

NATURE'S HIGHWAYS



**The Sustainable Management of Road
Verges on the Isle of Wight**

Strategy 2020

NATURE'S HIGHWAYS :

Executive Summary

This report has been produced by the Isle of Wight AONB in partnership with Island Roads, IW Town and Parish Councils, IW Council and Plantlife

- Vegetated road verges are important contributors to the landscape of the Isle of Wight, providing corridors and stepping stones for our native flora and fauna
- Around 135 ha of highway verges are cut per annum
- After the Isle of Wight Council Savings Programme, verge management is currently based on a two cut per year system except where this may compromise public safety
- Of the thirty-three parishes on the Isle of Wight, sixteen (48%) have road verges of 'special' ecological interest (containing rare species and/or species rich habitats)
- all thirty-three parishes contain verges which if managed well are important habitats for wildlife
- A survey in 2017 found approximately 4 ha (62%) of the 'special' verge area was in a similar condition to that found in the survey that established the designation in 1999
- In this strategy three categories of road verge are suggested together with ideal management regimes based on guidelines published by Plantlife, a national charity devoted to plant conservation
- Monitoring the regimes and raising awareness in the community about the importance of road verge management is discussed.

Figure 1 : Isle of Wight Road Verge



Introduction

'We need to manage our road verges as a nationally significant response to the decline of our wildlife, raising the management bar across the whole grassland estate not just on a few hundred miles of roadside nature reserve'. Plantlife 2019

This publication focuses on those areas where there are no safety constraints restricting management.

Wildlife Corridors

Vegetated road verges are important contributors to the landscape of the Isle of Wight, providing ecological links for our native flora and fauna, creating corridors and stepping-stones for increasingly fragmented species-rich habitats. Re-establishing and maintaining these connections is a priority for national government as the importance of the role of green infrastructure is recognised for human health and well-being as well as for wildlife.

As tracks and routeways were created verges became important habitats. Separated from both the erosion caused by traffic and from farmland, especially with the increasing use of agri-chemicals such as herbicide, fertiliser and pesticides, these species-rich grasslands have survived as corridors of important semi-natural habitat. As the road network developed, some of these 'unimproved' grasslands were lost as roads were widened. Grass verges were then re-instated, saving them as corridors for insects and refuges for pollinators. With the loss of 97% of unimproved lowland meadows with their associated plant and animal species, both unimproved and improved grassland verges have made a significant contribution to the survival of common and not-so common species.

Figure 2 : Military Road at Compton



The Isle of Wight Highways

There are now approximately 787 km (489 miles) roads in the Isle of Wight Road network including the iconic A3055 Military Road between Chale and Freshwater, providing fine views of the Island's south-west coast. Around 135 ha of highway verges are cut per annum. Of this, 22 ha is found on rural roads.

This resource is important. It benefits the landscape and the health and well-being of residents and visitors. The linear network of wild flowers and grass provides:

- feeding stations for the insects we rely on for pest control and the pollination of crops
- buffers that absorb particulate and gaseous emissions from motorised vehicles
- buffers that absorb agricultural chemical run-off and reduce soil erosion
- with hedgerows, corridors that help small mammals, birds, amphibians and reptiles move about the landscape in relative safety
- displays of colour, bringing nature into quiet places in our towns and villages, helping to reduce stress and improve our quality of life.

On the rural road network on the Island, approximately 4 ha (18%) have been identified as areas of unimproved grassland containing ecologically significant communities of plants and animals that have survived threats from both traffic and intensive farming. This set of verges contain several rare plants and insects including:

Oxtongue broomrape
Autumn ladies' tresses
Wood calamint
Wood cricket

Greater broomrape
Bird's nest orchid
Great green bush-cricket
Chalkhill blue (butterfly)

Of the thirty-three parishes on the Isle of Wight, sixteen (48%) have these ecologically significant verges: Arreton, Brading, Brighstone, Calbourne, Freshwater, Godshell, Havenstreet and Ashe, Newchurch, Newport, Northwood, Rookley, Shorwell, Ventnor, Whippingham, Wootton Bridge & Yarmouth. A further four parishes have important verges for pollinators and landscape value: Bembridge, Chillerton and Gatcombe, Nettlestone and Seaview & Shanklin

However, verges in all our parishes would benefit from a management regime that attract pollinators, improves biodiversity and enhances their landscape value.

Figure 3 : Broomrapes



Road Verge Assessment

In 1999, to identify and quantify the resource, the Ecology Section of the Isle of Wight Council undertook a survey of roadside verges to assess their importance for biodiversity and their contribution to the ecological network across the Island.

A total of 6.5 ha of road verge was suggested as a category of 'special verge' requiring bespoke management outside the normal cutting regime. These verges were mapped on the recently acquired Isle of Wight Council GIS database and shared with the local authority highways department. 209 verges were identified and described. They included areas of road verge within, or adjacent to Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature Conservation (SINCs) and those with important ecological features such as plant communities or rare species. The highways authority undertook to take note of these verges and to cut them at prescribed times of year. This was particularly important for the management of road verges within SSSIs as these operations require consent from Natural England.

In 2017 staff from the Isle of Wight AONB Unit and the Isle of Wight Local Record Centre repeated the survey carried out in 1999 to assess the effects of the management regime on the flora of the 'special' road verges. The survey found approximately 4 ha (62%) of the 'special' verge area was in a similar condition to that found in 1999. The majority of the loss was attributed to the increase in rank grassland and scrub as well as some plotting errors and losses due to bank erosion. The erosion of banks can happen through both verge management and, more significantly, the increase in size (and width) of domestic cars and commercial or agricultural vehicles which use narrow lanes.

Figure 4 : Woodland verge at Newtown



Current Road Verge Management

In 2013 the management of the Isle of Wight Road network was transferred to a private finance initiative (PFI) called Island Roads, a partnership made up of VINCI Concessions, Meridiam Infrastructure and Ringway, providing a highway maintenance service for the Isle of Wight Council to 2038.

Highway verge cutting - rural verges, visibility splays and bends

On the Isle of Wight, in common with all highway authorities, the cutting of highway verges is undertaken to ensure safety for road users. In partnership with the Isle of Wight Council, Island Roads ultimately carries the legal responsibility for road safety and is unable to compromise this duty. However, this does not mean that there cannot be flexibility in the method or timing of cutting and other management improvements.

From 2013, Island Roads cut verges were cut three times a year, from March to October, according to a prescribed schedule, or in response to safety concerns voiced by parish councils and residents. Grass cuttings were not collected. Some were cleared from footways using hand blowers. In other areas, the cuttings were left to compost into the ground.

Weed control

As well as verge cutting, Island Roads carry out weed spraying in urban areas three times a year. Spraying is undertaken during May, July and September. Island Roads staff are responsible for spraying and taking care to ensure they only spray where needed, to avoid where possible impact to residential gardens. As part of their legal obligations Island Roads also treat areas containing injurious weeds: notably Spear Thistle, Field Thistle and Ragwort.

Island Roads are also aware of several invasive non-native species (INNS) which may require control by spraying. These include Japanese Knotweed, winter heliotrope and Montbretia.

IWC Savings Programme

Cuts to local government grants and the general climate of austerity led to a reduction in resources across all local government departments. As a result, the Isle of Wight Council introduced a Savings Programme on the costs of the PFI. Since implementing the Savings Programme, the number of tractors available to Island Roads has been reduced and this in turn has resulted in taking less time to complete the rural verge cut. Starting in 2019 two rural cuts are now undertaken per year with bends and visibility areas being cut four times a year. These cuts are limited to a 1m strip immediately adjacent to the highway. As before, cuttings are not collected.

The Savings Programme now offers ecological opportunities. If managed correctly this new regime benefits wildlife.

Special Verge Management

Following the identification of 'special' verges in 1999 and the maintenance of the shared GIS database, Island Roads undertake bespoke management to conserve the ecologically important road verges as wildlife corridors. In general:

- Grassland flora is cut after mid-July
- Sunken lanes are cut at the end of the season
- Chalk grassland is cut at the end of the season
- Woodland margins are cut after late July
- Acid grasslands are also cut after mid-July

The last three categories are priority habitats listed under Schedule 41 of the Natural Environment and Rural Communities Act 2006.

Figure 5 : Verge cutting by tractor



Ideal Road Verge Management

- Good management is vitally important to make sure road users – car drivers, cyclists, horse riders and pedestrians are safe
- Good management is essential if verges are to contain the plant communities and associated insect life that are so vital for our countryside
- Good management maintains an attractive appearance for residents and tourists alike.

Without this :

- A lack of management can lead to the growth of rank grasses which prevent wild flowers from getting their seeds established
- Brambles shade grass growth and impede pedestrians
- Scrub growth causes further shading and is an obstacle to all road users as visibility is diminished and obstruction of the verge is inevitable
- The increase in vegetation and biomass means that when the verge is eventually cut the amount of arisings that need to be dealt with are far greater, leading to blockage of drains and a deep mulch on the verge.

Cutting the verge properly reduces the growth of rank grasses, bramble and scrub, leading to better visibility, reduced obstructions and increased light levels for flora and fauna. Ideally collecting cuttings leads to a reduction in soil fertility leading to less grass growth and therefore reduction in the number of cuts in a year.

Timing and frequency

The timing and frequency of road verge management depends on how important the verge is for safety and visibility, the nature of the vegetation and ground conditions and the desire to keep the flowers available for insects throughout the season.

The majority of plants flower in the summer months to take advantage of pollinating insects which require warmth to fly and feed. Therefore, most plants have set seed by the late summer and this allows road verges to be cut from August onwards without disrupting the annual cycle for both plants and insects.

As Island Roads undertake a two-cut regime across the Isle of Wight then these cuts would ideally be done in February and March and again in September and October (option C - see diagram below).

This excludes the approximately 4ha special verges which have their own management regime

Ideal Road Verge Management Options (after Plantlife 2019 see Appendix II)

Option	Regime*	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
A	1 cut								Full cut				
B	2 S/A								Partial cut		Full cut		
C	2W/A		Full cut							Full cut			
D	2 Dry	Regular cuts								Regular cuts			
E	2 SpR		1m strip							Full cut			

Isle of Wight Road Verge Management

In this strategy three categories of road verge are suggested together with ideal management regimes based on guidelines published by Plantlife.

The cutting regime for road verges on the Isle of Wight is undertaken at a frequency of two cuts per year where the verge does not require further management for safety reasons.

However the availability of equipment and staff, with the requirement to do this work right across the Island in a relatively short window means that reorganisation of schedules and increased communication with town and parish councils will be needed if verge management is to be improved.

The ideal management regimes for three categories of verge are given below:

Category 1

Special road verges of high botanical interest which are in or adjacent to areas designated for their nature conservation interest, and/or have national priority habitat and/or national or local priority plant species

- Grassland flora: Option B in Plantlife Guidelines
- Sunken lanes: Option A
- Chalk grassland: Option B
- Woodland margins: Option B
- Acid grasslands: Option B

Category 2

Road verges of wider ecological interest which are important wildlife habitats and are greatly valued by members of the public and parish councils as landscape features.

- Sunken Lanes: Option A
- Grassland flora: Option C

Category 3

Road verges with no significant botanical interest and/or which require cutting for reasons of safety

- Four cuts as and when Island Roads / Local authority demand

Cutting schedules and a map of the locations of all verges will be generated so that up to date knowledge can be shared and monitoring can be allocated in the future.

Given that the priority Category 1. verges have already been identified then town and parish councils would be able to work with Island Roads to ensure that these ecologically important road verges are cut as recommended and others (Category 2) cut either using Option C dates above or in accordance with specific local agreements.

The collection of cuttings is an expensive and time-consuming operation using either specialist equipment or manual labour. The collection of cuttings by volunteers may be undertaken in partnership with local town and parish councils.

Monitoring

The on-going monitoring of road verges is important if the Isle of Wight is to maintain the network as a safe route for motorists, horse-riders, cyclists and pedestrians and as corridors and stepping stones for wildlife.

Monitoring can take many forms and needs to be undertaken by individuals who are able to assess the safety or biodiversity elements in a rigorous way so that contracts are adhered to into the longer term. The different elements of a monitoring regime can then be collated to produce robust evidence for changes in the regime to maximise the benefits.

Should the three classes of roadside verge be adopted then the following organisations can undertake an assessment of the condition of the verge and the effectiveness of the adopted regime:

Category 1

International Special Areas of Conservation (SAC) and nationally designated (SSSI) sites for nature conservation: Natural England

Category 1

Locally designated sites (SINC and special verge) : IW Local Records Centre with appointed parish liaison

Category 2

Community and landscape verges : Parish Councils

Category 3

Safety first verges : Island Roads / Isle of Wight Council

Categories should be mapped on a shared GIS system and maps shared with parishes showing the agreed category and adopted regime.

Figure 6 : Bluebells



Communications

Communicating with local communities

Many factors have been brought to the fore in the 21st century that require changes in attitude regarding the management of the countryside and the ways and means of accessing it. The promotion of sustainable tourism, concerns about the environment and increasing costs of motor transport have led to an increase in walking, cycling and bus travel.

Increasing costs and austerity have led to many local authorities seeking to decrease costs on maintenance but this has also increased complaints about the appearance of the road infrastructure and allegations of neglect and untidiness from both residents and visitors alike.

However, the recent designation of the Isle of Wight as a UNESCO Biosphere Reserve and the publication by the Isle of Wight of their Environment Plan has also increased awareness and appreciation of roadside verges as a contributor to wildlife enhancement and pollution reduction as well as bringing some colour and life into stark urban and intensively farmed landscapes.

The wildlife-friendly management of roadside verges could translate into the reduced management of other open spaces in the public realm where intense mowing leads to species-poor grasslands that are becoming increasingly expensive to maintain.

Participation and partnership working with the local authority, Island Roads and the local Town and Parish Councils will be crucial in providing information on the changes that are likely to occur moving forwards.

Local communications

1. AONB / Biosphere will publish and disseminate information leaflets to all town and parish councils to raise awareness and help spread the message. These leaflets will be based on advice and information from local experts as well as Plantlife's guide (see Appendix II)
2. A Facebook account will be set up to allow Town and Parish Councils to communicate local issues with residents and visitors and vice-versa.
3. A line of communication will be set up with Island Roads /local authority so that issues can be communicated to and from Town and Parish Councils to keep residents informed.
4. Local media will be asked to promote the leaflet and other information from Plantlife and AONB to further raise awareness.
5. Residents will be encouraged to form volunteer groups to further enhance road verges and other public places to encourage wildlife such as wild flowers and pollinators.

Communicating with visitors

There is a perception that reduced road verge management will lead to the Island having an untidy or unkempt appearance which will be detrimental to our tourist industry. However there has also been a long-term attitude that the roads on the Isle of Wight are different and the increase in flowers and butterflies should be seen as enhancements rather than detractors. In addition to those factors above:

6. Ferry companies, VisitIW and local media will be asked to promote the leaflet and other information from Plantlife and AONB to further raise awareness.

Appendices

Appendix I – Classification of Road Verge

The *Design Manual for Roads and Bridges* identifies three main classifications of grassland verge:

- **Species-rich grassland** (DMRB type LE1.3). This occurs in discrete areas and is made up of naturally occurring or introduced grasses and wild flowers. Species-rich grasslands can be broadly defined as those areas with **nine or more species/m²** (including grasses but excluding lower plants and shrubs), or areas of grassland in poor condition that could be rehabilitated to become species-rich grassland. Such areas are important for the maintenance and expansion of biodiversity across the road verge network.

These equate to Isle of Wight Category 1

- **Open (aesthetic) grassland** (DMRB type LE1.6). This is the predominant type of grassland found across the road network and is either naturally occurring or created by grass-dominated seed mixes. Open aesthetic grassland is defined as those areas with less than nine species/m² (including grasses but excluding lower plants and shrubs). Such grassland provides significant potential for enhancement.

These equate to Isle of Wight Category 2

- **Amenity grassland and grassland with bulbs** (DMRB Landscape Element 1.1 & LE1.2). This is the main type of grassland in **urban/suburban** areas, settlement entry points in rural areas and at rest areas and laybys on the SRN. The intensive management of such amenity grasslands is typically set to maintain a short, even sward, containing a maximum of 10% herb species and no scrub. Changing the management regime can improve the biodiversity and visual amenity of such grasslands and deliver significant cost savings.

Appendix II – Plantlife Ideal Management Regimes explained

From 'Managing grassland road verges : a best practice guide' Plantlife September 2019

If only one cut is possible:

- Cut the verge once a year between August and September and remove the cuttings. This allows plants to flower and, importantly, gives time for seed to be shed.
- Management should create areas of bare earth to allow good contact between the seed and the soil, and provide habitat for invertebrates.
- Areas identified as open grassland should be cut on a cyclical management regime.

If more cuts can be undertaken, choose one of the following:

Summer and autumn cutting

- Cut the majority of the verge between mid-July and September to mimic the pattern of hay meadow management. Randomly leave some areas (10-20% of the area) uncut to leave some flowering plants for pollinating invertebrates – for example, specifying leaving at least one working width at the back of the verge every 100 metres.
- Cut the entire area again from October to December to remove late season growth. This is increasingly important as winters are likely to become milder and the growing season lengthens.

Late winter and autumn cutting

- Cut the verge during February and March. This is before most verge plants flower and it will

not disturb ground-nesting birds. Raising the cutter bar on the back cut will lower the risk to amphibians, reptiles and small mammals.

- Cut the verge again during September and October. This slightly later cutting date allows plants that were cut earlier in the year time to grow and set seed. This cutting regime is particularly suited to areas with late-flowering species, such as devil's-bit scabious (*Succisa pratensis*), which may not flower and set seed until September. It is also suited to areas with early flowering plants, such as cowslips (*Primula veris*), as it removes any shading vegetation prior to flowering.

Dry soils and coastal situations

- On verges with dry/sandy soils and in coastal situations where the natural vegetation growth is short (ankle height), frequent cutting can take place up until April and restart in September (i.e. avoiding the main flowering period from mid-May through to the end of August). This will help develop a flower-rich turf with clovers (*Trifolium* sp.), trefoils (*Lotus* sp.), vetches (*Vicia* sp.), self-heal (*Prunella vulgaris*) and other small species, providing a long continuity of flowers, valuable for bees and other invertebrates.

If it is not practical to cut the whole width of a species-rich verge:

- On species-rich verges, cut a 1-metre strip at the edge of the verge as early as possible (February-March) to allow grass at the back of the verge to grow longer, providing structural diversity that is especially important for invertebrates. Cut the full width during September-October.

- On narrow verges of less than 1 metre, leave some sections uncut to provide the same structural diversity – for example, 50 metres of uncut sections every 200 metres.

Figure 7 : Cowslip





**Produced by the Isle of Wight AONB Unit in
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