

Biodiversity and Climate Emergency Working Group – Observations on Draft Maidstone Biodiversity Strategy

Introduction:

The following observations are offered on the draft Maidstone Biodiversity Strategy by the all-party Maidstone Borough Council Biodiversity and Climate Emergency Working Group.

1. Executive Summary

- 1.1. It is strongly recommended that the Executive Summary and Strategy opens with a bold, urgent and ambitious 'vision' setting out where Maidstone Borough Council aspires to be in 25 years in terms of biomass, biodiversity and environmental services. The vision within the Kent Environment Strategy Tree Strategy could potentially be adapted to fit this purpose.
- 1.2. The Executive Summary and Strategy proposes a five-year (2020-25) lifetime for the document. The Working Group contends that the document must have the more realistic and meaningful timeline of 25 years, thus mirroring the Defra 25 Year Environment Plan and Kent Environment Strategy Tree Strategy (2019-44). More ambitiously, the Strategy timeline could reflect long term vision espoused by the 'best practice' Cairngorms Connect initiative and instead span a 200-year timeframe.
- 1.3. The Executive Summary and Strategy should prioritise first and foremost a holistic and overarching aim to restore natural processes and re-connect our fragmented landscape. This approach reflects latest science and similar strategies in Continental Europe and North America and will benefit both biodiversity and biomass. This approach will also ensure local landscapes and communities are more resilient to climate change impacts and will maximise atmospheric carbon and other pollutant sequestration.
- 1.4. The sub-division of the document into sections dealing with discrete habitat types such as woodland, urban nature, water & wetland and grassland & agriculture and agriculture brings a risk that the land and townscape of the Borough will continue to be considered as atomised and a series of 'habitat islands' rather than as a dynamic and interconnected whole. The clear priority for the Strategy must therefore be unashamedly holistic i.e. seeking restoration of natural processes and the reconnection of the entire landscape and townscape as a mosaic of semi-natural and man-made habitats. Specific habitat types should be strictly subordinate to landscape-wide restoration and reconnection. Indeed, a mosaic of habitats and ecotones is significantly more valuable for biodiversity and biomass than single habitat blocks.
- 1.5. The accelerating decline in the UK's biomass is as significant as the decline in its biodiversity and should therefore be addressed robustly within the Executive Summary and wider Strategy (and perhaps also in the title i.e. the **Maidstone Biodiversity and Biomass Strategy**). Further, healthy and wildlife-rich habitats (i.e. those supporting a greater biomass)

are far more resilient to severe weather, disease and other impacts and deliver more environmental services than do more impoverished ecosystems.

- 1.6. The Executive Summary and Strategy should be expanded to address all areas of Council and contractor policy and practice with the potential to impact biodiversity and biomass (not just the 'usual suspect' planning and parks), including pesticide and other chemical use, grass and hedge cutting, artificial lighting (commercial, residential and highway), dog control policy, gritting, waste water and run-off management and MBC estate maintenance.
- 1.7. The 2019 UK State of Nature report was issued since this draft was completed and should be referenced within the final version of the Strategy. The latest report majors on biomass declines and evidences the fact that almost one in five plants are now classified as being at risk of extinction, along with 15% of fungi and lichens, 40% of vertebrates and 12% of invertebrates. The Strategy should cite the new research featured in the report on the fall in biomass in the UK, or "great thinning", which identifies 60% of conservation priority species as having declined since 1970. The report quotes a 13% decline in the average abundance of all species studied.

Case study: The Biodiversity and Climate Change Working Group has framed a proposal for an ambitious Maidstone Borough "Wildwood and Wetlands Connect" initiative as part of their evolving Action Plan. Such an initiative would deliver optimal environmental services through climate change mitigation and adaptation alongside a biodiversity gain. The initiative would seek systematic expansion and connection of tree cover and re-naturalisation of water courses over a 200-year timescale and be an exemplar in a South East England context. It is vital that the Maidstone Biodiversity Strategy promotes and supports initiatives as headline grabbing and ambitious as the Wealden Wildwood.

2. Why do we need a biodiversity strategy?

- 2.1 A specific new section on the unfolding loss of biomass, or the 'great thinning' of nature, should be incorporated into this section. One recent study from Germany indicated flying insect biomass declines of some 6% year on year. Invertebrate biomass collapse has been directly linked to declines in UK bird populations in other research.
- 2.2 There has been much coverage in the press of the passing of formerly commonplace natural phenomena such as 'moth snowstorms' in car headlights and once frequent insects 'splats' on windscreens. Locally, just two decades ago descriptions of Brenchley Garden in Maidstone emphasised how the Garden throng with pigeons, crows, seagulls and smaller birds every day, but it is now is virtually devoid of birdlife. Local people also remember hedgehogs and frogs in Brenchley Garden, but with the demise of the pond and wilder corners, this former biodiversity vanished. Well-documented in the KCC Local Studies archive are photographs taken in the Maidstone area before World War II, and the advent of frequent mowing, chemical and

fertiliser applications, which evidence the former profusion of biodiversity in the Borough. These evidence local verges, parks and open spaces, which are now developed or closely-mown 'green deserts', as a riot of wildflowers with clouds of butterflies. In terms of the health of local water bodies, both Vinters Park and Mote Park lakes formerly teemed with life until the mid-1980s when their biodiversity and biomass collapsed (the thick white layer of now absent aquatic mollusc shells captured in the bottom silt starkly evidence this abrupt local collapse). Though perhaps the most obvious decline in local biodiversity is the loss of the huge winter flocks of lapwing which frequented agricultural land surrounding Maidstone as recently as the 1970s, including the Low Weald and fields flanking the Ashford and Sittingbourne Roads, but are now completely gone. Similarly, in urban areas house martins and swifts were once locally common up until the 1970s but have now virtually disappeared from our streets.

- 2.3 Therefore, the depressing concept of 'shifting baseline syndrome' must be explained within the Strategy, as we are now accepting of and used to a sterile landscape with a collapsed biodiversity and biomass.
- 2.4 In relation to evidencing the collapse in invertebrate biodiversity and biomass and its knock on for other wildlife, Matt Shardlow at Buglife UK can perhaps provide a succinct precis to address this point.
- 2.5 Overall this section is very good and captures the central significance of a cross-sectoral approach and resilient ecological networks. The whole Strategy must reflect this philosophy.
- 2.6 At the bottom of page 6 'therefore' is missing the 'e'.

3. What are the aims of this strategy?

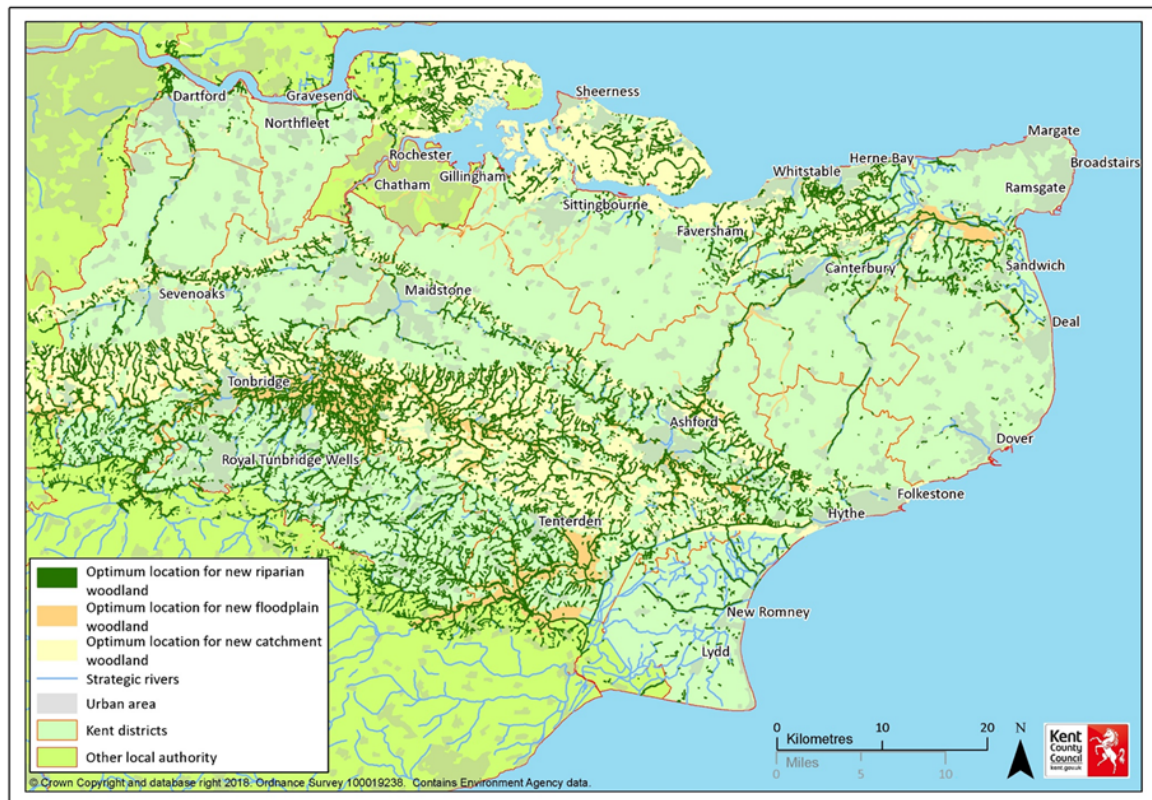
- 3.1 A concise overarching policy statement to underpin the Strategy should be set out at this section (and could be reproduced on the Strategy cover). This could be along the lines of: "A strategic and comprehensive vision, aligned with the Government's 25-year Environment Plan, informing Maidstone Borough Council policy and practice to halt and then reverse local declines in biodiversity and biomass."
- 3.2 Governance hierarchy, staff resources, accountability, targets, key milestones and means of measuring the success or otherwise of this Strategy could perhaps be incorporated into this section.

4. Ecosystem Services

- 4.1 The 'Examples of Ecosystem Services in Maidstone Borough' graphic requires some work including a detailed map of the Borough identifying and explaining habitats which deliver local ecosystem services such as surviving natural floodplains, urban woodland, street trees and natural vegetation cover on our local drinking water aquifers.

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- 4.2 The Mote Park narrative is missing the word 'as' and should address access to nature, physical health benefits, carbon sequestration, local air quality improvements, biodiversity, groundwater recharge and flood attenuation contribution.
- 4.3 Bredhurst Woods narrative should incorporate groundwater recharge.
- 4.4 Whatman Park narrative should include floodwater storage and enhancement of water quality.
- 4.5 Boxley Warren LNR should be added to the map and reference made to its contribution to groundwater recharge, carbon sequestration, biodiversity and air quality.
- 4.6 On page 10, the Natural Capital Policy box runs off the page.
- 4.7 The Environment Agency map showing optimal locations for new woodland creation to achieve flood attenuation should be incorporated here (please see below).



5. Pressures on Wildlife

- 5.1 Conservation/development case studies would be more appropriate if drawn from within Maidstone Borough, for instance the following examples may be worth incorporating into the document:
 - 5.1.1 Berry Gardens at Redwall Lane, where an application for a new commercial premise was balanced by delivery of 25 acres of new wet woodland and ponds.

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- 5.1.2 MBC residential extensions SPD is a progressive document including early policy support for integral habitat niches for wildlife within extensions
http://www.maidstone.gov.uk/_data/assets/pdf_file/0014/12074/Residential-Extensions-SPD-2009.pdf
- 5.1.3 Lilk Meadow at Cross Keys in Bearsted, where a residential development delivered nature reserve and wetland enhancements.
- 5.1.4 River Len in Maidstone, where land was delivered alongside retail and other commercial schemes and restoration achieved by volunteers at no cost to the Council <http://healthsustainabilityplanning.co.uk/flood-risk-reduction-river-len-kent/>
- 5.1.5 Hayle Park at Maidstone delivered a nature reserve as a component of a residential scheme. It is worthy of note that Hayle Park nature reserve is not currently mentioned at all in the Strategy.
- 5.1.6 Knoxbridge Farm at Cranbrook Road in Staplehurst, delivered a significant area of new 'Wealden woodland' as part of a planning permission for a new access.
- 5.1.7 At the second paragraph of 4.1 Honeyhills Wood should be added after the reference to Horish Wood. Further, the landscape fragmentation role of the strategic highway network in Maidstone Borough must be emphasised i.e. the M2, M20, A20, A229 and A249. This will provide an opportunity elsewhere in the document to promote green bridges, which are common across Continental Europe and North America, to mitigate landscape fragmentation.

5.2 Pollution

- 5.2.1 This section should perhaps explicitly reference the Forestry Commission's Woodland Carbon Fund. Maidstone Borough is in a priority area for new woodland creation and the scheme provides financial support for planting, aftercare and infrastructure.
- 5.2.2 Road salt is a significant seasonal pollutant of water courses across the Borough and should be addressed within the Strategy.
- 5.2.3 Diffuse aquatic and atmospheric pollution from agricultural run-off, wastewater, highway drainage and exhaust fumes are a particular problem in Maidstone Borough. Gross nutrient enrichment significantly damages aquatic and terrestrial biodiversity across the Borough and must therefore be a focus for positive action.
- 5.2.4 Artificial lighting has a profoundly negative impact upon nocturnal wildlife in the Borough. Policies to protect and expand 'dark skies', encourage use of red spectrum artificial lighting and tackle sky glow should therefore be a priority within the Strategy.

5.3 Invasive Non-native Species

- 5.3.1 This section should be either removed or shortened considerably as this is complex scientifically and morally controversial topic. In the

unfolding ecological emergency, it has been argued that all biodiversity native, near native or exotic is to be cherished and that climate change impacts will inevitably bring dynamic change to our flora and fauna. Indeed, some of our urban nature reserves already host a dynamic mixture of both native and non-native species. Specific species references proposed are subjective and omit some of the most numerous and ecologically disruptive non-native species such as least duckweed, sweet chestnut, pheasant, rainbow trout and common carp. While other species listed or portrayed in photographs are not even currently found in the UK.

- 5.3.2 All of the tables and photographs should therefore be removed, as they are open to likely damaging misinterpretation or are irrelevant to Maidstone Borough. The contradictions are particularly significant here, as some non-natives, such as brown hare and Roman snail, enjoy legal protection while others bringing more significant ecological benefits, such as European rabbit and sycamore, are persecuted. Indeed, rabbits are a key stone species in the Kent context, which maintain vital vegetation structure complexity on downland and at the woodland edge, provide habitat for other species, through their burrowing, and are a vital food source for many predators. Their serious population declines as a result of habitat loss and disease outbreaks are currently negatively impacting a range of other wildlife from butterflies to stoats.
- 5.3.3 What MBC can and must do is not add to the problem. Maidstone Borough Council should itself plant only native trees and shrubs and condition natives as a component of planning applications in all but exceptional circumstances. Indeed, the Strategy should go further and recommend that new woodland schemes should utilise a sequential approach of natural regeneration, then local provenance seed and cuttings before even considering planting to minimise biosecurity risk and optimise benefits for biodiversity.
- 5.3.4 The following excerpt from the KES Tree Strategy is especially relevant in terms of the rationale for a natives first tree and shrub planting policy:
 - “Invasive Tree and Shrub Species - A number of introduced tree and shrub species are colonising semi-natural habitats across Kent. Such non-native species support few of the micro-organisms, fungi, invertebrates and other natural controls which keep native trees and shrubs in balance, although there are a few exceptions to this rule. As a result, they can out-compete indigenous trees and shrubs, with potentially disastrous implications for native wildlife and cherished landscapes. Evidence from Continental Europe indicates that as the climate warms the number of invasive species will increase. A precautionary approach shall therefore be taken, avoiding planting of non-native species which could become tomorrow's invasive species.”
- 5.3.5 This may also be an appropriate point to reference the impact of domestic pets upon biodiversity, as this is an area where MBC has some influence. For example, there is growing evidence that the

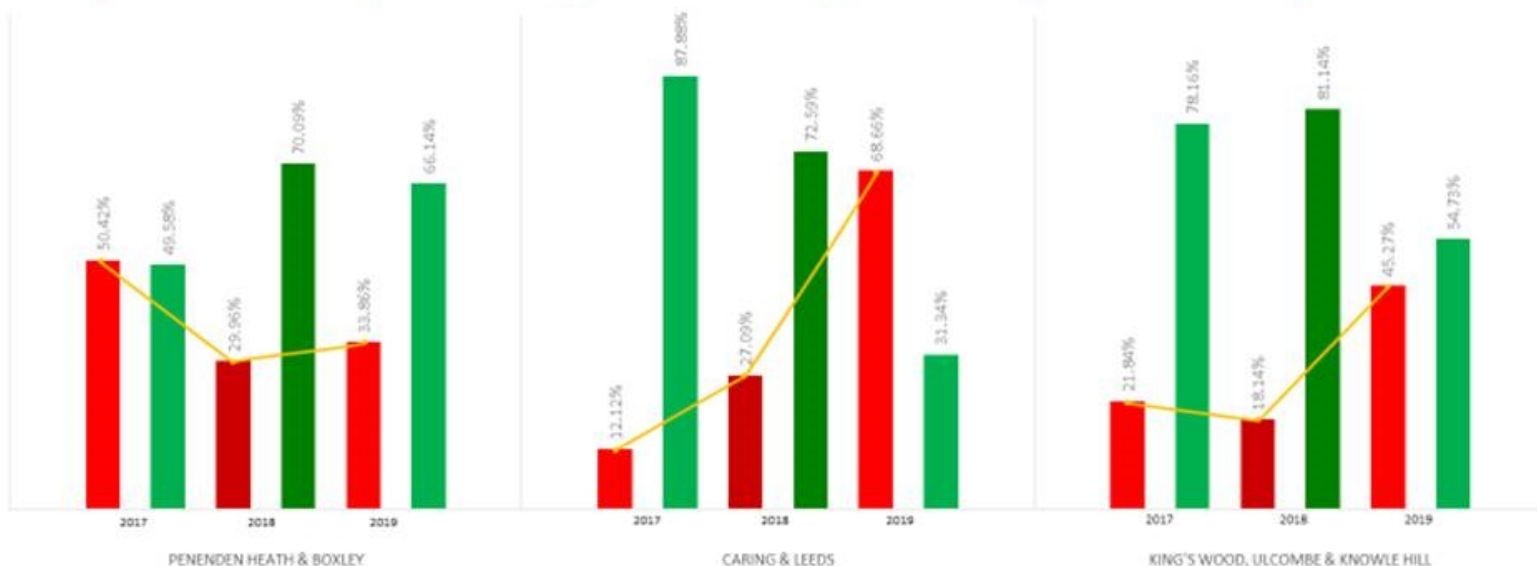
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presence of dogs at a wildlife conservation site drives down both biodiversity and biomass: “Dog walking caused a 41% reduction in numbers of bird individuals detected and 35% reduction in species richness” (source: Banks P. B. and Bryant J. V. University of New South Wales). This has implication for access policy and management of semi-natural sites. Further, the lethal impact of domestic and feral cats upon birds, small mammals, reptiles, amphibians and invertebrates is increasingly well understood. Potential initiatives to influence levels of predation such as encouraging cat owners to keep their animals in overnight and equipping cats with ‘noisy’ collars. Another strand of such a campaign could be promotion of neutering or spaying domestic cats and tough campaigns to capture and neuter/spay feral cat populations in the Borough. Indeed, in a US study feral cats are estimated to be responsible for 2/3rds of the 1-4 billion birds killed by cats in the US each year (source: Smithsonian Institute and US Fish and Wildlife Service). Both urban and rural Maidstone support significant feral cat populations.

- 3.5.6 This section could also reference the very detailed local work carried out by KCC in relation to the introduced fungal pathogen *Hymenoscyphus fraxineus* which is devastating European ash in the UK. Scientific data is maintained by KCC mapping the impact of the fungus across tetrads (or 2km squares) in Maidstone Borough. Graphs illustrating the impact and intensity of the outbreak should be reproduced within the Strategy.

PERCENTAGE OF ASH WITH NO SYMPTOMS COMPARISON TO ASH WITH OBSERVED SYMPTOMS SUMMER 2017, 2018 & 2019

■ Symptoms Observed 2017 ■ No Symptoms 2017 ■ Symptoms Observed 2018 ■ No Symptoms 2018 ■ Symptoms Observed 2019 ■ No Symptoms 2019



6. How can I Help?

- 6.1. The introductory paragraph must also specifically mention businesses and landowners, crucially including farmers and land managers.
- 6.2 Maidstone Biodiversity Pledge

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6.2.1 Consideration should be given for substituting 'Maidstone Biodiversity Pledge' for 'Maidstone Nature Pledge' to make the scheme more accessible and better understood by the public. A recognisable logo would need to be developed so that accreditation could be conferred to MBC services, partners and residents who can evidence effective action for biodiversity with an annual prize for the most innovative and beneficial interventions for nature. Further, specific social media account or area of the MBC website should be developed to promote the pledge and wider Biodiversity Strategy. Sites managed in line with the 'Maidstone Nature Pledge' be it a nature reserve, a park, a garden, a church yard, the grounds of a hotel, office or care home could display a sign advertising their involvement.

6.2.2 The fourth paragraph has a word missing between '..... reputation as much putting up a window box.....'.

6.3 Funding Sources

6.3.1 The narrative here describes a list of funding sources but has not actually been incorporated into the draft Strategy. It is worth underlining the fact that funding is not always the key issue and that wildlife friendly actions can often save money and that some of our best local nature reserves have no budget. Indeed, there is a strong argument that too much money can under some circumstances undermine biodiversity aims and undermine the viability of beneficial commercial activity such as coppicing. Perhaps the key area where money is important is when assembling the land portfolio needed for landscape scale re-wilding. Kent County Council's White Horse Wood project is an example of what can be achieved for biodiversity through well-considered investment.

6.4 Partnership Working

6.4.1 The list of involved organisations must be made longer, more wide-ranging and hard-hitting (this will require targeted outreach to gain buy-in from larger public and private sector organisations such as KCC, Environment Agency, DHA, Sainsbury, Tesco, Aldi, Scania Group, Gallagher, Leeds Castle Foundation, Highways England, Maidstone and Tunbridge Wells NHS Trust, Boxley Parish Council, Staplehurst Parish Council, South East Water, Southern Water and Network Rail and Kent Downs AONB) and other local groups omitted from the list such as Hayle Park Nature Reserve, Vinters Valley Park Local Nature Reserve and Boxley Warren Local Nature Reserve.

7. What will MBC do?

7.1 The aspirations set out in this section are strongly supported, however, more detail is required in terms of who will lead on implementation (a corporate champion) and how each will be achieved i.e. is it through policy and practice, contractual agreements, campaigns or influence over partners.

8. What have we got in Maidstone?

8.1 The bullet points at this section are misleading as above them it describes 'those present in Maidstone' but lists all England statistics. Maidstone Borough is still a remarkably biodiverse area of the country and will yield impressive local statistics. For example:

- At least 2,828 ha of ancient woodland survives in Maidstone Borough

Other statistics could be cited on length of watercourses, the complexity of the underlying geology and implications for habitat richness (Omap 5 identifying relative plant species biodiversity at page 9 of Eric Philip's New Atlas of the Kent Flora shows Maidstone Borough as having the greatest species richness in Kent context, for example) extent of chalk grassland, ancient and veteran trees and the many notable species resident in the Borough such as DesMoulin's whorl snail, Leisler's and noctule bats, white-clawed crayfish ground pine, bird's-foot, bogbean, native box, lizard orchid, southern marsh-orchid, adder and wild boar.

8.2 Biodiversity Opportunity Areas in Maidstone

8.2.1 'Biodiversity' is spelt wrong on map heading.

8.2.2 Though in existence for many years, the Biodiversity Opportunity Area concept has failed to deliver any gains for biodiversity in Maidstone Borough. Indeed, many of the Opportunity Areas are now effectively built out or converted to intensive agriculture (the Mid Kent Greensand and Gault being a case in point). Instead, a local 'Whole Borough' mapping exercise should be undertaken to identify existing wildlife habitats and opportunity areas to better facilitate expansion and reconnection. This could be achieved through promotion and support for positive changes in land-management and land-use, big or small, and by better utilising the planning system and other policy frameworks to remove or modify damaging activities and obstacles to landscape reconnection.

8.2.3 The Working Group is further concerned that the existing Biodiversity Opportunity Area network omits a number of geographical areas within the Borough with real potential for biodiversity and is uniformly rural in its scope. For example, the Loose and urban stretch of the River Len are already managed for nature to some extent and have real potential for this to increase but are not currently included. Any local replacement must factor-in opportunities for urban and urban-edge habitats and wildlife.

8.2.4 Page 30 - The targets for the key habitats and species within the Biodiversity Opportunity Areas or its local replacement in Maidstone Borough should prioritise recreation, restoration and reconnection of native woodland. Woodland is the natural climax habitat across all but the wettest habitats in the Borough and also supports the greatest biodiversity and biomass.

8.2.5 A massive expansion in well-structured tree cover will be central to achieving a measurable increase in biodiversity and biomass. Grassland in comparison is relatively simple in vegetation structure terms and support a relatively impoverished (if specialist) flora and fauna. Grassland also requires intensive maintenance and delivers few of the environmental services engendered by woodland (and wetland). Achieving a diverse and intimate mosaic of well-structured habitats and ecotones, all connected by trees, woodland and wetland, should be the central mission of the Maidstone Biodiversity Strategy.

The principles of re-wilding, such as the return to the landscape of 'key stone' species to provide dynamic and more natural management interventions, should inform this aspiration to restore a biodiverse, complex and beautiful landscape.

8.3 Species of Note

- 8.3.1 This section should omit the KMBRC records graphs for selected species as the surveys have no scientific controls and are therefore not scientifically reliable or valid, holding the potential for significant inaccuracy and bias. They contribute nothing and are misleading.
- 8.3.2 If survey data is to be featured, it should be scientifically rigorous with controls in place to ensure year on year data is directly comparable.
- 8.3.3 It may therefore be worth establishing controlled annual (2km square) tetrad surveys to monitor the success or otherwise of the Strategy. Kent Field Club and other local wildlife groups as well as 'citizen science' could potentially be engaged in surveys.
- 8.3.4 The reference to hedgehogs in the narrative of this section is an interesting one in terms of stimulating public engagement, as a single species campaign (i.e. flagship species) can, under certain circumstances, benefit wider biodiversity (i.e. umbrella species). Therefore, the Strategy should set out an MBC-led multi-pronged campaign to protect our hedgehogs along the lines of Hedgehog Street, run by the British Hedgehog Preservation Society and Peoples' Trust for Endangered Species. The project could tackle activities which harm hedgehog populations such as use of slug pellets and rodenticide, careless strimmer and mower use, wildlife hazardous highway infrastructure and cattle-grids, and through addressing the over-tidying of urban and rural habitats and creating good new hedgehog habitat in both town and country. The planning system should be used to ensure hedgehog highways and hedgehog friendly landscaping is delivered as a part of all relevant schemes, while local communities could be involved in campaigns to connect their neighbourhoods and improve habitat across gardens and open spaces.
- 8.3.5 Other targeted campaigns worthy of consideration for promotion by the Borough Council and partners include pollinators (potentially through engagement with Buglife UK's B-Lines South East initiative), farmland birds (with BTO and/or RSPB), small mammals ponds and pondlife (potentially through engagement with the Freshwater Habitats Trust Million Ponds initiative), wildlife associated with dead wood (perhaps in partnership with Buglife UK and the Woodland Trust) European eel, common toad (potentially with Kent Reptile and Amphibian Group), adder (potentially with Kent Reptile and Amphibian Group), swift (potentially with swift conservation) and bats (potentially with Kent Bat Group).

9. Habitats

- 9.1 This section should focus primarily upon restoration and reconnection of the wider landscape and incorporate mapping identifying how our

fragmented semi-natural habitats can be re-joined and natural processes restored. The vital importance of achieving complex vegetation structure and a mosaic of habitats and ecotones must be emphasised. The concept of rewilding and key stone wildlife species should also be referenced, a local example which could be replicated in Maidstone Borough is the Wilder Blean Demonstration Project near Canterbury.

- 9.2 Maidstone's Biodiversity Strategy should incorporate progressive and ambitious targets for the re-wilding of wilderness areas. In Germany, the National Strategy on Biological Diversity (NBS) set goals in 2007 for preserving and establishing more wilderness areas (<https://www.sciencedirect.com/science/article/pii/S1617138117302972>). The NBS states that 2% of the national land territory shall be designated to become large-scale wilderness areas and 5% of forested areas are to be preserved as permanently unused woodland ('By 2020 forests with natural forest development account for 5% of the wooded area [corresponding to approximately 554,000 ha]'). For a particular area to be classifiable as a wilderness area, natural processes without or with very slight human influence must be ensured. Like Kent, Germany was once almost completely covered with woods. However, again like Kent, there is no surviving primeval wilderness in lowland Germany. Therefore, the establishment of 'secondary' wilderness areas is central to the NBS and it is the responsibility of the regional/local administrations to designate such wilderness areas. Indeed, the target set in the NBS 'is an invitation to restore many such often degraded habitats into large functional ecological units' (Finck and Reicken, 2013).
- 9.3 Selection of such new wilderness areas in Germany is subject to a landscape analysis in which the following criteria were applied to identify potential wilderness areas:
- (Almost) no permanent settlement or infrastructure;
 - No dissection of the of the area by roads and railroad lines;
 - Little disturbance by adjacent infrastructure or settlement;
 - Compactness of the area; and
 - Minimum continuous area of 500 ha for wetland and riparian zones and 1000 ha for woodland.
- Maidstone Borough Council should seek to replicate the German model on wilderness creation and enable 500 ha of re-wilded wetland and 1000 ha of re-wilded woodland where natural processes predominate.
- 9.4 A case study box describing the Knepp Estate in West Sussex may be appropriate: "Knepp is a 3,500 acre estate just south of Horsham, West Sussex. Since 2001, the land – once intensively farmed - has been devoted to a pioneering rewilding project. Using grazing animals as the drivers of habitat creation, and with the restoration of dynamic, natural water courses, the project has seen extraordinary increases in wildlife. Extremely rare species like turtle doves, nightingales, peregrine falcons and purple emperor butterflies are now breeding here; and populations of more common species are rocketing."
- 9.5 In terms of coverage of habitats by the Strategy this should reflect the best practice approach taken on the Cairngorms Connect website,

where different habitats are illustrated with key management actions listed alongside appropriate images (please see the following case study)

- 9.6 The Kent Habitat Survey classifications do not necessarily reflect the key habitats in Maidstone Borough. Therefore, the habitat list should be refined to those most significant to restoration of biodiversity and biomass and the delivery of environmental services. These would include:
- semi-natural and planted ancient woodland;
 - wet woodland and carr;
 - secondary woodland and scrub;
 - hedgerows;
 - rivers and streams;
 - lakes, ponds and reservoirs;
 - ditch, marsh, fen, bog, wet flushes and spring-lines;
 - groundwater;
 - parks and gardens;
 - brownfield sites;
 - buildings and built structures;
 - chalk grassland and scrub;
 - acid grassland and heath;
 - traditional orchards and nut platts;
 - arable and field headlands; and
 - verges, meadows and rough grassland.
- 9.7 A table setting out the relative biodiversity and biomass of each habitat would be a useful addition to the strategy. This would reflect the biodiversity and biomass of woodland and wetland as the natural climax habitat across the Borough as compared to other man-made land uses.
- 9.8 In terms of content and presentation in relation to habitat management prescriptions the approach taken on the best practice Cairngorms Connect website should be pursued. Good quality photographs of local habitat are utilised adjacent to bold statements on optimal habitat management. Examples of these clear prescriptions are reproduced in the following best practice example box.

Best Practice Example: Cairngorms Connect – Restoration Projects

- **Restoring watercourses and floodplains to a more natural state, by...**
 - Removing modifications to drainage, such as ditches, channels, flood-banks and obstructions, that prevent natural processes - wherever practicable.
 - Allowing the accumulation of woody material in watercourses.
 - Allowing water to flood naturally over areas of land within the project area, where this does not adversely affect other properties or livelihoods.
- **Enhancing native woodlands, by...**
 - Managing herbivore impacts (domestic livestock and native deer populations), to allow recovery of the heather & blaeberry (bilberry) field layer.
 - Eradication of non-native trees and shrubs where these risks dominating native woodlands. These may be mature non-native trees, or young trees arising from wind-blown seed in our native woods.
 - Enrichment planting of tree species that have been lost from our native woods - mainly because of high levels of grazing - that will struggle to recolonise without our help.
- **Restructuring Scots pine plantations, by...**
 - Thinning unnaturally dense plantation pine forests - by felling and pulling over trees - partly to produce timber, but also to produce a lot of standing & fallen deadwood for wildlife, and to improve the light on the forest floor - benefitting a range of wildlife from invertebrates and forest plants to capercaillie and young trees.
 - Diversifying plantations by retaining more deformed and open-crowned trees, and creating space around birch, rowan, juniper and other species that have survived in the dense forest.
 - Mimicking 'storm tracks', by pulling over large patches in the plantation, to create tangles of deadwood for wildlife.
- **Restoring bog woodlands, by...**
 - Felling non-native conifers that have been planted on drained bogs.
 - Blocking ditches to reinstate the water-table, enabling recovery of bog vegetation.
 - These bog pools are vitally important for a range of dragonfly and damselfly species.

- **Expanding native woodlands to their natural limit, by...**
 - Reducing deer numbers to allow natural regeneration from existing seed sources.
 - Using burning and grazing to create suitable seedbeds that will accelerate natural regeneration.
 - Planting tree species that have been lost from our forest edge - mainly because of high levels of grazing - and will struggle to recolonise without our help.
- **Building understanding & awareness by...**
 - Providing information about these amazing places and our aims for improving them, in an engaging way.
 - Building awareness about the benefits we all derive from our forest, hills, bogs, mountains - and the wildlife that lives in this amazing range of habitats.
 - Building the project profile locally, nationally and internationally.
 - Creating opportunities to get involved - through learning, through volunteering, and through working within the Cairngorms Connect partnership project.
- **Using good science, to...**
 - Ensure management is achieving the habitat improvements we are aiming for.
 - Detect the response of key species to management, or to other effects such as damage or disturbance.
 - Identify and quantify the benefits we all receive from better bogs, bigger woods, more natural water flow and wilder places.
 - Establish a strong foundation for our decisions about species and habitat management across the partnership area.

Link to webpage: <http://cairngormsconnect.org.uk/projects/restoration-projects>

10.1 Woodland

- 10.1.1 This section should reference the importance of both protecting and expanding the largest surviving areas of ancient woodland in the Borough at Monkdown Wood / Bredhurst Hurst and Kings Wood. Reference could also be made to Cuckoo Wood at Penenden Heath, a 17 hectare privately owned and commercially coppiced semi-natural ancient woodland and Local Wildlife Site on the urban edge of Maidstone which is managed primarily for nature conservation. The complex geology underlying this site results in a notable for its ground

flora, which ranges from dry sandy almost heathland clearings with much common heather through to damp clay hollows with ransom's and and opposite-leaved golden saxifrage.

10.1.2 Some reference should also be made to:

- The extent and impact of non-native sweet chestnut planting across local ancient woodland sites (Planted Ancient Woodland Sites or PAWS) in the Borough and policy and practice interventions to achieve incremental conversion back to native woodland (Woodland Trust have done some work on this);
- Wet woodland and carr, especially on flood plains, because of its significant value to wildlife and delivery of environmental services; and
- The value of the woodland canopy for both biodiversity and biomass, as this rich habitat is 'out of sight and out of mind' and therefore under-appreciated in ecological terms. Indeed, woodland management interventions designed with the best intentions for biodiversity can in fact achieve the opposite by removing or fragmenting a sunlit and structurally complex tree canopy.

10.1.3 A case study could be incorporated relating to the Wealden Wildwood Project as promoted through the KES Tree Strategy. Maidstone Borough Council should show leadership in making this visionary initiative a reality now and lead the process. It is worth emphasising that at the time of the Domesday Book in 1086 the Weald was the most heavily wooded area of England, at around 70% tree cover (Source: Oliver Rackham). The Low Weald in Maidstone Borough is now strikingly denuded of woodland, when compared with our neighbouring authorities. Analysis of mapping indicates a paucity of Wealden tree cover in Maidstone Borough, even when contrasted to Tunbridge Wells Borough immediately to the west and Ashford to the east. GIS should therefore be used to calculate current tree cover across the Low Weald within the Borough and a strategy devised to bring the woodland back.

10.1.4 A text box addressing climbers and scramblers may be worth inserting into this section as they are particularly important for sustaining both biodiversity and biomass:

- "Dense bramble clumps in open sunny situations are of particular value. Good clumps along rides and wood margins and around buildings should be retained. Bramble growing under shade is of relatively little value for invertebrates and can be treated ruthlessly without greatly damaging invertebrate interest." Habitat Management for Invertebrates A Practical Handbook by Peter Kirby (Joint Nature Conservation Committee).
- "The deliberate removal of old and long-established ivy from trees on any conservation site is an act of vandalism. It is extremely rare for ivy to damage a tree, and the wildlife value of the ivy is likely to far outweigh any damage done. It may, however, be desirable to prevent ivy growth on a tree where there is important lichen growth, or other established interest requiring an unshaded trunk". (source: Habitat

Management for Invertebrates A Practical Handbook by Peter Kirby
(Joint Nature Conservation Committee).

- 10.1.5 Game shooting, especially of pheasants, is a component of the local rural economy and has likely historically preserved woodland which would have otherwise been lost. However, inappropriate stocking levels, insensitive woodland management and persecution of predators can all negatively impact biodiversity. The Strategy should therefore specifically reference game shooting and potentially frame an initiative with key stakeholders to maximise biodiversity of woodland on shooting estates.
- 10.1.6 A review of gamebird release by the RSPB (Bicknell et al., 2010) highlighted the range of impacts (both positive and negative) associated with gamebird releasing. The majority of negative impacts, such as damage to vegetation and localised declines in butterflies, can be mitigated by following best practice releasing guidelines. The executive summary for Bicknell et al., (2010) reported that: “The data available show that at high densities of gamebird release, negative environmental impacts are likely to occur, and in some cases may be severe. In most cases, however, where densities are moderate, it is likely that impacts are minor or may be offset by beneficial habitat management. In areas where good habitat management is combined with low release densities, or in areas that work to promote breeding populations of gamebirds, impacts may be largely positive.” In this context, ‘high density’ is likely to be in excess of 1,000 birds per hectare in the release pen.

11.2 Urban Nature

- 11.2.1 This section requires significant expansion and the incorporation of specific prescriptions to restore urban biodiversity and biomass. The urban area is the place where most people live and work and greater contact with nature is most desperately needed. There is mounting evidence that separation from nature is making people much less familiar with the natural world and wildlife. This can have negative impacts on both emotional and physical health and erode empathy with wildlife and for the natural world.
- 11.2.2 Potential prescriptions to bring nature back into the town should include:
- Delivery through policy and partnership initiatives of many new urban spaces for nature along the lines of the phenomenally popular and successful examples at the River Len Local Nature Reserve, Fant Wildlife Area, High Level Bridge and Buckland Hill, whenever and wherever the opportunity arises right across urban Maidstone and the villages;
 - Seeking through evidence, education and appropriate advice to residents and businesses a reduction in the extent of rodenticide and bird spike use in urban areas to bring back lost urban wildlife;
 - The ‘daylighting’ of watercourses historically lost to culverts and entombed under development and re-naturalising engineered

channels as and when the opportunity arises through planning policy and management and other interventions;

- Promoting the installation of integral swift, bat and other nest bricks, tubes and boxes within new and existing development (including KCC bridges and structures);
- Installing bird and bat boxes on trees, fences, poles and other appropriate locations across Maidstone Borough Council owned parks, open spaces and other appropriate sites (historically Maidstone Borough Council had worked with HM Prison Maidstone on fabrication of bird boxes and this initiative should be resurrected);
- Encourage and promote through Borough Council policy and campaigns installation of bird tables, bird and bat boxes across private gardens, housing provider land, school, hospital and residential home grounds and on commercial sites;
- Protecting and expanding urban native tree cover, this is particularly important because urban tree cover in Maidstone is currently below the national average and significantly less than that in most Kent towns (source: Forestry Commission / Woodland Trust / KES Tree Strategy);
- Implementing revised mowing regimes to deliver a mosaic of sward lengths across all Borough Council parks, gardens and other open spaces, as well as along highway verges – a mown border can be utilised to trap litter and prevent overgrowth onto footways – and undertaking outreach and advocacy to negotiate more wildlife friendly mowing regimes on private land in the Borough;
- Introducing wildlife features such as ponds, native trees and shrubs, wood piles and wildflower meadows into Borough Council parks and gardens (for example, the loss of the pond from Brenchley Garden significantly eroded biodiversity and biomass and removed day to day contact with nature for many);
- Promoting organic and wildlife friendly gardening principles and use the planning system and public information campaigns to seek to arrest the loss of gardens to car parking and other hard surfaces;
- Promoting and supporting the creation of wildlife areas and features within the grounds of commercial and institutional buildings;
- Maximising use of Sustainable Urban Drainage Solutions such as attenuation ponds and swales and ensure that they are 'wet' and hold some water at least seasonally;
- Promoting organic and wildlife friendly husbandry on Maidstone Borough Council allotments and promote such an approach on Parish Council and other allotments;
- Ensuring all lighting schemes urban and rural are sensitively planned and ideally utilise curfews, directional beams, motion sensors and red light to minimise negative impacts upon nocturnal wildlife;
- Seeking to reduce levels of road kill through appropriate traffic speed enforcement, greater use of 'hedgehog and toad crossing' signage; and
- Working with the Highway Authority to retro-fit recessed kerbs and introduce 'ladders' to prevent amphibians and other wildlife perishing in gully pots (<https://www.arguk.org/get-involved/projects-surveys/saving-amphibians-in-drains>) and utilising the planning system to ensure that all new drains are wildlife friendly.

12.3 Water and Wetlands Objectives

- 12.3.1 Where it quotes “desirable infrastructure works” from the Maidstone Infrastructure Delivery Plan in this section, it is not understood why the removal of a fish pass at Yalding is referenced. Maidstone Borough Council has campaigned over many years to achieve the installation of fish passes, so it is puzzling that there is a suggestion of removing them? Removal would presumably prevent the free movement of aquatic wildlife up and downstream and block fish migration routes through the impassable weir at Yalding.
- 12.3.2 The Biodiversity Strategy should progressively seek the removal of man-made obstacles on water courses in the Borough, including weirs and culverts. The small local Rivers Len and Beult could be the focus of a specific naturalisation campaign with the Environment Agency and other partners. Where it is not possible to remove such barriers fish passes must be installed to bypass any man-made obstructions and facilitate ecological movement.
- 12.3.3 The Green and Blue Infrastructure Strategy previously published by MBC has sadly been proven ineffective and is now a discredited document, which should be withdrawn as a priority as a component of the ongoing Local Plan review. The Green and Blue Infrastructure Strategy is so flawed that it will continue to undermine any attempt to enhance biodiversity in the Borough until it is replaced. Indeed, the Maidstone Biodiversity Strategy should replace the Green and Blue Infrastructure Strategy outright – thus preventing duplication.
- 12.3.4 This section should also include an ambitious objective to re-naturalising all the Boroughs catchments and recreate significant tracts of floodplain woodland across the Borough. Floodplain woodlands play a vital role in delivering ecosystem services - reducing the impact of flooding, improving the quality of the overall river ecosystem and in forming vital wildlife corridors.
- 12.3.5 Poor water quality, exacerbated by low flows, is a significant problem within the Borough, including within local sites managed for nature conservation. Pollution and over-abstraction must be tackled head-on and early full compliance with the Water Framework Directive achieved. Drought and over-abstraction are bleeding our wetlands dry and Maidstone Borough Council should work with the Environment Agency to ensure that tough enforcement and realistic abstraction permitting is implemented to enable the recovery of our wetlands. The recent Chalk Streams in Crisis document (Martin Salter and Stuart Singleton-White) addresses this key driver of biodiversity decline in detail.
- 12.3.6 An annual Maidstone Borough-wide target for the creation of clean water ponds (both permanent and ephemeral) should be incorporated into the Strategy along the lines of and perhaps in partnership with the Freshwater Habitats Trust ‘Million Ponds’ project. Ponds are a characteristic feature of the Borough, especially on the Low Weald and gault clay at the foot of the Kent Downs scarp, but are being lost to agricultural change, development or simply silting-up. The demise of the very effective pond protection policy formerly contained within

the Maidstone Borough-wide Local Plan 2000 has exacerbated this decline.

- 12.3.7 Engendering groundwater recharge and reduced nitrate pollution should also be the focus of a high profile campaign, perhaps alongside the water companies, to increase tree cover and other semi-natural habitats across our local groundwater protection zones. The conservation of our little-known hypogean (groundwater) fauna, which is particularly rich in Maidstone Borough because of our complex underlying geology, should be referenced. Uncommon hypogean species have been recorded in association with springs across the Borough, including at town centre sites.
- 12.3.8 The caption under the photograph of a marsh frog on page 46 states that this species is invasive. This is perhaps unfair as the species fills a niche which is not utilised by our native common frog i.e. coastal marshes. Further, the presence of the marsh frog in Kent is likely to have prevented the endangered medicinal leech from becoming extinct in the county, as it is now its main host species since the demise of large wild mammals and changes to livestock husbandry. Indeed, the marsh frog is uncommon in Maidstone Borough with the only populations persisting on the Low Weald. Medicinal leech was still found on the Low Weald as recently as the 1970s and could potentially return one day to exploit the opportunity provided by the marsh frog and, hopefully, the return of large mammals if future rewilding initiatives succeed.
- 12.3.9 The Hammer Stream is pictured on page 46 but is located within Tunbridge Wells Borough not Maidstone. An alternative image of the River Len Local Nature Reserve on the edge of the town centre could be used:



12.3.10 The 'Key Challenges' section at page 48 includes a red banner stating that 'invasive non-native species are a major challenge for the biodiversity of rivers and wetlands in Maidstone Borough'. However, the commentary states that just 3% of water bodies in the south east are affected. The same commentary states that physical modification affects 44% of water bodies, pollution from wastewater 45%, pollution from rural sources 27% and pollution from towns 17%. There are no red banners for any of these much more significant threats. As previously mentioned, the relative impact of non-native species is scientifically contentious and they are not as significant a problem as pollution and man-made modification in Maidstone Borough. Therefore, the red banner and reference should be removed.

12.3.11 Negative impacts arising from recreational activities associated with rivers and lakes in the Borough including disturbance, damage to bankside vegetation, unauthorised and close-season angling, angling litter, over-stocking and stocking with non-native fish species should be quantified and close-season and enforcement stepped-up and codes of practice developed with stakeholders such as the Environment Agency, angling waters and clubs to reduce harm.

13.4 Grassland and Agriculture

13.4.1 On page 51 Boxley Warren Local Nature Reserve should be referenced as it supports an extensive mosaic of species-rich chalk grassland, scrub and woodland, studded with dew ponds. Rare plants at the Warren include ground-pine, stinking hellebore and native box alongside a fauna including tawny cockroach, adder and common buzzard.

13.4.2 Also on page 51 Marden Meadow and its neutral unimproved grassland on the Low Weald should be referenced, as it is famed for its hay rattle, green-winged orchids and water violet.

13.4.3 The Strategy should emphasise at this section the biodiversity limitations of hay meadows, and by extension ornamental 'wildflower meadows', as they support a very limited invertebrate fauna because of the intensive maintenance interventions required i.e. "Management of grassland for hay production is far from ideal for invertebrates. The vegetation is allowed to grow uniformly tall, so that it is unsuitable for invertebrates associated with short vegetation and bare ground. Just as the vegetation has grown sufficiently tall and is flowering and seeding to an extent sufficient to support a good above-ground community of invertebrates, the whole lot is cut down." (source: Habitat Management for Invertebrates A Practical Handbook by Peter Kirby (Joint Nature Conservation Committee)).

13.4.4 The grassland section should specifically reference local declines in rabbit populations as a result of myxomatosis and rabbit haemorrhagic disease, a 'key-stone', which is leading to the loss of grassland habitats, well-structured woodland edge, clearings and areas of bare soil so valuable to many wildlife species.

13.4.5 The negative impacts upon biodiversity from inappropriate use of endectocides should be referenced at this section. Many livestock and

horse wormers (anthelmintics) contain avermectins, a series of drugs which can seriously impact insect populations, particularly dung beetles and flies which are a main food source for bats and many farmland birds. Not only are dung beetles and flies a vital component of a healthy ecosystem, they also offer significant wider benefits by recycling nutrients, reducing farmland ammonia emissions and suppressing livestock parasite loads. By avoiding wormer use during the spring and summer (when bats and birds are foraging the most) and keeping stock and horses housed after treatment, this will significantly reduce the impact on insect populations and the many other species which depend upon them.

14. Projects & Summary

- 14:1 In terms of projects, engagement by Maidstone Borough Council with the B-Lines South East (Buglife UK), Hedgehog Street (People's Trust for Endangered Species and British Hedgehog Preservation Society) Million Ponds (Freshwater Habitats Trust) initiatives would assist delivery of the aims of this Strategy. In relation to making the Wealden Wildwood vision a reality the Woodland Trust could be a key delivery partner, alongside local landowners, as they have already identified the loss of woodland cover across the Low Weald as requiring action.

15. Other

- 15.1 A detailed schedule setting out the governance structure and staff resources required to implement the Strategy. Targets, milestones, annual monitoring and reporting will all also need to be framed and agreed. Historically, similar strategies have failed at the implementation stage with efforts to ensure that planning management addresses biodiversity having failed to-date. Service business plans and individual staff target-setting will all need to reflect the significance of the unfolding biodiversity and biomass emergency. Sign-off by Full Council of the Strategy because of its link to the Strategic Plan is therefore appropriate.
- 15.2 As general observations, layout and presentation requires some further attention to ensure the most professional document possible, to help facilitate effective persuasion and engagement, and all photographs must be of the highest quality and emphasise biodiversity and biomass rather than single species. Professional publication may therefore be appropriate. The document must aspire to be the best and most progressive in the UK.
- 15.2 Maidstone Borough must demonstrate national leadership in the clarity and effectiveness of its response to the biodiversity and biomass emergency. **This Strategy must not be allowed to fail.**