



Guidance notes: Big Chalk and Local Nature Recovery Strategies

Revised January 2025

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1. What is Big Chalk?

Big Chalk (see Annexe III) is the greatest opportunity to restore nature across the most species rich landscapes of southern England, allowing the most wildlife to thrive and adapt to climate change. Our chalk and limestone landscapes are culturally important and globally significant for their wildlife. They are central to the UK's pledge to protect 30% of land for biodiversity and halt the decline of species by 2030. Thriving landscapes protect historic heritage and water supplies, store carbon, conserve natural beauty and help improve people's health and wellbeing. See Annexe I for more information on the Big Chalk Programme, and Annexe II for its vision.

2. The role of Big Chalk in a LNRS

The LNRS programme is one of the most important strategic opportunities to secure Big Chalk's vision and programme. If each relevant LNRS partnership prioritises the Big Chalk geography, the LNRSs could together create something of global as well as local significance.

Big Chalk is founded on ecological principles and evidence. It:

- links 26 of 48 LNRS areas, showing how landscape connectivity is possible at a scale that enables wildlife to respond to climate change, facilitating population and range recovery
- provides an ecological lens for considering conservation priorities and associated delivery actions both within a LNRS area and at scale, across neighbouring LNRS areas
- identifies strategic habitat linkages between existing conservation activities, giving life to the Lawton principles of more, bigger, better and joined-up spaces for nature
- supports the prioritisation of the most species rich habitats and landscapes, helping protect and conserve the most important places for nature by 2030.

3. Recommendations for developing a LNRS, helping meet Defra statutory guidance

- Reference the Big Chalk geography:
 - as important context for the LNRS and include the Big Chalk map in the LNRS evidence base (shapefile available – see further information, p.2)
 - when prioritising areas of opportunity for restoring biodiversity
 - when recognising existing conservation activity and when prioritising new areas of activity, including strategic habitat linkages
 - when identifying linkages across the LNRS boundary.
- Prioritise calcareous grasslands¹, mosaic habitats and woodlands on calcareous soils, and chalk streams and chalk aquifer-fed wetlands, for which the UK is internationally important.
- Map and buffer these habitats to promote ecological integrity and resilience, particularly for the purpose of facilitating species movements in response to climate change.
- Prioritise species dependent on these habitats for conservation action, particularly those with an unfavourable status and whose range is predicted to shift with climate change.
- Establish a dialogue with neighbouring LNRS teams with the aim of ensuring sufficient consistency of approach to enable sharing of data and priorities across LNRS boundaries.
- Use recommended Priorities and Measures for calcareous grasslands and chalk streams (see Annexes IV and V).

¹ Utilise the data and opportunity mapping from '[Definition of Favourable Conservation Status for Lowland Calcareous Grassland](#)'

Annexe I

What is Big Chalk?

Big Chalk amplifies the efforts of partner organisations by:

- **Championing and connecting** partner contributions across boundaries
- **Catalysing and targeting** nature's recovery and public goods delivery (through funding/project development, capacity building and knowledge exchange)
- **Creating the conditions** for nature's recovery (informing policy, practice and funding)
- **Monitoring, evaluating and assuring** partner-led delivery.

It connects national targets and plans for nature's recovery with local, participatory initiatives such as delivery partnerships and farm clusters, across 20% of England.

What does success look like?

Our partnership is working together to achieve a major expansion in the scale, pace and impact of nature recovery activity across Big Chalk from 2025, catalysing progress towards 30by30 targets and contributing to a national Nature Recovery Network. Specifically, we are targeting:

- Significant improvements in the area, quality and connectivity of species-rich chalk and limestone grasslands
- Enhancements to the quality, function and resilience of chalk streams and rivers
- Improvements in the area, quality and connectivity of woodland and farmland habitats
- Increases in the abundance and range of priority species, acting as flagships for wider landscape recovery and building ecological resilience to climate change.

Wherever possible, we will seek and promote solutions which also deliver public goods, including protecting historic and cultural heritage, water management, soil health and carbon sequestration, natural beauty and health and wellbeing.

For further help, information or to provide feedback on this guidance, please contact:

We hope that this guidance is helpful to you when preparing your LNRS. Natural England and Defra are supporting the Big Chalk programme and further help and support is therefore available to you with integrating Big Chalk's vision into your LNRS:

The Big Chalk Partnership

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Annexe II

Big Chalk's vision is to create nature-rich chalk and limestone landscapes that benefit all of us.

Our **mission** is to collectively secure the future of nature in southern England's iconic chalk and limestone landscapes, by:

- championing the global importance of their unique nature,
- uniting nature recovery expertise to restore habitats and species, and
- working with speed, scale and focus.

Calcareous (chalk and limestone) landscapes in the south of England are the most species-rich habitats within the UK. When combined across the whole landscape, these habitats make it the best place to allow wildlife to recover and adapt to climate change.

Big Chalk is a big idea, aiming to realise one of the best opportunities to achieve nature recovery and help wildlife adapt to climate change offered by the English landscape. It will also deliver an array of public goods including sustainable employment and products, carbon sequestration, water quality, flood management, soil stabilisation and public health and wellbeing.

Covering 20% of England, Big Chalk has the primary objective of building a robust nature recovery network on a vast geographical scale, linking 26 of the 48 Local Nature Recovery Strategy areas. This will be achieved by identifying opportunities to transform these landscapes by applying the Lawton principles at a hitherto unimagined scale. This is also about securing our valued characteristic calcareous species and assemblages and increasing their abundance.

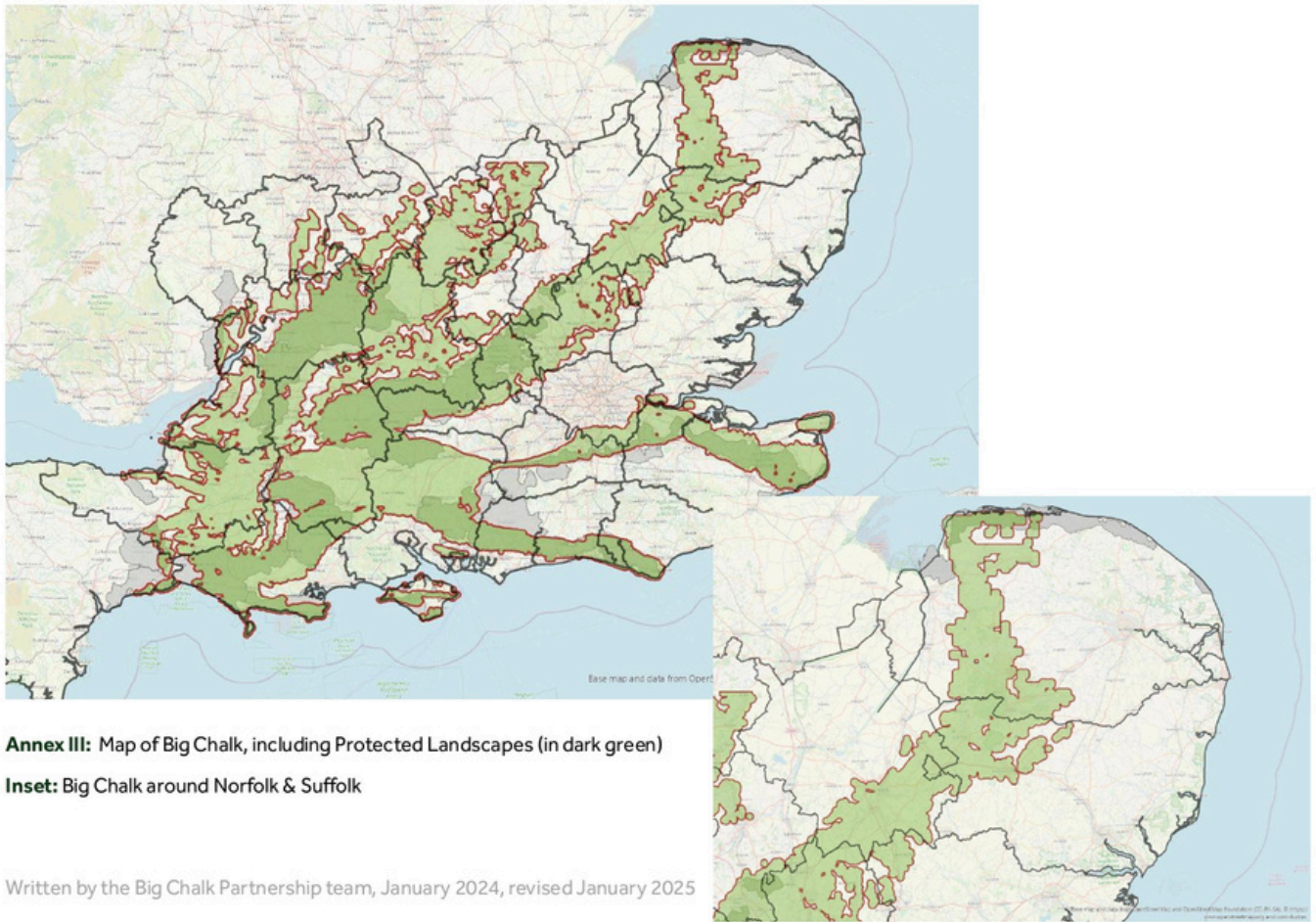
Big Chalk has the potential to attract private finance at scale by allowing opportunities to be aggregated across the whole landscape. Add this to a wide uptake of Environmental Land Management schemes, Farming in Protected Landscapes funding in 15 Protected Landscapes and Biodiversity Net Gain opportunities, and Big Chalk can deliver at scale.

Success will mean that Big Chalk will contribute significantly to many of the targets in the Government's Environmental Improvement Plan, particularly the apex goal of reversing the decline of species abundance. Big Chalk will make a keystone contribution to the UK Government's commitment that 30% of land and sea will be managed for nature by 2030.

The Big Chalk vision is one of a wildlife rich landscape where grassland, arable and woodland areas are knitted 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. This will be achieved through partner and partnership-led delivery, working with all who have a stake or interest in these landscapes.

Big Chalk landscapes will be places where the human and natural elements are both valued and mutually beneficial. In addition to creating a super nature recovery network, management activity will protect and enhance landscape character and historical and cultural heritage. In turn, this will benefit local economies and enable widespread health and wellbeing benefits.

These landscapes will facilitate opportunities for deep engagement with local people and visitors. Opportunities for people to support these landscapes will include through purchasing goods and services and volunteering their time, such as through citizen science initiatives.



Annex III: Map of Big Chalk, including Protected Landscapes (in dark green)

Inset: Big Chalk around Norfolk & Suffolk

Written by the Big Chalk Partnership team, January 2024, revised January 2025

Annexe IV: Recommended Priorities and Measures for calcareous grasslands

Summary for all grassland types

Priority	Measures
<p>Minimise or eradicate threat to grassland habitats, including reducing use of fertiliser and chemical pesticide and prevention of further agricultural intensification or and safeguarded from land use changes, minimising expansion onto grassland habitat.</p>	<p>Reduce or cease use of chemical fertiliser and pesticide. Minimise expansion onto grassland habitat.</p>
<p>Existing species-rich grasslands is safeguarded from loss, restored to better condition and extended to become wildlife-rich and achieve good ecological condition long-term.</p>	<p>Maintain core, good condition species-rich grasslands sites through the application of grazing/cutting regimes sensitive to the existing and potential flora and fauna of the site, avoiding overgrazing or undergrazing that can lead to grassland habitat being lost. The use of traditional and rare native breeds can help to achieve the correct grazing regime. Note this does not apply to existing traditionally-managed lowland meadows on which a hay cut is taken.</p> <p>Keep or put in place the appropriate extensive grazing regime for existing species-rich grasslands, avoiding overgrazing or undergrazing that can lead to grassland habitat being lost. The use of traditional and rare native breeds can help to achieve the correct grazing regime. Note this does not apply to existing traditionally-managed lowland meadows on which a hay cut is taken.</p> <p>Prevent scrub from overrunning species-rich grasslands, while maintaining a minority area of scrub that is managed to create a varied age, composition and physical structure including glades and scalloped edges. If scrub has already overrun a previously species-rich grassland, scrub removal, seeding and reinstating appropriate grazing can restore species-rich grassland. Note this does not apply to existing traditionally-managed lowland meadows on which a hay cut is taken.</p>
<p>There are more grassland habitats which are larger and better connected, which include scrub and mosaic habitats.</p>	<p>Restore grassland habitats in the wider countryside.</p> <p>Increase the extent of high quality, connected lowland meadow by creating new species-rich grassland sites, in close proximity to core/good condition sites, semi-natural habitat or grassland using green hay from local donor species-rich grasslands.</p> <p>Increase connectivity of, and provision for wildlife in, species-rich grasslands with well-connected hedgerows and integrate some bare patches or banks within the grassland site.</p> <p>Where there is an absence of scrub and successional habitat in or adjacent to grasslands, encourage a minority amount to improve structural diversity and benefit wildlife. Scrub can also act as a transitional habitat between grassland and woodland.</p> <p>Create varied physical ground structure when creating new grassland habitats.</p>
<p>Our species-rich grasslands and meadows are safeguarded and well-managed for wildlife.</p>	<p>Maintain or introduce grazing, cutting, or mowing techniques to achieve diverse grasslands that support local species on existing grassland including ancient and species-rich grassland.</p> <p>When restoring sites, introduce seeds of appropriate grassland species, using a local seed bank resource.</p>

Annexe IV continued: Recommended Priorities and Measures for calcareous grasslands

Additional measures for calcareous grasslands (i.e. over and above those above)

Priority	Measures
<p>Chalk grasslands are safeguarded from land use changes and other threats, restored to a better and species-rich condition, and connected and buffered across the landscape to promote ecological integrity and resilience, particularly for the purpose of facilitating species movements in response to climate change.</p>	<p>Keep or put in place the appropriate extensive grazing regime for existing species-rich calcareous grasslands, avoiding overgrazing or undergrazing that can lead to grassland habitat being lost. The use of traditional and rare native breeds can help to achieve the correct grazing regime.</p> <p>Restore 'semi-improved' grassland or species-poor unimproved grassland to species-rich calcareous grassland with greater species diversity. Existing species-poor grassland should be diversified by harrowing and over seeding. Ideally, use seed sources of local provenance for the best results, and ensure appropriate ongoing management of extensive grazing with hardy, native breeds of cattle.</p> <p>Increase the extent of high quality, connected chalk grassland by bringing sites adjacent to core/good condition sites into conservation management.</p>
<p>There are more and better-connected flower rich 'calcareous' grasslands that support insects and pollinators.</p>	<p>Create areas of calcareous species rich grasslands in suitable locations, particularly slopes or where arable farming is financially unviable, and put in place appropriate ongoing management of extensive grazing with hardy, native breeds of cattle. If seeding is needed for establishment, ideally use seed sources of local provenance for the best results.</p>
<p>Chalk and Limestone Grassland - Create a mosaic of high-quality chalk and limestone grassland habitats.</p>	<p>Create more chalk and limestone grasslands, by expanding and linking up areas of existing chalk and limestone grasslands and creating large-scale mosaics with riparian and biodiverse farmland habitats.</p> <p>Increase functional links between chalk grassland and other habitats to maximise nature based solutions offered by improved connectivity.</p>

Annexe V: Recommended Priorities and Measures for chalk streams and rivers

Summary for all stream and river types

Priority	Measures
<p>All rivers and associated catchments achieve good ecological status or potential, with more naturally functioning rivers, free from physical modifications and artificial barriers, which are able to move dynamically and have diverse habitats, flows and channel shapes. Rivers are connected with their floodplain and a mosaic of wet habitats.</p>	<p>Develop ambitious catchment restoration strategies to put into context all work needed to restore and improve rivers. This can be wide ranging and include short, medium and long term aspirations</p> <p>Restore stream slope and natural processes and improve fish passage by removing or bypassing structures such as weirs and impoundments where possible. Where this is not possible retrofit structures to include fish passes and mammal ledges where removal is not possible. This will benefit priority fish species including European eel and Atlantic salmon.</p> <p>Open up and daylight culverted rivers, streams and ditches.</p> <p>Renaturalise rivers and introduce habitat diversity by introducing habitat features such as berms and flow deflectors in rivers to create more habitat diversity. Install natural structures such as leaky dams and let fallen trees in rivers remain in-situ (where appropriate and where the flood risk has been properly assessed. In-channel measures will require consent from the relevant Lead Local Flood Authority, IDB or Environment Agency).</p> <p>Reconnect rivers and floodplains through a range of approaches including installation of woody debris, addressing over deepend reaches, restoration of historic meanders, regrading banks to create shallow edges and establishing mosaics of water meadows, wet grasslands and wet woodlands</p>
<p>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.</p>	<p>Restore headwater streams (streams in the upper reaches of a catchment that do not have any tributaries) to enhance spawning habitat such as river gravels for salmonids, and instream water weeds and substrates for coarse fish egg laying.</p> <p>Restore and establish wet woodland and wet grassland habitats and associated ponds in headwater areas and around natural springs, including through the use of existing stewardship options.</p> <p>Re-naturalise urban and modified sections of headwaters.</p> <p>Hold and slow water in headwater streams through nature based solutions (leaky woody dams and large woody debris, reedbeds, etc), and approaches to restore more natural channel shape and processes especially where this can provide flood risk benefits and improve stable flows.</p>
<p>Protect rivers from polluted run off</p>	<p>Protect all rivers and headwater streams from urban run off, agricultural pollution and highways drainage considering a range of measures and guided by an assessment of risk for each specific location.</p>
<p>Establish wide, more natural buffer strips with a diverse vegetation structure along rivers, streams and springs, providing a balance of light and shade, managed through a combination of natural processes and catchment support, supporting wetland habitats and protection from pollution.</p>	<p>Create and manage riparian buffer strips (of 5-50m or more, depending on the size of the watercourse and the nature of surrounding land, with larger buffers providing greater benefits) of vegetation including trees alongside rivers and streams. This will improve river ecology, create natural corridors, reduce pollution reaching rivers, and provide natural flood management. Any existing priority habitats (e.g. species-rich grassland) should be maintained within any buffer strips. Allow natural regeneration of habitats and recolonisation.</p> <p>Re-naturalise river corridors in areas of re-development where there is current hard standing (e.g. old industrial sites).</p> <p>Manage and reduce poaching by cattle along rivers, which would also help to reduce nutrient load into rivers and improve riparian habitat. This may be achieved through the installation of fencing where it is appropriate and compatible with flood risk maintenance activities, and the provision of alternative water sources.</p>

	Make use of wide river corridors to introduce ecosystem engineers where space is available, combined with a clear communication and management strategy to foster a positive relationship.
	Where appropriate, combine buffers with the use of nature based solutions to hold and clean water, including for example large woody debris, sediment traps
To create new freshwater habitats	Re-establishment of ghost ponds
	Green and blue infrastructure creation and enhancement
	Where appropriate, investigate sites for potential large-scale wetland creation
Connect people with their local river	Create travel corridors for people along rivers to connect urban centres and rural areas, leaving enough space for the river and wildlife (for example by leaving one bank undisturbed and leaving a wide buffer between paths and the bank).
	Community empowerment to manage local freshwater habitats
	Citizen science led by local communities to gather data on freshwater, wetlands and pollution
	Awareness raising about local issues affecting the water environment
	Explore the use of water improvements funds
Tackle invasive species	Manage and remove invasive species, including signal crayfish, himalayan balsam, mink, and encourage and consider reintroduction of native species with appropriate management strategies and habitat creation and management.

Additional measures for chalk streams and rivers (i.e. over and above those above)

Priority	Measures
<p>Chalk streams reach good ecological status and provide high quality river habitat, with natural and uninterrupted flows along their permanent course and well managed headwater streams and winterbourne reaches. Chalk streams are protected from pollution, with a more natural channel shape, to support characteristic flora and fauna. The quality and quantity of groundwater on which chalk streams rely is protected.</p>	Once damaged, many chalk streams lack the stream power to repair themselves so chalk streams are more dependent than other river systems on restoring the processes needed to help restore good ecological health. To achieve that it is important to consider options to restore the natural gradient of the river, have a natural gravel bed and natural banks and achieve a dynamic interconnection between the river and its floodplain. Explore removal or modification of structures that are barriers to flow and disrupt natural gradient and increase habitat variability by using woody debris in channels. Carrying out these actions in line with a catchment restoration strategy will deliver a joined up approach where the impacts of restoration are fully considered.
	Many chalk streams contain particularly vulnerable trout and salmon population and so work should be prioritised to remove weirs and physical obstructions to ensure fish passage.
	Sensitive and appropriate management of the riparian zone and in river vegetation is particularly important for chalk streams to provide the mosaic of habitats needed to support high biodiversity
	Seek opportunities to restore winterbourne channels and prevent any damage to them
	Chalk streams have a generally stable flow and temperature regime - to provide greater resilience to rising temperatures where appropriate explore tree planting near rivers to provide shading.
	Chalk streams are particularly vulnerable to sediment pollution which can clog gravels and affect fish spawning. Explore opportunities to reduce silt run off at source. Create buffers and sediment traps along roads, rivers and infield, to prevent sediment and polluting runoff from entering chalk streams, including from roads and farmland.
	As chalk streams are fed by groundwater, it is important to protect groundwater quality. Explore nature based solutions in the wider catchment to reduce nutrient input to groundwater body and protect aquifer recharge.