



Making Space for Nature in Kent and Medway

Developing the County's Local Nature Recovery Strategy

Potential measures for the delivery of the Kent and Medway Local Nature Recovery Strategy

May 2024

Introduction to Making Space for Nature in Kent and Medway

Making Space for Nature is working with partners and stakeholders to collaboratively develop the Local Nature Recovery Strategy for Kent & Medway (LNRS). These strategies result from the 2021 Environment Act, with 48 to be created across England with no gaps or overlaps. Developed at a landscape scale by the Responsible Authority (with Kent County Council taking on this role for Kent and Medway), the LNRS will agree and map the local priorities and associated actions for nature recovery and wider environmental benefits, that collectively will deliver a nature recovery network for England, ending the decline of nature and supporting its recovery.

Making Space for Nature will develop:

- Spatially framed strategy for nature – focussing action to where its most needed and/or where it will deliver the greatest benefits.
- Framework for joined-up action, developed with those that will be instrumental in its delivery.
- Set of agreed priorities for nature recovery, with measures to deliver.
- Shared vision for nature recovery and the use of nature-based solutions in Kent and Medway.
- Ambitious but realistic and deliverable plan, linked to supporting mechanisms and finance.

More detail on the project can be found on the [Making Space for Nature website](#).

What are potential measures?

The LNRS will set out the priorities for nature recovery for Kent and Medway – these being the end results that the strategy is seeking to achieve. More information on how these priorities are being developed by the project can be found online at [defining our priorities and action for nature recovery](#).

As well as priorities, the LNRS must also include potential measures. These are the practical actions that, if taken, would make positive contributions to delivering the priorities agreed with local partners.

Local partners have an important role to play in identifying a comprehensive set of potential measures for delivery of the agreed priorities. MS4N are therefore seeking input of all stakeholders to help develop these - partners with ecological and environmental expertise, practical land management experience and local knowledge of what's really needed on the ground will be vital to ensuring the measures identified are not only appropriate but also deliverable.

There may be many potential measures to support each priority or a single potential measure could help achieve more than one priority.

How will potential measures fit into the LNRS and nature recovery action

In addition to identifying the priorities and potential measures for nature recovery, the LNRS will also map where these potential measures will be best delivered to not only achieve the greatest gains for nature but also deliver on wider environmental goals and the other co-benefits, that come from a healthy and functioning natural environment.

This will mean that measures are targeted and focussed to where they are most needed – and, in a number of cases, will direct funding, grants and investment.

What this report presents

As noted above, input from local partners is key during this stage of the LNRS development and the project wants the strategy's potential measures to be based on this input.

This report doesn't identify the potential measures for the emerging LNRS priorities but brings together different possible actions for consideration. This document is a conversation starter to be shared ahead of the potential measures workshop, to assist our partners in shaping the potential measures.

These examples of potential measures have been derived from the following:

- The first series of workshops held January/February to identified pressures and priorities for nature in the county. Some of the proposed priorities strayed more into potential measures and consequently were recorded as such – these are presented in this report.
- A number of national bodies have released guidance on how the LNRS can be designed to deliver for certain species and habitats. These include Buglife, Floodplain

Meadows Partnership, Amphibian and Reptile Conservation, Bat Conservation Trust, Bumblebee Conservation Trust, RSPB, People's Trust for Endangered Species and Plantlife. Regionally, Big Chalk has also provided guidance for the LNRS. These guides have all been reviewed and relevant action identified.

- The Kent and Medway National Character Area profiles provide statements of environmental opportunities, some of which are actions to be taken.
- Advice from South East Rivers Trust and Catchment Based Approach.
- Habitats Directive.
- Sustainable Farming Initiative and Countryside Stewardship.
- High Weald and Kent Downs National Landscape management plans and landscape character assessments.
- Kent Biodiversity Strategy 2020.
- State of Nature in Kent 2022.

This is not an exhaustive list; it is also a first review, so potential measures may have been missed.

Potential measures for grassland priorities

CG1 Chalk grasslands protected from loss, restored to better condition through conservation management and connected across the landscape, supporting a high diversity of species, including species tolerant to climate change.

Potential measures identified at previous stakeholder workshops:

- Utilise the data and opportunity mapping from 'Definition of Favourable Conservation Status for Lowland Calcareous Grassland'.
- Buffer priority habitats (calcareous grasslands, mosaic habitats, woodlands on calcareous soils, chalk streams and chalk aquifer-fed wetlands) to facilitate species movement in response to climate change.
- Knit grassland, arable and woodland areas together in a landscape scale mosaic - New and restored wildflower grasslands, scrub, small naturally regenerating woodland and marginal habitats, all link existing habitats that are well managed, extended and in good condition.

Other relevant potential measures:

- Seeking to integrate chalk grassland management into the farming business to allow for extensive grazing.
- Managing associated chalk habitats that include rare chalk scrub and heath and calcareous flushes at the foot of the scarp.
- Identifying and linking green hay donor and recipient sites and piloting restoration techniques.
- Expanding cliff-top calcareous grassland with new areas targeted to replace those lost to cliff retreat.
- Securing the protection of all remaining unimproved grassland as part of a working pastoral system and seeking to extend buffer zones around prime areas.
- Encourage management of lowland meadows through local owners' groups, providing benefits for the local community, biodiversity, the landscape and soil quality.
- Manage chalk grassland through cutting or grazing, and encourage linking of grassland habitats through field margins.
- Manage grassland sites through appropriate cutting and/ or grazing, encouraging reversion of arable land to species-rich grassland where appropriate.
- Maintain open sweeps of species-rich chalk grassland on the scarp, allowing landform to dominate.
- Working with landowners on agreements for targeted management, restoration and maintenance arrangements would seem to be the main opportunity for this habitat. The aquifers supported by these landscapes are a key water source in Kent and Medway.

GM1 Existing coastal and floodplain grazing marsh restored to better condition and retaining more freshwater, with sensitive areas and the breeding waders they support protected from land management and recreational disturbance. Opportunities taken to create and extend areas of this habitat and increase its climate resilience.

Potential measures identified at previous stakeholder workshops:

- Convert more arable land to grazing marsh.
- Provide more/increased access to funding for farmers (higher tier is competitive).
- Provide enough land to support low intensity grazing (some farmers don't have enough land to be able to rotate livestock, hence marsh gets over-grazed.) Could have shared grazing, or use graziers.
- Need enough water to supply/maintain marsh. Conduct exercise to see which marshes are sustainable in the long run – some may not have enough water.

LM1 Existing species-rich lowland meadow is protected from loss, restored to better condition and extended through sensitive land management practices to reduce soil nutrient levels. Through the extension of lowland meadow, this habitat is better connected, reducing the risk of isolated meadow species and declines in species richness.

No potential measures identified through review.

AG1 Restore to better condition and retain acid grassland through increasing low-intensity grazing/mowing practices. Identify areas where removal of scrub or secondary woodland may present opportunities for further restoration, extension and creation.

No potential measures identified through review.

SRG1 Protect existing extent, and connect and extend resource, of all species-rich grassland by returning appropriate, wildlife friendly and traditional management techniques to these habitats.

Other relevant potential measures:

- Initiate a collaborative campaign to discourage 'tidy' edges and manage fields for structural complexity and species diversity.

Potential measures for heathland priorities

HL1 Increase in extent of high quality lowland heathland.

Potential measures identified at previous stakeholder workshops:

- Prioritise heathland as important for amphibians and reptiles.

Other relevant potential measures:

- To enhance the ecological function of field and heath as part of the complex mosaic of High Weald habitats.
- Strategies implemented to reduce nutrient input via air pollution to vulnerable habitats such as heathland.
- Recognise the value of wooded heath and seek to accommodate sustainable heathland restoration where appropriate.

Potential measures for woodland and trees priorities

AW1 Ancient woodland, and ancient and veteran trees, are protected from loss, with damaged areas restored through management and the removal of non-native/invasive trees and plants.

Potential measures identified at previous stakeholder workshops:

- Hedgerow planting around ancient woodland to connect habitats.

Other relevant potential measures:

- Identification of ancient and veteran trees within the landscape.
- Removal of invasive species from ancient woodland.
- Targeted planning and mapping within ancient woodlands.
- Hedgerow planting around ancient woodland to connect habitats.
- Absolute protection of ancient woodland and veteran trees from planning.
- Maintain stock-proof fences around ancient woodland to avoid livestock damage.
- Removal of rhododendron.
- Foster natural regeneration in ancient woodland and avoid planting for non-timber purposes.

AW2 Areas of ancient woodland buffered and better connected for climate resilience.

Potential measures identified at previous stakeholder workshops:

- Hedgerow planting around ancient woodland to connect habitats.

Other relevant potential measures:

- Ensure a minimum 15m buffer and seek to secure larger buffer zones to protect ancient woodland and veteran trees from the detrimental effects of nearby developments and land management operations.
- Researching and planting appropriate species mixes to create robust and resilient woodlands.

WW1 Increase the extent of high quality wet woodland in the county and improve connectivity with the freshwater habitat network.

Potential measures identified at previous stakeholder workshops:

- Recognise wet woodlands as a rare and unique habitat of national importance.

Other relevant potential measures:

- Restoring natural processes through measures including blocking drainage channels.
- Reintroduction of wet woodland species into restored environmental conditions.
- Allowing for seasonal water-level fluctuations to maintain conditions for lower plants and invertebrates.

- Slowing the flow techniques (including felling and leaky dams) to manage water.

WD1 An increase in native woodland, with diverse ecology, well connected and under appropriate management to support natural regeneration and extension.

Potential measures identified at previous stakeholder workshops:

- Working with private woodland owners to ensure correct management approaches.
- Ensuring against close linear planting.
- Prevent loss of understorey.

Other relevant potential measures for woodland creation:

- Increase canopy cover across Kent - go beyond national target of 16.5%.
- Seek opportunities for restoring woodland on Plantations on Ancient Woodland Sites (PAWS), planting appropriate native trees and shrubs as continuous cover to enable pockets of ancient woodland species to spread and flourish.
- Where appropriate, revert coniferous plantation to native deciduous trees.
- Encourage planting of locally-distinctive species within the woodland mix.
- Increase diversity of both woodland type, and of woodlands with diversity of age as well as species: ensuring native tree planting, species diversity, and considering resilience and suitability to location.
- No planting monoculture woodlands, restoration of oak canopy woodlands, elm, Ghyll woodland. Alder, willow, poplar planting, Lowland mixed deciduous woodland, restoration of bilberry, wild cranberry and wild service trees, Lowland Beech and Yew Woodland.
- More standard trees, and more wood pasture.
- Promote deciduous planting at the edges of plantations.
- Extend woodland edges and create shaws to define arable fields and pastures.
- Damp scrub and woodland - Dense scrub layer 2-4m.
- Carefully assess opportunities for woodland expansion and their impact on vulnerable non-wooded habitats.
- Woodland creation that present opportunities to stabilise water flows and protect water quality.
- Small-scale woodland creation where it can play valuable role in buffering existing woodland and contributing to habitat networks.
- Expanding and re-linking of existing semi-natural woodland, benefiting biodiversity and landscape, where it can re-connect isolated woodland blocks and help to prevent soil erosion and nutrient run-off (where this does not result in loss of existing important habitats such as chalk grassland).
- Restoration of Annex I forest habitats (incl. re-establish and improvement) - Land previously used for agriculture (e.g. arable land), for industrial forestry plantations (e.g. poplar or eucalyptus plantations), or other land cover being restored or (re)established as an Annex I forest habitat type. This could be, for example, re-establishing an Annex I alluvial forest from farmland.

- Use local provenance bare-rooted stock for tree planting.

Other relevant potential measures woodland management:

- Maintaining existing (traditional or extensive) and extending forest management and exploitation practices to preserve habitats or habitats for species or to avoid species disturbance. Including promoting forests with high nature conservation value (old growth forests, high proportion of dead wood etc.), maintaining traditional or extensive management, for example, to secure or develop old tree stocks, the old-growth and natural decay stages of forests (that are clearly beyond regular harvesting age), coppices (such as chestnut and hazel), pollarding or secondary forest habitats (such as oak-hornbeam forest on potential beech habitats); maintaining the measures to favour the opening of closed woodlands, to preserve habitat continuity, to manage species composition, or to retain habitat tree groups. Includes also keeping aside wilderness areas and forest grazing.
- Manage the use of natural and synthetic fertilisers, liming and pest control in forestry.
- Taking measures to stop and prevent illegal logging and pressures from this illegal activity.
- Work with managers of woodland recreation sites to minimise or remove damage from quad bikes, paintballing etc.
- Encourage the sustainable, coherent management of woodlands where there has been a history of lotting.
- Creation and maintenance of standing dead wood within broadleaved woodlands with successor trees to ensure a supply of roosts in future. Where such potential roost tree succession is in short supply to consider veteranisation to create additional roost features in younger trees.
- Establishment of dense native understorey.
- Minimum intervention areas within woodlands, particularly around known roost trees, and areas of water (streams, ponds etc.).
- Avoid soil damaging activity, such as the use of heavy machinery in wet conditions.
- Recognise the ecological value of old growth secondary woodland and ensure detailed ecological surveys are carried out if change is proposed.
- Increase cooperation between owners of woodlots and support collaboration and community led woodland management.

WD2 Appropriate deer and grey squirrel management in woodland (and connecting areas) to reduce impacts and support new planting and natural regeneration.

Potential measures identified at previous stakeholder workshops:

- Working with private woodland owners to tackle the problem.

Other relevant potential measures:

- Rhododendron control - particularly in Ghyll woodland.
- Protection from deer grazing - deer management.

WD3 Increase the average canopy cover of Kent through woodland and trees outside woodland to 19%.

Potential measures identified at previous stakeholder workshops:

- Urban forests.

Other relevant potential measures:

- Continue to integrate motorways into the landscape using sensitive, non-linear tree planting.
- Establish careful planting schemes to retain the trees outside of woodlands component of the land and streetscapes.
- Ensure ancient wood-pasture and historic parkland are identified and receive the same consideration as other forms of ancient woodland.
- Manage historic parklands, ensuring that they have a Parkland Management Plan, and plant replacement parkland trees when necessary so that they continue to be a feature of the landscape.
- Conserve ancient and veteran trees.
- Targeted planting of woodland and trees surrounding existing and new development and major transport corridors.
- Continue to manage pollarded willows, oak and ash. Plant new trees where old trees are becoming over-mature so that they remain a feature of the landscape.
- Reinforce wooded edges to existing settlements and farmed areas.

WD4 Restoration of native trees, once prolific in Kent, lost from the wider treescape as a result of disease, pest, climate change and drought (including poplar, ash and elm) to return the ecological functions these trees provided to the county's landscape.

Potential measures identified at previous stakeholder workshops:

- Ensuring that the right tree is planted in the right place.

Other relevant potential measures:

- Targeted planting of woodland and trees surrounding existing and new development and major transport corridors where appropriate within the existing context, helping to provide climate change adaptation and mitigation, flood alleviation, landscape character and biodiversity benefits.
- No planting monoculture woodlands - favour restoration of oak canopy woodlands, elm, Ghyll woodland. Alder, willow, poplar planting, Lowland mixed deciduous woodland, restoration of bilberry, wild cranberry and wild service trees, Lowland Beech and Yew Woodland.

Potential measures for freshwater priorities

CS1 Chalk streams reaching good ecological status and providing high quality river habitat, with natural and uninterrupted flows along their permanent course and well managed ephemeral headwater streams, protected from pollution and with a more natural channel shape, supporting a characteristic flora and fauna.

Potential measures identified at previous stakeholder workshops:

- Chalk streams restored, with the right ebb and flow and water quality to flourish.
- Chalk stream management specifically for increased wildlife.
- Chalk stream protection without neglecting other water courses, particularly those designated as SSSI.

Other relevant potential measures:

- "25% of floodplain area should be low input grassland (which equates to almost 200,000 ha in England) within 25 years - 74,000 ha of this area to be species-rich floodplain meadow in Favourable Conservation Status - to deliver high-nature-value floodplains and to export nutrients from riverine systems in sufficient quantity to allow natural processes to recover."
- Management of intensive grassland adjacent to a watercourse.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- Maintaining and improving quality and quantity of water bodies.
- Prioritise chalk streams.
- "Re-wiggling and re-wilding of rivers is quite common and can be done in tandem with a change in adjacent land use to floodplain meadows. Encourage the river restorers to think outside the scrape-creation box and look at more interesting and beneficial land-use change. Things like scrapes and bunds aren't great for soil protection and carbon storage. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process or re-establishing natural processes."
- "Consider Stage Zero of floodplains: This tends to be where the river is allowed to spread across the floodplain, having had the main channel filled in, or diverted out into the fields adjacent, allowing the water to take on the management. It generally removes the space out of agricultural production, and is more likely to be successful higher up in catchments where rivers have more energy and are less restricted in terms of urban and other land-uses. LNRS could help to strategize this process and take a view that more naturalising of floodplains is appropriate in headwaters, whilst lower down catchments, habitats like floodplain meadows are more appropriate. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process or re-establishing natural processes".
- Buffering in-field ponds and ditches on arable land.

- Ensuring the management of ephemeral features - winterbournes, shingle bars, riparian wetland zones and seasonal encroachment of vegetation.

CS2 Protect the quality and quantity of the groundwater body on which chalk streams and associated habitats rely.

Potential measures identified at previous stakeholder workshops:

- Working with landowners on agreements for targeted management, restoration and maintenance arrangements would seem to be the main opportunity for chalk grassland habitat. The aquifers supported by these landscapes are a key water source in Kent and Medway.

Other relevant potential measures:

- Restoration of forestry and woodland to lowland heathland (LH2) (over 10 years).
- Creation or restoration of heathland from arable or improved grassland.
- Creation of reed bed (WT7) (over 10 years).
- Maintaining and improving quality and quantity of water bodies.
- Vertical connectivity in rivers and streams with the underlying groundwater provides further habitat opportunities for many invertebrates, with some species confined to these zones.

PD1 Restore ponds with high ecological value and creation of new ponds especially as part of a mosaic of habitats, protecting all ponds habitats from run-off pollutants and invasive species, while allowing successional habitats to develop where appropriate.

Potential measures identified at previous stakeholder workshops:

- More ponds, including dew ponds. Incentives to install ponds for amphibians in gardens.

Other relevant potential measures:

- Restoring wet grassland, unimproved grassland, marsh and coastal grassland.
- Flood zone 2 or 3 of the Environment Agency flood map and maps showing Groundwater Dependent Terrestrial Ecosystems (GWDTE). Land within these areas is a candidate for floodplain meadow restoration.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- Creation of reed bed (WT7) (over 10 years).
- Creation of scrapes and gutters in wet areas.
- Maintaining and improving quality and quantity of water bodies.
- Ponds - District level licensing for great crested newts across Kent is the initiative presenting the biggest opportunity for pond creation. Natural England, Landowners and the Countryside Management Partnerships are involved in this. The ponds are

created or restored to very tight specifications ensuring that they are located in the most suitable habitat with the inclusion of buffer zones thereby linking “stepping stone” ponds and increasing the benefits for not only GCN but other wildlife as well.

- Prioritise ponds that are identified as important for amphibians and reptiles – in particular, there is great importance in managing networks of ponds suitable for amphibian breeding in a connected landscape of habitats.
- Management of ponds of high wildlife value.
- Buffering in-field ponds and ditches on arable land.
- Lakes - means to prevent nutrient pollution through better land management/ agricultural practices.
- Lakes - artificial manipulation of fish assemblages - e.g. removal of carp or planktivores, and the addition of piscivores. Restoration of native and appropriate mixed fish and plant communities.

RIV1 All rivers and streams in Kent achieve good ecological status or potential, with more naturally functioning rivers able to move dynamically, free from physical modifications and barriers, supporting more diverse habitats, flows and channel shapes, connecting with their floodplain and a mosaic of habitats including wet woodlands, wet grasslands and temporary wetlands.

Potential measures identified at previous stakeholder workshops:

- County level joined up, landscape scale riparian corridors.
- Freshwater marshes - improved management of river systems for wetland habitats - beavers, leaky dams, re-profiling.
- Better ditch management and farming practices, to ensure freshwater habitats are protected.
- County-wide, strategic approach for beaver reintroduction and protection for natural management of waterways and improved resilience of riverside habitats.
- Control pollution of rivers – through management, preventing/minimising/mitigating nutrient run off into rivers. Deliver WFD targets and natural flood management priorities. Improved sewage treatment options. Engagement with drainage boards and farmers.
- Softer landscaping- wide margins, buffer strips along the entire length of rivers. Creation of complex habitats along rivers - mosaic, deadwood, scrub, lightwells, beaver ponds, buffers for agri-chemicals. Riverbanks protected from livestock. Trees along riverbanks.

Other relevant potential measures:

- Improving water storage and retention, and within surrounding landscape. Increased levels of vegetation including trees and shrubs, alongside rivers and streams.
- Restoring wet grassland, unimproved grassland, marsh and coastal grassland.
- "25% of floodplain area should be low input grassland (which equates to almost 200,000 ha in England) within 25 years - 74,000 ha of this area to be species-rich

floodplain meadow in Favourable Conservation Status - to deliver high-nature-value floodplains and to export nutrients from riverine systems in sufficient quantity to allow natural processes to recover."

- Flood zone 2 or 3 of the Environment Agency flood map and maps showing Groundwater Dependent Terrestrial Ecosystems (GWDTE). Land within these areas is a candidate for floodplain meadow restoration.
- Prioritise grassland that are important for amphibians and reptiles.
- Creation of wet grassland for breeding waders, wintering waders and wildfowl (GS11) (over 10 years).
- Management of intensive grassland adjacent to a watercourse.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- Bogs - restoring natural processes through infilling and blocking of drains, and tackling pollution inputs.
- Prioritise chalk streams.
- "Re-wiggling and re-wilding of rivers is quite common and can be done in tandem with a change in adjacent land use to floodplain meadows. Encourage the river restorers to think outside the scrape-creation box and look at more interesting and beneficial land-use change. Things like scrapes and bunds aren't great for soil protection and carbon storage. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process of re-establishing natural processes."
- "Consider Stage Zero of floodplains: This tends to be where the river is allowed to spread across the floodplain, having had the main channel filled in, or diverted out into the fields adjacent, allowing the water to take on the management. It generally removes the space out of agricultural production, and is more likely to be successful higher up in catchments where rivers have more energy and are less restricted in terms of urban and other land-uses. LNRS could help to strategize this process and take a view that more naturalising of floodplains is appropriate in headwaters, whilst lower down catchments, habitats like floodplain meadows are more appropriate. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process of re-establishing natural processes"
- Creation of leaky dams.
- Management of freshwater invasive plants and pest species to ensure our native freshwater species recover and thrive.
- restoring freshwater habitats impacted by changes of hydrological functioning due to drainage for forestry.
- "Connectivity between the river corridor and floodplain, through both lateral channel movement and floodplain inundation during floods, supports and connects aquatic and wetland habitats beyond the river's banks. In many cases, an enhanced 'erodible' river corridor, bounded by some form of resistance to further movement (such as set-back tree lines), within which the channel can move and create at least limited physical dynamism, is an attainable ambition."

- Vertical connectivity in rivers and streams with the underlying groundwater provides further habitat opportunities for many invertebrates, with some species confined to these zones.
- Restore natural processes in rivers and streams - natural flow, geomorphological and water quality regimes – allow expression of a characteristic and self-sustaining mosaic of river biotopes, and provide the best opportunities for priority species to survive in a changing climate. A catchment-scale approach encourages practitioners to consider how the river system would operate under natural processes as a foundation for planning restoration.
- Structure removal of weirs and dams from rivers and streams should be the aim wherever possible. Modification to minimise impacts is the next best option, preferably using a by-pass channel, permeable to relevant priority species as a minimum.
- Restoring natural channel dimensions and removing flood banks in suitable areas will reconnect the river channel with its riparian zone and floodplain, benefiting a range of wetland habitats and species, and providing flood management benefits by delaying peak flows to downstream areas of high flood risk. The re-creation of areas of wet grassland and woodland helps to naturalise sediment regimes by trapping fine sediments carried by flood waters.
- Ensuring the presence (preferably left in situ) of 'Woody debris' which is a critical component of a naturally functioning river, adding physical habitat complexity, refuge and a specialised substratum on which organisms live and feed.

RIV2 Clean, sufficient, stable and passable freshwater environments to support an increase in freshwater species abundance and diversity.

Potential measures identified at previous stakeholder workshops:

- Freshwater marshes - improved management of river systems for wetland habitats - beavers, leaky dams, re-profiling.
- Use of SUDS.

Other relevant potential measures:

- Restoring freshwater habitats impacted by changes of hydrological functioning due to drainage for forestry.
- Management of intensive grassland adjacent to a watercourse.
- Prioritise chalk streams.
- Creation of leaky dams.
- Creation of sediment ponds and traps.
- Buffering in-field ponds and ditches on arable land.
- Measures to restore one component of habitat integrity need to be planned with others in mind, and with a long-term vision in mind. For instance, the biodiversity benefits of physical habitat restoration may be short-term and limited unless water quality issues are also rectified.

- Lakes - means to prevent nutrient pollution through better land management/agricultural practices.
- Lakes - artificial manipulation of fish assemblages - e.g. removal of carp or planktivores, and the addition of piscivores. Restoration of native and appropriate mixed fish and plant communities.
- Maintaining, or direct management of lakes, so safeguard against climate change impacts and local or regional extinctions, or to aid species recovery.
- Removal or modification of shoreline structures that prevent lateral connectivity. Alternatives such as soft engineering options should be considered.
- Addition of lake shoreline vegetation such as trees (and woody debris). Shoreline fencing should be avoided or set back.
- Pond creation, in addition of restoration of existing ponds, to ensure the conservation of early successional pond species.

RIV3 Establish wide, more natural buffer strips with a diverse vegetation structure along rivers, streams and springs, providing a balance of light and shade, supporting wetland habitats and protection from pollution.

Potential measures identified at previous stakeholder workshops:

- County level joined up, landscape scale riparian corridors.
- Softer landscaping- wide margins, buffer strips along the entire length of rivers. Creation of complex habitats along rivers - mosaic, deadwood, scrub, lightwells, beaver ponds, buffers for agri-chemicals. Riverbanks protected from livestock. Trees along riverbanks.

Other relevant potential measures:

- Flood zone 2 or 3 of the Environment Agency flood map and maps showing Groundwater Dependent Terrestrial Ecosystems (GWDTE). Land within these areas is a candidate for floodplain meadow restoration.
- Identify the extent of existing priority habitat. Floodplain meadows are found within the Lowland Meadows Priority Habitat definition and the locations can be found on Defra's MAGIC Map.
- Prioritise grassland that are important for amphibians and reptiles.
- Creation of wet grassland for breeding waders, wintering waders and wildfowl (GS11) (over 10 years).
- Management of intensive grassland adjacent to a watercourse.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- Prioritise chalk aquifer-fed wetlands.
- Creation of reed bed (WT7) (over 10 years).
- "Re-wiggling and re-wilding of rivers is quite common and can be done in tandem with a change in adjacent land use to floodplain meadows. Encourage the river restorers to think outside the scrape-creation box and look at more interesting and

beneficial land-use change. Things like scrapes and bunds aren't great for soil protection and carbon storage. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process of re-establishing natural processes."

- Buffering in-field ponds and ditches on arable land.
- "Connectivity between the river corridor and floodplain, through both lateral channel movement and floodplain inundation during floods, supports and connects aquatic and wetland habitats beyond the river's banks. In many cases, an enhanced 'erodible' river corridor, bounded by some form of resistance to further movement (such as set-back tree lines), within which the channel can move and create at least limited physical dynamism, is an attainable ambition."
- A patchy mosaic of long and short swards, trees and shrubs, and bare ground will be maintained by natural river processes. Riparian trees are particularly important, providing habitat complexity (large woody debris, exposed tree root systems, scour holes), as well as a food source (leaf litter is vital, particularly for specialist species in headwaters). Increasing riparian tree cover to 30% (or more where consistent with restoring natural ecosystem function) provides patchy light and shade to the channel, reducing the impacts of rising air temperatures, thus contributing to climate change mitigation.
- Addition of lake shoreline vegetation such as trees (and woody debris). Shoreline fencing should be avoided or set back.

RIV4 Protect headwater streams and restore a natural channel shape, allowing them to function as part of a mosaic of seasonally wet habitats including grasslands and woodlands, providing resilient flows to rivers and supporting a wide range of wildlife.

Potential measures identified at previous stakeholder workshops:

- Freshwater marshes - improved management of river systems for wetland habitats - beavers, leaky dams, re-profiling.
- Better ditch management and farming practices, to ensure freshwater habitats are protected.

Other relevant potential measures:

- Creation of wet grassland for breeding waders, wintering waders and wildfowl (GS11) (over 10 years).
- Management of intensive grassland adjacent to a watercourse.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- Bogs - restoring natural processes through infilling and blocking of drains, and tackling pollution inputs.
- "Re-wiggling and re-wilding of rivers is quite common and can be done in tandem with a change in adjacent land use to floodplain meadows. Encourage the river restorers to think outside the scrape-creation box and look at more interesting and

beneficial land-use change. Things like scrapes and bunds aren't great for soil protection and carbon storage. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process or re-establishing natural processes."

- Creation of leaky dams.
- Ensuring the management of ephemeral features - winterbournes, shingle bars, riparian wetland zones and seasonal encroachment of vegetation.

RIV5 Restore clay rivers to a more natural channel shape, removing physical modifications and the impacts of historic alterations and restoring a mosaic of connected wetland habitats along the floodplain and headwater streams.

Potential measures identified at previous stakeholder workshops:

- Freshwater marshes - improved management of river systems for wetland habitats - beavers, leaky dams, re-profiling.
- Better ditch management and farming practices, to ensure freshwater habitats are protected.

Other relevant potential measures:

- Management of intensive grassland adjacent to a watercourse.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- Creation of reed bed (WT7) (over 10 years).
- Bogs - restoring natural processes through infilling and blocking of drains, and tackling pollution inputs.
- "Re-wiggling and re-wilding of rivers is quite common and can be done in tandem with a change in adjacent land use to floodplain meadows. Encourage the river restorers to think outside the scrape-creation box and look at more interesting and beneficial land-use change. Things like scrapes and bunds aren't great for soil protection and carbon storage. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process or re-establishing natural processes."
- Ensuring the management of ephemeral features - winterbournes, shingle bars, riparian wetland zones and seasonal encroachment of vegetation.

GW1 Improve the health of groundwater bodies by protecting them from pollution and over-abstraction, in turn protecting and supporting groundwater-dependent terrestrial and wetland ecosystems.

Potential measures identified at previous stakeholder workshops:

- Use of SUDS.

Other relevant potential measures:

- Reedbeds - reducing over-abstraction to support the return of a natural water supply.
- Reedbed - allowing seasonal fluctuations of water levels where possible, to maintain species-rich reedbeds.
- Bogs - tackling over-abstraction to support the return of a natural bog hydrological regime.

Potential measures for wetland priorities

LM1 Restoration of lowland mire sites (fen and raised bog), with the provision of buffers to allow the habitat extent to increase.

Potential measures identified at previous stakeholder workshops:

- Protect and restore wildlife-rich and functioning freshwater wetlands across the county, providing not only shelter, nurseries and breeding grounds but also carbon sinks and water management. Need to reflect in potential measures how lack of water level management will be addressed.
- Freshwater marshes - improved management of river systems for wetland habitats - beavers, leaky dams, re-profiling.

Other relevant potential measures:

- Management of historic water meadows through traditional irrigation.
- Interventions in wet grasslands such as water-level raising and drain blocking, coupled with limiting pollutant inputs.
- In managed wet grasslands, rotational management of ditch systems to "reset" the earlier successional stages.
- Prioritise chalk aquifer-fed wetlands.
- Creation of scrapes and gutters in wet areas.
- Bogs - restoring natural processes through infilling and blocking of drains, and tackling pollution inputs.
- Bogs - rewetting of bogs through felling of forestry plantation in key areas.
- Fens - direct intervention such as artificial irrigation to retain a high water level.
- Fens - removing drainage or excessive tree cover to prevent drying out.
- "Re-wiggling and re-wilding of rivers is quite common and can be done in tandem with a change in adjacent land use to floodplain meadows. Encourage the river restorers to think outside the scrape-creation box and look at more interesting and beneficial land-use change. Things like scrapes and bunds aren't great for soil protection and carbon storage. Where a river system has high nutrient status, using floodplain meadows as a nutrient pump is an important stage in the process or re-establishing natural processes."

RB1 Increase the extent of high quality reedbeds across Kent and ensure existing reedbeds are in appropriate management.

Potential measures identified at previous stakeholder workshops:

- Use of SUDS.
- Long term management of reedbeds to stop them drying out/manage succession.

Other relevant potential measures:

- Creation of reed bed (WT7) (over 10 years).

- Reedbeds - winter (in reed-dominated vegetation) or summer cutting (in species-rich reedfen) to preserve successional stages.
- reedbeds - reducing over-abstraction to support the return of a natural water supply.
- Reedbed - allowing seasonal fluctuations of water levels where possible, to maintain species-rich reedbeds.

Potential measures for coastal priorities

CL1 Coastal habitats are allowed evolve, with natural dynamic processes and progression restored, to enable adaption and resilience to climate change and minimise the loss of intertidal habitats.

Potential measures identified at previous stakeholder workshops:

- Integrate NBS thinking into Shoreline Management Plans.
- Coastal squeeze – looking at land acquisition for inland areas that could provide buffer zones, as well as fresh water storage through losses of grazing marsh, catering for the needs of wildlife that will be losing habitat due to sea level rise.
- “Restoration halo effect” = managed realignment leads to more grazing marsh, in turn improves water quality, more sea grass, etc. Data: EA have already identified 8 sites (out of c30) for managed realignment.

Other relevant potential measures:

- Responding to the threat of rising sea levels due to climate change by identifying areas for managed realignment of coastal defences where appropriate, creating new intertidal habitats to mitigate for any losses caused by coastal squeeze, while maintaining natural coastal processes.
- Effectively managing the mosaic of coastal, freshwater and terrestrial habitats to maintain their biodiversity value, while seeking opportunities to re-link fragmented habitats to create a robust wildlife network with enhanced adaptation to climate change.
- Identifying further opportunities to create compensation habitats for those lost to ‘coastal squeeze’, aiming to ensure no net loss of habitat, benefitting biodiversity and the regulation of coastal erosion and flooding.
- Protecting the diverse range of species associated with coastal habitats, particularly the unique and rare, furthering understanding of species distributions and requirements, and encouraging longer-term monitoring and surveillance programmes.
- Improving sustainable public access to areas of biodiversity, geological and geomorphological interest, incorporating interpretation to raise awareness, increase understanding and enhance visitor enjoyment, while protecting habitats and species that are vulnerable to disturbance.
- Take a holistic approach which ensures that management is in line with the actions needed to achieve favourable condition of the designated sites, supporting adaptability to sea level rise, and maintaining opportunities for natural regeneration to aid the long-term alleviation of coastal flooding while preserving geomorphological and wildlife interest.
- A consideration of soft rock cliffs or variations in substrate and topography for the benefit of invertebrates and prioritise species dependent on these calcareous habitats

for conservation action, particularly those with an unfavourable status and whose range is predicted to shift with climate change.

- Continuing to support, monitor and research coastal geomorphological processes to improve our understanding and inform future coastal management decisions.
- Protecting the existing designated area network and working in partnership with existing local projects, initiatives and organisations, including the Nature Improvement Area, to deliver integrated, effective conservation management on a landscape scale.
- Addressing climate change impacts on seal haul out sites and high tide bird roosts, by creating alternative islands in specific locations.

CL2 Sustainable management of estuaries and open coast to be promoted, allowing a range of high functioning coastal habitats such as saltmarsh and mudflats to develop.

Potential measures identified at previous stakeholder workshops:

- Using opportunities to create more saltmarsh areas – such as the Beneficial Use of Dredging Sediment (BUDS) projects happening in the Medway estuary (Peel Ports).
- Coastal green infrastructure in more built-up areas and on the landward side of flood defences that can alleviate surface water flooding and attenuate pollution into the estuary. This would both boost biodiversity and provide corridors of habitat in addition to larger scale habitat restoration in coastal and marine areas. These can be used by more terrestrial species such as bats, bees, voles and if designed correctly and drain through the flood defence can provide the water flow needed at the back of saltmarsh/estuary edges or other intertidal habitats to enable creeks to form naturally. An example of an urban design of this in estuary edges is Royal Wharf.

Other relevant potential measures:

- Allowing natural regeneration of coastal features such as chalk cliffs and estuarine habitats. Supporting and ensuring the continuation of the natural dynamic coastal processes of accretion and erosion that shape the estuary, encouraging natural regeneration of intertidal sand, mudflats and saltmarsh.
- Maintaining areas of intertidal habitat as a buffer between wave action and sea defences to reduce flooding and protect inland areas.
- Conserving the wild and remote character of the estuary by maintaining the extent and quality of the semi-natural coastal habitats and creating new habitat where feasible.
- Maintaining important coastal geological exposures and geomorphological features will also benefit geodiversity.

CL3 Improved condition of saltmarsh and mudflats, with functioning ecosystems supporting wildlife.

Potential measures identified at previous stakeholder workshops:

- Tackling disturbance issues on these habitats through education, engagement and sustainable management of leisure activities to halt decline in number of feeding and breeding sea birds and waders.
- Identify areas where new saltmarsh can naturally develop due to coastal squeeze.
- More research to be carried out on the loss of seagrass and potential restoration projects.

Other relevant potential measures:

- Supporting projects and programmes that seek to secure the future of species limited to and closely associated with the marshland, coastal and estuarine habitats of the area, for example the recovery programme for the pedunculate sea-purslane.

SL1 Saline lagoons are appropriately protected and managed to increase their resilience and adaptation to climate change and secure their ecological functions, including the role they will play as transitional habitats.

Potential measures identified at previous stakeholder workshops:

- Saline lagoons monitored for the tentacled lagoon worm (an indicator species which is fairly easy to monitor through sampling) which indicates good or potentially good quality habitat. The Medway and Swanscombe MCZ are designated for them.
- Could use Shoreline plans to identify possible sites.

VS1 Protect and restore vegetated shingle, ensuring there is no unavoidable loss and areas remain in, or are returned to, a favourable condition.

Potential measures identified at previous stakeholder workshops:

- Research needed on the impact of coastal engineering and beach replenishment on vegetative shingle.

Other relevant potential measures:

- Working in partnership to ensure that gravel extraction does not impact on the shingle habitats and geomorphological structures and that extraction is sensitive to the needs of biodiversity and landscape in addition to geological interests. Where extraction is permitted, ensure sensitive restoration of pits that seeks to incorporate new habitats into the landscape, including open water gravel pits and fringing reedbeds.
- Opportunities to create shingle habitat are extremely limited and of limited success. Therefore, action is better focused on the supporting of ongoing research to establish the feasibility of restoring vegetated shingle habitat, building on the lessons learnt from existing and new experimental plots. This would inform consideration of

managing pressures such as visitors causing damage through trampling, 4x4 vehicles disturbing surface geomorphology and shingle vegetation through off-roading, and grazing by rabbits on the shingle vegetation.

- Supporting ongoing geomorphological research that furthers understanding of the ongoing evolution of the coast, including comparison with historical changes, and taking account of the ongoing influence of human activities and climate change. Protect, celebrate and further the understanding of the largest and most diverse shingle beach in the UK through sensitive and appropriate geo[1]conservation and research, maintaining the NCA's importance in relation to coastal evolution and environmental change and strengthening links between geodiversity and the cultural environment of the NCA.
- Creation of coastal sand dunes and vegetated shingle on arable land or improved grassland.

Potential measures for marine priorities

MAR1 Reducing small scale loss and increasing connectivity and functionality of intertidal mud for foraging birds.

Other relevant potential measures:

- Active restoration of marine habitats - Mobile MPAs for key lifecycle events, recognising dynamic nature of marine environment.

MAR2 Rocky and biogenic reefs nurtured and protected from erosion and marine development. In particular, ross worm and blue mussel reefs recovered and acting as functional habitat.

Potential measures identified at previous stakeholder workshops:

- Look into the 'ReMeMaRe' (Restoring Meadows, Marsh and Reefs) guidance and projects to help deliver suitable restoration in these areas.

Other relevant potential measures:

- Expand Marine Conservation Zones - quantify species in MCZ, monitor movement, coastal reefs identified and protected.

MAR3 Reverse the decline in seagrass off Kent's coast.

Potential measures identified at previous stakeholder workshops:

- Work with water companies to reduce sewerage outflow which is having an impact on the quality of seagrass in areas near to sewage outfall areas and addressing water quality through enforcement as well as inland natural solutions (e.g. wetlands near CSO's, trees in ditches, vegetation to stop runoff, improving soil structure and no-till farming methods).

Other relevant potential measures:

- Active restoration of marine habitats - Mobile MPAs for key lifecycle events, recognising dynamic nature of marine environment.

MAR4 Chalk reefs nurtured and protected from erosion and damage from marine development.

Potential measures identified at previous stakeholder workshops:

- No take zones extended (perhaps renamed 'recovery zones'. Currently, MCZs provide little protection. When areas are left alone from recreational disturbance, recovery work can be carried out and will be more successful if there are less pressures on the environment.
- Look into the 'ReMeMaRe' (Restoring Meadows, Marsh and Reefs) guidance and projects to help deliver suitable restoration in these areas.

MAR5 Sustainable management of native oyster beds to allow them to reach their habitat building potential.

Potential measures identified at previous stakeholder workshops:

- Removal of non-native species that are having an impact on native oyster beds.
- More research needed on the effects of climate change on native oysters.
- Ban trawling – if not already done.
- Prevent sewage in water/address sewage issues – oysters cannot cope with the amount of raw treatment entering the marine environment.
- Marine traffic to avoid oyster beds.
- Control pacific oysters (but can be problematic, e.g. if being bashed, can cause upset to passers-by).
- Stricter biosecurity.
- Look at ENORI (England Native Oyster Recovery Initiative) for data.

MAR6 Priority relating to fish nursery areas?

No potential measures identified through review.

MAR7 Reduction in marine life disturbance resulting from leisure pressures on coastal zones and marine environment.

Potential measures identified at previous stakeholder workshops:

- Consider the benefit of SSSI designation in Sandwich Bay for seals – to help with enforcement on disturbance.
- Designated zones e.g. for jet skis, canoes etc, to direct them away, for example direct towards Broadstairs/Margate and away from SSSI which is in the other direction.
- Make it easy and enjoyable for them, e.g. provide a berthing platform [in location you want them to favour]
- Provide training e.g. to Tourism Officers, leisure operators, users themselves (in return for something e.g. free launch facility)
- Increase in use of boats/high % of fuel goes into water from engines. Encourage electric motors?
- OS maps not always correct – advise OS? Apps such as Strava publish routes used by others so if wrong, others follow. Gives impression area is open to access when it isn't.
- Have joined up approach across county, including Tourism, and use others to communicate priorities e.g. Visit Kent can share messages about avoiding disturbance to dog walkers, water leisure users etc.

Other relevant potential measures:

- Managing increasing visitor pressure by promoting the sustainable recreational use of appropriate areas while protecting fragile habitats, species, geological and historic features and taking recreation disturbance issues into account.
- Ensuring that promotion of access opportunities educates people about the vulnerability of the coastal habitats and encourages visits of a low-impact nature that avoid any adverse effects on landscape, habitats and wildlife. Incorporating interpretation into coastal sites and along the England Coast Path to raise awareness, increase understanding and enhance visitor enjoyment.
- Working in partnership to devise an access strategy that addresses the issues of recreational pressures on the vulnerable coastal habitats, particularly where vandalism, inappropriate vehicular access, boat mooring and trampling can have a major impact on the colonisation and stabilisation of habitats, while seeking to offer a range of sustainable tourism and access opportunities, utilising the assets of the wider NCA to relieve pressure along the coast.
- Encouraging opportunities for people to connect with the natural landscape and its wildlife through local nature reserves, volunteering, working with local schools and community groups, and activities such as birdwatching and visiting the internationally important coastal habitats of the estuary.
- Exploring the feasibility of implementing physical control structures where these may help to manage visitor pressure, using best practice to inform decisions.
- More joined up, county approach to addressing wildlife disturbance and better more available and manageable monitoring of wildlife disturbance to inform enforcement.

Potential measures for connectivity priorities

FRG1 County's key wildlife sites better connected by addressing the fragmentation and barriers preventing movement of species.

Potential measures identified at previous stakeholder workshops:

- Habitat connectivity to support climate resilience - river habitats and standing water bodies; lowland beech and yew woodlands; wet woodlands; coastal grazing marsh; wet and dry lowland heath; fen, marsh and swamp; coastal (machair, saltmarshes, mudflats, saline lagoons).
- Potential measures to identify how this connectivity can be provided for - links to other habitat priorities (e.g. hedgerows)?

Other relevant potential measures:

- Buffer priority habitats to facilitate species movement in response to climate change
- Knit grassland, arable and woodland areas together in a landscape scale mosaic
- Habitat connectivity to support climate resilience [of vulnerable habitats] river habitats and standing water bodies; lowland beech and yew woodlands; wet woodlands; coastal grazing marsh; wet and dry lowland heath; fen, marsh and swamp; coastal (machair, saltmarshes, mudflats, saline lagoons).

FRG2 Fragmentation caused by arterial roads, railway and other major infrastructure retrospectively addressed, reconnecting habitats and wildlife pathways.

Potential measures identified at previous stakeholder workshops:

- Road network delivering for nature.
- Potential measures to identify specific sites for retrospective defragmentation.

Other relevant potential measures:

- Manage hedgerows alongside roads, encouraging replanting rather than repair where they have become gappy.
- Promote new hedgerow and roadside trees.
- Identify, designate and appropriately manage species-rich grassland road verges
- Structure removal of weirs and dams from rivers and streams should be the aim wherever possible. Modification to minimise impacts is the next best option, preferably using a by-pass channel, permeable to relevant priority species as a minimum.

CON1 Habitats connected at both a county and local scale, delivering bigger, better and more joined up with no important wildlife habitats, or species populations, left completely isolated.

Potential measures identified at previous stakeholder workshops:

- Hedgerow planting around ancient woodland to connect habitats.

Other relevant potential measures:

- Restoring and strengthening the mosaic of connecting landscape and habitat features including the patchwork of smaller downland banks, shaws, hedgerows, field margins, unimproved hay meadows, pockets of heath and acid grassland, flower-rich roadside verges and uncultivated field corners, field margins and woodlands.
- Identification of key routes through the landscape, creating and maintaining 'ecologically functioning' dark corridors, and following the latest guidance on artificial lighting at night to reduce impacts.
- Creating a mosaic of semi-natural woodland, grassland and wetland habitats that assimilate disused mineral workings and landfill sites into the landscape, while providing new wildlife havens and recreational space.
- Structure removal of weirs and dams from rivers and streams should be the aim wherever possible. Modification to minimise impacts is the next best option, preferably using a by-pass channel, permeable to relevant priority species as a minimum.

CON2 Management of habitats to deliver a connected mosaic of habitats at a large scale, where nature can flourish and species requirements are considered.

Other relevant potential measures:

- Restoring hedgerow boundaries and shaws, maintain the predominantly irregular field pattern.
- Connectivity between the river corridor and floodplain, through both lateral channel movement and floodplain inundation during floods, supports and connects aquatic and wetland habitats beyond the river's banks.
- Vertical connectivity with the underlying groundwater provides further habitat opportunities for many invertebrates, with some species confined to these zones.
- Connecting riparian habitats to wet grassland, unimproved grassland, marsh and coastal grassland.
- Linking of hedgerows with broadleaved woodland.
- Creating a mosaic of semi-natural woodland, grassland and wetland habitats that assimilate disused mineral workings and landfill sites into the landscape, while providing new wildlife havens and recreational space.
- Restoration and enhancement of large areas of lowland semi-natural grassland, heath and wetland.
- B-Lines, 3km wide linear pathways, connecting the best remaining wildflower-rich habitats.

- Expanding and connecting habitats that are important for amphibians and reptiles, managing a network of ponds that can allow amphibians to move, feed and overwinter.

CON3 The county's highway, cycleway, pathway and PROW networks acting as functional networks for wildlife.

Other relevant potential measures:

- Manage and protect ancient trackways. Manage and enhance linear networks- cycle networks, riverside paths, extensive rights of way network and open access land throughout the area, improving links to the Sussex Border Path, High Weald Landscape Trail and Weald Way.

SB1 Reduce the amount of unmanaged scrub, and the loss of grassland and heathland from its encroachment.

Other relevant potential measures:

- Actively manage chalk grassland, using appropriate grazing where possible, or cutting to prevent scrub growth and encourage a diversity of grasses and herbs.

SB2 Increase the extent of low level, scrub/successional habitat, providing a mix of young and mature scrub to enable structural diversity and the support of a wide range of species. Link this scrub habitat with hedgerows, woodland and other habitats to support wildlife corridors.

Other relevant potential measures:

- Incorporate areas of open space and transitional habitat like scrub and grassland.
- Connected Scrub areas next to woodland.

Potential measures for climate change resilience priorities

CR1 Improve connectivity of the landscape, with dynamic habitats which evolve and change, to support climate change resilience, with particular attention paid to <<habitats>> and <<species>>.

Other relevant potential measures:

- Improving water storage and retention, and within surrounding landscape. Increased levels of vegetation including trees and shrubs, alongside rivers and streams.
- Managed realignment of intertidal habitats, to be resilient to climate change.
- Saltmarsh/grazing marsh delivered at a scale to provide biodiversity, climate resilience and flood management benefit, benefitting breeding waders and invertebrates.
- Restore natural processes in rivers and streams - natural flow, geomorphological and water quality regimes – allow expression of a characteristic and self-sustaining mosaic of river biotopes and provide the best opportunities for priority species to survive in a changing climate. A catchment-scale approach encourages practitioners to consider how the river system would operate under natural processes as a foundation for planning restoration.
- Large areas of native woodland with increased resilience to climate change - habitat connectivity, more standard trees, more woodland planting, more wood pasture. Planting trees and woodland resilient to pest, disease, climate change.
- Increase canopy cover in villages and towns (trees outside woodlands). As well as absorbing CO₂ from atmosphere, trees will contribute to localised cooling in times of higher temperatures.
- Connected, urban green spaces and areas for water absorption (SUDS).
- Consider addressing future climate change through significant new woodland planting on plateaux and ridge tops informed by existing and valued landscape character and qualities.
- Replant dead ash with appropriate resilient species.
- Buffer priority habitats (calcareous grasslands, mosaic habitats, woodlands on calcareous soils, chalk streams and chalk aquifer-fed wetlands) to facilitate species movement in response to climate change.
- Identifying further opportunities to create compensation habitats for those lost to 'coastal squeeze', aiming to ensure no net loss of habitat, benefitting biodiversity and the regulation of coastal erosion and flooding.
- Adopting a landscape-scale approach to restore, create and re-link remaining wetland habitats (including flood plain and coastal grazing marsh, reedbeds, fens and wet woodland) throughout the Lower Stour Wetlands Biodiversity Opportunity Area (including the Stodmarsh Special Area of Conservation) and the area identified under the Wetland Vision. This will create a robust wildlife network that significantly enhances adaptation to climate change, benefitting landscape and biodiversity while also storing flood waters to aid flood alleviation, improving water quality and increasing carbon storage.

- Woodland resilience to climate change through connecting and enhancing isolated habitats and promoting sustainable management techniques (such as coppicing, pollarding and wood fuel production) to increase carbon substitutions and sequestration and the resilience of tree species to climate change and disease.
- Holistic approach to achieve favourable condition of designated sites, supporting adaptability to sea level rise and maintaining opportunities for natural regeneration to aid long-term alleviation of coastal flooding.

CR2 Proactively address the migration of new species into the county as a result of a changing climate, with strategies for both naturalised species and invasive/pests.

Other relevant potential measures:

- Management of problematic native species - Managing native plants and animals that have become out-of-balance directly or indirectly due to human activities and, in certain regions, may be causing damage to particular habitats (e.g. deer jeopardising forest restoration) or threatening population of target species (e.g. gulls predated on eggs and chicks of a threatened bird). This also includes managing impacts of feral populations.

CR3 Landscape scale management, with partners beyond the county, to address habitat change and species migration as a result of climate change.

Other relevant potential measures:

- Recognising and managing the risks of tree diseases and woodland pests, taking co-ordinated conservation action to safeguard the woodland resource, and considering the close vicinity to the continent from where diseases can spread.

Potential measures for nature based solutions priorities

NBS1 Increase of woodland and trees outside woodland to deliver air quality improvements.

No potential measures identified through review.

NBS2 Work with nature to restore river catchments' functions to improve water quality, manage flood risk and deliver enhanced biodiversity.

Other relevant potential measures:

- Create wetlands within the valley of the Medway, upstream of flood risk areas and on the Darent and Stour to help reduce downstream flooding, as identified within the relevant catchment flood management plans.

NBS3 Increase the extent of carbon sequestering habitats in the county, that are purposefully managed to function as a carbon store whilst prioritising a nature recovery function.

Potential measures identified at previous stakeholder workshops:

- Enabling carbon storage provided by extensive areas of salt marsh, reedbeds, mudflats and grazing marsh by maintaining their good condition through sustainable management.

NBS4 Protect habitats delivering critical ecosystem services in the county.

Other relevant potential measures:

- Creating extensive reedbeds where potentially polluted waters enter these wetlands to filter out pollutants and provide benefits for water quality.
- Protecting the chalk aquifer by promoting good agricultural and land management practices, helping to bring improvements to groundwater quality.
- Considering arable reversion to chalk grassland where it will bring particular benefits for aquifer recharge and to assist in water quality regulation, looking for locations that maximise these benefits along with benefits for biodiversity and the landscape.
- Targeted planting of areas of broadleaved woodland as part of urban and peri-urban green infrastructure to provide a screening function a recreational resource, a local source of wood fuel and to regulate climate change – existing woodlands managed to the same ends.
- Provide a range of niches to support pest-regulating species including invertebrates, birds and mammals.

- Work with landowners to promote the principles of good soil husbandry to improve soil quality, protect the sustainability of future yields, while benefitting other regulatory services such as water availability, water quality and reducing soil erosion through improving soil structure and water infiltration.
- Target expansion of semi-natural woodland and other permanent habitats on steeper slopes to aid water infiltration and help to reduce cross-land flows where appropriate.
- Implementing sustainable Shoreline Management Plans to reduce flood risk from climate change, including managed realignment schemes, identifying and safeguarding areas of functional flood plain needed for strategic flood storage in the Thames Estuary in local development plans, ensuring a catchment-scale approach to flood risk management.

NBS5 Protect and restore wildlife-rich and functioning freshwater wetlands across the county, providing not only shelter, nurseries and breeding grounds but also carbon sinks and water management.

Other relevant potential measures:

- Creating new wetlands as part of sustainable drainage systems, helping to provide flood alleviation.
- Bringing rivers back into continuity with their flood plains to help to sustain these habitats for the benefit of biodiversity and the alleviation of downstream flooding.
- Recharge of the underlying aquifers to be achieved by a mix of land management interventions including expansion of chalk grassland, creation of buffer strips or better soil management to reduce compaction and increase water infiltration.

Potential measures for species priorities

SPP1 All management of Kent's priority habitats taking account of the needs of the priority species that both contribute to, and depend on, that particular habitat. With management utilising the role of species to help deliver more dynamic, natural, intact and climate resilient ecosystems.

No potential measures identified through review.

Potential measures for farm and land management priorities

FM1 Increase in number of farms employing nature friendly farming practices and sensitive land management, resulting in farmland across the county that is rich in wildlife.

Potential measures identified at previous stakeholder workshops:

- Reduced pesticide, herbicide and fungicide use.
- Reduced fertiliser use.
- Permaculture.
- Grow food on good high quality arable land.
- Reduce agriculture on unsuitable arable land and set aside for nature.
- Rotational management with farmland birds in mind.
- Landscape diversity in farming - polycultures, mixed farming, small scale to allow for thriving nature.
- More agroforestry. More Silvo pasture.
- Working with farmers and vineyards to ensure nature friendly sustainable practices are used.

Other relevant potential measures:

- Supporting environmentally based agricultural grant systems; for example, whole farm plans, environmental and pollution controls, habitat creation and habitat management.
- Encourage integrated pest management/pollinators and predators for pest regulation.
- Best practice soil management methods to maximise organic matter content, remediate compactions and prevent erosion
- Working with landowners to integrate any new and novel crops, promoting sustainable management.
- Monitor the impacts of changing farming practices.

FM2 Farmland delivering targeted action for nature recovery.

Potential measures identified at previous stakeholder workshops:

- Ponds.
- Winter crops for bird feed.
- Seasonal farmland that rests up for periods.
- Landscape diversity in farming - polycultures, mixed farming, small scale to allow for thriving nature.
- Protected areas of species-rich farmland (containing birds of conservation concern).
- Undisturbed arable wildflowers.
- Network of advisors and support or landowners working to improve their land for wildlife.
- Encourage and support communication between farmers.
- Encourage and support uptake in farmer clusters.

- Work with farmers to understand the problems they face in farming more sustainably.
- Conservation grazing to create habitat mosaics and restore ecosystem functioning.
- Increased use of natural processes in land management.
- More recognition of importance of traditional management techniques e.g. coppicing, in providing habitat.
- More sites with management plans for nature.
- Include buffer strips with hedgerows.
- Replacing fences with hedges.
- Deer control. - Himalayan balsam. - Floating pennywort. - Giant hogweed. - Signal crayfish.
- Working with farmers and vineyards to ensure nature friendly sustainable practices are used.
- Increase network of farms providing educational access and target urban schools.

Other relevant potential measures:

- Restore small landscape features on agricultural land - hedges, stone walls, ponds, small woods, ecotone zones, edges around fields, ditches, natural pathways.
- Provide high quality nesting and feeding habitat for farmland birds such as corn bunting and grey partridge.
- Preserve surviving pockets of unimproved hay meadows, maintain extent and quality of unimproved permanent grassland and meadows.
- Conservation grazing to create habitat mosaics and restore ecosystem functioning.

FM3 Protect freshwater habitats and groundwater bodies in farmland from agricultural diffuse pollution (caused for example by soil, nutrient or livestock management practices and physical modifications) and the impacts of over-abstraction.

Potential measures identified at previous stakeholder workshops:

- Better use & adoption of field margins
- Large field boundaries.
- Buffer strips along every field.
- Water course buffers.
- Less unsustainable agriculture on floodplain.
- Better ditch management and farming practices, to ensure freshwater habitats are protected

Other relevant potential measures:

- Creating wide grassland buffer strips across steeper slopes and alongside hedgerows, rivers and other watercourses, particularly in areas of arable farmland, to help to prevent soil erosion and nutrient run-off and to enhance the habitat network.
- Encouraging the uptake of measures such as conservation headlands, low-input cereals and resource protection options such as grassland buffer strips.

HW1 The extent of species-rich hedgerows through the county is increased, with lost hedgerows replaced, gaps filled and management of existing hedgerows improving the quality as well as quantity.

Potential measures identified at previous stakeholder workshops:

- Infilling and maintaining hedges (more traditionally) as well as planting new ones.
- Care for deteriorating hedgerows.
- Improve unmanaged boundary lines of trees.
- Increased planting of hedgerows and trees
- Hedge Pledges to fill in gaps.
- Include buffer strips with hedgerows.
- Replacing fences with hedges

Other relevant potential measures:

- Restoring and planting new hedgerows to reinforce historic field boundary patterns, especially where they: run across slopes to provide a buffer to soil erosion and nutrient run-off; follow parish boundaries or long-established rights of way (especially historic drove ways) or otherwise support the distinctive character of the landscape; and provide a link between isolated habitats.

HW2 Improvements in hedgerow quality and extent providing a coherent network of shelter, nesting and forage for wildlife across the landscape and allowing other habitats to be linked.

Potential measures identified at previous stakeholder workshops:

- Native hedgerows with fruits.
- High quality scrub and hedgerow mosaic.
- Increased planting of hedgerows and trees.
- Infilling and maintaining hedges (more traditionally) as well as planting new ones.
- Hedge Pledges to fill in gaps.
- Conservation grazing to create habitat mosaics and restore ecosystem functioning.

Other relevant potential measures:

- Hedgerow planting around ancient woodland to connect habitats.

HW3 Hedgerows protected from loss, aggressive management, neglect and chemicals.

Potential measures identified at previous stakeholder workshops:

- Regulations on heights and widths of hedgerows.
- Cut at right time. Cut to right width and height.
- Include buffer strips with hedgerows.

Other relevant potential measures:

- Hedgerow planting around ancient woodland to connect habitats.

SH1 Improve soil and structure throughout the county by enhanced and increased soil management so that it is better delivering for invertebrates, carbon sequestration, water retention and management and production/provisioning.

Potential measures identified at previous stakeholder workshops:

- Cover crops, Nitrogen fixing
- Conservation grazing to create habitat mosaics and restore ecosystem functioning.

Other relevant potential measures:

- Best practice soil management methods to maximise organic matter content, remediate compactions and prevent erosion
- Arable conversion to permanent grassland - can increase infiltration by improving soil health and reducing run-off. Contribute to carbon sequestration.
- Managing access of livestock to areas surrounding watercourses

TO1 An increase in traditional orchards, under sensitive management, supporting an abundance and diversity of wildlife.

Other relevant potential measures:

- Support and accurately assess the extent, condition and composition of traditional orchards.
- Use restorative pruning techniques on fruit trees.
- Encourage the retention of existing 'compartment' shelter-belts from orchards and hop gardens and their incorporation into future-appropriate land uses.
- Maintaining and managing traditional orchards, including their poplar and alder shelterbelts.
- Establish new orchards of traditional varieties.
- Establish Community orchard projects for the maintenance, restoration and creation of traditionally managed orchard.

AW1 Restoration of arable fields with a diversity and abundance of arable weeds.

Potential measures identified at previous stakeholder workshops:

- Undisturbed arable wildflowers.

Other relevant potential measures:

- Create arable field margins and conservation headlands to help support important wintering and breeding populations of farmland birds, while increasing the habitat available for pollinators and rare arable plants.

Potential measures for urban priorities

OHM1 Protection from loss and damage of open mosaic habitats found on previously developed land for the benefit of species which rely on the early successional habitats.

Potential measures identified at previous stakeholder workshops:

- Identify and record habitat and species on brownfield sites to create an opportunity map
- Open mosaic habitat on previously developed land being recognised as high wildlife value
- Brownfield sites better recognised by planners and politicians

Other relevant potential measures:

- Need for a better understanding to quantify the brownfield resource so that, through planning, the best examples can be retained and managed; and where sites are lost, the value is understood and consequently they are properly mitigated for.
- Conserving and managing disused mineral and landfill sites to benefit biodiversity and increase recreational opportunities, while retaining important biodiversity and geological features.
- Maintaining and enhancing access to geodiversity, providing educational and research opportunities, and linking communities with their local heritage, including through the sensitive restoration of redundant quarries, exploiting their biodiversity, recreational and geological potential.

URB1 Increase the extent of green space, trees and hedgerows within urban areas to not only provide more habitat for wildlife and increase but also deliver other benefits including urban cooling, air and noise pollution regulation and surface water management.

Potential measures identified at previous stakeholder workshops:

- Increase canopy cover in urban spaces- trees on streets for urban cooling
- Urban hedgerows: Hedges in residential areas, instead of fences - could there be a grant for planting urban hedges?
- Appropriate native planting
- Increase the cover of urban green spaces with better management: allotments, community gardens

Other relevant potential measures for trees:

- Targeted planting of areas of broadleaved woodland, building the urban and peri-urban green infrastructure around towns where appropriate

- Protecting and expanding the existing urban treescape and seeking opportunities for more urban tree planting.
- Building community orchards on the edge or urban areas.

Other relevant potential measures for greenspace:

- Ensuring that new developments adequately incorporate features to make a positive contribution to biodiversity and climate change, including increasing the areas of green space. Ensure that developments retain soil functionality, as much as possible and do not have a negative effect on flood risk .
- Protecting extensive areas of multifunctional green space within and surrounding towns and identified new development areas.
- Create multifunctional natural green space by including community food gardens, orchards, and extensive wetlands that form part of sustainable urban drainage systems.
- Develop a strategic approach to extend green infrastructure networks of green spaces across the urban areas, urban fringe and adjacent countryside, which can result in multiple benefits for the environment and communities. Gather spatial data on existing high-value wildlife sites in urban areas and identify opportunities to connect urban green and blue infrastructure with wider nature networks.

URB2 Address habitat fragmentation of the urban environment, ensuring urban species can freely move about and developed areas and infrastructure does not impede passage.

Potential measures identified at previous stakeholder workshops:

- Meaningful introduction of habitat in development, with compulsory wildlife features in new builds- Green rooftops, swift, swallow and bat boxes
- Native trees and right tree in right place within development
- Urban Hedgerows: Hedges in residential areas, instead of fences - could there be a grant for planting urban hedges?
- Better utilisation of spaces for more urban greening and more nature friendly spaces eg wildflowers on roundabouts/central reservations
- Use of allotments and community spaces within development for community management
- Hedgehog highways
- Green bridges

Other relevant potential measures:

- Creating and protecting areas of urban green space within and surrounding both towns and identified new development areas. They should link into the heart of urban areas as part of green infrastructure planning.
- Opportunities within development:

- Green infrastructure planning should be maximised for its multiple benefits and best practice should be shared locally.
- Seeking opportunities to minimise the impact of new developments, including visual intrusion, disturbance and noise, on the tranquillity and beauty of the countryside
- Promoting the use of London's existing frameworks to inform the design of new landscapes associated with new development and green infrastructure within Greater London, including implementation of the All London Green Grid.
- Ensuring that the repair, restoration or conversion of buildings provides additional opportunities for bird boxes and bat roosts.
- Developing a strategic approach to green infrastructure, to take account of the existing urban areas and areas of growth:
 - Planning a network of green spaces across the urban areas, urban fringe and adjacent countryside, which can result in multiple benefits for the environment and communities
 - Gather better spatial data on existing high-value wildlife sites in urban areas and identify opportunities to connect urban green and blue infrastructure with wider nature networks.
 - providing habitats and green space linkages, increasing the permeability of the urban landscape to biodiversity and building on existing networks.
 - Ensuring that high-quality green infrastructure provision is integral to all development planning
 - Conserving and appropriately managing ancient trackways.
- Create multi-use green spaces:
 - allotments
 - community orchards on the edges of urban areas.
 - micro habitats for pollinators and wildlife friendly gardening.
- Habitat restoration of areas impacted by residential, commercial, industrial and recreational infrastructure, operations and activities.

URB3 Public greenspace and land management delivering wildlife benefits.

Potential measures identified at previous stakeholder workshops:

- Provide more varied habitats - brambles, nettles, log piles, bee-banks, scrub, wild flower meadows.
- Use of Green bridges, connecting green features, hedgehog highways, wild areas within urban parks.
- Connect people to these green spaces and generate volunteers to help manage their own local green space.
- Right tree in the right place and appropriate native planting.
- reduction in mowing/increase in left areas/plants allowed to flower.
- More recognition of our man-made heritage and the habitats it provides.
- Better management of urban and suburban greenspace.

- Soil and nutrient management.
- Urban and peri-urban agriculture.

Other relevant potential measures:

- Creating high-quality, well-managed accessible natural green space within and surrounding urban areas as part of comprehensive green infrastructure planning.
- Conserving and appropriately managing ancient trackways
- Create and improve multifunctional natural green space, including community food gardens, allotments, orchards, extensive wetlands.

Potential measures for access and connection priorities

AC1 Protection of habitats and species sensitive to disturbance by employing site management, and other measures, which support connection to, and experience of, wildlife but ensures our most sensitive sites remain undisturbed.

Potential measures identified at previous stakeholder workshops:

- Improve access management to keep our sensitive areas undisturbed.
- Need to reflect in potential measures how following impacts of access will be addressed habitat damage/degradation; trampling; soil compaction and erosion; wildlife disturbance; migratory and ground nesting bird disturbance; water pollution and littering.

Other relevant potential measures:

- Raise awareness of recreational activity impacts
 - Increasing understanding, awareness and enjoyment through education and interpretation materials especially where this helps to promote the sensitive features of designated sites, ensuring that access balances recreational enjoyment with the protection of biodiversity, geodiversity and historic features.
 - Exploring partnership initiatives to disseminate clear environmental education messages to encourage integration of recreation and public enjoyment opportunities with conservation of the natural and historic environment, using key sites and areas as examples of best practice.
- Creating high-quality, well-managed accessible natural green space
 - Promote the sustainable recreational use of appropriate areas while protecting fragile habitats, species, geological and historic features and taking recreation disturbance issues into account.
 - Working in partnership to devise an access strategy that addresses the issues of recreational pressures
- Relieving and managing pressure on sites
 - Maintaining and enhancing the extensive rights of way network and open access land throughout the area, improving additional links to relieve pressure on sensitive areas through a network of greenspace.
 - Developing new permissive access to historical sites and quality green space as part of a cohesive network of inspiring access provision where appropriate and away from sensitive areas
- Reduce the impact of outdoor sports, leisure and recreational activities and the restoration of habitats impacted by these.
- Restoration of areas impacted by outdoor sports, leisure and recreational infrastructure and activities.

AC2 Kent's population have a greater connection, and increased engagement, with natural areas and nature; and are inspired to deliver benefits for nature.

Potential measures identified at previous stakeholder workshops:

- Wildlife friendly gardens
- Less garden greenspace lost to paving over/ fake grass.
- Address the loss of connection between humans and wildlife through education.
- Connect people to these greenspaces and generate volunteers to help manage their own local greenspace.

Other relevant potential measures:

- Improve access networks across the county:
 - Creating a cohesive network of permissive access throughout the landscape, linking especially to towns and villages, as well as coastal routes and other areas of interest (such as the Blean complex)
 - Improve accessibility for all users
 - Conserving and appropriately managing ancient trackways (North Downs Way National Trail which links Dover and Guildford, and the Pilgrims' Way which links Canterbury and Winchester). access to historical sites and quality green space as part of a cohesive network of inspiring access provision
 - Development of new Public Rights of Way and cycle networks, maintain and extent existing ones.
 - Providing sustainable transport links between urban centres and recreation provision, focusing on a reduction in car-dependency.
- Access to public space
 - Encouraging sustainable recreational opportunities
 - Improving sustainable public access to areas of biodiversity, geological and geomorphological interest
 - Creating high-quality, well-managed accessible natural green space within and surrounding urban areas as part of comprehensive green infrastructure planning.
- Community Activities
 - Encouraging opportunities for people to connect with the natural landscape and its wildlife through local nature reserves, volunteering, working with local schools and community groups, and activities such as birdwatching and visiting sites.
 - Creating enhanced areas of new – and improving any existing – multifunctional natural green space, including community food gardens, orchards, and extensive wetlands.
 - Creating community allotments and develop those on the edges of urban areas.

- Encourage the residents to act in their gardens and communal open spaces to reverse loss of biodiversity through activities such as creating micro habitats for pollinators and wildlife friendly gardening.
- Education and engagement
 - Improve the provision of visitor facilities, educational material and interpretation of important sites for geodiversity, biodiversity and heritage.
 - Identifying and promoting viewpoints that enable appreciation and experience of the tranquillity and beauty of our county.
 - Exploring partnership initiatives to share clear environmental education messages to encourage integration of recreation and public enjoyment opportunities with conservation of the natural and historic environment, using key sites and areas as examples of best practice.
 - Promoting sustainable transport, green tourism and natural health initiatives