High Weald AONB Unit Commissioned Report

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Managing roadside verges for biodiversity - a new approach

Informing a High Weald Nature Recovery Area proposal

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The High Weald: an outstanding medieval landscape

Our research and advice programme

Futhering understanding of one of England's finest landscapes

The High Weald Area of Outstanding Natural Beauty is one of the best surviving medieval landscapes in northern Europe. The components of the High Weald's natural beauty that make it recognisably distinct are:

- **Geology, landform, water systems and climate:** deeply incised, ridged and faulted landform of clays and sandstone from which spring numerous gill streams.
- **Settlement:** dispersed historic settlements of farmsteads and hamlets and late medieval villages.
- **Routeways:** ancient routeways often narrow, deeply sunken, and edged with trees, hedges, wildflower-rich verges and boundary banks.
- **Woodland:** a great extent of ancient woods, gills, and shaws in small holdings
- **Field and heath:** small, irregularly shaped and productive fields often bounded by – and forming a mosaic with – hedgerows and small woodlands.

The High Weald AONB Joint Advisory Committee (JAC) is a partnership established in 1991 of 15 local authorities, Defra, Natural England and organisations representing farming, woodland, access and community interests. The JAC is responsible for publishing and monitoring the statutory **AONB Management Plan**.

The JAC is supported by a small, dedicated staff team, the **High Weald Unit,** which develops understanding of the High Weald's key components - their history, development, distribution, special qualities, management, deterioration, damage and loss - to provide an evidence base for the AONB Management Plan and related policy, guidance and action.

This report has been produced to further that understanding and aims to help everybody conserve and enhance **one of England's finest landscapes.**

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Content

1. Summary

The ecological value of roadside verges across the High Weald has seen dramatic declines over the last few decades due to changes in the way they are managed.

Cutting at inappropriate times of the year leads to verges that were once rich in biodiversity becoming dominated with fewer species of a more dominant nature.

The current programme for verge management favours plants that flower early and have a chance to set seed before they're cut. As a result, some spring flowers are increasing at the expense of summer flowering plants that are indicative of old grassland throughout the region.

Some management programmes which don't remove cuttings can lead to an increase in soil nutrients and can increase the population of less characteristic plants.

Vigorous perennial plants such as coarse grasses, docks and thistles, and some invasive introductions including Himalayan Balsam, are better adapted to the nitrate rich soil conditions and are increasing at the expense of more the more delicate species.

Due to substantial reductions in local authority funding the management of grass verges across the High Weald has been restricted to safety regulation, mainly to maintain visibility and access. In rural locations two cuts a year are now typical whilst in urban areas the number of annual cuts has been reduced in some areas from six cuts to two cuts.

These enforced changes create an opportunity to re-evaluate how roadside verges are managed across the High Weald, and for a new approach to be adopted that meets road safety regulations and is cost efficient, but champions biodiversity and landscape character.

2. Background

Roadside verges are important to the unique character of the High Weald landscape. Acting as wildlife corridors they provide important habitat for a range of plants, birds, mammals and insects. Those found alongside ancient routeways are often floristically rich and their associated features can be indicative of the local historic and cultural environment.

Well managed roadside verges are especially important for wildflowers and have the potential to connect fragmented areas of habitat to form local refuges for wildlife. They also act as an important "buffer" to adjacent habitats such as hedges, ditches, shaws or meadows.

On open old verges, where soil has not been imported, the vegetation is often characteristic of old meadows. The species composition can be both beautiful and varied ranging from seasonal drifts of bluebells to isolated populations of green-winged orchids. Other attractive species include the ubiquitous oxeye daisy, greater knapweed, cuckoo flower, cowslip, and red campion.

The lack of pesticides, fertilisers and of intensive agriculture on many road verges makes them valuable relics of established habitats.

3. Statement of significance

The High Weald AONB is characterised by historic routeways (now roads, tracks and paths), the oldest being in the form of ridge-top roads and a dense system of radiating droveways.

These are often narrow, deeply sunken and edged with trees, hedges, wildflower-rich verges and boundary banks.

Key characteristics include:

- Wide flowery grass verges common, indicating the historic width of routeways and their functions as linear common grazing

- Small-scale variations in habitat associated with a complex mixture of substrates, aspects and moisture levels supporting a rich biodiversity, especially invertebrates.

- Linear nature facilitating foraging and dispersal and contributing significantly to the ecological interconnections of the High Weald.

A map showing the distribution of historic routeways across the High Weald is shown in Appendix 1.

4. Vision

A landscape in which the character of the distinctive lanes and rights of way is protected, and a balance achieved between the comparative quietness and rurality of the roads of the High Weald and their function as communications central to the economic and social wellbeing of the area.

The practical management will recognize the role of routeways as green infrastructure and take account of, and be partly stimulated by, increasing road traffic, safety concerns and increased leisure activities (riding, cycling, walking and off-road driving).

The rationale is to enhance the ecological function of routeways by protecting and improving the condition of the complex mix of small-scale habitats along routeways for wildlife and maintain routeway boundaries as part of a highly interconnected habitat mosaic.

The aim is to increase the proportion of designated wildlife verges with tailored management regimes.

5. Distribution, designations and status

Currently, designated wildlife verges are found under various names throughout the High Weald under schemes dating back over 30 years, managed by the relevant highway authorities, or wildlife

trusts working in partnership with them. A non-statutory local designation, they have been selected over the years, and continue to be added to, often opportunistically rather than in a planned way. They sometimes contain rare species, represent examples of now scarce habitat, or simply feature assemblages of common species which local people value, making a valuable contribution to wildlife conservation within the public highway.

Additionally, many roads run thorough or alongside statutorily designated areas where verges are protected under those designations, such as Ashdown Forest, designated a SSSI, SPA and SAC.

6. Current approach

Local authorities have the responsibility to ensure any growth on roadside verges does not obstruct visibility and the safe passage of pedestrians and vehicles. Each authority can specify different mowing regimes and adopt a local approach to managing roadside verges for wildlife.

The following approaches are delivered across the AONB:

<table>
<tr><th colspan="2">East Sussex</th></tr>
<tr><th>Urban grass verges</th><th>Rural grass verges</th></tr>
<tr><td>There is a difference in the number of urban grass cuts taking place across the county which vary from 2 cuts to 6 years a year.</td><td>Cut a one metre swathe twice a year along these verges.</td></tr>
<tr><th colspan="2">Preserving wildlife</th></tr>
<tr><td colspan="2">There are selected verges across the county known as wildlife verges, which have been identified as having wildlife of particular interest. Roadside verges can provide a habitat for many rare species of wildflowers and mammals, which need to be protected.

To help maintain these habitats wildlife verges are not normally cut between 1 March and 31 August. This allows for the wildflowers to seed.

The wildlife verges are marked with small yellow indicators. This helps the grass cutting team to identify them correctly. Mower operatives also have tablets with all wildlife verges marked on maps and an alarm system which warns them as they approach them.</td></tr>
<tr><th colspan="2">Grass cuttings</th></tr>
<tr><td colspan="2">Grass clippings are relatively short & mulch down quickly which also slows down regrowth.

Raking up, loading, transporting & getting rid of grass cuttings would also increase the cost of the grass cutting substantially so this is not an option at the moment, except in the case of wildlife verges where cuttings are currently raked up and removed.</td></tr>
</table>

West Sussex	
Urban grass verges	**Rural grass verges**
In towns and other built-up areas within towns and villages grass verges are cut seven times during the growing season (March-November). This is more than the recommended safety level of five times but represents good value for money in terms of safety and the environment.	Cut once a year with a one-metre-wide cut to stop grass and vegetation overhanging the road.
Preserving wildlife	
Although grass verges are cut for safety and visibility reasons, efforts are made to protect the environment as much as possible. Where safety allows, grass verges are maintained as havens for rare flowers and wildlife. These are known as 'notable road verges'. Notable road verges remain uncut while the flowers are in bloom, but are maintained out of season	
Grass cuttings	
Grass cuttings are not collected as the cost would restrict the number of cuts carried out. Grass cuttings are blown back on to the verge. Some will fall into drains or gullies, but they are unlikely to block as a result.	
Kent	
Urban grass verges	**Rural grass verges**
Grass located next to roads or footpaths, normally within the town or village centre and around 30mph zones, are cut between March and October (about once every 5 weeks). This timescale maintains highway safety. Grass that is adjacent to a road junction and is within the sight line for drivers turning in or out, is cut between April and October. Any grass that may affect the visibility of road junctions is cut every 2 months to maintain highway safety.	Rural grass is cut between May and September to maintain highway safety. A 900mm (3ft) strip is cut next to the road edge using a tractor mounted mower.
Preserving wildlife	
In Kent there are roadside nature reserves to encourage wildlife and plants. These nature reserves are managed in line with the Kent Wildlife Trust guidelines and may have different cutting programmes. Where possible wildflowers are allowed to die back before mowing. This may not always be possible if safety is an issue.	

Grass cuttings
Cuttings are not collected following mowing but are spread evenly over the surface. Any cuttings on the footpaths or roads after mowing will be blown back onto the verge and obstacles like streetlights strimmed around. This may not happen on the same day as a different team will do this. Grass cuttings are not collected due to extra costs of equipment and disposal.

7. A New approach

The High Weald's roadside verges are coming under considerable pressure. Due to budget constraints the focus for roadside verge management is increasingly focussed on safety and access to the potential detriment of biodiversity.

In 2016 the "Well Managed Highway Infrastructure: A Code of Practice" stated that highway verges should be managed with regard to "their nature conservation value and biodiversity principles as well as whole life costing, highways safety and serviceability." This reflects the requirements of the Natural Environment and Rural Communities Act 2006, for Local Authorities to have regard to the conservation of biodiversity when exercising its functions.

There is now an urgent need for a new environmentally sensitive approach to roadside verge management that delivers road safety requirements and is cost efficient, but which also favours biodiversity and celebrates the landscape value of roadside verges that contribute so much to the character of the High Weald landscape.

The new approach will combine existing best practice with a retrospective look at how roadside verges were managed in the past to adopt a forward thinking set of principles in response to enforced changes in management practices due to reductions in local authority funding.

The new principles include the following changes in methodology:

- Reduce the frequency of cutting and adopt a later cut (mid-July – September) to enable flowers to set seed (particularly important for annuals such as yellow rattle).
- Focus management operations on verge 'conditioning' by removing grass clippings or fine mulching of clippings to reduce build up of thatch to help maintain an open sward appearance.
- Adopt a targeted management approach for notable road verges to maintain species-richness.
- Create a bespoke Weald Native Origin Seed (WNOS) roadside verge mix to provide the maximum range of food plants for invertebrates and protect and enhance local landscape character.

8. Research opportunities

The long-term effects of roadside verge cutting and changes to local authority maintenance regimes

across the High Weald are difficult to quantify due to an absence of adequately controlled field research.

This presents an interesting opportunity to set up a long-term field trial to assess positive and negative outcomes if a more traditional and less intensive approach is adopted as best practice.

The research should focus on measuring the effect of different mowing regimes on a range of roadside verges across the High Weald, including frequency of cutting, timing of seasonal cuts, method of cutting, type of equipment used, removal of clippings and additional sward conditioning techniques such as scarification.

9. Evaluation of roadside verge management

<table>
<tr><th colspan="2">Current mowing regime</th></tr>
<tr><th>Strengths/opportunities</th><th>Threats</th></tr>
<tr><td>• Introduce yellow rattle to reduce grass vigour, open up sward and reduce number of cuts to be removed
• Opportunity to adopt a more sensitive approach to eliminate early and/or regular cutting – allow wildflowers to set seed – to replicate the traditional form of management for species-rich meadows.
• Develop opportunities for grass clippings as ‘bio fuel’ to minimise costs
• Focus management on benefits for invertebrates and other wildlife.</td><td>• Inconsistent approach across the High Weald
• Focussing primarily on safety and access
• Lacks flexibility
• Doesn’t promote local distinctiveness
• Inappropriate cutting regimes not allowing the wildflowers to develop and set seed
• Management practices may increase soil fertility which encourage dominant grasses
• Invasive and dominant perennials are better adapted to current management practices
• Inappropriate/non-specialist machinery unable to collect cuttings</td></tr>
<tr><th colspan="2">Pollution/physical damage/invasive species</th></tr>
<tr><th>Strengths/opportunities</th><th>Threats</th></tr>
<tr><td>• Engagement with local authorities and/or farmer through farm cluster groups
• Research opportunities to quantify risk of pollutants</td><td>• Verges vulnerable to heavy pollutant particles including salt spray, oil and other petrochemicals.</td></tr>
</table>

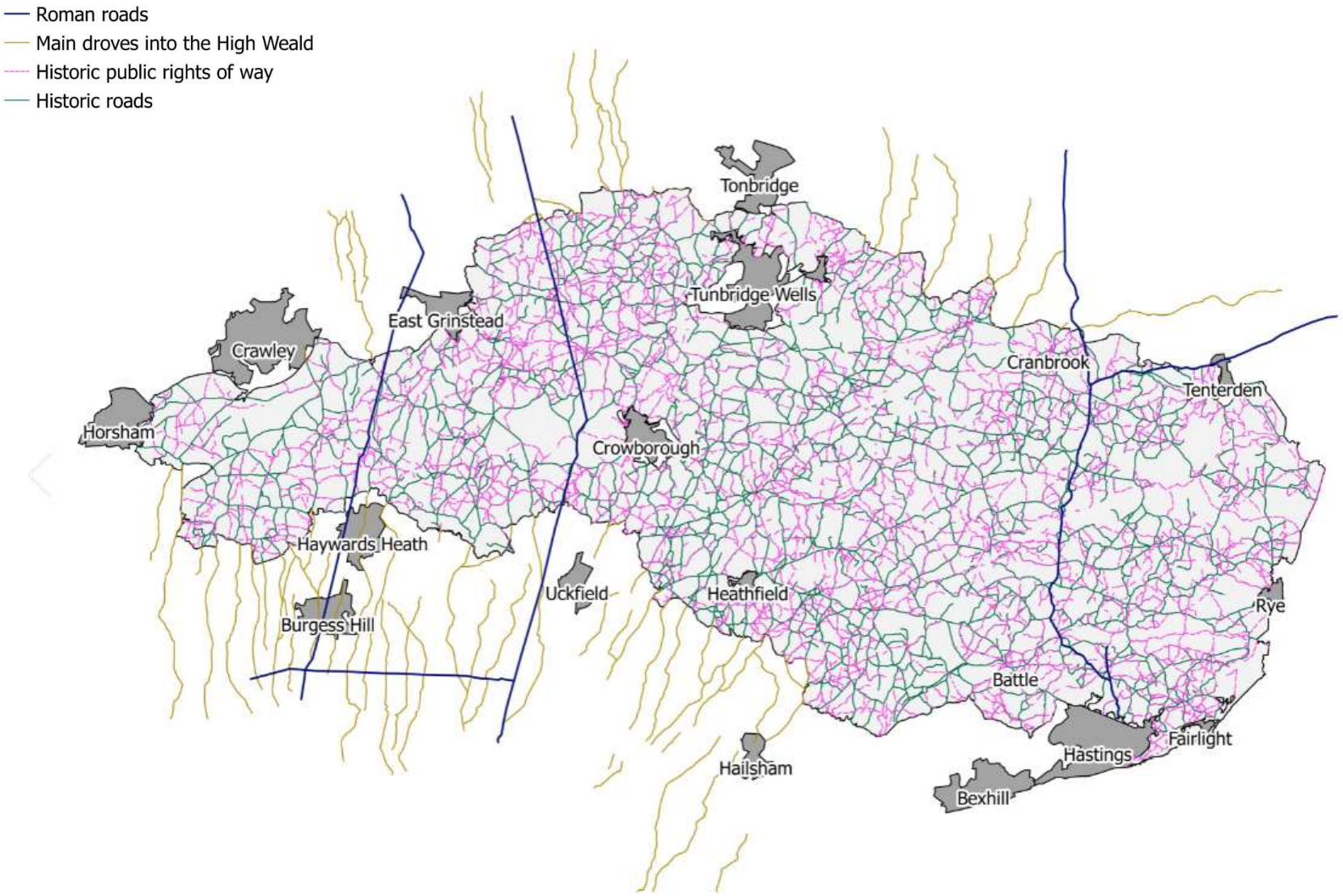
• Produce work specifications for contractors working on verges to cover working techniques, environmental impact assessment, mitigation and reinstatement.	• Lack of quantifiable understanding of the affect's pollutants have on the biodiversity of verges • Parking/erosion/over-running/road widening schemes • Inappropriate use of non-native species used to landscape new development and/or use of nutrient rich top soil that encourages weed species. • Poorly reinstated services reseeded with inappropriate seed mix • Installation of essential public utilities • Fly tipping of household waste, and garden and builders refuse • Fewer cuts per year could lead to an increase in invasive weed species such as ragwort, Himalayan balsam and docks/thistles
Public perception	
Strengths/opportunities	**Threats**
• Promote a better understanding of the roadside verge habitat through public engagement. • Information signs at notable species-rich roadside verges	• Views on appropriate management vary according to taste. A verge maintained for wildlife can be viewed as untidy and poorly managed whilst the perception of a short-mown verge can be of one that is well maintained • Planting of inappropriate decorative /non native species to the detriment of local character and existing native species •
Research and monitoring	
Strengths/opportunities	**Threats**
• Revisit designated verges and assess current condition	• Inconsistent approach to monitoring and recording notable roadside verges • Lack of resources to undertake monitoring

• Ensure all designated/notable roadside verges are recorded are recorded • Adopt a consistent approach to monitoring which involves local communities in simple survey methods of roadside verges • Ensure that any site meeting the relevant criteria is considered for LWS designation.	

Recommendations

- Support the enhancement of verges, especially verges in new developments, with local provenance grassland species
- Identify ecologically-rich historic routeways in biodiversity and green infrastructure planning
- Prioritise the appropriate management of ecologically-rich road verges in highway management and avoid damaging operations such as 'chip and smother'
- Provide ecological training for highway management engineers and contractors to ensure all roadside verges are managed sensitively for biodiversity
- Encourage investment in the identification of ecologically rich roadside verges, including community schemes to identify ecologically-rich roadside verges, and enhance others with local provenance wild grassland species
- Avoid vehicular traffic on sensitive routeway verges, particularly when the ground is wet
- Undertake sensitive management of old coppice on routeway banks
- Maintain routeway verges in their 'natural state' and refrain from planting non-native species along routeways
- Develop an agreement or code of practice for the management and maintenance of all road verges
- Produce work specifications for contractors working on verges to cover working techniques, environmental impact assessment, mitigation and reinstatement.
- Encourage the incorporation of habitat restoration into new road building and road widening schemes wherever feasible.

Appendix 1


Roman roads
Main droves into the High Weald
Historic public rights of way
Historic roads
Tonbridge
Tunbridge Wells
East Grinstead
Crawley
Horsham
Crowborough
Cranbrook
Tenterden
Haywards Heath
Uckfield
Heathfield
Rye
Burgess Hill
Battle
Fairlight
Hastings
Hailsham
Bexhill