrub with little variation on structure and plant species. To provide baseline data on pollinating species and general invertebrate diversity, a detailed survey was carried out prior to the intervention. Both botanical and invertebrate surveys were designed in a way that they can be easily repeated at the sites and future results compared to assess changes in plant assemblage and impacts on invertebrate diversity.

**What were the reasons behind this project ?**

This project is a culmination of years of experience of the project team, careful planning and the use of detailed modelling techniques. It aimed to bring biodiversity benefits at a local and landscape scale whilst contributing to Highways England’s Biodiversity Plan vision to maximise the ecological value of existing grassland habitats by expanding the area of existing species rich grassland and to help achieve objectives set out by the National Pollinator Strategy. The project aimed to increase habitat connectivity by linking species rich grasslands, sustain and increase pollinator populations and other invertebrates and increase resilience of our terrestrial wildlife for the long term.



*Site 10 before enhancement in spring 2018*



*Site 10 before enhancement in spring 2018*

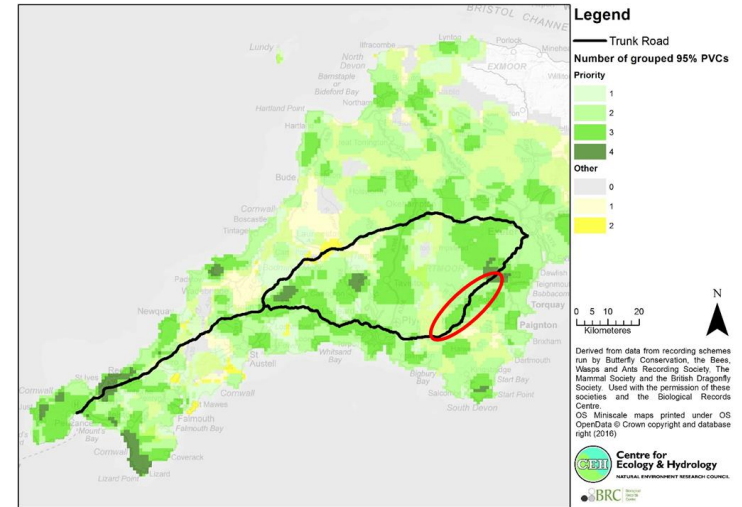
## What were the biodiversity measures taken?

The idea of unlocking the biodiversity potential of roadside verges has been in the spotlight for many years and is the subject of much needed research. Some roadside verges are extremely diverse often providing the only link to previous landscapes, but the clear majority are relatively species poor, dominated by vigorous grasses and invasive weeds. Challenges to increase biodiversity at these sites, such as those selected for this project, include reduced nutrients levels in soils, control invasive species, the establishment a diverse multi-structured grassland community and ensure specific long-term management. Roadside grasslands restored during this project were chosen using GIS models which probably favoured their location in relation to the existing species rich grassland present on the A38 and the South Devon B-Lines Project – an initiative led by Buglife and South Devon Area AONB that have been creating and restoring a network of interlinked wildflower-rich areas across South Devon, connecting Dartmoor to the coast, and linking our towns and urban areas to the countryside.

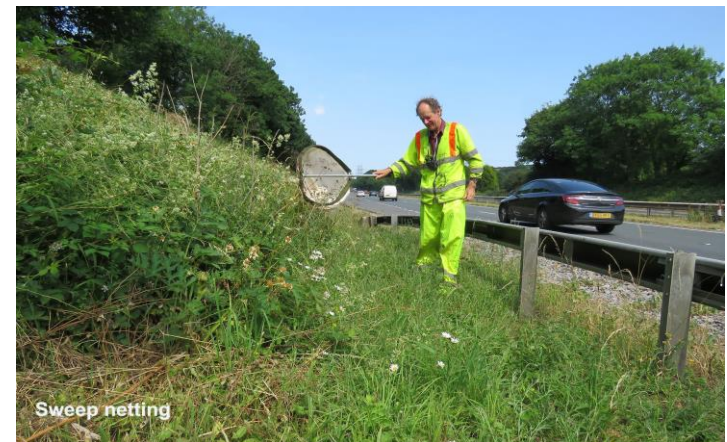
The enhancement of the grassland can be instantly detected from photography and is much easier on site as the establishment of the new diverse sward is evident. Annual plants such as corn marigold, poppy, corn cockle and camomile contribute to the tall, striking colourful display whilst other perennial species including betony, red clover, yellow rattle, bird’s foot trefoil, vetches and violets are seen closer to the ground. The new grasslands transcribe Highways England’s commitments with the National Pollinator Strategy objectives into reality and has received the support stakeholders including Plantlife, Wildlife Trusts and Buglife.

The long-term management of the newly created sites will fall under our exiting Grassland Management Programme (GMP) which was designed to ensure a structured and costed programme is delivered each year, enabling biodiversity and landscape management commitments to be met, and providing best value for money.

Figure 2: Map showing overlain 95% PVCs (Percentage Value Contours) for each 1km cell for four priority groups (butterflies, bees, mammals and moths; green shading). Two broader groups (all butterflies and all bumblebees) are shown where no priority group PVCs are present (yellow shading).



GIS model used as tool to identify locations for habitat restoration



Sweep netting: a job on the verge. Collecting pollinators and invertebrate baseline data

### Further information

The challenge of this scheme was to make it as simple as possible so that it can be easily replicated by road authorities anywhere in the country using standard roadside grass cutting machinery. The first step is to ensure the areas to be enhanced are clear of injurious such thistles and docks as well as to control bramble and other scrub. This was followed by a full grass cut as close to the ground as possible and arisings removed. Depending on the site, a further chemical treatment can be undertaken to tackle any regrowth/regeneration. Once the site was cut and weed free, a minimum of 70% of bare ground was created by using a machine mounted grass flail on a very low setting to open up existing sward. This method of soil preparation created a tilt of about 5cm deep which was ready to receive the wildflower seeds of local provenance that were broadcasted by hand. Once the seeds were on the ground they were lightly rolled to ensure good contact between seeds and soil and improve the ratio of germination. Weed/scrub treatment in the following spring is advisable if required and future 'cut and collect' late summer is a must to get best results and ensure long term viability of the newly created habitat. Less than a year later the new grasslands are already buzzing with pollinators and is showing potential to become a new tourist attraction in South Devon!

### Project Team

The scheme was delivered by Highways England as an Environment Designated Fund Project with the help of their contractors Kier Highways and ATM Ltd.

#### **What was the motivation for carrying out the enhancement?**

The Highways England team in the Southwest Region is proud of their grassland management (described by The Guardian as the best verges in the country a few years ago). Keeping this status and its associated benefits to biodiversity will always be a challenge, but we are up for it.



*Ground preparation at one of the roadside sites*



*This scheme produced kilometres of flower rich habitat along on of the busiest routes in Devon boosting biodiversity and increasing visual interest that attracted media and public interest.*