Road Verge Management Guidance – Case Study

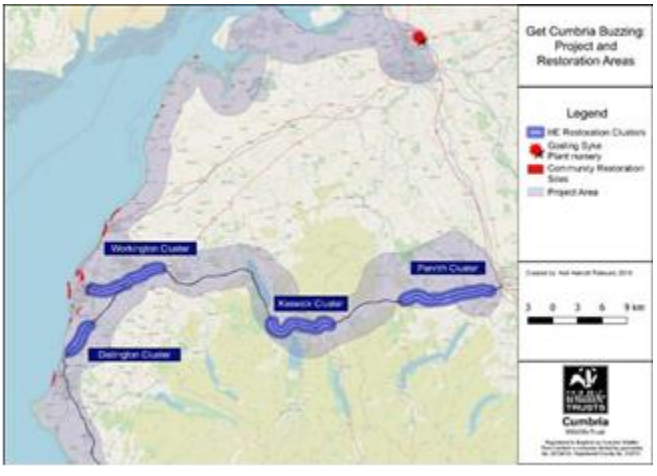
Creating Pollinator Pathways Across North West Cumbria

Developed by Cumbria Local Nature Partnership, and delivered by Cumbria Wildlife Trust (CWT) and partners, 'Get Cumbria Buzzing!' is an ambitious and innovative 3-year project (2019- 2022). It aims to create 115 hectares of wildflower rich habitat for pollinators at over 62 sites in Cumbria, linking natural environments and green spaces together, creating stepping stones for pollinators to travel between, take shelter within and feed from.

Funded through The National Lottery Heritage Fund and Highways England (Environmental Designated Fund), the project area includes parts of the A595 and A66 Strategic Road Network managed by Highways England, which is part of the B-Line pollinator network. The map opposite highlights the project area.

Researched and mapped by one of our project partners, Buglife, B-Lines are a series of 'best fit' pathways that run through our towns and countryside which have the potential to link fragmented habitats. B-Lines often follow existing transport corridors such as rail and road, that can provide deep grass verges and undisturbed areas that occur 'off network' i.e. the other side of a road embankment or cutting.

In Cumbria, high ground provides a significant obstacle to dispersion, so pollinators are often forced to share the same space with the road network in the valley bottoms and along the coastal plain. These areas can provide vital habitat corridors if natural resources allow.



Following on from the success of the Green Transport Corridors Project Pilot (GTCPP) undertaken in 2015-2017 (Natural England, Highways England, Cumbria Wildlife Trust and Network Rail) the ambition of 'Get Cumbria Buzzing!' project aims to go 'above and beyond' this to instigate site-specific management of species rich grassland verges and other habitat to support pollinator species.

In 2018, a feasibility study was undertaken to assess the potential and cost for a pollinator project in north west Cumbria which was soon to become the 'Get Cumbria Buzzing!' project. Survey methodologies were developed with the aim of providing data that would enable the measurement of 'biodiversity uplift', according to DEFRA requirements. Data and information were gathered to inform site selection and included Highways England EnVis, designated sites data, habitat data, local data, records from Cumbria Biodiversity Data Centre, and soil samples. The data was then adapted and digitised in order to enable analysis.

Using this information and the methodologies developed, a feasibility study was undertaken. In total, 135 Strategic Road Network (SRN) sites were surveyed, and management proposals to increase habitat and forage for pollinators for each site were written up. The proposals included a range of interventions such as creating short flowering lawns, species-rich grassland, sunny banks and glades, and the addition of spring flowering trees such as goat willow. Detailed prescriptions outlined the required intervention, for example the cut and collection of arisings, scarification, seed addition, plug and tree planting within year one (please refer to the treatment key in Appendix I for further information). They also included a list of native northern provenance species to be added for each site.

Robocut 2. Photo courtesy Mark Wakeman, Ground Control.

Working in partnership with Butterfly Conservation, CWT determined key pollinator plants to be included for targeted sites, such as kidney vetch which is vital in supporting populations of the rare and localised small blue butterfly. Future ongoing management was also prescribed for each site.

Prior to developing the prescriptions and interventions, research and consultation was undertaken with a wide range of ecologists, academics, consultants, contractors and other conservation bodies and Wildlife Trusts.

In November 2018 the Get Cumbria Buzzing! Project was awarded £860,000 funding from Highways England, with a further £912,800 awarded from the National Lottery Heritage Fund in April 2019. Since then, CWT have been working closely with Highways England and Ground

Control who have been contracted to undertake the proposed works. A considerable amount of planning and preparation is required to juggle road space, traffic management, machinery and staff.

Specialist machinery has been sourced that can operate in a wide range of terrains including steep embankments, narrow verges, dense rank grassland, and within woodland areas. Equipment such as the Robocut and the Reform have attachments that can be used to remove moss, scarify ground, blow arisings off the verge, and chip wood. Some really innovative pieces of kit have been trialled. Please see the additional Machinery Sheet for further information (Appendix II).

Once the intervention works are completed, ongoing management will be undertaken to maintain the sites. Over the project duration each site will be monitored in order to measure biodiversity uplift, and to ascertain whether additional interventions are needed, for example if subsequent planting needs to take place.

In April 2022, a final report will be written to evaluate the success of the project. It is hoped that not only will the A66 and A595 verges be buzzing with pollinators, they will also provide a colourful ribbon of wildflowers to delight passers-by.

New Holland Boomer 40 Compact tractor and Amazone cut and collect mower. Photo courtesy Mark Wakeman, Ground Control.

Appendix I: 'Get Cumbria Buzzing' West Coast Pollinator Project Treatment Key

Treatment type	Specifications	Purpose
A. Cut and remove arisings	Cut sward to 5-8cm height. Rake of all arisings and remove offsite. Where grass is 3-5cm, cutting is unnecessary. Leave boundary edge uncut (50cm-1m) for overwintering insects.	To create either: **Tiered grassland habitat** to increase diversity & encourage species richness, which includes: *Roadside edge* – safety cut (50cm width only) *Middle of verge* – cut and remove 1/year *Boundary edge* – leave uncut (50cm-1m) Cutting along boundary edge should be carried out in rotation to ensure that the uncut areas do not become rank and lose floral diversity. (Half one year/half the next). **Flowering lawns** to provide pollen and nectar rich forage in areas that are mown more frequently such as sightlines and splays. Seed mixes contain low growing species that flower during the summer months. Ongoing management – cut and remove arisings only between September- March. If sward grows too tall, cut to a height of 10cm and remove arisings.
B. Seeding and plug planting (including bulbs)	**Seeding:** Undertake within 3 days of cutting & removing all arisings. Prepare the ground well by scarifying to expose 50% bare soil, either with a chain harrow, going both up and across the site, or by raking the area. Spread seed evenly at the given rate. Where possible gently roll seed into soil. Be aware of cables/drains. **Plugs:** Plant plugs after seeding has taken place, into moist ground. Plant 5 plugs per square metre, in species groupings of 3-5 plants, spread groupings evenly across site. Dig a hole approximately the same size and depth as the plug and gently insert the plug (possibly teasing out a few roots to help the plug root into the soil). **Bulbs:** Daffodils - plant at a depth of 15cm, 10 bulbs per m2, 5cm apart each. Muscari (grape hyacinthe) - plant at a depth of 8cm deep, 50 bulbs per m2. Crocus - plant at a depth of 8cm, 10 bulbs per m2 spread across site to naturalise. **NOTE: Avoid seeding, plug or bulb planting during extreme drought or heavy rainfall.**	Plugs are recommended to introduce harder to establish target species to grassland & woodland glades.

C. Spot treatment of weeds	Spot treat or weed wipe injurious weeds (do not treat marsh thistle).	Removal of pernicious weeds and injurious weeds, especially in sites close to farmland.
D. Scrub removal – outside bird nesting season	Remove all vegetation and clear ground to enable scarification, planting/or new growth. Remove trees, scrub such as bramble, and self-sets. Treat stumps. Create woodpiles for habitat if in a woodland area.	Removal of encroaching trees & scrub to prevent conversion from grassland to woodland
E. Hedge or small tree cluster planting	Between Oct-April plant individual or groups of 3 trees, or linear hedge of native trees. Tree species to include Goat willow, Hawthorn, Guelder rose. Dig a planting hole that is no deeper than the roots, but is ideally at least three times the diameter of the root system. Avoid planting in waterlogged or frozen soil.	Providing early nectar & pollen sources, overwinter habitat & nesting sites. Species include Goat willow, Hawthorn, Guelder rose.
F. Creating clearings/glades	**Glades**: Outside bird nesting season clear 5-10m radius circular plots. Remove all vegetation and clear ground to enable scarification and planting/seeding. Create habitat woodpiles and treat stumps. **Scallops:** Cut 10m radius (157m^2 area) semi-circular shaped clearings along woodland edge to create sunny banks. Clear all vegetation to ground level to enable scarification and planting/seeding. Treat stumps and create habitat piles, within woodland areas.	Creating sunny, sheltered areas and/or banks to support a wide variety of invertebrates & enable wildflowers to grow.
G. Moss removal	Use a lawn raker or scarifier to clear moss from area. Remove moss off site.	Scarification of ground to create opportunities for species recovery.
H. Remove or reduce areas of invasive non - natives	Treat species such as Giant hogweed, Himalayan Balsam and Knotweed.	Removing invasive and non-native species from dominating grassland
I. Sapling removal	Remove self-sets and young scrub - to be undertaken anytime, unless there is evidence of bird nesting.	Removal of saplings at any time to reduce encroachment.

Appendix II: Machinery used by Ground Control Limited to create and restore habitat on A595/A66 SRN for Get Cumbria Buzzing! Project

Machinery Type	Robocut	Compact Tractor	Unimog	Metrac
Make/Type	McConnell	New Holland Boomer 40	Mercedes	Reform
Attachments	Grass head (flail) Forestry head (flail) Morblower (disc cutter and blower) Rake Roller	Amazone cut and collect Seeder Chain harrow Flail mower Side Arm flail Roller	Mulag cut and collect arm	Flail cutter Rake Amazone cut and collect
Purpose	Steep slope cutting	Multi-use tractor	To cut and collect grass	Embankment tractor
Good points	Works on slopes up to 55 degrees. Various heads can be connected. Can be placed on a small trailer and towed to site easily.	Light enough to tow behind a pickup even with the Amazone attached. Versatile as to the number of available attachments.	Cuts and collects in single action leaving good finish, blows arisings into trailer as it goes.	Works on steep slopes, easy to change heads over, versatile machine.
Bad points	None really, quite easy to use and many heads to choose from. The McConnell one is a new generation so has a few teething issues to iron out but this will soon happen (and there are other makes in the market).	Can only work up to shallow angle slopes, particularly with Amazone on.	Heavy machine with limited reach, can only work from the carriageway.	The Amazone limits the working angle on slopes, better to cut with the flail and then rake off arisings.
Summary	Becoming a standard piece of equipment in the landscaping world.	Best piece of equipment for flat plots. Could be used to bale arisings as well with a small baler.	Good machine but limited by its size and reach. Not really suitable for single carriageway roads.	Versatile, requires sizeable wagon to transport the machine particularly if the Amazone is attached.

Robocut and Morblower. Photo courtesy Mark Wakeman, Ground Control.

Get Cumbria Buzzing! is a Cumbria Local Nature Partnership initiative delivered by Cumbria Wildlife Trust and local partners. It has been made possible by National Lottery Players and support from The National Lottery Heritage Fund, Highways England, Cumbria Waste Management Environment Trust, Hadfield Trust, Rees Jeffreys Road Fund, Cumbria Community Foundation, Tesco, Allerdale Borough Council & Solway Coast AONB.

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