

Kent Wildlife Trust

Grassification:

Performance Contracting for Roadside Verge Management – SHORT SUMMARY

Report by: Matthew Morris (STEM Sustainability)
Report to: Kent Wildlife Trust
Project: Grassification
Original Issue Date: 15/01/2019 (this summary March 2021)
Version: 1.0 DRAFT

Introduction

Roadside grass clippings are a problem waste fraction throughout the EU 2 Seas Interreg Programme area due to their high volume and high handling and processing costs. Additionally, contracts and supply chains are not environmentally optimised (carbon, energy recovery, biodiversity, circular economy), and in some cases key regulators and institutions are unable to use roadside grass clippings as a resource (rather than as purely as a controlled waste).

Context

Road verges tend to be better managed in parts of Europe, primarily because the collection of cuttings is mandated. This is not the case in the UK, and therefore the market for verge biomass is completely absent.

Given the length of road verge in Kent (3,000 miles), which are often comprised of natural and semi-natural habitats, these habitats are already important to wildlife. However, current management practices are optimised for restricted budgets and statutory minima. Therefore, the ecosystem services that could be derived from road verges are under-provided, and a market failure exists primarily due to the unfavourable economics of pro-environmental management regimes.

Background

Conservation literature confirms that well managed road verges are capable of sustaining a wide range of wildlife. In particular, more pollinators are found on well-managed verges than in the neighbouring countryside, and nearly 45% of our total flora is found on verges.

In the UK the majority of grass road verges are cut at the wrong time or abandoned to scrub with cuttings left in-situ. Existing verge management contracts in the UK tend to reinforce sub-optimal management and are overly focused on safety and cost with little or no consideration of potential wider benefits.

The current approach to road verge management therefore needs to change if wider benefits are to be more fully realised. Cutting frequency on rural grass verges should increase to at least twice per year, with arisings removed, and should be timed so that wildflowers are allowed to seed.

All of the above can be achieved via a 'cut-and-collect' system that is better optimised for biodiversity. Enhanced litter management is also required so that the resulting waste can be used as a feedstock for anaerobic digestion (AD) or composting.

The PESTLE analysis conducted indicates that cut-and-collect has a number of positive features. However, financial resources are constrained and may well continue to be so, and this could restrict what can be achieved in the short-term

Summary of PESTLE analysis

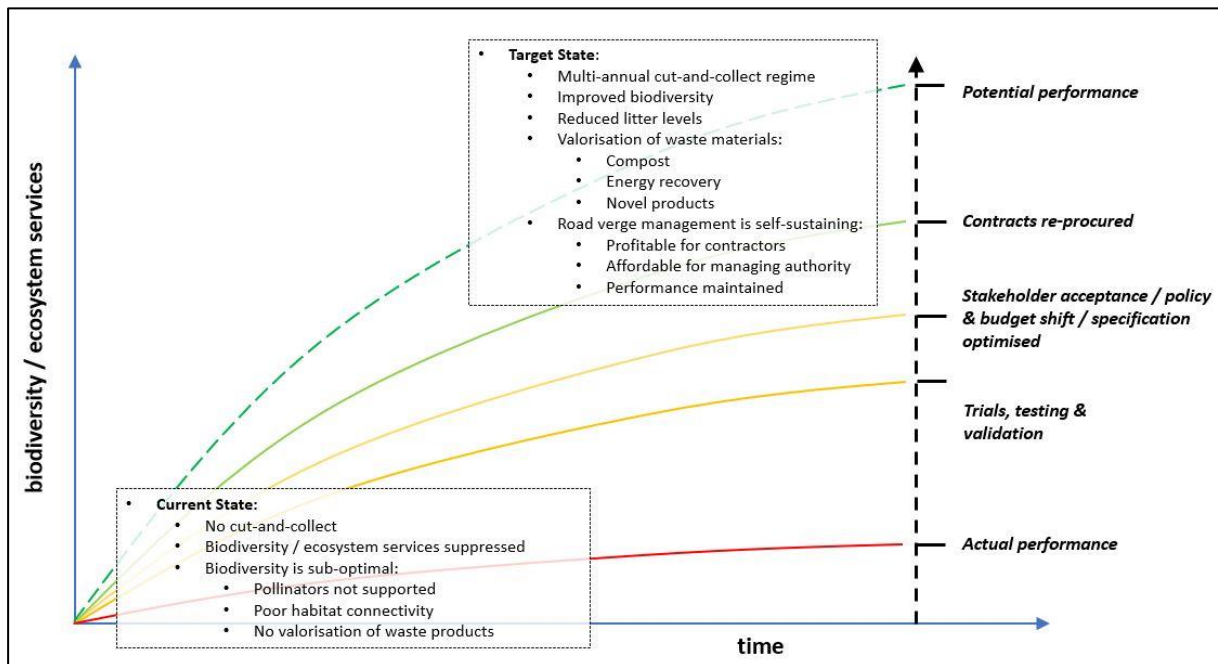
Dimension	Potential Positive	Potential Negative
Political	<ul style="list-style-type: none"> Recent UK Government announcement regarding (net) zero carbon and the climate emergency should help the road verge biodiversity argument, particularly if energy-recovery and litter/plastics management is also included. 	<ul style="list-style-type: none"> Persuading KCC decision-makers to alter the policy direction requires additional effort and the outcome is uncertain. It is yet to be seen how 'climate emergency' and pollinator announcements translate into action.
Economic	<ul style="list-style-type: none"> A new economic approach to swathe management budgets is needed if above minimum performance is to be achieved. Additional public funding is required (in 	<ul style="list-style-type: none"> Cut-and-collect economics are challenging and additional public subsidy may be critical in achieving the desired outcome.

	return for enhanced performance around biodiversity and litter/plastics management).	
Sociological	<ul style="list-style-type: none"> Environmental awareness is growing and awareness of the important role played by pollinators may help support policy change. 	<ul style="list-style-type: none"> Improved budgets for cut-and-collect will need to compete with other priorities.
Technological	<ul style="list-style-type: none"> Efficacy of verge harvesting machinery is proven and improvements are being tested. Litter solutions exist and require further testing. New tools may emerge, particularly if EA permitting rules are tightened. 	<ul style="list-style-type: none"> Verge harvesting machinery is not suitable for all road types and locations and so coverage of cut-and-collect is likely to be well below 100%.
Legal	<ul style="list-style-type: none"> Litter picking responsibly/funding needs to be added to swathe management contracts. 	<ul style="list-style-type: none"> Outcome of EA’s waste permit consultation to be further analysed.
Environment	<ul style="list-style-type: none"> Energy recovery via AD is key environmental and economic opportunity. Adding litter removal may ease decision-making - would be popular with public. 	<ul style="list-style-type: none"> Spare AD capacity is limited. Re-processing of verge biomass will rely on private sector and its ability to accept additional volumes.

The Potential Role of Performance Contracting

Performance, or output-based specifications, are the foundation of Performance Based Contracting. Such approaches focus on identifying the outputs/outcomes to be provided by the supplier, with payments linked to a specified level of performance.

Whilst existing road verge contracts in Kent already include an element of performance contracting, they could go further in terms of ecosystem services (biodiversity), energy recovery (AD), or circular economy (grass arisings are allowed to be re-used).



Gap analysis for cut-and-collect performance contracting

The gap-analysis suggests that improvements should be made to the current approach. Chief amongst these would be the introduction of performance indicators for biodiversity underpinned by a multi-annual monitoring framework. Biodiversity monitoring protocols are available, such as those already used by Highways England.

The critical role of waste licensing

Road verge arisings are currently considered a controlled waste by the regulator (Environment Agency – EA). This needs to change if biodiversity, energy recovery and circular economy objectives are to be met. The Grassification partners in Kent continue to work with the EA on this topic, particularly on the issues of chemical and physical contamination (e.g. hydrocarbons, heavy metals, and micro-plastics).

Even if waste permits for verge arisings are provided by the EA, additional negative factors would still need to be overcome. Of these, the poor economics of enhanced road verge management would need to be considered, and opportunities for increased budgets, cost sharing, and income generation (feedstock, energy recovery) would need to be realised.

The waste permit arrangements for verge biomass remain uncertain in the short term, but the work the Grassification project has already completed is helping to move the debate in the right direction.

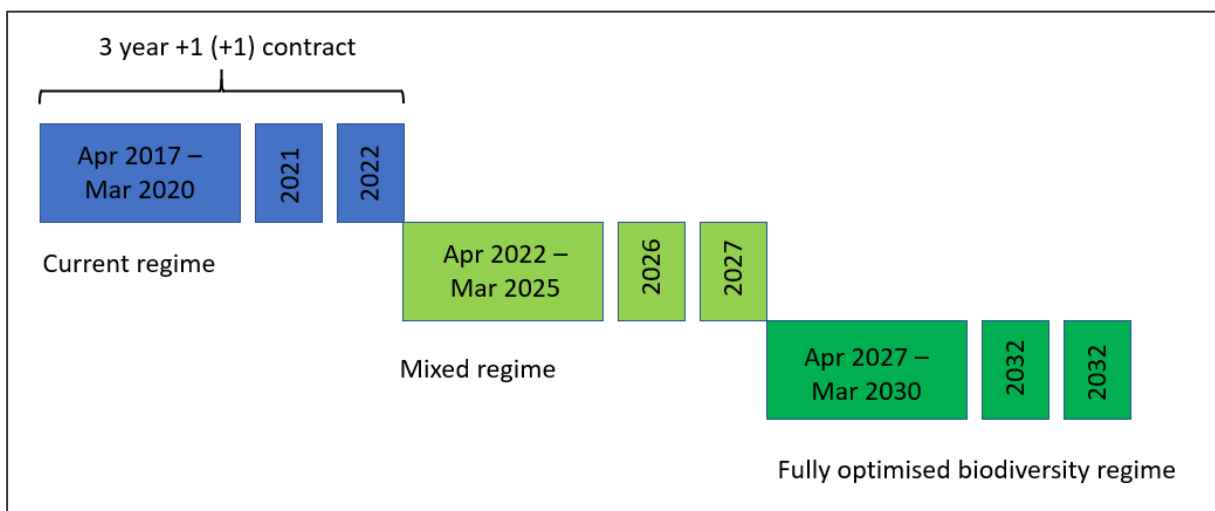
Conclusion

This work has demonstrated that that biodiversity enhancement is just one driver of change, and other outcomes (reduce physical contamination, energy recover/circular economy) may be just as important in delivering the outcome that is being sought.

The gap analysis undertaken indicated that the business-as-usual approach is well suited to current budget allocations, but it is poorly optimised for the other outcomes that are being sought in parallel.

In technical terms, bridging the gap between the current and target states appears to be relatively uncomplicated, technically viable and potentially affordable. However, the relatively poor economics of cut-and-collect approaches, requires more attention before an alternative to the existing regime becomes truly viable.

The nature of verge harvesting machinery may be a limiting factor on some roads in Kent, and mixed regimes may need to be considered to ease the transition between current and future (biodiversity optimised) regimes.



Indicative timescales from current to fully optimised biodiversity regime