

Appendix 2

NCA Templates for assessment of sub-areas

NCA – 11 Tyne Gap and Hadrian's Wall	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Mosaic of arable and pasture land, conifer plantations, broadleaved woodland on steep valley sides and the lowland corridor of the river flood plain • River Tyne and network of tributaries are a major landscape feature • At higher elevations there are semi-improved pastoral landscapes with rough moorland and species rich grasslands • Some natural eutrophic lakes with rare aquatic plants and associated habitats of heather and mire vegetation • Some rare Calaminarian grasslands near South Tyne • Sedimentary Carboniferous geology <p>Narrative:</p> <p>This narrow, distinctive corridor centred on the River Tyne separates the uplands of the North Pennines National Character Area (NCA) from the Border Moors and Forests NCA. Westwards are views of pastoral landscapes of the Solway Basin and Eden Valley NCAs. The Tyne valley is underlain by sedimentary Carboniferous rocks comprising a repetitive succession of limestones, sandstones, shales and intrusion of horizontal, igneous rock dolerite. Also, the prominent, intruded igneous Whin Sill formation forms a dramatic escarpment on which Hadrian's Wall is built. A mosaic of arable and pasture land, conifer plantations and well-wooded valley sides occur, along with the fertile lowland corridor of the river flood plain. In the west, cattle and sheep graze large areas of rough pasture, divided by walls and fences, merging to mixed and arable land in the east. A well-wooded mosaic of deciduous, mixed and coniferous woodland provides habitat for priority species – red squirrel and woodland birds. Broadleaved woodland on steeper slopes lines the rivers. In the west the River Irthing flows in a westerly direction.</p>	
Additional narrative to be incorporated – not adequately reflected in existing NCA description	
Data Sources for text:	National Character Area profile:

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the Cumbria part of the NCA (and the whole NCA in brackets)	% of Cumbria resource in the NCA
Deciduous woodland	181 (1933)	0.8	
Mosaic habitat	68 (1065)	0.6	
Lowland fens	34 (143)	3.5	
Good quality semi-improved grassland	15 (444)	0.5	
Lowland heathland	14 (49)	1.3	
Purple moor grass and rush pasture	3.6 (23)	0.5	
Grass moorland	0 (738)	0	
Blanket bog	0 (553)	0	
Upland heathland	0 (484)	0	
Fragmented heath	0 (55)	0	
Lowland raised bog	0 (45)	0	
Upland flushes, fens and swamps	0 (38)	0	
Lowland calcareous grassland	0 (37)	0	
Lowland meadows	0 (33)	0	
Calaminarian grassland	0 (18)	0	
Upland hay meadow	0 (15)	0	
Lowland dry acid grassland	0 (5.4)	0	
Traditional orchard	0 (4.4)	0	
Wood Pasture	No data	No data	
Additions Habitats which are important in the NCA and need to be considered in for nature recovery ((see footnote) ²			
The following habitats and/or biodiversity areas are also considered to be important within the NCA			
Data or information source:			

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.)

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	<p>Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote)³.</p> <p>Supply data (where available) and short narrative</p> <p>Gains (Habitat Restoration/Creation)</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options and data will not be 100% accurate</p> <p>0 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category)</p> <p>0 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p>																			
	<p>Losses</p> <p>No information</p>																			
	<p>Condition</p> <p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets and are for the NCA as a whole (i.e. including area outside Cumbria).</p> <table> <tbody> <tr> <td>Favourable</td> <td>2298 ha</td> <td>(78.8 %)</td> </tr> <tr> <td>Unfavourable recovering</td> <td>596 ha</td> <td>(20.4 %)</td> </tr> <tr> <td>Unfavourable no change</td> <td>0 ha</td> <td>(0 %)</td> </tr> <tr> <td>Unfavourable declining</td> <td>23 ha</td> <td>(0.8 %)</td> </tr> </tbody> </table> <p>Environment Agency WFD</p> <table> <thead> <tr> <th>Water Body</th> <th>WFD Status</th> <th>Trend</th> </tr> </thead> <tbody> <tr> <td>Irthing (downstream of Crammel Linn)</td> <td>Moderate</td> <td>Declining</td> </tr> </tbody> </table>		Favourable	2298 ha	(78.8 %)	Unfavourable recovering	596 ha	(20.4 %)	Unfavourable no change	0 ha	(0 %)	Unfavourable declining	23 ha	(0.8 %)	Water Body	WFD Status	Trend	Irthing (downstream of Crammel Linn)	Moderate	Declining
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	Data & Information Sources	<p>Natural England Habitat Network</p> <p>Forestry Commission NFI</p> <p>Natural England SSSI Unit Reporting</p> <p>Environment Agency 2019</p> <p>https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12</p>																		
Priority Species	<p>A list of priority species in the NCA will be provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4 <p>SPECIES LISTS TO BE AGREED</p>																			

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 11.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>SPECIES LISTS TO BE AGREED</p>
Data & Information sources	
Trends in range / population in the UK /England ⁵ (?)	
Trends in range / population in the NCA ⁶	<p>Data which could elucidate trends is sparse for all species in NCAXXX. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>DATA STILL TO BE EXTRACTED FRO BTO, BC AND EA DATASETS</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p>

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

	Data Sources
Current drivers of change ⁷	For example: Existing agri-environment support, and uncertainty over the future of ELM and trade arrangements
	Data/information sources
Broad-scale opportunities to increase or improve the condition of habitats ⁸	For example: A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands. Objective derived from the NCA are provided at the end of this document – which may help guide but not constrain thinking.

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	Data & Information sources
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>E.g.</p> <p>Climate Change mitigation from peatland restoration, woodland planting and management, wood pasture creation and management and High Nature Value farming practices</p>
	Data and Information Sources
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Establish and maintain buffers of permanent grassland, scrub and woodland along watercourses • Build resilient habitat networks by creating more broadleaved woodlands, buffering and connecting fragmented woodlands and planting trees along watercourses (particularly on valley slopes) • Create networks of habitat for pollinators linked to woodland habitats e.g. field margins, hedgerows, semi-natural grasslands and roadside verges • Manage and increase the area of species-rich hay meadows and pasture • Maintain and enhance the mosaic of moorland habitats including wet heath and mire and bogs • Encourage farmers and landowners to manage land sustainably and in a way that is beneficial for biodiversity • Re-connect rivers to their floodplain • Manage woodlands for red squirrels and woodland birds

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 17 Orton Fells	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Open upland landscape with extensive limestone pavement, outcrops, heather moorland and limestone grassland, springs and flushes. • Species-rich hay meadows and improved grassland in valleys and fringes. • Extensive pastoral farming • Important rivers and stream habitats • Isolated ash and rowan trees on higher ground with broadleaved woodland in narrow gills and copses in villages. Small mixed and coniferous woodland and shelterbelts 	
<p>Narrative:</p> <p>The Orton Fells National Character Area comprises a limestone plateau with a complex mix of limestone pavements, upland heath, calcareous and acid grassland, springs and flushes. A large areas falls within the Yorkshire Dales National Park. The NCA includes one of the most extensive and intact areas of limestone pavement in the UK with woodland species and a range of fern growing within the deep, sheltered grykes. The Asby Complex is a Special Area of Conservation (SAC) designated for its karst features, particularly its long stretches of limestone pavement as well as its mix of acid and alkaline habitats. Great Asby Scar is also a National Nature Reserve. Smardale Gill, with its ash woodlands and calcareous grasslands that support outstanding butterfly populations, is likewise designated as an SAC and an NNR. Sunbiggin Tarn, a marl lake, is also of particular interest with its rich fen and reed swamp flora and its tufa formations.</p>	
<p>The predominant land use is livestock rearing, with some dairy farms, so that along with the rough grazing there are extensive managed grasslands in pastures and meadows defined by drystone walls on lower-lying land. Some of the best upland hay meadows can be found here, together with wide species-rich verges along the quiet straight roads. On the higher land there are occasional ash trees, as well as copses sheltering the dispersed farmsteads. Otherwise woodland cover is low, with upland ash woodlands largely restricted to the steep sides of lower valleys, and small shelterbelts including conifers, especially in the north.</p>	
<p>Several tributaries of the River Eden rise here and flow down through narrow valleys and, as they flow over both limestone and sandstone, they comprise a range of habitat types that support diverse plant and animal communities, warranting their SAC designation (for the high diversity of aquatic plants, native, white-clawed crayfish and a high diversity of breeding birds associated with the riparian habitats). Several tributaries of the River Lune also rise in the southern part of the NCA. The upper River Lune and associated tributaries within the NCA represent valuable potential fish spawning habitat.</p>	
<p>Additional narrative to be incorporated – not adequately reflected in existing NCA description</p>	
<p>Relevant biodiversity and geology information from other sources included in the above narrative</p>	
Data Sources for text:	National Character Area profile Eden District Council Lune Rivers Trust Yorkshire Dales National Park Authority Landscape Character Assessment 2020

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within NCA	% of Cumbria resource in the NCA			
Upland heathland	2884	10.4				
Grass moorland	1283	1.6				
Upland calcareous grassland	754	20.7				
Mosaic habitat	472	4.1				
Deciduous woodland	434	1.8				
<u>Limestone pavement</u>	246	43.1				
Lowland calcareous grassland	236	22.2				
Good quality semi-improved natural grassland	150	5.4				
Upland hay meadow	127	16.8				
Lowland fens	103	10.6				
Lowland heathland	96	9				
Upland flushes, fens and swamps	72	1.4				
Purple moor grass and rush pasture	59	9				
Blanket bog	35	0.07				
Lowland meadow	28	8.8				
Traditional orchard	3	1.8				
Coastal and floodplain grazing marsh	1.4	0.007				
Additional Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²						
The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Riverine and stream habitat • Wood pasture and scrub • Rush pasture/grass morland on areas of predominantly acidic grassland are of vital importance to breeding wading birds [Does 'Mosaic Habitat' include mosaics that include Priority Habitat?]						
Data or information source:	Lune Rivers Trust Woodland Trust Yorkshire Dales National Park Authority					
Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative						
Gains (Habitat Restoration/Creation) <p><u>Natural England (land under restoration and creation)</u> – note data extracted from CS option data. It will not be 100% accurate but presented as a guide to the level of restoration/creation through CS</p>						

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>Upland calcareous grassland – 178 ha Lowland calcareous grassland – 13 ha Purple Moorgrass and rush pasture - 280 ha Lowland Fens - 4 ha Lowland Meadow – 190 ha Upland Hay Meadow – 206 ha Wood pasture and parkland – 201 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category) 97 ha of 'young trees' (planted or regeneration)</p> <p><u>Other information</u> Hay meadow gains through Meadow Life, Westmorland Dales Landscape Partnership Scheme and Westmorland Dales Haytime (probably included in above NE figures?) Hedgerow and tree planting via Woodland Trust both as part of Westmorland Dales Landscape Partnership Scheme and direct with land owners.</p>								
Losses	No data								
Condition	<p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets.</p> <table> <tr> <td>Favourable</td><td>919 ha (23.8%)</td></tr> <tr> <td>Unfavourable recovering</td><td>2867 ha (74.2%)</td></tr> <tr> <td>Unfavourable no change</td><td>11 ha (0.3%)</td></tr> <tr> <td>Unfavourable declining</td><td>70 ha (1.8%)</td></tr> </table>	Favourable	919 ha (23.8%)	Unfavourable recovering	2867 ha (74.2%)	Unfavourable no change	11 ha (0.3%)	Unfavourable declining	70 ha (1.8%)
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Water Body	WFD Status	Trend							
Eden - headwaters to Scandal Beck	Moderate	Declining							
<u>Other</u>	Roadside verges are deteriorating in Westmorland Dales								
Data & Information Sources	Natural England National Habitat Network Natural England SSSI Unit Reporting Forestry Commission NFI Environment Agency 2019 https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12 Cumbria Wildlife Trust (including Stuart Hedley report)								
Priority Species	A list of priority species in the NCA will be provided in Appendix 1. This includes species from the following priority lists <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) 								

	<ul style="list-style-type: none"> • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4
	<p>LISTS TO WORK UP</p>
<p>Further information on, or suggestions for Priority Species⁴</p>	
<p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 17.</p>	
<p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p>	
<p>This is a quick provisional list (and is subject to review).</p>	
<p>FURTHER WORK IS REQUIRED TO DEFINE CRITERIA FOR THESE LISTS</p>	
<p><u>Provisional information supplied</u></p>	
<p>Priority Species From Lune Rivers Trust</p>	
<p>Atlantic salmon</p>	
<p>European eel</p>	
<p>River lamprey (potentially)</p>	
<p>Brook lamprey (potentially)</p>	
<p>White Clawed Crayfish</p>	
<p>Sea Trout</p>	
<p>Brown Trout</p>	
<p>Kingfisher</p>	
<p>Dipper</p>	
<p>Yorkshire Dales National Park Authority</p>	
<p>Two rare snails occur in Sunbiggin Tarn: <i>Vertigo geyeri</i> and <i>Catinella arenaria</i>.</p>	
Data & Information sources	Lune Rivers Trust Yorkshire Dales National Park Authority
<p>Trends in range / population in the UK /England⁵ (?)</p>	
<p>No information</p>	

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

	<p>Trends in range / population in the NCA⁶</p> <p>Data which could elucidate trends is sparse for all species in NCA 17. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>ONGOING WORK TO EXTRACT INFORMATION FROM EA, BC and BTO DATABASES</p> <p><u>Provisional information</u></p> <p>Lune Rivers Trust</p> <p>Significant decline in Atlantic Salmon and European Eel populations over last few decades – but data specific to this NCA not easy to come by.</p> <p>Lamprey and White clawed crayfish populations very small – but unclear how recent this decline is.</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p>		
	<table border="1"> <tr> <td>Data Sources</td><td>Lune Rivers Trust</td></tr> </table>	Data Sources	Lune Rivers Trust
Data Sources	Lune Rivers Trust		
Current drivers of change ⁷	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Government policy and drivers e.g. 25 year plan, Environment Bill, Nature Recovery Funding • Public opinion and growing support • Significant areas of common land – need agreement across the common to deliver desired outcomes • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) <p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) 		

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<ul style="list-style-type: none"> Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) Increasing environmental legislation (farming rules for water for example) <p>Agricultural profitability</p> <ul style="list-style-type: none"> Beef and sheep units – underlying profitability of businesses dependent on support Upland/Hill units – underlying profitability of businesses dependent on support Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation <p>Development</p> <p>Kirkby Stephen is designated as a 'Market Town' and is the focus for moderate development appropriate to the scale of the town, including new housing, the provision of new employment and improvements to accessibility.</p> <p>Shap is designated as a 'Key Hub' and is the focus for development to sustain local services appropriate to the scale of the village and its hinterland.</p> <p>Over the Local Plan period (2014-2032) 305 new homes will be provided in Kirkby Stephen and 100 in Shap, and 3.33 hectares of employment land is allocated at Kirkby Stephen Business Park.</p> <p>Climate Change</p> <p>Climate change could also lead to increased numbers and severity of storm events and summer drought, impacting on open grown trees and woodland.</p> <p>Some niche and vulnerable species may not be able to adapt to climate change and maybe lost from this distinctive range of habitats.</p> <p>Government Environmental Policy</p> <ul style="list-style-type: none"> Defra tree strategy Nature Recovery and Net Zero <p>Diffuse pollution</p> <p>Loss of riverine habitat</p>
	<p>Data/information sources</p> <p>Eden District Local Plan 2014-2032 National Farmers Union (NFU) Lune Rivers Trust Lake District National Park Authority Landscape Character Assessment</p>
Broad-scale opportunities to increase or improve the	<p>Changes in agricultural and environmental policy and support mechanisms in turn delivering:</p> <ul style="list-style-type: none"> Retention of rush pasture in suitable condition for breeding waders Restoration of species-rich upland hay meadows Conservation of other species-rich habitats and the expansion of species rich grasslands, including 'improved' pasture to species-rich pasture

condition of habitats ⁸	<ul style="list-style-type: none"> • A rich and abundant invertebrate fauna • Increased native tree and scrub cover, including on limestone pavement and more wood pasture • More tall-herb vegetation, for example along gills and rivers as vital habitat for invertebrates • Habitat mosaics from micro to landscape-scale <p>Local Development Planning</p> <p>The review of the Eden Local Plan provides the opportunity to introduce new policies to increase or improve the condition of habitats e.g. biodiversity net gain. This would affect multiple sites across the district and cumulatively have a significant and positive impact on the condition of habitats.</p> <p>Interest from land managers to recover nature, providing opportunities for further hay meadow restoration and creation (e.g. in Ravenstonedale and Smardle) and to increase woodland connectivity through new woodland and scrub planting and natural regeneration.</p>				
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Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 5px; background-color: #f2e0bd;"> <p>Climate change mitigation & resilience from natural flood management, river restoration & riparian woodlands, better connected habitats, more diverse habitats and habitat mosaics and more extensive management.</p> <p>Natural flood management</p> <p>From river restoration (e.g. re-meandering), riparian woodland planting riverine habitat restoration (e.g. fish spawning & juvenile habitat), tree and scrub planting/regeneration</p> </td> </tr> <tr> <td style="padding: 5px; width: 30%;">Data and Information Sources</td><td style="padding: 5px;">Lune Rivers Trust</td></tr> </table>	<p>Climate change mitigation & resilience from natural flood management, river restoration & riparian woodlands, better connected habitats, more diverse habitats and habitat mosaics and more extensive management.</p> <p>Natural flood management</p> <p>From river restoration (e.g. re-meandering), riparian woodland planting riverine habitat restoration (e.g. fish spawning & juvenile habitat), tree and scrub planting/regeneration</p>		Data and Information Sources	Lune Rivers Trust
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⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

Objectives (for illustration only at this point)	Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies. ⁹
	<ul style="list-style-type: none"> • Conserve, manage and enhance the open fells on limestone plateau including upland heath, calcareous and acid grasslands, limestone pavements and scrub • Manage and enhance enclosed farmland with diverse pastures. • Protect and manage species-rich verges. • Encourage the establishment of riparian habitats, especially permanent unfertilised grassland. • Expand, buffer and link fragmented semi-natural woodlands and copses by creating new woodland, particularly in narrow valleys and riparian zones. • Establish copses of native broadleaf trees within gills on the margins of fells. • Convert upland conifer plantations to heath or grassland. • Improve management of wetland habitats in and around Sunbiggin Tarn so as they are all in favourable condition and protect the marl lake's water chemistry. Buffering to avoid edge effects of drainage and eutrophication • Reduce grazing pressure on flushes and springs so that they can recover natural vegetation.

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 18 Howgill Fells	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Sandstone/gritstone/mudstone/siltstone uplands. • Extensive network of upland moorland habitats e.g. acid grassland, bracken, remnant dwarf shrub, upland heath and blanket bog. • Some hay meadows and purple moor-grass on lower slopes/valleys. • Limited woodland cover – mainly gill and remnant broadleaf woodland. • Large SSSIs designated for active fluvial geomorphology. • Extensive livestock farming (including fell ponies and rough fell sheep). • Poor soils vulnerable to erosion. • Open, unenclosed land. <p>Narrative:</p> <p>The Howgill Fells are Silurian and Ordovician sandstone and gritstone uplands with distinctive high, rounded ridges and dome-like summits separated by long, steep-sided valleys. The fells are remote, exposed, open unenclosed common land, covered with a seasonally colourful mosaic of upland habitats, including poorly drained acid grassland and bracken, with some small remnant areas of upland heath and blanket bog, and some areas of rock screes. Small springs and flushes occur on the lower slopes. Grazing has resulted in a significant loss of habitat diversity and associated wildlife, so the nature of the area is quite impoverished. Soils are poor and are vulnerable to poaching and erosion. Drainage is radial; incised rocky gills and 'flashy' streams flow into the rivers Lune, Rawthey and Eden. Large areas are designated as Sites of Special Scientific Interest (SSSI) for their geology and active fluvial geomorphology, including Langdale, Bowderdale and Carlin Gill SSSI, and Backside Beck and Spen Gill. Lower, enclosed slopes offer a contrasting pastoral scene, with rough, rushy pastures grading into improved land, with some hay meadows and purple moor-grass, surrounded by drystone walls and hedges. Flower-rich verges occur along some quiet lanes. Livestock farming predominates, with sheep, Fell ponies and cattle. There is limited tree cover, in fact the NCA has almost the lowest cover of any England upland area. There has been some recent work to start to address this with some large stock exclusion areas on some of the upland commons with tree and scrub planting. What native woodland occurs is mainly gill woodland and remnant broadleaved woods.</p>	
Additional narrative to be incorporated – not adequately reflected in existing NCA description	
Additional suggestions have been incorporated into the narrative	
Data Sources for text:	National Character Area profile Woodland Trust Yorkshire Dales National Park Authority Landscape Character Assessment 2020

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the NCA	% of Cumbria resource in the NCA
Grass moorland	2884	3.7	
Blanket bog	740	1.6	
Upland heathland	253	0.9	
Deciduous woodland	97	0.4	
Mosaic habitat	83	0.7	
Good quality semi-improved grassland	47	1.7	
Upland calcareous grassland	29	0.8	
Upland hay meadow	25	3.3	
Lowland fens	19	2	
Lowland meadow	16	5	
Lowland calcareous grassland	16	1.5	
Upland flushes, fens and swamps	15	0.3	
Lowland dry acid grassland	13	3.3	
Limestone pavement	3.5	0.6	
Purple moor grass and rush pasture	0.8	0.1	
Traditional orchard	0.4	0.2	
Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²			
The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Riverine Habitats • Scrub • Wood Pasture • Wader Habitat • Some of the grass moorland, (non PH) will be of value for upland breeding waders although much of the habitat in the Howgills (due to the landform) is on very steep ground that is not as suited for upland waders. [Does 'Mosaic Habitat' include mosaics that include Priority Habitat?]			
Data or information source:	Lune Rivers Trust Woodland Trust Yorkshire Dales National Park Authority Natural England		
Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative			

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.)

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>Gains (Habitat Restoration/Creation)</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate and is provided as a guide to current restoration/creation activity in the NCA.</p> <p>Purple moor grass and rush pasture - 16 ha Lowland dry grassland - 28 ha Lowland meadow – 52 ha Upland hay meadow – 52 ha Upland calcareous grassland – 40 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category) 0 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p> <p><u>Woodland Trust</u> HLS Schemes at Tebay 126 ha and Ravenstonedale 181 ha have created scrub habitats (160,000 trees) at scale with 12% and 8% of each common fenced and planted (note not visible within the NFI data above). Smaller schemes on the edge of the fells have brought new tree cover to the foot of the commons in multiple small schemes. This has increased the mapped tree area from 0.33 % to about 1.4%. They are visibly contributing to increased insect, bat, bird and bee numbers.</p> <p><u>Cumbria Wildlife Trust</u> Peat restoration - grip blocking and profiling on Howgill peatlands.</p>												
	<p>Losses</p> <p>No data available</p> <p>Condition SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figures provided in hectares (ha) and percentage in brackets.</p> <table> <tbody> <tr> <td>Favourable</td> <td>1842 ha</td> <td>(99%)</td> </tr> <tr> <td>Unfavourable recovering</td> <td></td> <td></td> </tr> <tr> <td>Unfavourable no change</td> <td>19 ha</td> <td>(1%)</td> </tr> <tr> <td>Unfavourable declining</td> <td></td> <td></td> </tr> </tbody> </table>	Favourable	1842 ha	(99%)	Unfavourable recovering			Unfavourable no change	19 ha	(1%)	Unfavourable declining		
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	<p>Data & Information Sources</p> <p>Cumbria Wildlife Trust Woodland Trust (These features are also being studied by South Lake Ecology and Lancaster University. The latter has identified improved water resilience inside fenced and planted areas thus reducing flood effects in property downstream.) Natural England England Habitat Network Natural England SSSI Unit Reporting Forestry Commission NFI</p>												

Priority Species	<p>A list of priority species in the NCA will be provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4
SPECIES LISTS TO BE PRODUCED	
	<p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 18.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>FURTHER WORK TO AGREE CRITERIA FOR THE SPECIES LISTS</p> <p>Provisional species lists from Lune Rivers Trust</p> <p>Atlantic salmon (potentially)</p> <p>European eel (potentially)</p> <p>River lamprey (potentially)</p> <p>Brook lamprey (potentially)</p> <p>Sea Trout (potentially)</p> <p>Brown Trout</p> <p>Dipper</p> <p>Data from Cumbria Wildlife Trust</p> <p>Black grouse on northern slopes of Howgills.</p> <p>Black grouse – males already noted visiting plantations 2019 and 2020</p>
Data & Information sources	Cumbria Wildlife Trust
	Lune Rivers Trust
	Woodland Trust

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

	Trends in range / population in the UK /England ⁵ (?)
	No data
	Trends in range / population in the NCA ⁶
	Data which could elucidate trends is sparse for all species in NCA 18. The following data give some indication of trends for selected species, but not always coincident with the NCA. FURTHER WORK TO EXTRACT RELEVANT DATA FROM EA, BTO AND BS DATABASES Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends. There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place. Provisional data from Lune Rivers Trust Significant decline in Atlantic Salmon and European Eel populations over last few decades – but data specific to this NCA not easy to come by. Lamprey and White clawed crayfish populations very small, if they exist at all in this NCA – but unclear how recent this decline is.
	Data Sources Lune Rivers Trust
Current drivers of change ⁷	Nature Recovery Agenda <ul style="list-style-type: none">• Farmers are being encouraged to reduce sheep numbers and set aside land for nature recovery – carbon sequestration and water management are both enhanced in scrub creation schemes.• Government policy and drivers e.g. 25 year plan, Environment Act, Nature Recovery funding• Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc)• Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate)• Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat)• Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold)

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • Increasing environmental legislation (farming rules for water for example) <p>Agricultural profitability</p> <ul style="list-style-type: none"> • Beef and sheep units – underlying profitability of businesses dependent on support • Upland/Hill units – underlying profitability of businesses dependent on support • Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) • HLS schemes do provide some certainty with regards to finances and underpin the common's management in Tebay circa 1040 ha and Ravenstonedale circa 2500 ha. They have gone some way to improving both the economics and the habitat. • Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation <p>Agricultural stocking</p> <ul style="list-style-type: none"> • A reduction of the number of farmers using their fell rights was identified in 2009. • An unbalanced scenario with some farmers leaving the fell and others continuing grazing. • For nature recovery and water management (temperatures, volumes, drought) we there is a need for much reduced sheep numbers and low density cattle grazing. <p>Climate Change</p> <ul style="list-style-type: none"> • Climate change (particularly in relation to loss of some species, disruption of wetland systems, impact on rivers and streams, increase in frequency of novel diseases of plants and animals) <p>Woodland Planting Defra tree strategy</p> <p>Ecosystem pollutants Reduction in chemical use which is impacting invertebrates. Reducing stocking, organic approaches or reduced use of chemicals (external or internal treatments) will benefit invertebrates in water courses and also dung beetles which are missing from many areas</p>
	<p>Data/information sources</p> <p>Lune Rivers Trust Woodland Trust Natural England</p>

Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>Natural flood management A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands, new woodlands or areas of deeper vegetation with scrub woodland. May provide opportunities for re-naturalising sections of becks and rivers and river restoration (e.g. re-meandering).</p> <p>Interest from land managers to recover nature, providing opportunities for further hay meadow restoration and creation. Also to consider other species-rich pasture, and we grassland. Opportunities for improving woodland connectivity through new planting along ghylls, river corridors and small farm copse.</p> <p>Interest from land managers to improve river management including riparian woodland planting and riverine habitat restoration (e.g. fish spawning & juvenile habitat).</p> <p>Increased government drive and support leading to large scale projects to increase tree, scrub and woodland cover and wood pasture.</p> <p>Increased resourcing of carbon sequestration from public and private sources – not only peatland restoration, but also potentially taller lightly grazed vegetation, scrub and woodland. Also conservation and improvement of soils.</p> <p>An increasing interest in large-scale nature recovery such as large-scale stock exclusion area on commons. Scrub woodlands are extremely good for migratory birds and we have seen 4 year old plantings in Mallerstang become home to breeding black grouse and short eared owl, roosting woodcock, and many smaller birds. They also store carbon and improve water resilience. Lancaster University Q-NFM project is assessing water management and reports April 2021.</p>
	Data & Information sources Cumbria Wildlife Trust Lune Rivers Trust Woodland Trust
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>Climate Change mitigation from woodland planting and management, wood pasture creation.</p> <p>Soil health and soil erosion through regenerative farming. Scrub development</p> <p>Natural Flood Management from river restoration & riparian woodlands and scrub planting and regeneration.</p>

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	<p>Helping downstream flooding and water flow through riparian habitat creation and re-naturalising rivers and becks.</p> <p>Farming productivity from reducing stocking levels to improve quality – especially if the stock that are grazed are also organic.</p> <p>Improving Water Quality through wetland, peatland, woodland and scrub restoration</p> <p>Improving Watercourse condition From tree planting/regeneration. For the majority of the Howgills streams/watercourse there is no shade as few are tree lined and shaded. This leads to extremes of temperature affecting invertebrate populations and lack of fish breeding success. Lack of leaves in the water column reduces numbers of detritivore insects.</p>		
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Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Conserve, enhance and restore upland habitats, particularly blanket bog and upland heath; extending the area of healthy functioning blanket bog and heath so that they are bigger and less fragmented. Conserve and enhance scree slope habitats. • Conserve and enhance lower slopes and valleys, particularly hay meadows, purple moor-grass, species-rich verges, broadleaf woodland and scrub. Including buffering of existing sites by habitat creation. • Conserve and enhance watercourses and water quality through restoration of riparian habitats and wet woodland. • Reduce grazing pressure on sensitive habitats like flushes and springs so that they can recover natural vegetation; <p>Notes:</p> <ul style="list-style-type: none"> • Limited potential to restore blanket bog easily due to steep slopes. • Woodland planting and maintaining high levels of vegetation only appropriate in areas that don't affect SSSI interest features (active fluvial geomorphology). 		

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 19 South Cumbria Low Fells	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Open fells and ridges mainly >300m with Silurian slate and fissile mudstone geology • U shaped valleys with large lakes (Windermere and Coniston) • Mosaic of fell habitats including upland heathland, mires, springs and flushes, lakes, tarns, juniper scrub, upland calcareous grassland, lowland dry acid grassland, rough pasture and bracken beds. • Extensive ancient semi-natural woodlands and large conifer plantations and mixed woodlands • Parkland associated with edges of main lakes, valley bottoms and estates. • Pastoral landscape with extensive sheep farming. <p>Narrative:</p> <p>The South Cumbria Low Fells NCA lies to the south and south-east of the central core of the Lake District (the Cumbria High Fells NCA), but the sudden change from the tough Ordovician Borrowdale Volcanics to the softer Silurian slates and mudstones means the rugged high fells give way to gentler, undulating hills, dissected by pastoral river valleys, woodland and linear lakes. The area stretches from above the Duddon Estuary, in the west, through the wooded hills and valleys of Broughton in Furness, the River Crake and the Furness Fells, through Grizedale Forest to Coniston Water, Windermere and Whinfell Forest, to more undulating farmland in the east. It is characterised by undulating low fells and ridges which, in the central section, are dissected by the two major lakes – Windermere and Coniston Water – and minor rivers. Lake Windermere provides a valuable ecological habitat for Arctic Char. Considerable ecological interest is provided by hydroseres – which display a range of plant communities from underwater plants to reedy fringes to wet woodland to dry oak woods valleys. The South Cumbria Low Fells NCA has a very diverse wildlife resource with several sites of international significance including the mires at Subberthwaite, Blawith and Torver Common, the slopes and crags of Yewbarrow Woods (containing yew groves in association with old sessile oak woods), and the lowland raised bog complex of the Duddon Mosses.</p> <p>In the east the landscape is characterised by open, semi-improved pasture on a plateau between the rivers Kent and Lune, with a shallow relief of ridges and hollows. The central area of the NCA, between Coniston Water and Windermere, is one of the most densely wooded areas in England, with extensive areas of broadleaved and conifer woodland and parkland. The higher ground supports a mosaic of upland heathland, interspersed with rocky outcrops, tarns, fast-flowing becks and stretches of bracken. Esthwaite Lake, is one of the best examples of a nutrient-rich (mesotrophic) lake in England and Wales and is of both botanical interest and of local importance for breeding birds. Great crested grebe, teal, tufted duck, red breasted merganser, pochard and sedge warbler all breed regularly. For this reason the lake is designated as a Ramsar Site. Valleys support a working (principally pastoral) landscape, with fields bounded by drystone walls reflecting the geology of the area. East of Kendal, and also in the far west, the landscape is more open and pastoral, with fewer trees. In some areas hedges provide field boundaries and important wildlife habitats.</p>	
Additional narrative to be incorporated – not adequately reflected in existing NCA description	
Suggestions have been added into the NCA text above	

Data Sources for text:	National Character Area profile: Barrow Local Plan, paras 10.2.6 and 10.2.7 (based upon Cumbria Landscape Character Guidance and Toolkit) South Lakeland District Council Lake District National Park Landscape Character Assessment		
Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the NCA	% of Cumbria resource in the NCA
	Deciduous woodland	6238	26.2
	Grass moorland	1960	2.5
	<u>Upland flushes, fens and swamps</u>	1746	34
	Upland heathland	1491	5.4
	Mosaic habitat	1166	10.1
	Coastal and floodplain grazing marsh	652	3.2
	Good quality semi-improved grassland	476	17.3
	Lowland raised bog	258	6.1
	Upland calcareous grassland	241	6.6
	Blanket bog	175	0.4
	Lowland fens	149	15.3
	Purple moor grass and rush pasture	118	18
	Upland hay meadow	110	14.5
	Lowland calcareous grassland	83	7.8
	Lowland meadow	53	16.6
	Lowland dry acid grassland	51	13
	Traditional orchard	44	25.7
	Lowland heathland	40	3.7
	Fragmented heath	15	0.8
	Reedbeds	3.4	20
	Coastal saltmarsh	1.7	0.04
	Limestone pavement	0.6	0.1
	Additional Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²		
	The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Green Wedges, Green Spaces, Green Routes and Green Links, as identified / explained in the Local Plans. • Wood pasture and ancient and veteran trees • Riverine habitats • Priority river habitats? The Duddon for example has been classed as a priority habitat. 		

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	Data or information source:	Barrow Borough Council Barrow Local Plan 2016-2031 Barrow Draft Green Infrastructure SPD 2018 South Lakeland District Council Natural England Lune Rivers Trust South Cumbria Rivers Trust Data and information can be found as part of the Catchment Based Approach Data package or on the Freshwater Biological Association website (they are hosting the priority network data).
		Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative
		Gains (Habitat Restoration/Creation) <u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate but provided as a guide to the level of habitat restoration/creation currently being taken forward. Upland flushes, fens and swamps - 11 ha Lowland raised bog – 26 ha Upland calcareous grassland – 64 ha Purple moor grass and rush pasture – 84 ha Lowland fens – 5 ha Upland hay meadow – 153 ha Lowland meadow – 32 ha Lowland dry acid grassland – 120 ha Reedbeds – 0.2 ha Wood pasture and parkland – 86 ha <u>Forestry Commission NFI</u> extracted figures (young trees category) 725 ha of 'young trees' (planted or regeneration, both broadleaves and conifers) Other Restoration work has been carried out on a huge 4,967.37ha of peatland in the last five years (2013-18), which includes work done by Cumbria Wildlife Trust's Wetland Restoration and Peatland Restoration projects as well as work undertaken by Natural England on lowland peat SSSI, and the RSPB (State of Park Report) Woodland, hedgerow and hay meadow gains through Rusland Horizons LSP scheme.
	Losses	No information
	Condition	

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figures provided in hectares (ha) and percentage in brackets.</p> <table> <tbody> <tr> <td>Favourable</td><td>796 ha (19.3%)</td></tr> <tr> <td>Unfavourable recovering</td><td>1269 ha (30.8%)</td></tr> <tr> <td>Unfavourable no change</td><td>1272 ha (30.8%)</td></tr> <tr> <td>Unfavourable declining</td><td>788 ha (19.1%)</td></tr> </tbody> </table> <p>Environment Agency WFD</p> <table> <thead> <tr> <th>Water Body</th><th>WFD Status</th><th>Trend</th></tr> </thead> <tbody> <tr> <td>Crake</td><td>Moderate</td><td>Stable</td></tr> <tr> <td>Crake - lower</td><td>Moderate</td><td>Declining</td></tr> <tr> <td>Kent conf. Gowan to conf. Sprint</td><td>Moderate</td><td>Declining</td></tr> <tr> <td>Kent conf. Sprint to tidal</td><td>Moderate</td><td>Declining (3 year trend)</td></tr> <tr> <td>Kent headwaters to conf. Gowan</td><td>Moderate</td><td>Declining</td></tr> <tr> <td>Leven</td><td>Moderate</td><td>Declining (3 year trend)</td></tr> <tr> <td>Lakes</td><td></td><td></td></tr> <tr> <td>Coniston Water</td><td>Moderate</td><td>Stable</td></tr> <tr> <td>Esthwaite Water</td><td>Moderate</td><td>Stable</td></tr> <tr> <td>Windermere – north basin</td><td>Moderate</td><td>Stable</td></tr> <tr> <td>Windermere – south basin</td><td>Moderate</td><td>Stable</td></tr> </tbody> </table> <p>Other</p> <p>Improved condition (coppicing/pollarding) of some woodlands through work of Rusland Horizons LSP scheme.</p> <p>Hidden Hedgerows project mapped and assessed sample of Rusland hedges – none met all of DEFRA's good condition criteria.</p>	Favourable	796 ha (19.3%)	Unfavourable recovering	1269 ha (30.8%)	Unfavourable no change	1272 ha (30.8%)	Unfavourable declining	788 ha (19.1%)	Water Body	WFD Status	Trend	Crake	Moderate	Stable	Crake - lower	Moderate	Declining	Kent conf. Gowan to conf. Sprint	Moderate	Declining	Kent conf. Sprint to tidal	Moderate	Declining (3 year trend)	Kent headwaters to conf. Gowan	Moderate	Declining	Leven	Moderate	Declining (3 year trend)	Lakes			Coniston Water	Moderate	Stable	Esthwaite Water	Moderate	Stable	Windermere – north basin	Moderate	Stable	Windermere – south basin	Moderate	Stable	
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⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

	<p>Data which could elucidate trends is sparse for all species in NCA 19. The following data give some indication of trends for selected species, but not always coincident with the NCA</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p> <p>FURTHER WORK ON EXTRACTING DATA FROM BTO, BC and EA SPECIES DATA</p> <p>State of the Park Report 2018 Concerns about the Lake District bird populations are highlighted in BTO wetland WEBS bird data for Lake Windermere. Goose populations have increased significantly since 1993 whilst numbers of Goldeneye, Pochard and other ducks have decreased.</p> <p>Cumbria Wildlife Trust Morecambe Bay and South Lakes becoming core area for Osprey in Cumbria. Foulshaw, Meathop, Esthwaite Hay Bridge etc.</p> <p>Rivers Trusts Significant decline in Atlantic Salmon and European Eel populations over last few decades – but data specific to this NCA not easy to come by. Lamprey populations very small (if still present) – but unclear how recent this decline is.</p> <p>We do fish surveys every year (salmonids), which combined with EA data and the national (CEFAS) data can show trends over time.</p>
	<p>Data Sources</p> <ul style="list-style-type: none"> LDNPA State of the Park Report Cumbria Wildlife Trust Lune Rivers Trust South Cumbria Rivers Trust
Current drivers of change⁷	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Government Policy and Drivers e.g. 25 Year Plan, Environment Act and Nature Recovery Funding • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat)

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

- Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold)
- Achieving sustainable grazing levels will be critical to maintaining the higher ground within the Low Fells
- World Heritage Status could impact on nature recovery and land use opportunities

Agriculture and Environment Policy

- Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular)
- Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods)
- Increasing environmental legislation (farming rules for water for example)

Agricultural profitability

- Beef and sheep units – underlying profitability of businesses dependent on support
- Upland/Hill units – underlying profitability of businesses dependent on support
- Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example)
- Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation

Climate Change

- Climate Change affect small valley streams by increasing alien species, with water courses serving to rapidly distribute seed and plant material throughout catchments.
- A marked effect on the temperature of key lakes with measurements taken over the last sixteen years showing an average rise of four degrees. Temperature rise will increase eutrophication and put pressure on niche fish species such as Arctic Char.
- Climate change could also lead to increased numbers and severity of storm events and summer drought, impacting on open grown trees and woodland.

Forestry

- The changing nature and economics of forestry in the long term could impact on significant parts of the Low Fell through increased or decreased timber production.

Housing Development

- Pressure for housing development, limited brownfield land opportunities within built up areas, current Local Plan land allocations predominantly consist of site allocations on greenfield land on the edge of main towns and villages. Also housing allocations in the countryside.
- Future housing growth strategy for South Lakeland unknown at this stage to be reviewed through Local Plan review (outside of the Lake District and Yorkshire Dales National Parks). May result in an increased pressure for more housing development than currently being planned for.

	<p>Employment Development</p> <ul style="list-style-type: none"> • Possible pressure for employment development to meet wider strategic employment needs, may be pressure to locate in rural locations close to main highway networks. <p>Infrastructure</p> <ul style="list-style-type: none"> • Possible pressure for infrastructure development (e.g. Kendal Northern Relief Road) • A590 Improvements <p>Rural Diversification</p> <ul style="list-style-type: none"> • Pressure for rural diversification, ways and means for agricultural-land based industries to remain viable. E.g. diversification into leisure and tourism accommodation land use activities. • Proximity to the Lake District and Yorkshire Dales National Parks key drivers <p>Tourism</p> <ul style="list-style-type: none"> • Continued pressure across the area. Of particular note is access to water for recreational pursuits potentially creating pollution, disturbance to wildlife and pressure on sensitive habitats. <p>Flooding</p> <ul style="list-style-type: none"> • Surface water flood risk (there are a number of hotspots in Barrow Borough Council area <p>Diffuse Pollution</p> <p>Energy Provision</p> <ul style="list-style-type: none"> • Possible pressure for new renewable energy provision e.g. on-shore wind farms, solar farms in rural locations <p>Invasive Species</p> <ul style="list-style-type: none"> • Current key invasive species present in the National Park include: Giant Hogweed, Himalayan Balsam, Japanese Knotweed, New Zealand Pigmy weed, American Signal Crayfish, Phytophthora austrocedrae (affects Juniper), Chalara, American Skunk Cabbage. • During the last five year State of the Park Report 2018 Invasive species have not increased in number. The highest risk area is Windermere. <p>Water Framework Directive</p>
	<p>Data/information sources</p> <p>Barrow Borough Council Barrow Strategic Flood Risk Assessment (Capita) May 2015 North West Shoreline Management Plan 2010 South Lakeland Local Plan – see Land Allocations Development Plan Document 2013, site allocations Cumbria Local Enterprise Partnership (CLEP) LDNPA State of the Park Report Lune Rivers Trust South Cumbria Rivers Trust WFD Classifications (Catchment Data Explorer)</p>

		<p>Until recently the Park and Cumbria benefited from the Cumbria Freshwater Invasive Non-Native Species (CFINNS) project, a county-wide, multi-catchment project for freshwater and riparian invasive non-native species (INNS). This programme is currently unfunded. For further information see http://cfinns.scrt.co.uk.</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸		<p>A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands, woodland and tree planting and less intensive land management.</p> <p>Interest from land managers to recover nature, providing opportunities for the:</p> <ul style="list-style-type: none"> • creation of species-rich grassland both hay meadows and pasture in the low lying valleys and lower slopes • Woodland (all types) and hedges creation/restoration both in the low lying valleys but also linking valleys across tops. • Localised re-naturalising of rivers and becks, fish barrier removal, rewetting to increase riparian habitats such as floodplain meadows, reedbed, woodland etc. • Riverine habitat restoration (e.g. fish spawning & juvenile habitat) • Trees along river banks to stabilise banks and provide a buffer strip, supporting better water quality. As well as providing habitat for aquatic and terrestrial species (e.g birds, bats and butterflies) and keeping rivers cool in a climate of more extreme temperatures. <p>Changes in agricultural and environmental policy and support mechanisms delivering:</p> <ul style="list-style-type: none"> • Conservation & restoration of species-rich hay meadows • Conservation of other species-rich habitats and the expansion of species rich grasslands • Restoration of 'improved' pasture to species-rich pasture • Increased native tree and scrub cover and enhancement of species diversity in existing woodland and woodland plantation and an expansion of upland wood pasture • Restoration and expansion of hedgerow habitat for habitat connectivity and the restoration and good management of the whole hedgerow resource • More tall-herb vegetation, for example along gills and rivers as vital habitat for invertebrates • Habitat mosaics from micro to landscape-scale <p>Housing and Employment Development providing opportunities from:</p> <ul style="list-style-type: none"> • Large scale developments (housing and employment), sites located on the edge of main towns – examples include current site allocations Croftlands, Ulverston (part of which has planning permission), Scroggs Wood, Kendal.

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	<ul style="list-style-type: none"> • Many site allocations and planning permissions are for relatively small-scale development, opportunities may be more limited, but could be some such as increasing hedgerow provision/restoration, additional treescape. • Potential for the creation of receptor sites for reptiles • Retrofitting of SuDS to reduce surface water risk <p>Biodiversity Net Gain opportunities still unknown as:</p> <ul style="list-style-type: none"> • Extent of future net gains for biodiversity provision unknown, Environment Bill specifies mandatory 10%, what local authorities will be able to ask for remains unknown, dependent on direction from National Policy and local drivers (e.g. political). • Review of current Local Plan policies around biodiversity and green infrastructure may result in additional requirements, but need to consider in context of potential National policy changes (White Paper proposals) • Potential opportunities from future site allocations (housing, employment) – may be option to consider whether future sites should be allocated for off-setting biodiversity net gain requirements, as part of Local Plan Review undertaking Call for Sites exercise, may be some sites that could have a role in enhancing biodiversity provision. <p>New Infrastructure could provide opportunities including:</p> <ul style="list-style-type: none"> • From major new infrastructure enhancements, e.g. flood defence works (natural drainage storage such as upstream of River Kent), utilities provision, new roads/enhancements to main highways <p>Green Infrastructure could provide opportunities associated with:</p> <ul style="list-style-type: none"> • Enhancements to green infrastructure provision (qualitative and quantitative) – assessments to be undertaken as part of Local Plan review, feed into a Green Infrastructure Strategy • Enhancements to walking and cycling networks, green corridors such as River Kent • Integration of sustainable drainage systems as part of wider green infrastructure <p>Offsetting could provide opportunities associated with:</p> <ul style="list-style-type: none"> • Future offsetting strategy for SLDC owned land – looking at how SLDC landholdings can support carbon reduction – primary focus is on carbon offsetting. Future potential Biodiversity Action Plan looking at opportunities for how SLDC landholdings can support biodiversity.
	<p>Data & Information sources</p> <p>Barrow Borough Council South Lakeland Local Plan – see Land Allocations Development Plan Document 2013, site allocations https://www.southlakeland.gov.uk/planning-and-building/south-lakeland-local-plan/land-allocations/ South Lakeland Development Briefs https://www.southlakeland.gov.uk/planning-and-building/south-lakeland-local-plan/development-briefs/</p>

		<p>building/south-lakeland-local-plan/development-briefs-and-masterplans/</p> <p>Cumbria Wildlife Trust Lune Rivers Trust Lake District Landscape Character Assessment 2008 South Cumbria Rivers Trust Keeping Rivers Cool dataset – available as part of Catchment based approach data package</p>
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution		<p>Climate Change Mitigation through restoration and expansion of wetlands and habitats on peat soils, the expansion of woodland network, woodland planting and management, wood pasture creation and management and soil health and erosion improvements. Also climate change mitigation & resilience from natural flood management, river restoration & riparian woodlands. Riparian tree planting for keeping rivers cool for biodiversity benefits and water resource benefits. Rivers and the riparian strip are also great habitat corridors.</p> <p>Natural Flood Management From floodplain reconnection, wetland habitat/ peatland habitat restoration and creation.</p> <p>Improved health and wellbeing from improving/increasing access to nature areas (from nature restoration generally)</p>
	Data and Information Sources	Cumbria Wildlife Trust Lune Rivers Trust South Cumbria Rivers Trust
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Create an ecological mosaic connecting heathland, bracken, scrub, woodland and wood pasture, species-rich pasture, wetlands and tarns by creating habitat corridors, buffers and stepping stones within a matrix of improved pasture ensuring requirements of key species are met • Restore and expand structural upland mosaics including heathland, mires and wood habitats targeting conversion of grassland on poor soils • Restore and buffer wetland and aquatic valley habitats (lowland raised bogs, mires, fens, reedbed and wet and floodplain woodland), including the creation of new wetlands • Protect hedgerows and hedgerow trees 	

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

- Create a coherent and resilient network of treescapes (native woodland, wood pasture, parkland, coppice, scrub, field trees and pollards, and hedgerows and hedgerow trees) by expanding and linking existing woodland with new areas of wood habitat creation through assisted and natural regeneration.
- Expand the area of broadleaved woodland and wood pasture (especially in east) by buffering woodlands and wood pasture, creating new wood habitats on valley sides and gills, restoring PAWS and increase broadleaved component in shelterbelts and coniferous plantations.
- Restore the functionality of relict wood pasture by reinstating management with ensures the recruitment of scrub and new trees through the operation of natural processes.
- Restoration of natural river channels and natural riverine processes and increase the length and area of riparian habitats

NCA – 20 Morecambe Bay Limestones	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Flat, lowland landscape with steep-sided limestone hills with some limestone pavement. • Wide expanses of shifting intertidal sand flats and salt marsh • Dynamic estuary systems • Mixed pastoral farming and woodland landscape. • Extensive areas of native broadleaved woodland on limestone areas. • Many high-quality semi-natural habitats of international importance including limestone pavements, herb-rich grasslands with juniper, species-rich scrub, limestone woodlands, peaty fenlands, marl tarns, reedbeds, lowland raised bogs, salt marshes and intertidal mud/sand flats <p>Narrative:</p> <p>Morecambe Bay Limestones National Character Area (NCA) is a lowland landscape shaped by underlying geology, with areas of flat open grazing marsh framed by dramatic limestone outcrops, extensive salt marshes and sand flats re-profiled by the tides, and intimate mosaics of limestone woodland and limestone grasslands. The dynamic landscape of the coastal fringe is dominated by the intertidal foreshore with extensive areas of mudflat, sand flat and salt marsh backed by low limestone cliffs, pebble beaches or manmade defences.</p> <p>The importance of the wildlife and geology of the area is recognised by the extent and number of international, national and local designations, including SSSI, SAC, SPA, Ramsar and the Arnside and Silverdale AONB. Almost a fifth of the NCA is designated Sites of Special Scientific Interest for its high-quality habitats and the species they support, including salt marshes, lowland raised bogs, limestone pavements, limestone grasslands, ancient woodlands, reedbeds, rivers and marl tarns. Sites of international importance include Morecambe Bay Pavements Special Area of Conservation (SAC) with its range of limestone plant communities and species, Witherslack Mosses SAC with its lowland raised bog plant communities, the River Kent SAC with its white-clawed crayfish, and Morecambe Bay SAC, SPA and Ramsar site with its range of estuarine communities, notably salt marshes, and its wintering wader and wildfowl population.</p> <p>The NCA has frequent exposures of limestone pavement, in total covering 776 ha of the NCA, making up a significant proportion of the national and global resource. Many of the limestone pavement areas are wooded with yew, juniper, hazel, buckthorn and ash cover. The complex of lowland raised bogs within the Witherslack Mosses SAC, including the Meathop and Foulshaw Moss SSSI support a diverse bog flora with sphagnum, bog rosemary and cotton grass in wetter areas and in drier areas cranberry, cross-leaved heath, heather and purple moor grass. These raised bogs are surrounded by carr and wet birch scrub and wet meadows and sit within more agriculturally improved and drained farmland. The Duddon Mosses SSSI encompasses an extensive system of raised mires, supporting bog communities, wet heath, scrub, broad-leaved and mixed woodland and acid grasslands. The NCA also holds important areas of coastal and flood plain grazing marsh, lowland meadows, historic parklands and orchards and smaller rivers, lakes reedbeds & wet grassland. Over 15 per cent of the NCA is covered by woodland (including substantial areas of ancient semi-natural woodland and veteran trees) and this resource is continuous with the high-quality woodlands of the adjacent South Cumbria Low Fells NCA. Of particular note is that large percentage of the woodlands are in positive management. The area is important for several nationally rare and scarce</p>	

species ('populations of natural importance' in NCA summary). In particular invertebrates and plants, but from other taxonomic groups as well e.g. limestone butterflies, bittern & lady's slipper orchid.			
Additional narrative to be incorporated – not adequately reflected in existing NCA description			
Additional information has been incorporated into the Narrative			
Data Sources for text:	National Character Area profile Most of the SSSI citations refer to invertebrates of note Arnside & Silverdale State of the AONB report 2019 – re woodland management Arnside and Silverdale AONB Lake District National Park Authority Landscape Character Assessment		
Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the Cumbrian part of the NCA (figures for the whole NCA in brackets)	% of Cumbria resource in the NCA
	Coastal and flood plain grazing marsh	4987 (5092)	24.2
	Deciduous woodland	3059 (4111)	12.9
	Mosaic habitat	1107 (2255)	9.6
	Upland calcareous grassland	843 (843)	23.1
	Lowland raised bog	806 (806)	18.9
	Coastal saltmarsh	696 (1039)	16.7
	<u>Lowland calcareous grassland</u>	548 (640)	51.5
	<u>Limestone pavement</u>	248 (295)	43.4
	Good quality semi-improved grassland	86 (158)	3.1
	Lowland dry acid grassland	75 (75)	19.2
	Lowland fens	50 (103)	5.1
	Traditional orchards	42 (48)	24.6
	Grass moorland	35 (36)	0.05
	Maritime cliff and slope	28 (28)	8.2
	Upland heathland	26 (54)	0.1
	Lowland meadow	16 (40)	5
	Purple moor grass and rush pasture	9.7 (15)	1.5
	Reedbeds	124	7.3
	Mudflats	0.7 (0.7)	3
	Lowland heathland	0.3 (12)	0.03
	Upland flushes, fens and swamps	0 (4)	0
	Additional Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²		
	The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Roadside verges (which help with connectivity) 		

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	<ul style="list-style-type: none"> • Hedgerows are an important habitat feature • Freshwater habitats seem under-represented, e.g. ponds/Hawes Water/rivers, data often within the additional habitats notes of PHI. In the AONB these are better recorded in our priority habitat mapping. • Juniper scrub is characteristic of the area, but not specifically represented by any priority habitat. • Mudflat measurement an underestimate – probably because they're listed as an additional habitat in the PHI, and also due to the position of the NCA 'boundary'. • Also for saltmarsh, the NCA boundary misses key coastal habitats, e.g. saltmarsh at New Barns/Arnside and at Grange. • Scrub and wood pasture • Urban Greenspace • Priority river habitat. The Duddon for example has been classed as a priority habitat.
Data or information source:	Cumbria Special Roadside verges dataset AONB Priority Habitat report & data Cumbria Wildlife Trust South Lakeland District Council South Cumbria Rivers Trust (Data and information can be found as part of the Catchment Based Approach Data package or on the Freshwater Biological Association website (they are hosting the priority network data)).
Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative	
Gains (Habitat Restoration/Creation)	<p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate but provided as a guide to restoration/creation work currently underway.</p> <p>Upland calcareous grassland – 226 ha</p> <p>Lowland calcareous grassland – 276 ha</p> <p>Purple moor grass and rush pasture - 4 ha</p> <p>Lowland fens – 35.5 ha</p> <p>Lowland dry grassland - 234 ha</p> <p>Lowland meadow – 144 ha</p> <p>Reedbeds – 28 ha</p> <p>Lowland raised bog – 25 ha</p> <p><u>Forestry Commission NFI</u> extracted figurex (young trees category) 90 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p> <p><u>AONB</u> (note these may be included in above figures)</p>

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>National Trust Park Moss (Lyth valley) habitat restoration 30ha – creation of reedbeds, lagoon and lowland fen.</p> <p>Relatively extensive habitat restoration works across woodland and grassland on multiple sites over last 10-15 years in AONB</p> <p><u>Cumbria Wildlife Trust</u></p> <p>Extensive restoration and conditioning work on Witherslack Mosses complex – Foulshaw, Meathop and Ireland Moss etc. by CWT.</p> <p>Morecambe Bay Grazing Project worked of restoration and conditioning of limestone grassland, species-rich pasture and hay meadows (figures included in NE figures?)</p>																								
	<p>Losses</p> <p>No information</p>																								
	<p>Condition</p> <p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets. These figures cover the whole NCA and not just the area in Cumbria.</p> <table> <tbody> <tr> <td>Favourable</td> <td>2814 ha</td> <td>(39.8%)</td> </tr> <tr> <td>Unfavourable recovering</td> <td>2862 ha</td> <td>(40.5%)</td> </tr> <tr> <td>Unfavourable no change</td> <td>184 ha</td> <td>(2.6%)</td> </tr> <tr> <td>Unfavourable declining</td> <td>1213 ha</td> <td>(17.2%)</td> </tr> </tbody> </table> <p>Environment Agency WFD</p> <table> <thead> <tr> <th>Water Body</th> <th>WFD Status</th> <th>Trend</th> </tr> </thead> <tbody> <tr> <td>Bela</td> <td>Moderate</td> <td>Declining (3 year trend)</td> </tr> <tr> <td>Crake - lower</td> <td>Moderate</td> <td>Declining</td> </tr> <tr> <td>Kent conf. Sprint to tidal</td> <td>Moderate</td> <td>Declining (3 year trend)</td> </tr> </tbody> </table>	Favourable	2814 ha	(39.8%)	Unfavourable recovering	2862 ha	(40.5%)	Unfavourable no change	184 ha	(2.6%)	Unfavourable declining	1213 ha	(17.2%)	Water Body	WFD Status	Trend	Bela	Moderate	Declining (3 year trend)	Crake - lower	Moderate	Declining	Kent conf. Sprint to tidal	Moderate	Declining (3 year trend)
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	<p>Data & Information Sources</p> <p>Natural England National Habitat Network</p> <p>Natural England SSSI Unit Recording</p> <p>Forestry Commission NFI</p> <p>Arnside and Silverdale AONB</p> <p>Cumbria Wildlife Trust</p> <p>Environment Agency 2019</p> <p>https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12</p>																								
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	<p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 20.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>FURTHER WORK REQUIRED TO IDENTIFY CRITERIA FOR THE SPECIES LISTS</p> <p>Arnside and Silverdale AONB 172 S41 species recorded in AONB, and likely resident or regular visitors. Previous report identified 'characteristic' species or groups:</p>
Table 4: Selected Arnside & Silverdale AONB Characteristic species	

1.	Limestone butterflies and day-flying moths - high brown fritillary, northern brown argus, pearl-bordered fritillary and other butterflies and day-flying moths of limestone habitats including small pearl-bordered fritillary, dingy skipper, grayling, scotch argus, Duke of Burgundy, white-spotted sable, cistus forester and least minor
2.	Limestone grassland and pavement plants - dark red helleborine, blue moor-grass and other plant species of limestone grasslands and pavement including spring sandwort, rigid buckler fern, limestone fern and juniper
3.	Lady's-slipper
4.	Lancashire whitebeam
5.	Waxcaps
6.	Ants - red wood ant and yellow meadow ant (and shining guest ant associated with red wood ant nests)
7.	Woodland moths - netted carpet and barred tooth-stripe
8.	Woodland birds - marsh tit, hawfinch, bullfinch and other breeding woodland birds
9.	Reedbed birds - bittern, bearded tit, marsh harrier and other nesting reedbed birds
10.	Coastal birds - oystercatcher, redshank, curlew, lapwing and other breeding, passage and wintering waterfowl of saltmarsh and mudflats
11.	Otter
12.	Swift

Cumbria Wildlife Trust
Morecambe Bay and South Lakes becoming core area for Osprey in Cumbria.
Foulshaw, Meathop, Esthwaite Hay Bridge etc.

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

	White faced darter reintroduced at Foulshaw and doing well. One of only a small number of Cumbrian sites. Need to look at further reintroductions.	
	Data & Information sources	Report: Notable and Characteristic Species in the Arnside & Silverdale AONB. Jan 2016. Cumbria Wildlife Trust
Trends in range / population in the UK /England ⁵ (?)		
No data available		
Trends in range / population in the NCA ⁶		
<p>Data which could elucidate trends is sparse for all species in NCAxxx. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>FURTHER WORK TO OBTAIN DATA FROM BTO, BC AND EA DATASETS</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p> <p>South Cumbria Rivers Trust We do fish surveys every year (salmonids), which combined with EA data and the national (CEFAS) data can show trends over time. But can still be limited as don't always do repeat surveys of same sites but often do before and after at project sites.</p>		
Data Sources		
South Cumbria Rivers Trust		
Current drivers of change ⁷		
	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) 	

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<p>Government Environmental Policy</p> <ul style="list-style-type: none"> • Government ambitions to improve the environment (25 year environment plan, Glover landscapes review) and intended delivery through local strategies. • Defra Tree Strategy • Environment Act <p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • Increasing environmental legislation (farming rules for water for example) <p>Agricultural profitability</p> <ul style="list-style-type: none"> • Beef and sheep units – underlying profitability of businesses dependent on support • Farming predominately lowland livestock with some upland and hill areas • More productive farming creates challenges with respect to opportunity cost of changing land use • Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) • Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation <p>Disease and invasives</p> <ul style="list-style-type: none"> • Ash dieback will likely have a significant impact on woodland structure and composition. • Invasive non-native species <p>Climate change</p> <ul style="list-style-type: none"> • Effects of (and concern for future effects of) climate change, e.g. extreme weather, storm surges, sea level rise and temperature change. • Some niche and vulnerable species may not be able to adapt to climate change and maybe lost from this distinctive range of habitats. • The coastal margins are vulnerable to a range of climate change effects such as increased salination of coastal mosses and increased storm events could change the pattern and spread of habitats and therefore alter the character of the landscape (e.g. through increasing erosion of the dunes). <p>Visitors and tourism</p> <ul style="list-style-type: none"> • An increasing number of visitors to the area and people wanting to enjoy wildlife-rich areas – while balancing this with the impacts of increased disturbance, such as with breeding & wintering waders. <p>Development</p> <ul style="list-style-type: none"> • Pressure for housing development, limited brownfield land opportunities within built up areas. Current Local Plan land allocations predominantly consist of site allocations on greenfield land on the edge of main towns and villages
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	<ul style="list-style-type: none"> Future housing growth strategy for South Lakeland unknown at this stage to be reviewed through Local Plan review (outside of the Lake District and Yorkshire Dales National Parks). May result in an increased pressure for more housing development than currently being planned for. <p>Employment</p> <ul style="list-style-type: none"> Pressure for rural diversification, ways and means for agricultural-land based industries to remain viable. E.g. diversification into leisure and tourism accommodation land use activities, proximity to the Lake District and Yorkshire Dales National Parks key drivers in this respect Possible pressure for employment development to meet wider strategic employment needs, may be pressure to locate in rural locations close to main highway networks <p>Nature Conservation Organisations</p> <ul style="list-style-type: none"> Presence of nature conservation organisations in the area demonstrating and driving opportunities <p>Renewable Energy</p> <ul style="list-style-type: none"> Possible pressure for new renewable energy provision e.g. on-shore wind farms. Potential tidal (Morecambe Bay?) Solar arrays in some rural locations <p>Infrastructure</p> <ul style="list-style-type: none"> A590 Improvements <p>Water Framework Directive</p> <p>Diffuse water pollution</p> <p>Public support for nature</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>Arnside and Silverdale AONB and AONB management plan National Farmers Union (NFU) Cumbria Local Enterprise Partnership (CLEP) South Lakeland Local Plan – see Land Allocations Development Plan Document 2013, site allocations LDNPA Landscape Character Assessment South Cumbria Rivers Trust WFD Classifications (Catchment Data Explorer) Cumbria Wildlife Trust</p>

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	<p>Changes in agricultural and environmental policy and support mechanisms which in turn help deliver:</p> <ul style="list-style-type: none"> • Retention of rush pasture in suitable condition for wading birds • Conservation & restoration of species-rich lowland calcareous grasslands • A rich and abundant invertebrate fauna • Enhancement of species diversity in existing woodland and woodland plantation and an expansion of wood pasture • Improved and restored hedgerows as part of a habitat network for species movement • Recovery of all peat soils to a peat-forming condition (including restoration from forestry and agriculture) • Habitat mosaics from micro to landscape-scale, including the development of 'messy' habitats and habitat features • Rewetting and habitat creation in certain areas to buffer and connect existing core sites in the Witherslack Mosses (e.g. Foulshaw Moss). This could project up into South Lakes valleys through creation of riparian habitats such as reed bed and wet grassland. • Trees along river banks to stabilise banks and provide a buffer strip, supporting better water quality. As well as providing habitat for aquatic and terrestrial species (e.g birds, bats and butterflies) and keeping rivers cool in a climate of more extreme temperatures. • Restoration of coastal transition habitats and saltmarsh via managed retreat. • Restoration of Sea-Grass beds and native oyster beds. <p>Farming advice helping with engagement with, and supporting the community of landowners to adopt and extend appropriate land management practices, that will deliver for nature and work for them.</p> <p>Biodiversity Net Gain funding potential but:</p> <ul style="list-style-type: none"> • Extent of future net gains for biodiversity provision unknown, Environment Bill specifies mandatory 10%, whether SLDC seeks to / will be able to ask for more remains to be seen, dependent on direction from National Policy and local drivers (e.g. political). • Review of current Local Plan policies around biodiversity and green infrastructure may result in additional requirements, but need to consider in context of potential National policy changes (White Paper proposals) <p>Green infrastructure may provide opportunities around</p> <ul style="list-style-type: none"> • Associated with enhancements to green infrastructure provision (qualitative and quantitative) – assessments to be undertaken as part of Local Plan review, feed into a Green Infrastructure Strategy • Associated with enhancements to walking and cycling networks, green corridors such as River Kent <p>Major new Infrastructure may provide opportunities e.g. linked to flood defence works.</p> <p>Local Development Planning may offer opportunities from:</p> <ul style="list-style-type: none"> • Large scale developments (housing and employment), sites located on the edge of main towns – examples include current site allocations Croftlands, Ulverston
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	<p>(part of which has planning permission, but a significant portion has still to be granted permission)</p> <ul style="list-style-type: none"> • Future site allocations (housing, employment – may be option to consider whether future sites should be allocated for off-setting biodiversity net gain requirements, as part of Local Plan Review undertaking Call for Sites exercise, may be some sites that could have a role in enhancing biodiversity provision). • Many site allocations and planning permissions are for relatively small-scale development, opportunities may be more limited, but could be some such as increasing hedgerow provision, additional treescape <p>Coastal realignment may offer opportunities for saline interfaces with peatland creating habitats that are very rare in U.K.</p> <p>A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands</p>
	<p>Data & Information sources</p> <p>Arnside and Silverdale AONB and AONB management plan Cumbria Wildlife Trust South Lakeland Local Plan – see Land Allocations Development Plan Document 2013, site allocations https://www.southlakeland.gov.uk/planning-and-building/south-lakeland-local-plan/land-allocations/ South Lakeland Development Briefs https://www.southlakeland.gov.uk/planning-and-building/south-lakeland-local-plan/development-briefs-and-masterplans/ South Cumbria Rivers Trust Keeping Rivers Cool dataset – available as part of Catchment based approach data package</p>
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>Climate Change Resilience from strategic increases in habitat extent to improve connectivity. This will support biodiversity resilience to climate change, by enabling species to move across the environment, connecting and spreading populations as a genetic bank for resilience.</p> <p>Climate Change Mitigation through restoration and expansion of wetlands and habitats on peat soils, through the expansion of a woodland network</p> <p>Flood Mitigation through woodland planting, wetland creation Floodplain reconnection/ wetland habitat/ peatland habitat for natural flood management.</p> <p>Soil Health through habitat restoration – reducing soil erosion, carbon capture and slowing flow of water</p> <p>Pollination Services</p>

	<p>through grassland management and wildflower conservation, supporting invertebrates – pollination as an ecosystem service, and resilience of having species abundance & richness, as well as diversity.</p> <p>Health and Wellbeing through a ‘Natural Health Service’ – natural areas for the benefits to people for recreation, relaxation – physical & mental health.</p> <p>Improved Water Quality as a result of habitat restoration and sustainable land management.</p>		
	<table border="1"> <tr> <td>Data and Information Sources</td><td>AONB management plan Cumbria Wildlife Trust South Cumbria Rivers Trust</td></tr> </table>	Data and Information Sources	AONB management plan Cumbria Wildlife Trust South Cumbria Rivers Trust
Data and Information Sources	AONB management plan Cumbria Wildlife Trust South Cumbria Rivers Trust		
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Protect and enhance the mosaic of limestone habitats including pavement, woodland, scrub and grassland to create an ecological network. • Protecting and restoring ancient woodlands and expanding and linking existing woodland with new areas of planting, and connecting hedgerows • Ensure habitat quality is great enough to support specialist species. • Restore and enhance coastal SSSIs, SACs, SPAs, Ramsar sites and their component habitats and locally designated sites • Conserve, restore and buffer lowland raised bogs, fens, rivers and reedbeds, wet grassland • Restoration of natural river channels and natural riverine processes. • Ensure sustainable management extends beyond the protected site network. • Manage and restore cultural habitats of the NCA including orchards, parklands and meadows. • Restoration of coastal transition habitats and saltmarsh via managed retreat. • Take a landscape-scale approach to creation of well-connected habitat network, including ecotones/messy edges etc. • Address water pollution/quality issues 		

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 21 Yorkshire Dales	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Upland landscape of exposed moorland with blanket bog and heath • Moorland plateau overlies Yoredale group and Millstone Grit geology to form a stepped profile to dale sides. • Scattered drumlins and undulating, hummocky drift landscape • Wide valleys with rough grazing on upper slopes, permanent pastures on dale sides and fields cut for hay on valley bottoms. • Remnant semi-natural broadleaved woodland restricted to valley sides and gills • Rectangular conifer plantations in some dales • Limestone pavements <p>Narrative:</p> <p>The Yorkshire Dales National Character Area (NCA), situated in the Pennine uplands, is a landscape of high, exposed moorland dissected by sheltered valleys or dales, each with their own character. The landscape is characterised by contrasts, especially between the dales below and the moors/fells above. The fell are characterised by heather and grass moorland, and cotton grass bog. Dropping of the fell tops there is a gradual transition to rough pasture and improved pasture on lower slopes, interspersed with areas of bracken, scrub and woodland. The steepest slopes are frequently marked by the presence of sparse woodlands or sometimes open rock scree. Fast-flowing streams tumble down the slopes, forming dramatic waterfalls where the rock is harder and coarser. Combe Scar and its associated corrie is a prominent landmark on the valley slopes near the northern entrance to Barbondale and is designated as an SSSI because the Dent Fault (which runs through this area) has led to the juxtaposition of a varied rocks and soil types - and a richly diverse and uncommon range of flora. Extensive mature broadleaf woodlands on the valley slopes; many contain areas of ancient woodland e.g. at Green Wood and Gildard Wood near Casterton, Nether Hall Wood near Mansergh and Hawkrigg Wood. Stands of mature beech trees are a feature of the valley woodlands. Narrow incised valley gills and gullies on slopes of fells also often contain high quality ancient semi-natural woodlands, such as those on the slopes of Baugh Fell in the Rawthey Valley e.g. Hebblethwaite Hall Gill and Whinny Gill. The wood pasture habitats and veteran trees associated with the small historic parkland landscapes (e.g. Underly Park and Beckfoot Park in the lower Lune Valley) also contribute to this diverse mosaic of species-rich habitats. In the dales the environment is more sheltered and there are intricate patterns of walled fields enclosing meadows and pastures. Some of these grasslands, such as the Deepdale Meadows SSSI, support wildflower-rich hay meadows which were once much more common in the dales. Other species-rich acid and wet grassland habitats occur in the Upper Rawthey Valley - at Cautley Thwaite Meadows and Ecker Secker Beck SSSI. Several important rivers and their tributaries flow through the dales, including the broad meandering River Lune and several tributaries of the Rivers Rawthey and Wernin. These rivers and associated tributaries within the NCA represent valuable potential fish spawning habitat. The meandering River Eden channel is designated as part of the River Eden SAC in recognition of the international importance of its aquatic habitats. It is also part of the River Eden and Tributaries SSSI and the headwaters of the Eden are noted as being one of the most important British sites for the native white-clawed crayfish.</p>	

Additional narrative to be incorporated – not adequately reflected in existing NCA description			
Additional text has been summarised and included in the narrative			
Data Sources for text:	National Character Area profile Lune Rivers Trust Yorkshire Dales National Park Authority Landscape Character Assessment		
Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the Cumbrian part of the NCA (figures for the whole NCA in brackets)	% of Cumbria resource in the NCA
	Grass moorland Blanket bog Upland heathland Upland flushes, fens and swamps Upland calcareous grassland Deciduous woodland Fragmented heath Mosaic habitat Upland hay meadow Good quality semi-improved grassland Lowland calcareous grassland Lowland meadow Lowland dry acid grassland Limestone pavement Purple moor grass and rush pasture Lowland heathland Lowland fens Traditional orchard Coastal and floodplain grazing marsh Lowland raised bog	5108 (19,800) 4488 (55,478) 1050 (33,016) 408 (1462) 199 (5306) 156 (3531) 132 (1576) 123 (2561) 114 (854) 88 (1474) 62 (1703) 37 (330) 30 (80) 23 (672) 12.5 (80) 12.3 (207) 6.6 (765) 0.6 (7) 0 (626) 0 (79)	6.6 9.7 3.8 7.9 5.5 0.7 6.9 1.1 15.1 3.2 5.8 11.6 7.7 4 1.9 1.2 0.7 0.4 0 0
	Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²		
	The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Riverine Habitats • Scrub • Wood pasture/parkland [Does 'Mosaic Habitat' include mosaics that include Priority Habitat?]		
	Data or information source:	Lune Rivers Trust Yorkshire Dales National Park Authority	

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.)

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	<p>Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote)³.</p> <p>Supply data (where available) and short narrative</p> <p>Gains (Habitat Restoration/Creation)</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate but is shown as a guide to the level of habitat restoration/creation currently underway.</p> <p>Upland calcareous grassland – 5.5 ha</p> <p>Upland hay meadow – 76 ha</p> <p>Lowland meadow – 64 ha</p> <p>Lowland dry grassland - 55 ha</p> <p>Purple moor grass and rush pasture – 0.5 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category)</p> <p>90 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p>																			
	<p>Losses</p> <p>Not known</p>																			
	<p>Condition</p> <p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figures provided in hectares (ha) and percentage in brackets. These figures cover the whole of the NCA not just the part in Cumbria.</p> <table> <tbody> <tr> <td>Favourable</td> <td>16210 ha</td> <td>(22.8%)</td> </tr> <tr> <td>Unfavourable recovering</td> <td>52646ha</td> <td>(74.1%)</td> </tr> <tr> <td>Unfavourable no change</td> <td>2204 ha</td> <td>(3.1%)</td> </tr> <tr> <td>Unfavourable declining</td> <td>25 ha</td> <td>(?%)</td> </tr> </tbody> </table> <p>Environment Agency WFD</p> <table> <thead> <tr> <th>Water Body</th> <th>WFD Status</th> <th>Trend</th> </tr> </thead> <tbody> <tr> <td>Eden (headwaters to Scandal Beck)</td> <td>Moderate</td> <td>Declining</td> </tr> </tbody> </table>		Favourable	16210 ha	(22.8%)	Unfavourable recovering	52646ha	(74.1%)	Unfavourable no change	2204 ha	(3.1%)	Unfavourable declining	25 ha	(?%)	Water Body	WFD Status	Trend	Eden (headwaters to Scandal Beck)	Moderate	Declining
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	Data & Information Sources	<p>Natural England England Habitat Network</p> <p>Environment Agency 2019</p> <p>https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12</p>																		
Priority Species	<p>A list of priority species in the NCA will be provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4 <p>SPECIES LISTS STILL TO BE DEVELOPED</p>																			

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 21.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>FURTHER WORK IS REQUIRED TO AGREE CRITERIA FOR THE SPECIES LISTS</p> <p>From Lune Valley Rivers Trust</p> <ul style="list-style-type: none"> Atlantic salmon European eel River lamprey (potentially) Brook lamprey (potentially) White Clawed Crayfish (potentially) Sea Trout Brown Trout Kingfisher Dipper <p>From Natural England</p> <ul style="list-style-type: none"> Black grouse? Occurs Mallerstang, and definitely a good target species for expansion YDNP 						
	<table border="1"> <tr> <td>Data & Information sources</td><td>Lune Rivers Trust Natural England</td></tr> <tr> <td></td><td>Trends in range / population in the UK /England⁵ (?)</td></tr> <tr> <td></td><td>No information available</td></tr> </table>	Data & Information sources	Lune Rivers Trust Natural England		Trends in range / population in the UK /England ⁵ (?)		No information available
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⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

	<p>Trends in range / population in the NCA⁶</p> <p>Data which could elucidate trends is sparse for all species in NCA21. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>FURTHER WORK TO EXTRACT INFORMATION FROM BTO, BC AND EA DATASETS</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p> <p>From Lune Valley Rivers Trust</p> <p>Significant decline in Atlantic Salmon and European Eel populations in the Lune catchment over last few decades – but data specific to this NCA not easy to come by.</p> <p>Lamprey and White clawed crayfish populations very small (if still present) – but unclear how recent this decline is.</p>		
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Data Sources	Lune Rivers Trust		
Current drivers of change ⁷	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Government policy and drivers e.g. 25 year plan, Environment Act, Nature Recovery funding • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Significant areas of common land – need agreement across the common to deliver desired outcomes <p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • Increasing environmental legislation (farming rules for water for example) 		

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<ul style="list-style-type: none"> Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) <p>Agricultural profitability</p> <ul style="list-style-type: none"> Beef and sheep units – underlying profitability of businesses dependent on support Upland/Hill units – underlying profitability of businesses dependent on support Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) Lack of good incentives for some long-term land management changes – e.g. woodland management or wood pasture creation <p>Climate change</p> <ul style="list-style-type: none"> Climate change (particularly in relation to loss of some species, disruption of wetland and peatland systems, impact on rivers and streams, increase in frequency of novel diseases of plants and animals) <p>Diffuse pollution</p> <p>Loss of riverine habitat</p> <p>Policy</p> <ul style="list-style-type: none"> Defra peatland strategy, including phasing out of rotational burning from blanket bog and support for peatland restoration. Defra tree strategy <p>Air pollution especially atmospheric Nitrogen impacting on habitats with a naturally low nutrient status.</p> <p>Invasive Species</p> <p>Spread of or introduction of Invasive species and plant diseases</p>
	<p>Data/information sources</p> <p>Lune Rivers Trust Natural England National Farmers Union (NFU)</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands, riparian woodland/tree planting, new woodlands or areas of deeper vegetation with scrub woodland. May provide opportunities for re-naturalising sections of becks and rivers and river restoration (e.g. re-meandering).</p>

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	<p>Changes in agricultural and environmental policy and support mechanisms which lead to long term support for High Nature Value farming in the North Pennines, in turn delivering:</p> <ul style="list-style-type: none"> • Further hay meadow restoration and creation. • Enhancing condition of existing flower-rich grasslands (both calcareous and hay meadows), restoration of species-poor grassland to species-rich, and buffering of existing sites by new grassland creation. • Management of moorland fringes to create diverse habitat mosaics, including wet pasture suitable for breeding waders and dynamic, scrubby margins grading into native woodland, broad margins alongside gills and rivers with tall vegetation, including trees and scrub. • Increasing area of native woodland, restoration of and expansion of wood pasture and creating linkages between existing areas of woodland and wood pasture. <p>Interest from land managers to improve river management including riparian woodland planting and riverine habitat restoration (e.g. fish spawning & juvenile habitat).</p> <p>Increased government drive and support leading to large scale projects to increase tree, scrub and woodland cover, including</p> <ul style="list-style-type: none"> • Increased native tree and scrub cover • An expansion of upland wood pasture <p>Increased drive for carbon storage and capture within natural habitats providing opportunities for enhancing blanket bog condition, enabling enhanced carbon capture, reduced sedimentation, and reducing speed of run-off.</p> <p>Interest from some major landowners to help nature recovery providing potential opportunities for landscape-scale restoration through extensive naturalistic management.</p>
	<p>Data & Information sources</p> <p>Lune Rivers Trust Natural England Woodland Trust Cumbria Wildlife Trust</p>
<p>Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution</p>	<p>Climate Change mitigation from woodland planting and management, wood pasture creation, peatland restoration, taller lightly grazed vegetation etc.</p> <p>Soil health and soil erosion through regenerative farming.</p> <p>Natural Flood Management from river restoration & riparian woodlands and scrub planting and regeneration. Helping downstream flooding and water flow through riparian habitat creation and re-naturalising rivers and becks.</p> <p>Farming productivity</p>

	<p>from reducing stocking levels to improve quality – especially if the stock that are grazed are also organic.</p> <p>Improving Water Quality through wetland, peatland, woodland and scrub restoration</p> <p>Improving Watercourse condition From tree planting/regeneration. There is little or no shade for many watercourse as few are tree lined and shaded. This leads to extremes of temperature affecting invertebrate populations and lack of fish breeding success. Lack of leaves in the water column reduces numbers of detritivore insects.</p> <p>Pollination Restoration of species-rich grasslands beneficial for pollinators.</p>		
	<table border="1"> <tr> <td>Data and Information Sources</td><td>Lune Rivers Trust Natural England</td></tr> </table>	Data and Information Sources	Lune Rivers Trust Natural England
Data and Information Sources	Lune Rivers Trust Natural England		
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Protect and manage the glacio-karst landscape including limestone pavements • Protect, enhance, extend and link semi-natural habitats, particularly upland hay meadows, calcareous grasslands and native woodland to form habitat networks. • Restore wetland habitats such as fens, wet grassland and water meadows , including buffering wetlands via the creation of new wetland habitats adjacent to existing sites to avoid edge effects of drainage and eutrophication • Effectively manage and maintain species-rich grassland on road/track verges. • Protect, enhance and restore open moorland and blanket bogs which are upland breeding waders, hen harrier and short-eared owl, • Protect, enhance and extend existing native woodland where appropriate (e.g. away from priority wading bird habitat) and encourage woodland and wood pasture creation between isolated areas of woodland, along river banks and alongside fields with high risk of soil erosion. 		

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 7 West Cumbria Coastal Plain	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Diverse open coastline with internationally important wildlife sites supporting mudflats, intertidal habitats, salt marsh, lowland raised mires, shingle and pebble beaches, low soft cliffs, high sandstone cliffs, dune systems, estuarine systems and the barrier islands of Foulney and Walney • Limited areas of woodland on steeper slopes and in river valleys • Important areas of brownfield biodiversity with rare species, especially in urban fringes • Pastoral farmland more inland with occasional woods, fens, remnant semi-natural grasslands/meadows with small amounts of arable land. 	
<p>Narrative:</p> <p>The West Cumbria Coastal Plain National Character Area (NCA) sits between the Cumbrian High Fells NCA in the east and the Irish Sea to the west. The coastline encompasses a diverse range of habitats including saltmarshes, mudflats, shingle and pebble beaches, honeycomb worm reefs, soft cliffs, coastal streams, the high sandstone cliffs of St Bees, dune systems, expansive estuarine systems and the barrier islands of Walney and Foulney. The saltmarshes and mudflats support a variety of invertebrates (including ragworm, lugworm, bivalves and snails) providing food for wading birds and wildfowl (such as oystercatchers, dunlin, knot, curlew, bar-tailed godwit, grey plover, ringed plover, shelduck, pintail, eider and goldeneye).</p> <p>Morecambe Bay is a designated Special Protection Area (SPA), for its wide range of bird species throughout the year; in summer, areas of shingle and sand hold breeding populations of terns, whilst very large numbers of geese, ducks and waders overwinter and use the site in spring and autumn migration periods. Morecambe Bay is also a designated Special Area of Conservation (SAC) and Ramsar site for a range of habitats coastal habitats.</p> <p>The coastline running from Walney Island to St Bees, including the Duddon Estuary and the estuary complex at Ravenglass, has a number of internationally and nationally designated nature conservation sites. These are important for their coastal sand dune, vegetated shingle and salt marsh communities as well as for breeding seabirds, wintering waders and wildfowl, natterjack toad and specialist flora.</p> <p>As well as the coastline, the area supports nationally and internationally protected lowland rivers in the form of the Ehen and Derwent and lowland raised bogs around the Duddon Estuary. Inland the wind-swept and open pastoral farmland is dissected by more sheltered lowland river valleys, often delineated by woodland. The arable landscape of the St Bees area provides a contrast with the surrounding pastoral landscape. Field boundaries across the area (including hedges and streams) make an important contribution to the character and biodiversity of the area.</p> <p>There are significant areas of current and ex-industrial land, and other land within the urban conurbations which support important 'brownfield' sites supporting an important and rich wildlife resource.</p> <p>Additional narrative to be incorporated – not adequately reflected in existing NCA description</p> <p>Already incorporated into the above</p> <p>Data Sources for text:</p> <p>National Character Area profile: NCA – 7 West Cumbria Coastal Plain Barrow Local Plan, paras 10.2.6 and 10.2.7 (based upon Cumbria Landscape Character Guidance and Toolkit)</p> <p>West Cumbria Rivers Trust</p> <p>Lake District Landscape Character Assessment 2008</p>	

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. areas (ha) within the NCA	% of Cumbria resource in the NCA
Coastal and flood plain grazing marsh	3104	15	
<u>Coastal sand dunes</u>	1288	84.9	
Deciduous woodland	1240	5.2	
Mosaic habitat	938	8.1	
Coastal saltmarsh	794	19	
Good quality semi-improved grassland	375	13.6	
<u>Maritime cliff and slope</u>	295	86	
Lowland raised bog	231	5.4	
<u>Saline lagoons</u>	161	98.5	
Purple moor grass and rush pasture	102	15.5	
Grass moorland	102	0.1	
Lowland heathland	75	7	
Lowland fens	63	6.5	
Lowland dry acid grassland	62	15.9	
Upland heathland	52	0.2	
Lowland meadow	24	7.5	
<u>Mudflats</u>	21	88.6	
<u>Coastal vegetated shingle</u>	18	62.7	
Upland hay meadow	12	1.6	
Traditional orchard	9.8	5.7	
Lowland calcareous grassland	8.6	0.8	
<u>Reedbeds</u>	7.3	42.9	
Additional Habitats which are important in the NCA and need to be considered in for nature recovery ²			
The following habitats and/or biodiversity areas are also considered to be important within the NCA			
<ul style="list-style-type: none"> • Green Infrastructure e.g. Green Wedges, Green Spaces, Green Routes, Green Links • Brownfield sites. • Rivers and streams • Scrub • Small-scale field features • Ponds (including Siddick and Longlands Lake). 			
Data or information source:	Barrow Borough Council Barrow Local Plan (Green Infrastructure Chapter) and the Draft Green Infrastructure Strategy SPD and the Green Wedges evidence base. Allerdale Council West Cumbria Rivers Trust		

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.).Underlined habitats represent those where the NCA supports >30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	<p>Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote)³.</p> <p>Supply data (where available) and short narrative</p>
	<p>Gains (Habitat Restoration/Creation)</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate but is provided as a guide to the level of restoration/creation activity currently underway.</p> <p>Purple moor grass and rush pasture - 280 ha Lowland heathland - 82 ha Lowland fens - 76.8 ha Lowland dry grassland - 129 ha Lowland meadow – 71 ha Upland hay meadow – 68 ha Reedbeds – 6 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category) 336 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p> <p><u>From WCRT</u></p> <ul style="list-style-type: none"> • Seascale reedbed creation (0.1 Ha) – improved downstream and coastal bathing waters water quality. • 2 Ha riparian woodland River Marron (2017) • 1.2 Ha woodland, 2.3 km riparian buffers and 4 Ha Japanese knotweed control around Beckermet. • 2 km hedgerows and 1 Ha riparian woodland nr. Flimby (2019/2020) • River Corridors Group work – large riparian buffer strips at Camerton (River Derwent), Broughton beck, River Marron round Great Clifton. <p>Get Cumbria Buzzing Project – creation of species-rich grassland along strategic road network and at community sites. Butterfly Conservation – small scale species-rich grassland and scrub management mainly for small blue but other butterflies (Dingy skipper) and pollinators in general</p>
	<p>Losses</p> <p>No information available</p>
	<p>Condition</p> <p><u>SSSI info from NE</u> (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets.</p> <p>AWAITING INFORMATION</p> <p>Favourable Unfavourable recovering Unfavourable no change Unfavourable declining</p>

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p><u>Environment Agency – WFD Reporting</u></p> <table> <thead> <tr> <th>Rivers</th><th>WFD Status</th><th>Trend</th></tr> </thead> <tbody> <tr> <td>Calder - Lower</td><td>Moderate</td><td>Declining</td></tr> <tr> <td>Ehen - Lower</td><td>Moderate</td><td>Declining (3 year trend)</td></tr> <tr> <td>Annas</td><td>Moderate</td><td>Declining (3 year trend)</td></tr> <tr> <td>Esk - South West lakes</td><td>Moderate</td><td>Declining</td></tr> <tr> <td>Cocker - confluence Whit Beck to confluence Derwent</td><td>Moderate</td><td>Stable</td></tr> <tr> <td>Derwent – conf. Cocker to tidal</td><td>Moderate</td><td>Declining (3 year trend)</td></tr> <tr> <td>Ellen - lower</td><td>Poor</td><td>Declining</td></tr> <tr> <td>Ellen - middle</td><td>Moderate</td><td>Declining</td></tr> <tr> <td>Ellen - upper</td><td>Moderate</td><td>Declining</td></tr> </tbody> </table> <p><u>Rivers and streams (from WCRT)</u></p> <ul style="list-style-type: none"> Broughton Beck, River Marron and Lostrigg Beck declining water quality and in-stream habitat quality over last 5 years – low fish numbers, agricultural pollution, increasing silt and conductivity, sewage inputs 4 km of River Keekle and River Ehen restored Abutment removal on Lower Derwent to renaturalise river habitat/processes. Projects to improve fresh water pearl mussel habitat in Lower Ehen including reduced sediment inputs and water quality. 	Rivers	WFD Status	Trend	Calder - Lower	Moderate	Declining	Ehen - Lower	Moderate	Declining (3 year trend)	Annas	Moderate	Declining (3 year trend)	Esk - South West lakes	Moderate	Declining	Cocker - confluence Whit Beck to confluence Derwent	Moderate	Stable	Derwent – conf. Cocker to tidal	Moderate	Declining (3 year trend)	Ellen - lower	Poor	Declining	Ellen - middle	Moderate	Declining	Ellen - upper	Moderate	Declining
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	<p>Data & Information Sources</p> <p>West Cumbria Rivers Trust annual project statistics and WCRT habitat/fish surveys. Environment Agency 2019 https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12</p> <p>Forestry Commission NFI Environment Agency – Catchment Data Explorer Natural England National Habitat Network CWT can provide Get Cumbria Buzzing data. Butterfly Conservation for small blue and other butterfly species.</p>																														
Priority Species	<p>A list of priority species in the NCA will be provided in Appendix X. This includes species from the following priority lists</p> <ul style="list-style-type: none"> NERC Section 41 Habitats Directive (Annex I or II) IUCN Red List (Global, Europe or GB) UK Birds of Conservation Concern 4 <p>SPECIES LISTS TO BE AGREED</p>																														

	<p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA No 7.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction: This is a quick provisional list (and is subject to review).</p> <p>From Cumbria Wildlife Trust</p> <p>West coast is stronghold for small blue butterfly. This species is mainly restricted to brownfield sites in and around Workington, Whitehaven and Maryport. These sites are at risk of development and hence future of small blue is not secure.</p> <p>Significant populations of Natterjack toad populations linked with dune system and other coastal habitats.</p> <p>Cumbrian populations of rare variable damselfly occur here. An informal survey several years ago found it absent from most historical sites except Sellafield.</p> <p>From West Cumbria Rivers Trust</p> <ul style="list-style-type: none"> • Salmonids – Atlantic salmon, Brown trout, Sea trout. • Fresh water pearl mussels. • Invasive species – Signal crayfish in Broughton beck, Himalayan balsam, Japanese knotweed, American skunk cabbage.
	<p>Data & Information sources</p> <p>West Cumbria Rivers Trust Speak tonButterfly Conservation re small blue. Check variable damselfly. ARC for natterjack toads.</p>
	<p>Trends in range / population in the UK /England⁵</p> <p>Freshwater pearl mussels -Declining with mostly small fragmented relic populations left in a few rivers. Nationally numbers of salmon and sea trout are declining, salmon at a faster rate than sea trout. 38 out of 42 rivers designated as salmon rivers are 'at risk' or 'probably at risk'. 22 out of 44 rivers designated as sea trout rivers are 'at risk' or 'probably at risk'.</p>
	<p>Trends in range / population in the NCA⁶</p>

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

	<p>Data which could elucidate trends is sparse for all species in NCA. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>Freshwater pearl mussel:</p> <ul style="list-style-type: none"> • Ehen has the largest population of FWPM in England and is the only river with evidence of recruitment, they are still at risk throughout the whole system. • Historically the highest densities of FWPM on the River Irt were found downstream of Holmrook (in this NCA) but the population is declining, with no evidence of recruitment. Significant risk of extinction within the river. <p>Salmon:</p> <ul style="list-style-type: none"> • Salmon numbers in the River Derwent as a whole are also declining, following the national trends. The river is classified as 'potentially at risk' and is failing its conservation limit. Salmonids monitored in the Derwent for the last 5 years by WCRT – no overall trend. <p>Natural England</p> <p>For the River Ehen SAC (also in Cumbria High Fells) we have the following information:</p> <p>Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>): Large population (380,000 - 400,000 individuals) – declining. Largest population in England. Good conservation status, not isolated, global grade of "good"</p> <p>Atlantic salmon (<i>Salmo salar</i>): 501-1000 individuals –declining. Classified "probably at risk" by the Environment Agency. <2% of population, good conservation status, not isolated, global grade of "significant value".</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p>
Data Sources	<p>Environment Agency -</p> <p>https://www.gov.uk/government/publications/salmonid-and-freshwater-fisheries-statistics-2019/salmonid-and-fisheries-statistics-for-england-and-wales-2019#status-of-salmon-and-sea-trout-stocks</p> <p>https://www.gov.uk/government/publications/fisheries-annual-report-2018-to-2019/fisheries-annual-report-2018-to-2019</p> <p>West Cumbria Rivers Trust annual electrofishing surveys and freshwater pearl mussel surveys.</p> <p>European Site Conservation Objectives</p>

Current drivers of change ⁷	<p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • Increasing environmental legislation (farming rules for water for example) • New farming rules for water – but needs increased regulation to be widely adopted and really drive change. <p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) <p>Agricultural profitability</p> <ul style="list-style-type: none"> • Beef and sheep units – underlying profitability of businesses dependent on support • Farming predominately lowland livestock, dairy with some arable • More productive farming creates challenges with respect to opportunity cost of changing land use • Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) <p>Incentives</p> <ul style="list-style-type: none"> • Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation <p>Agricultural change and land management</p> <p>A decrease in water quality as a result of agricultural run-off or other pollution sources could damage the rivers, other water bodies and the water-based habitats within the mudflats and saltmarshes</p> <p>Climate Change</p> <ul style="list-style-type: none"> • Rising sea levels would have a dramatic impact as it would alter the shoreline, tidal flows and potentially inundate significant habitats. An increase in storm events could change the pattern and spread of habitats (e.g. through erosion of saltmarsh).
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⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<ul style="list-style-type: none"> Depending on the nature of the change in climate, an increase in global temperatures might encourage alien species/ more competitive species to dominate and reduce plant life diversity. <p>Water Quality</p> <ul style="list-style-type: none"> Increased recognition of problem of combined sewage overflows and new Water Framework Directive classifications. Drive for designation of more inland bathing waters. With a combination of increased population and development there is the potential to impact the River Derwent and other rivers in terms of recreation, hydrology, and water quality. <p>Local Development Planning</p> <ul style="list-style-type: none"> New development proposed through existing and emerging Local Plans (housing, key regeneration areas and opportunity areas). Site allocations (particularly those adjacent to European wildlife sites). Increasing development pressure around the fringes of major settlements. This may impact on both brownfield land and the coastal strip which are often of significant biodiversity (although not necessarily statutorily protected). Increasing development pressures on some of Council owned, undeveloped land which currently performs a green infrastructure purpose. Pressure to develop land can lead to increasing amounts of engineered features such flood defence, drainage works and raising of levels, all of which could impact on nature and natural processes Uncertainty about the future role of the Local Plan and Development Management in light of the government's proposed changes to the planning system – how much control will local councils have over future development, housing numbers etc? Uncertainty about impacts of devolution and creation of unitary authority <p>Economic Development</p> <ul style="list-style-type: none"> There is an ambition for growth, economically and in increasing population. Jobs, the economy, employment and transport are key. The growth and development of Workington port and adjoining land is a priority for Cumbria County Council and Allerdale Borough Council. An application for Freeport status is underway. Proposal for a multi-centre freeport / Barrow/ Workington and Carlisle Airport Economic development (particularly development in connection with BAE Systems and energy-related development, along with associated supply chain development opportunities. Modernisation of the shipyard and the Walney Offshore windfarms has resulted in significant economic development in recent years, and is continuing to do so. Utilising offshore gas could potentially open up further opportunities Town Centre regeneration plans for growth knock on effects. The Cumbria Clean Energy Park, which could host a large scale nuclear power station, and/or a mix of small modular reactors and other clean energy technologies on the Moorside site (The recently adopted Copeland Nuclear Prospectus and Economic Vision documents) Off shore wind developments and the Round 4 auction for offshore wind in the Irish Sea by the Crown Estate will require upgrades potential to national grid /
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	<p>regional grid sites in the North and South of the County. Potential for on shore wind developments in Suitable Area for Wind Energy identified in draft Local Plan</p> <ul style="list-style-type: none"> • Potential solar arrays • Hydrogen generations and infrastructure requirements • In more overall terms connectivity for wildlife is diminishing, and unprotected habitat loss will continue when weighed against economic benefits. There are insufficient resources to monitor any agreed mitigation measures for individual development projects. <p>Tourism</p> <ul style="list-style-type: none"> • A drive to deliver something around attract and disperse which will send people out to the coastal regions • Pressure for rural diversification, ways and means for agricultural-land based industries to remain viable. E.g. diversification into leisure and tourism accommodation land use activities, proximity to the Lake District and Yorkshire Dales National Parks key drivers in this respect • Increased tourism use of the coastline could increase diffuse or point source pollution could lead to a decrease in water quality and damage to water-based habitats and saltmarshes. <p>Public attitudes</p> <ul style="list-style-type: none"> • Increased consumer awareness of environmental issues and demand for 'green' products and supply chains. <p>Finances</p> <ul style="list-style-type: none"> • Uncertainty about development viability and whether this reduces the amount of contributions developers can make towards the creation and maintenance of open spaces. • Uncertainty about Local Government funding for the creation and maintenance of existing open spaces • Management of many council assets to maximise biodiversity value is constrained by finance. Pressure on public sector finances are likely to increase, adding to the need to achieve returns on existing assets, and deliver further development which will in turn support council income and services. <p>Coastal realignment</p> <p>Transport Infrastructure</p> <ul style="list-style-type: none"> • Connectivity with Sellafield and the nuclear industry remains a priority, and development is promoted along the A595 corridor and the strategic employment site at Lillyhall. Increasing traffic in the future has been modelled along these routes and along the A66, with associated environmental impacts • Potential new Whitehaven Relief road identified in Local Plan • Road improvements at A66 at Ramsay Brow and A66 Brigham / Broughton Junction • Rail improvements on the Furness line and Cumbria Coastline <p>Planning and Strategy</p> <ul style="list-style-type: none"> • Uncertainty about Local Government funding for the creation and maintenance of existing open spaces
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	Data/information sources	<p>National Farmers Union (NFU) Cumbria Local Enterprise Partnership (CLEP) West Cumbria Rivers Trust Barrow Borough Council Barrow Strategic Flood Risk Assessment (Capita) May 2015 North West Shoreline Management Plan 2010 Barrow Local Plan 2016-2031 Central Barrow Masterplan 2019</p> <p>Allerdale Local Plan (Part 1) (ALPP1) Strategic and Development Management Policies Adopted July 2013 Allerdale Local Plan (Part 2) (ALPP2) Site Allocations Development Plan Document Adopted July 2020 Council Strategy 2020-2030 Habitats Regulations Assessment Local Plan Site Allocations July 2019</p> <p>South Lakeland District Council Lake District National Park Authority Landscape Character Assessment Copeland Local Plan Preferred Options Draft: https://www.copeland.gov.uk/content/local-plan-consultations Copeland Wind Energy Technical Document: https://www.copeland.gov.uk/attachments/copeland-wind-energy-technical-document</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸		<p>Changes in agricultural and environmental policy and support mechanisms which in turn help deliver:</p> <ul style="list-style-type: none"> • Retention of rush pasture in suitable condition for wading birds • New woodland planting and linking of existing woodlands • Improved and restored hedgerows as part of a habitat network for species movement • Buffering of lowland wetlands via the creation of new wetland habitats adjacent to existing sites to avoid edge effects of drainage and eutrophication. • Improvements of water quality, in-stream and riparian habitat and Natural Flood Management (in particular Newmill beck, the River Marron and Lostrikk), and in coastal streams (Pow beck, Rottington gill, Lowca beck, Ellergill). Increased woodland and riparian woodland cover • Re-introduction of iconic species such as chough, corncrake, white-tailed eagle and beaver. <p>Rivers</p> <p>Fish Passage – addressing obstacles on the Lower Derwent (Yearl weir and Coups weir) and on the River Calder and River Marron</p>

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management, economic development etc

	<p>Water Quality - Sustainable drainage systems in urban areas and reducing occurrence of combined sewer overflows. Reducing nutrient and sediment runoff from Broughton Beck to address Derwent SAC unit failure.</p> <p>Site Allocations in Local Plans may offer opportunities relating to:</p> <ul style="list-style-type: none"> • Individual site allocations policies which set out the ecological surveys required, and the opportunities and key features for biodiversity enhancement - so that even where development pressures are greatest, connectivity and biodiversity considerations should be embedded in the outcomes. • Even small-scale site allocations could provide some opportunities such as increasing hedgerow provision, additional treescape. <p>Larger-scale developments have potential impacts but also offer opportunities including:</p> <ul style="list-style-type: none"> • The largest development sites lie in and around major centres such as Workington, offer the greatest opportunities for delivering Biodiversity Net Gain and habitat enhancement. • The redevelopment of the Derwent Forest Site represents a key opportunity. • Retrofitting of SuDS to reduce surface water risk <p>Biodiversity Net Gain funding potential but:</p> <ul style="list-style-type: none"> • Extent of future net gains for biodiversity provision unknown, Environment Bill specifies mandatory 10%, whether local authorities seek to / will be able to ask for more remains to be seen, dependent on direction from National Policy and local drivers (e.g. political) • Review of current Local Plan policies around biodiversity and green infrastructure may result in additional requirements, but need to consider in context of potential National policy changes (White Paper proposals). • The Lower Derwent Valley Policy SA49 makes specific reference to Biodiversity Net Gain for development in this part of Workington, and Policy SA52 sets out the council's expectations regarding major development and green infrastructure, having identified a network of GI assets within Workington and key settlements within the borough. Developments will be required to strengthen the network through the creation of new and enhancement of existing green infrastructure assets within the site, and incorporate layout that provide wildlife linkages where possible • Offsite funding of projects may help the enhancement and connectivity of existing assets, and capitalising on the work of local groups and partners. <p>Local Development Planning offers opportunities through:</p> <ul style="list-style-type: none"> • The production of Biodiversity Supplementary Planning Documents (potentially as part of a joint SPD with other Cumbrian authorities). • The Government's proposed potential removal of restrictions on S106 contributions may allow developer contributions to be spent more widely than at present • Potential opportunities from future site allocations (housing, employment – may be option to consider whether future sites should be allocated for off-setting biodiversity net gain requirements, as part of Local Plan Review undertaking Call for Sites exercise, may be some sites that could have a role in enhancing biodiversity provision)
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	<ul style="list-style-type: none"> • Integration of sustainable drainage systems as part of wider green infrastructure <p>Major Infrastructure Projects offer potential opportunities including:</p> <ul style="list-style-type: none"> • From major new infrastructure enhancements, e.g. flood defence works (natural drainage storage), utilities provision, new roads/ enhancements to main highways • Coastal realignment offering opportunities for habitat creation. <p>Green Infrastructure provides opportunities associated with:</p> <ul style="list-style-type: none"> • New or revised Green Infrastructure Plans. • Enhancements to green infrastructure provision (qualitative and quantitative) – feeding into Green Infrastructure Strategies. • Creation of green infrastructure in the urban areas, particularly in and around Barrow Town Centre and Barrow Island. Consider greenways – Red River to Furness Abbey and Concle Inn. <p>Publically owned land may offer opportunities as:</p> <ul style="list-style-type: none"> • Local Authority Strategies seek to improve and protect open spaces and green infrastructure, ensuring environmental sustainability is at the heart of policies, and using council assets to encourage green technology. • With Council leadership promoting the green agenda, opportunities for management of Council land in the interests of biodiversity may be increased, and especially with the acknowledgement of the effect of green spaces on health and well-being. <p>Offsetting may offer potential opportunities associated with:</p> <ul style="list-style-type: none"> • Future offsetting strategy for SLDC owned land – looking at how SLDC landholdings can support carbon reduction – primary focus is on carbon offsetting. • Future potential Biodiversity Action Plan looking at opportunities for how SLDC landholdings can support biodiversity. <p>Forestry Funding may provide opportunities through:</p> <ul style="list-style-type: none"> • Opportunity being explored by CBC to create a Copeland Community Forest. • West Cumbria Coastal Forest project – strategic forest partnership bid involving large employers, landowners (Allerdale, Copeland and Barrow Councils) • Forestry Commission Urban Tree Challenge Fund may result in improvements in the urban environment. • Cumbria Wildlife Trust currently looking at this area as one of the least wooded parts of Cumbria where there is definite scope for new woodland creation and linking up existing remnant woodlands <p>Wider habitat opportunities include:</p> <ul style="list-style-type: none"> • Habitat improvements for birds, seals etc. at Foulney Island and South Walney Nature Reserve. Dune maintenance at North Walney and Roan Head • One of the best areas to look at urban brownfield sites and urban green space. Look at work at Silloth ponds behind ASDA. • Safeguarding and restoration of dune system along coast (e.g. Walney).
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	Need to link with marine MPAs.	
	Data & Information sources	Barrow Borough Council South Lakeland District Council West Cumbria Rivers Trust Lake District National Park Authority Allerdale Local Plan (Part 2) (ALPP2) Site Allocations Development Plan Document Adopted July 2020 Council Strategy 2020-2030 Copeland Borough Council Cumbria Wildlife Trust
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>Improved Water Quality Improved water quality and bathing water quality – filtering runoff.</p> <p>Carbon Sequestration from tree planting and peat bog restoration</p> <p>Climate change mitigation through woodland expansion and reconnecting.</p> <p>Soil Health Improved soil health – reduced soil erosion</p> <p>Natural Flood Management through the creation of woodlands and wetland to help reduce surface water runoff and flood risk. Gravel management (linked to reduced flood risk and damage to infrastructure) through re-naturalising rivers and restoring geomorphological processes. Increased hydraulic roughness, infiltration, evaporation and water storage.</p> <p>Health and Wellbeing through improved access to green/blue space and the creation of new open spaces and woodlands as additional nature based education/training benefits e.g. by creating spaces for forest schools, interpretation boards etc. and providing opportunities for learning forestry, woodland management skills etc. Helping address health and wellbeing issues through community involvement in urban brownfield and green space work. Work of Workington Local Nature Partnership is good example and Get Cumbria Buzzing.</p>	
	Data and Information Sources	South Lakeland District Council West Cumbria Rivers Trust Lake District National Park Authority Cumbria Wildlife Trust Barrow Borough Council

Objectives (for illustration only at this point)	Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies. ⁹	
	<ul style="list-style-type: none"> • Conserve, restore and connect coastal and estuarine habitats, particularly lowland raised bogs and stone faced banks • Allow natural coastal processes to occur, including recovery of coastal transition habitats and saltmarsh via managed retreat. • Restoration of Sea-Grass beds and native oyster beds. • Manage and enhance the farmed environment, particularly restoring woodlands in riparian zones and mosaics of rush pasture grasslands, transitional heathlands, swamp and fen. • Increase woodland cover (including wet woodland) in appropriate areas to buffer, connect and extend woodland habitats, protect and restore ancient semi-natural woodland (especially on PAWS sites) • Restore natural river processes by re-naturalising the rivers including the River Derwent. • Increase the biodiversity value of brownfield sites. • Link urban greenspace to rural greenspace 	

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 8 Cumbria High Fells	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Upland landscape with open fells, craggy peaks, ridges and U shaped valleys. • Complex geology resulting in varied landform • Extensive mosaic of biologically diverse upland habitats including montane and upland heath, blanket bog, scree and ledge communities, springs, flushes, tarns, valley mires, juniper scrub, remnant woodland and Arctic Alpine plant communities • Valleys are a matrix of improved pasture with rivers, lakes, wetlands, hay meadows, purple moor-grass and species-rich grasslands. • Native woodland on valley sides and bottom, including important areas of atlantic oak woodland. Large conifer plantation, scattered trees and scrub on the fells. • Extensive pastoral hill-farming. <p>Narrative:</p> <p>The Cumbria High Fells covers the north and central Lake District and is largely within the Lake District National Park and World Heritage Site. It is a dramatic upland landscape, carved by past glaciations, with rugged peaks, ridges and open fells, separated by U-shaped valleys with a radiating pattern of lakes and rivers. The complex geology of the area has resulted in the smooth sided fells of the Skiddaw Group rocks, the rugged Borrowdale Volcanic Group fells and granite of the central area, with slates, mudstones and limestones forming the surrounding lower fells and foothills. Cumbria High Fells contains the most biologically diverse range of upland habitats in England, with internationally important fell habitats, Arctic Alpine plants, lakes, rivers, woodlands and a few species-rich meadows/pastures. The upland fells contain a number of habitats, which are rare in the UK and extensive areas are designated Special Areas of Conservation. Due to historic overgrazing and loss of upland habitats, the biodiversity is in large parts highly impoverished and many habitats and associated species have been lost. However in some areas this is improving and agri-environment agreements, and the actions of many farmers/landowners have begun the process of restoration, with recent increases in tree planting, peatland restoration and reduced stocking rates. Providing that appropriate, and substantive, nature recover management measures are implemented across large enough areas the biodiversity will recover over a period of time.</p> <p>The vegetation of the fells contains important, although often degraded upland heathland habitats, blanket bogs, and also the most southerly examples of montane heaths found in Britain. Skiddaw has the largest extent of heather and bilberry heath in the Lake District, while the Buttermere Fells SSSI supports a range of montane and sub-montane dwarf shrub heath communities, including one of the largest known areas of Bilberry (<i>Vaccinium myrtillus</i>) heath in the Lake District with peregrine, merlin, raven and occasionally dotterel. This site also encompasses the nationally important Keswickdale and Birkrigg sessile oak woods.</p> <p>Rare and important tall herb ledge communities are confined to gills and cliff ledges (e.g. on Helvellyn and Fairfield, Honister Crag, Scafell Pikes, Pillar, and Wasdale Scree), particularly where base-rich rocks have weathered to form relatively fertile basic soils. Areas of exposed rock, including scree and rocky slopes support a variety of ferns, grasses, mosses, and occasional scattered trees including aspen, holly, rowan, hawthorn and whitebeam.</p> <p>Native broadleaf woodland and conifer plantations are extensive on the valley sides and bottoms, while the fells support scattered trees and scrub, plus a few small, high level and gill woodlands.</p>	

There are important areas of atlantic oak woodland with rich bryophyte communities along some valley sides. There are some stands of juniper on valley sides (Birk Fell supporting the most extensive), and juniper bushes are also scattered on inaccessible cliffs and slopes around the area. Associated with them are open silver birch woods, with scattered rowan, ash, bird cherry, holly, hawthorn and dog rose. The varying woodland and heathland habitats of Pillar and Ennerdale SSSI, support one of the best breeding bird assemblages in West Cumbria, including buzzard, peregrine, merlin, raven, red grouse, wheat-ear, whinchat and ring ouzel.

Bassenthwaite Lake is designated as a National Nature Reserves (NNR), SSSI and SAC. The lake supports a population of vendace (a fish only found in one other location in the UK) and an extremely rich aquatic flora, including the nationally scarce floating water-plantain, six-stamened waterwort and thread rush. Derwent Water also has populations of the nationally rare vendace. Other lake-related ecological designations include Ennerdale SSSI – for its characteristics freshwater flora and fauna which include examples of nationally rare willow and alder carr and drier oak woodland; and Elterwater SSSI – one of the least disturbed examples of lakeshore wetlands in South Cumbria. Many of the upland tarns contain rare aquatic plant and animal species, such as the powan fish (locally known as "schelly" in Red Tarn, Helvellyn).

The River Derwent and tributaries SSSI encompasses a diverse natural succession of plant communities from source to mouth and contains salmon, brook and river lampreys

Additional narrative to be incorporated – not adequately reflected in existing NCA description

Additional text has been incorporated into the above narrative

Data Sources for text:	National Character Area profile Eden District Council Lake District National Park Authority Landscape Character Assessment RSPB		
Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. areas within the NCA	% of Cumbria resource in the NCA
	<u>Grass moorland</u>	56,008	72.8
	<u>Upland heathland</u>	17,456	63.1
	Blanket bog	9153	19.8
	Deciduous woodland	6275	26.4
	<u>Mosaic habitat</u>	3453	30
	<u>Upland flushes, fens and swamps</u>	2818	54.6
	Coastal and floodplain grazing marsh	2303	11.2
	<u>Fragmented heath</u>	1713	89.2
	<u>Good quality semi-improved grassland</u>	1005	36.5
	<u>Mountain heath and willow scrub</u>	978	69.1
	Upland calcareous grassland	383	10.5
	<u>Lowland fens</u>	371	38.2
	<u>Purple moor grass and rush pasture</u>	237	36.1
	Upland hay meadow	202	26.7
	Lowland heathland	175	16.4

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

	<u>Lowland dry acid grassland</u> Lowland raised bog Lowland meadow Lowland calcareous grassland Traditional orchard Limestone pavement Reedbed Coastal saltmarsh	130 104 72 57 29 7.6 2.3 1.6	33.2 2.4 22.5 5.4 17 1.3 13.5 0.04			
Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²						
The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Freshwater habitats – rivers, streams, lakes, tarns and ponds • Scrub • Wood Pasture 						
Data or information source:	Woodland Trust West Cumbria Rives Trust Lake District National Park Authority					
Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative						
<p>Gains (Habitat Restoration/Creation)</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate and is supplied as a guide to the level of restoration/creation activity underway in the NCA.</p> <p>Upland calcareous grassland– 38 ha</p> <p>Lowland fens – 74 ha</p> <p>Purple moor grass and rush pasture – 108 ha</p> <p>Upland hay meadow – 204 ha</p> <p>Lowland dry acid grassland – 116 ha</p> <p>Lowland heathland – 40 ha</p> <p>Lowland meadow – 108 ha</p> <p>Wood pasture and parkland – 266 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category) 1185.8 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p> <p><u>Other</u> Restoration work has been carried out on 4,967.37ha of peatland in the last five years (2013-18), which includes work done by Cumbria Wildlife Trust's Wetland Restoration and Peatland Restoration projects as well as work undertaken by Natural England on lowland peat SSSI, and the RSPB.</p>						
Losses Not known						

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>Condition SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figures provided in hectares (ha) and percentage in brackets.</p> <table> <tbody> <tr> <td>Favourable</td><td>6806 ha</td><td>(19%)</td></tr> <tr> <td>Unfavourable recovering</td><td>21545 ha</td><td>(60.1%)</td></tr> <tr> <td>Unfavourable no change</td><td>6829 ha</td><td>(19.1 %)</td></tr> <tr> <td>Unfavourable declining</td><td>647 ha</td><td>(1.8%)</td></tr> </tbody> </table> <p>Environment Agency – WFD Reporting</p> <p><u>Lakes</u></p>	Favourable	6806 ha	(19%)	Unfavourable recovering	21545 ha	(60.1%)	Unfavourable no change	6829 ha	(19.1 %)	Unfavourable declining	647 ha	(1.8%)
Favourable	6806 ha	(19%)											
Unfavourable recovering	21545 ha	(60.1%)											
Unfavourable no change	6829 ha	(19.1 %)											
Unfavourable declining	647 ha	(1.8%)											
Water Body	WFD Status	Trend											
Ennerdale Water	Moderate	Stable											
Wastwater	Moderate	Declining											
Haweswater	Moderate	Stable											
Elter Water	Moderate	Stable											
Grasmere	Moderate	Stable											
Buttermere	Moderate	Declining											
Crummock Water	Moderate	Stable											
Loweswater	Moderate	Stable											
Bassenthwaite Lake	Moderate	Stable											
Derwentwater	Moderate	Stable											
Thirlmere	Moderate	Stable											
Ullswater	Moderate	Stable											
Rydal Water	Moderate	Declining (3 year trend)											
Windermere – north basin	Moderate	Stable											
<u>Rivers</u>													
Duddon - Lower	Moderate	Stable											
Duddon - upper	Poor	Improving (3 year trend)											
Calder - Lower	Moderate	Declining											
Calder – SW Lakes	Poor	Improving											
Esk - SW lakes	Moderate	Declining											
Esk - Upper	Moderate	Improving											
Irt – below of Bleng conf	Moderate	Declining											
Irt – upstream of Bleng conf	Moderate	Declining (3 year trend)											
Mite	Moderate	Declining											
Kent to conf. Gowan	Moderate	Declining											
Cocker													
(Crummock to Buttermere)	Moderate	Stable											
(Crummock to conf Whit Beck)	Moderate	Stable											
Derwent													
(upstream Bassenthwaite)	Moderate	Stable											
(Stonethwaite Beck to Greta)	Moderate	Stable											
(headwaters to conf Stonethwaite Beck)	Moderate	Declining (3 year trend)											
Caldew - Hesket Newmarket	Moderate	Stable											
Caldew - upper	Moderate	Stable											
Eamont Upper	Moderate	Declining											
Petteril – upstream M6	Moderate	Declining (3 year trend)											

	<p>State of the Park Report 2018</p> <p>The condition of habitats in the high fells has improved (particularly in SSSIs) but is still generally poor with further work required to restore peat bog hydrology, and recreate woodland and scrub habitats which are highly fragmented. Outside protected sites there are large areas of the fells where key habitats have been lost entirely and the condition of remaining habitat is (on average) likely to be worse. This is significantly due to grazing regimes, either past or present. Much has already been done to alter grazing regimes particularly within SSSIs; further habitat decline has generally been halted but the success of habitat restoration is mixed. Changes in the slow-growing habitats of the fells are likely to be gradual. Continued attention to and adjustments of grazing regimes is essential if successful habitat recovery is to be secured.</p> <p>Eden Catchment Plan</p> <p>The Eden is an internationally important river for biodiversity and geology known as a Special Area for Conservation, however in a UK wide classification of water bodies none of Eden's 86 official water body units none are classified as High status, 35 (41%) are classified as Good, 33 (38%) are Moderate and 17 (20%) are Poor. Poor quality water bodies are found within every part of the catchment</p>
	<p>Data & Information Sources</p> <p>Lake District National Park Authority State of Park Report 2018 Eden Catchment Plan 2020 Environment Agency 2019 https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12</p>
Priority Species	<p>A list of priority species in the NCA will be provided in Appendix X. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern <p>SPECIES LISTS TO BE COMPLETED</p> <p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 8.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species</p>

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

	<p>which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>SPECIES LISTS TO BE COMPLETED</p> <p>State of the Park Report 2018</p> <p>A list of 288 species with legal protection or of conservation concern has been identified and is available from LDNPA. This is an increase from the 173 species identified on the 2009 list.</p>
Data & Information sources	Lake District National Park Authority State of Park Report 2018
Trends in range / population in the UK /England ⁵	
Trends in range / population in the NCA ⁶	
	<p>Data which could elucidate trends is sparse for all species in NCA 8. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>FURTHER WORK REQUIRED TO EXTRACT FIGURES FROM BTO, EA and BC data</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p> <p>State of the Park Report 2018</p> <p>Birds</p> <p>A visual inspection of the Cumbria change maps in the Breeding Bird Atlas 2007-11 (British Trust for Ornithology, 2013) show significant decreases over a 40 year period in the distribution of following breeding bird species, which have seen their steepest decline within the National Park:</p> <p>Redshank, lapwing, yellow wagtail, black grouse, corncrake, whinchat, golden eagle, corn bunting, lesser spotted woodpecker, grey partridge.</p> <p>There have also been significant increases over the same 40 year period in the distribution of Greylag goose, nuthatch, stonechat, siskin.</p>

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

	<p>Between 1980 and 2000 Lapwing declined by 63%, Curlew by 39%, Golden Plover abundance index crashed from 26 to 1, and Redshank from 8 to 1. Populations of Skylark, Meadow Pipit, Whinchat and Wheatear all declined.</p> <p>England's (and the Lake District's) last Golden Eagle died in 2016.</p> <p>Fish</p> <p>Atlantic Salmon are an iconic indicator of healthy river systems and form part of the designation of several designated rivers within the National Park. There is no salmonid survey data covering the whole National Park but 157 sites were surveyed as part of a catchment wide salmonid survey of the Derwent catchment which found numbers to be generally very low with the exception of a few key tributaries.</p>		
	<table border="1"> <tr> <td>Data Sources</td><td>Lake District National Park Authority State of the Park Report 2018</td></tr> </table>	Data Sources	Lake District National Park Authority State of the Park Report 2018
Data Sources	Lake District National Park Authority State of the Park Report 2018		
Current drivers of change ⁷	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Government policy and drivers (e.g. 25 Year Plan and Environment Act) and wider public awareness/support • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Significant areas of common land – need agreement across the common to deliver desired outcomes • Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) • World Heritage Status could impact on nature recovery and land use opportunities <p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • The lack of certainty around E.L.M. risks a backward step if farmer aren't given adequate support to transition to more sustainable approaches to land management. • Increasing environmental legislation (farming rules for water for example) <p>Agricultural profitability</p> <ul style="list-style-type: none"> • Beef and sheep units – underlying profitability of businesses dependent on support 		

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

- Farming predominantly upland/hill livestock
- Upland/Hill units – underlying profitability of businesses dependent on support
- More productive farming creates challenges with respect to opportunity cost of changing land use
- Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example)
- Lack of good incentives for some long-term land management changes – e.g. woodland management or wood pasture creation

Farming

Although sensitive farming practices can support and recover nature, individual farming practices have and are continuing to impact the natural environment, including:

- Some gains have been made through AES, but this is only the beginning of the process of restoration (which may need more substantive measures)
- Inappropriate grazing pressures on natural habitats. Defra figures show that sheep numbers in 1950 were roughly half that of today, and although numbers have declined since their peak in the late 1990s, the effects of previous high numbers of sheep on the fells are still being felt.
- Intensive agricultural practice including nutrient enrichment from fertiliser, applications of slurry or farmyard manure and import of feed.
- Lack of availability of appropriate type of grazing animal (eg traditional breeds of cattle)
- Land improvement such as drainage, loss of wetlands, loss of hedges and loss of species-rich swards
- Pollution of waterbodies including with herbicide and pesticide residues, phosphate and nitrates.
- Compaction of land and soil loss.

Climate Change

- Climate change is a universal pressure on and threat to the environment, economy and communities. Its impacts are evident now and across all aspects of the NCA. Urgent actions to reduce carbon emissions are required. The Lake District National Park must contribute to the UK Government's legal commitment to Net Zero greenhouse gas emissions in the UK by 2050, and to Cumbria's contribution to that of being a Net Zero county by 2037. Farming, forestry and nature recovery in the Lake District have a huge role in achieving those net zero targets.
- Climate change may lead to an increase in invasive species better suited to new climatic conditions and current biodiversity, for example arctic alpine vegetation currently confined to the highest summits could be lost altogether. The altitudinal limit of woodland and dry heath could also increase.

Government Policy

- Environment Act and 25 year plan
- Brexit

World Heritage Site

- The designation of the Lake District as a World Heritage Site, and the objectives of this designation provides another challenge in addressing the issues affecting the habitats of the high fells.

	<p>Air Pollution</p> <ul style="list-style-type: none"> Atmospheric Nitrogen is a problem impacting on habitats with a naturally low nutrient status. <p>Fragmentation of habitat is resulting in species populations which are isolated or unsustainably small, leading to local extinctions.</p> <p>Lack of robust vegetation cover leading to landscape scale loss of soil/peat and resultant sedimentation of waterbodies and rivers.</p> <p>Modification of natural watercourses and waterbodies including flow regimes resulting in</p> <p>Deer</p> <p>Maintenance of unsustainably high deer numbers impacting on habitats and reducing the impact of nature recovery initiatives.</p> <p>Tourism and public access including</p> <ul style="list-style-type: none"> Inadequate infrastructure to cope with the visitor economy- septic tanks etc. Erosion of fell paths through high user numbers. Particular issue where paths cross wetlands or peat bodies. Creation of new paths in unsuitable locations Biosecurity threat to waterbodies e.g. Crassula in lakes Disturbance to species (e.g. ground nesting birds) through recreation <p>Development</p> <ul style="list-style-type: none"> Generally limited development pressures Greystoke, Stainton and Tebay are designated as a 'Key Hubs' and are the focus for development. Uncertainty about development viability and whether this reduces the amount of contributions developers can make towards the creation and maintenance of open spaces (Stage 2 Viability Study to be commissioned in 2021) Uncertainty about Local Government funding for the creation and maintenance of existing open spaces Uncertainty about the future role of the Local Plan and Development Management in light of the government's proposed changes to the planning system – how much control will local councils have over future development, housing numbers etc? Copeland's Climate and Environment Policy and Action <p>Invasive Non Native Species</p> <ul style="list-style-type: none"> Current key invasive species present (in the National Park) include: Giant hogweed, Himalayan balsam, Japanese knotweed, New Zealand pigmy weed, American signal crayfish, Phytophthora austrocedrae (affects Juniper), Chalara, American skunk cabbage. <p>River Restoration Planning</p> <ul style="list-style-type: none"> River restoration strategy / Diffuse Water Pollution plans River Basin Management Plans for the North West River Basin and Solway - Tweed (due to be published 2021)
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	<ul style="list-style-type: none"> • Additional impetus and funding from Government from innovative flood relief schemes, including Natural Flood Management • Eden Catchment Plan <p>UU compensatory measures projects</p> <p>Water Pollution</p> <p>Waste water pollution is often point source (one known source). The most common waste water pollution incidents in the Eden are from badly maintained septic tanks, consented discharges (permitted through regulation) and pollution incidents, such as from farm drains or failure of slurry spreading equipment near water courses.</p>
	<p>Data/information sources</p> <p>Natural England National Farmers Union (NFU) RSPB Woodland Trust West Cumbria Rivers Trust Eden Rivers Trust – Eden Catchment Plan Eden District Council Lake District National Park Authority Lake District Landscape Character Assessment The Lake District National Park Partnership: State of the Park 2018 (pages 17-25) https://www.lakedistrict.gov.uk/_data/assets/pdf_file/0018/151038/SOTP-Report-2018-V6-FINAL-02.05.19.docx.pdf The Lake District High Fells Site Improvement Plan http://publications.naturalengland.org.uk/publication/6534434434056192 Copeland Borough Council Defra farm census figures for Cumbria Grazing Regimes for Nature Recovery: Experience from 25 years of agri-environment agreements in the Lake District's high fells (Natural England Report) State of Nature Reports (all available online)</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>Changes in agricultural and environmental policy and support mechanisms which will help in delivering:</p> <ul style="list-style-type: none"> • A more structurally & species diverse upland/fell ecosystem • Conservation, restoration and expansion of species-rich grasslands (including but not limited to hay meadows) • Restoration of 'improved' pasture to species-rich pasture • A rich and abundant invertebrate fauna • Increased native tree and scrub cover and an expansion of upland wood pasture

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

- More tall-herb vegetation, for example along gills and rivers as vital habitat for invertebrates
- Habitat mosaics from micro to landscape-scale, and connectivity across whole landscapes

Changing Farming support may assist and support farms to:

- Transition to livestock numbers which are more in balance with the carrying capacity of their holding. This will result in improved financial viability and long term farm sustainability, improved biodiversity, carbon sequestration, reduced reliance on imported fertiliser and feed and thereby improved water quality in lakes and rivers across the area. This agenda includes both nature friendly farming and regenerative agriculture.
- Adapt and evolve farming and land management practices, striking the most appropriate balance between maintaining traditional farming models, improving the natural environment and profitability.
- A return to lower grazing densities, and with a greater diversity of livestock types, would promote widespread habitat recovery. A recent report by NE showed which HLS grazing prescriptions have been successful at restoring upland habitats and which have not.

Red Deer Management

- Controlling wild red deer populations to an agreed level where their impact on soils, peat and woodlands is reduced. This will have benefits to biodiversity, carbon sequestration and water quality.

A drive for Natural Flood Management which can help deliver:

- Significant biodiversity benefits through the creation of new wetlands, floodplain meadows, native woodland and longer rougher and more complex vegetation across catchments.
- Restoration of naturally functioning rivers and floodplains and natural flow regimes in rivers and lakes. Watercourses provide opportunities for connectivity, and so need to support and expand the programme of work being delivered through Cumbria River Restoration Strategy
- Re-meandering rivers and reconnecting watercourses to their functional flood plains will reduce flooding and reduce sediment load in rivers (a key problem when property is flooded).
- This nature based solution is centred around the slow the flow concept and can be combined with other small scale works in catchments such as leaky dams.
- Water quality improvements in rivers, lakes and other water bodies
- Areas of opportunity for natural flood management are found in the small catchments above communities at risk Low Gill above Warcop, Glenridding Beck

Increased resourcing of carbon sequestration from public and private sources, leading to the completion of large-scale habitat restoration and creation including:

- Full restoration of hydrological condition and function of all peatlands (great progress on this has been made in the LDNP, led by CWT. This work should be supported and continued.)
- Conservation of species-rich habitats on upland habitats and a reversal in the decline in species associated with these specialist habitats

- Development of upland woodland and scrub (not on deep peat), within the fells and the fell edges to create more structurally and species diverse upland ecosystems
 - Expansion in the populations of Annex 1 upland birds (Hen Harrier, Merlin, Peregrine falcon, Golden Plover)
- Increased resourcing of carbon sequestration from public and private sources, to improve the climate resilience of existing woodlands and scrub and to increase tree, scrub and woodland cover, including:
- Natural regeneration of native trees and shrubs including within the fells
 - Additional buffer planting around existing woodlands
 - Replacement of non-native conifers with native species and general reduction of fragmentation
 - An expansion of wood pasture
 - Hedges and well targeted trees planting also provides vital habitat connectivity, but the principle of planting the right tree in the right place is essential to ensure a good outcome for the environment.
 - Bracken offers a potential opportunity for the targeting of tree planting. Land dominated by bracken has limited value for grazing, so planting trees into it would result in minimal conflict between conservation and agricultural interests.
- Public support for and interest in wildlife and wildlife tourism to:
- Progress and agree iconic species (re)introductions such as beaver, European bison, corncrake, white-tailed eagle and black grouse where this can benefit biodiversity, compliment habitat improvements and invigorate ecotourism opportunities.
 - Establish community run projects to propagate and supplement rare species and secure restoration of species-rich grasslands and other habitats.
 - Secure investment in tourism infrastructure such as fix the fells, septic tanks appropriate education on invasive non-natives. Ensuring ecologically sustainable decision making within the tourist economy.
- Local Development Planning may provide opportunities including through:
- The review of the Eden (and other) Local Plan (s) providing the opportunity to introduce new policies to increase or improve the condition of habitats e.g. biodiversity net gain. This would affect multiple sites across the district and cumulatively have a significant and positive impact on the condition of habitats.
 - The opportunity to produce a Biodiversity Supplementary Planning Document for Copeland (potentially as part of a joint SPD with other Cumbrian authorities). The Local Plan Preferred Options draft makes reference to this in para 49.6.3 and discussions with other Cumbrian authorities are underway.
 - The potential to create a Copeland Community Forest. Para 50.6.1 of the Local Plan Preferred Options Draft sets out our ambition for this and discussions are ongoing regarding potential sites.
 - Creation of spaces for biodiversity as part of allocated sites (some of which are brownfield) – we will be producing an updated Housing Allocations Profiles Doc which will identify where existing green spaces such as landscape buffers, hedgerows etc should be retained and opportunities for the creation of new open spaces.

	<ul style="list-style-type: none"> Opportunity to link all existing evidence relating to open spaces in the Borough through a new Green Infrastructure Strategy which will be commissioned this year/early next year.
	<p>Data & Information sources</p> <p>Eden District Council Eden River Trust – Eden Catchment Plan Lake District National Park Authority Copeland Borough Council Natural England Woodland Trust Cumbria Wildlife Trust RSPB Grazing Regimes for Nature Recovery: Experience from 25 years of agri-environment agreements in the Lake District's high fells (Natural England Report)</p>
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>Restoring a healthy upland habitat mosaic, comprising bog, heath, scrub, woodland and healthy grassland would deliver a wide range of ecosystem service benefits.</p> <p>Natural Flood Management from peatland restoration, woodland restructuring, woodland planting and management, wood pasture creation and management, roughing-up' of fells and riparian corridors with trees and scrub, and strategic wetland creation. This will require both direct physical intervention and establishment of appropriate grazing regimes. Communities at Risk in the Eden where NFM may show a measurable impact include Cumrew, Gamblesby, Glassonby, Glenridding, Greystoke and Plumpton,</p> <p>Climate Change mitigation through peatland and other soil restoration, woodland planting and management, which will involve both direct physical works and the establishment of appropriate grazing regimes.</p> <p>Improved water quality (including reduction of dissolved organic Carbon and sediment) through peatland restoration, woodland creation, creation of rougher vegetation, and reduced inputs from agricultural sources</p> <p>Water Flows (in drought) Through Greater stability of land, reduction of landslips and reduced loss of soil</p> <p>Improved farm environmental and economic sustainability associated with reducing external costs associated with intensive production. Farming in a more sustainable, nature-friendly way would also likely be better for farm businesses, as demonstrated by the Less is More report. Long-term farm viability improved, in keeping with maintenance of the agro-pastoral landscape.</p> <p>Access and enjoyment, health and wellbeing</p>

	<p>through spiritual refreshment derived from a more wildlife rich and diverse environment.</p> <p>Improved eco-tourism opportunities and more sustainable tourism through the restoration of wildlife-rich landscapes and through increasing species populations increase the opportunities for public to experience nature first hand/</p> <p>Biodiversity recovery across significant areas.</p>
	<p>Data and Information Sources</p> <p>Copeland Borough Council Natural England Eden Rivers Trust – Eden Catchment Plan RSPB Less is more: Improving profitability and the natural environment in hill and other marginal farming systems (Nethergill Associates) Multiple references for ecosystem service benefits can be supplied on request.</p>
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Create an ecological mosaic connecting heathland, bracken, scrub, woodland and wood pasture, species-rich pasture, wetlands and tarns by creating habitat corridors, buffers and stepping stones within a matrix of improved pasture ensuring requirements of key species are met • Manage and enhance fell and fell edge by restoring blanket bog and other wetlands and enhancing all other fell habitats. • Recovery of all peat soils to a peat-forming condition (including restoration from forestry and agriculture). • Maintain, restore and expand meadows and pastures (including fen meadows and purple moor grass & rush pastures and upland calcareous grassland) • Manage, restore and buffer wetland valley habitats including lowland raised bogs, fens, reedbeds and, valley mires and wet & floodplain woodland. • Create a coherent and resilient network of treescapes (native woodland, wood pasture, parkland, coppice, scrub, field trees and pollards, and hedgerows and hedgerow trees) by expanding and linking existing woodland with new areas of wood habitat creation through assisted and natural regeneration. • Create a connected habitat network within the improved pasture matrix, with wetlands and woodlands linking to fell edge. • Restore and expand existing native woodland and link these to new native woodlands, wood pastures and shrubs and riparian woodland • Restore the functionality of relict wood pasture by reinstating management which ensures the recruitment of scrub and new trees through the operation of natural processes.

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 9 Eden Valley	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
	<p>Summary:</p> <ul style="list-style-type: none"> • Undulating valley landscape with Permo-Triassic sandstones, mudstones and shales covered with glacial till. • Distinctive features of glacial deposition • Valley characterised by managed estate and farm woodlands, shelterbelts, copses and hedgerows. • Mixed agriculture including arable • River valleys support wet woodland and wetland habitats. • Core of heathland network on higher ground in addition to small areas of calcareous grassland, upland hay meadows, lowland meadows and species-rich verges.
	<p>Narrative:</p> <p>The Eden Valley National Character Area (NCA) in north-east Cumbria encompasses the broad valleys of the River Eden and its tributaries. The river contracts between wide flood plain areas to the steep, wooded Eden Gorge. It contrasts markedly with the scarp face of the North Pennines to the east, the Orton Fells to the south and the rugged upland fells of the Lake District to the west, and the NCA includes a small part of the North Pennines Area of Outstanding Natural Beauty. The valley has a characteristic intimate blend of undulating mixed farmland with significant areas of woodland, farm copses, mature hedgerow trees, stone walls and historic villages. Narrow, wooded gill valleys on the fringes of the limestone plateau have nationally important grassland and woodland habitats, including semi-natural ash-dominated woodlands e.g. Crosby Gill and Smardale. Occasional unimproved pastures and hay meadows have nationally important grassland flora e.g. Town End Meadows and Little Asby Inrakes and Outrakes SSSIs.</p> <p>The River Eden is one of England's finest large river systems on limestone and sandstone. Branching streams flowing over limestone and sandstone bedrock typically have high water quality, and the Lyvennet Beck, Scale Beck, Pott's Beck and Scandal Beck are designated as part of the River Eden SAC in recognition of the international importance of their aquatic plant communities. This fast-flowing river is of European importance for its habitats and wildlife, and flows northwards through the NCA, forming an important aquatic habitat corridor connecting to the Solway Firth. The whole catchment is critical to food provision, soil and water quality, water flow and carbon storage; restoring a network of wetland habitats around the core fragments of ecologically important mires within the flood plain affords opportunities to regulate peak water flows, store carbon and strengthen resilience to the effects of climate change. The two largest towns are Penrith and Appleby have a relatively low provision of open space and green corridors.</p>
	Additional narrative to be incorporated – not adequately reflected in existing NCA description
	Additional information (from sources outlined below) has been incorporated into the narrative
Data Sources for text:	National Character Area profile Carlisle City Council Eden District Council Yorkshire Dales Landscape Character Assessment Eden Rivers Trust

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the NCA	% of Cumbria resource in the NCA		
Deciduous woodland	2740	11.5			
Mosaic habitat	967	8.4			
<u>Lowland heathland</u>	555	52			
Grass moorland	312	0.4			
Coastal floodplain and grazing marsh	279	1.4			
Upland heathland	198	0.7			
Good quality semi-improved natural grassland	135	4.9			
Lowland fens	59	6.1			
Upland calcareous grassland	40	1.1			
Lowland meadow	31	9.7			
Purple moor grass and rush pasture	28	4.3			
Lowland dry acid grassland	25	6.4			
Traditional orchard	19	11.1			
Upland flushes, fens and swamps	17	0.3			
Lowland calcareous grassland	16	1.5			
Upland hay meadow	15	2			
Lowland raised bog	8	0.2			
Limestone pavement	1.6	0.3			
Reedbeds	0.7	4.1			
Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²					
The following habitats and/or biodiversity areas are also considered to be important within the NCA					
Rivers and streams		Hedgerows			
Data or information source:		Yorkshire Dales National Park Authority Woodland Trust, Eden Rivers Trust			
Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ .					
Supply data (where available) and short narrative					
<p>Gains</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate and is provided as guide to the level of habitat restoration and creation underway.</p> <p>Lowland heathland – 209 ha</p> <p>Lowland fens – 1.4 ha</p> <p>Upland calcareous grassland – 7.3 ha</p> <p>Lowland meadow – 33 ha</p> <p>Purple moor grass and rush pasture – 4.6 ha</p> <p>Lowland calcareous grassland – 1.9 ha</p> <p>Upland Hay Meadow – 1.7 ha</p>					

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p><u>Forestry Commission NFI</u> extracted figures (young trees category) 442 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p>									
	<p>Losses No available data</p>									
	<p>Condition SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets.</p> <table> <tbody> <tr> <td>Favourable</td> <td>560 ha (26.1%)</td> </tr> <tr> <td>Unfavourable recovering</td> <td>1207 ha (56.3%)</td> </tr> <tr> <td>Unfavourable no change</td> <td>345 ha (16.1%)</td> </tr> <tr> <td>Unfavourable declining</td> <td>33 ha (1.5%)</td> </tr> </tbody> </table> <p>Eden Rivers Trust The Eden is an internationally important river for biodiversity and geology known as a Special Area for Conservation, however in a UK wide classification of water bodies none of Eden's 86 official water body units have high water quality status, none are classified as High status, 35 (41%) are classified as Good, 33 (38%) are Moderate and 17 (20%) are Poor.</p>		Favourable	560 ha (26.1%)	Unfavourable recovering	1207 ha (56.3%)	Unfavourable no change	345 ha (16.1%)	Unfavourable declining	33 ha (1.5%)
Favourable	560 ha (26.1%)									
Unfavourable recovering	1207 ha (56.3%)									
Unfavourable no change	345 ha (16.1%)									
Unfavourable declining	33 ha (1.5%)									
	Data & Information Sources	Natural England National Habitat Network Forestry Commission NFI Natural England SSSI Unit Reporting Eden Rivers Trust – Eden Catchment Plan								
Priority Species	<p>A list of priority species in the NCA 9 will be provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4 <p>SPECIES LISTS TO BE COMPLETED</p>									
	Further information on, or suggestions for Priority Species ⁴									

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

	<p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 9.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>FURTHER WORK REQUIRED TO AGREE CRITERIA FOR SPECIES LISTS</p>
Data & Information sources	
Trends in range / population in the UK /England ⁵ (?)	
Not available	
Trends in range / population in the NCA ⁶	
Data which could elucidate trends is sparse for all species in NCA 9. The following data give some indication of trends for selected species, but not always coincident with the NCA.	
FURTHER WORK NEEDED TO EXTRACT INFORMATION FROM BTO, BC AND EA DATA	
Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.	
There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.	
Data Sources	

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

Current drivers of change ⁷	
	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Government policy and drivers, e.g. 25 year plan, Environment Act, Nature Recovery funding • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) • Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) <p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • Increasing environmental legislation (farming rules for water for example) <p>Agricultural profitability</p> <ul style="list-style-type: none"> • Beef and sheep units – underlying profitability of businesses dependent on support • Farming predominately dairy and lowland livestock with some arable • More productive farming creates challenges with respect to opportunity cost of changing land use • Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation <p>Development</p> <ul style="list-style-type: none"> • Brampton (population 4000) lies within the Eden Valley NCA, and has a number of allocated development sites, need to ensure new development secures net gains for biodiversity. • Penrith is designated as the 'Main Town' and will benefit from sustained development appropriate to that of a larger town. There will be improved town centre facilities and public realm; development of strategic employment sites around the town; provision of large scale new housing development to the east and north; and an improving strategic road network and public transport system. • Appleby is designated as a 'Market Town' and is the focus for moderate development appropriate to the scale of the town, including new housing, the provision of new employment and improvements to accessibility. • Over the Local Plan period (2014-2032) 2178 new homes will be provided in Penrith, 392 in Appleby and the following number of new homes will be provided in the Key Hubs listed above.

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<p>Flood Management</p> <p>Additional impetus and funding from Government from innovative flood relief schemes, including Natural Flood Management</p> <p>River Restoration</p> <ul style="list-style-type: none"> • River restoration strategy / Diffuse Water Pollution plans • River Basin Management Plans for Solway - Tweed (due to be published 2021) • Eden Catchment Plan <p>Water Pollution</p> <ul style="list-style-type: none"> • The greatest threat to Eden's water quality is agricultural pollution in the form of excess nutrients in run off and sediments. Poor septic tank management is acute in some areas. • Of the waterbodies in the Eden which do not achieve 'good' WFD status, over 70% of these are due to pollution from agriculture and rural land management activities. Given the significance of farming in the Eden this is not surprising. The second most significant contributing sector is the waste water industry with 13% affected by this. • Agricultural pollution is frequently diffuse (from multiple sources) and can be water based, such as dirty water runoff from farm buildings and fields associated with slurry/manure, or air-based ammonia gas emissions that disperse from dairy, pigs and poultry sheds and during slurry spreading
	<p>Data/information sources</p> <p>Carlisle City Council Natural England Eden Local Plan 2014-2032 Eden Rivers Trust – Eden Catchment Plan Lazonby Neighbourhood Plan 2014-2032 National Farmers Union (NFU) Eden Rivers Trust – Catchment Management Plan</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>A drive for natural flood management which can be potential deliver:</p> <ul style="list-style-type: none"> • Peat restoration • Large scale woodland planting (native broadleaved and conifer plantation) and better management • Natural features and processes that promote roughening of surfaces: tree, hedge and scrub planting, changing grazing regimes • Wetland and woodland creation • Water storage/silt traps • River re-meandering • Soil management and decompaction • Natural structures to hold back water such as leaky woody debris dams on smaller channels

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	<ul style="list-style-type: none"> • FC FIZ project extends into this area. Mapping for riparian native woodland and associated habitat potential has been done. Will also help improve water quality <p>Local Planning</p> <p>The review of the Eden Local Plan provides the opportunity to introduce new policies to increase or improve the condition of habitats e.g. biodiversity net gain. This would affect multiple sites across the district and cumulatively have a significant and positive impact on the condition of habitats.</p> <p>Biodiversity Net Gain Funding may provide opportunities such as habitat creation / biodiversity net gain associated with A66 NSIP and St Cuthberts village. Also potential to use Net Gain for other development – e.g. new woodland associated with chicken units to reduce aerial pollution</p> <p>Changes in agricultural and environmental policy and support mechanisms which in turn may help deliver:</p> <ul style="list-style-type: none"> • New woodland planting and the enhancement of species diversity in existing woodland and woodland plantation and an expansion of upland wood pasture • Improved and restored hedgerows as part of a habitat network for species movement • Restoration of natural river channels and natural riverine processes improve water quality, in-stream and riparian habitat and Natural Flood Management • Management and retention of rush pasture in suitable condition for wading birds • Buffering of all lowland wetlands via the creation of new wetland habitats adjacent to existing sites to avoid edge effects of drainage and eutrophication • Increased woodland and riparian woodland cover • Re-introduction of beaver. <p>Catchment Sensitive Farming</p> <p>WQ improvement in rivers – NFM measures will help and AMP programmes</p>
	<p>Data & Information sources</p> <p>Natural England Eden District Council Carlisle City Council Eden Rivers Trust – Catchment Management Plan Cumbria Wildlife Trust</p>
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>Water quality improvement</p> <p>From peatland restoration in the uplands, woodland planting and management, wood pasture creation and management, wetland creation, riparian strips and less intensively managed pasture land</p> <p>Water flows in drought</p> <p>Health and Wellbeing</p> <p>from access to green spaces and wildlife</p> <p>Improved air quality</p>
	<p>Data and Information Sources</p> <p>Natural England Eden Rivers Trust – Eden Catchment Plan</p>

Objectives (for illustration only at this point)	Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies. ⁹
	<ul style="list-style-type: none"> • Restore and reconnect a resilient network of high quality riparian habitats with wide grassland/reedbed strips adjacent to rivers. • Restore and enhance a more dynamic river system. • Restore river quality and in-river habitat features of importance to migratory fish and white clawed crayfish • Retaining, restoring and creating wetland habitats (particularly wet woodland and pastures that support marsh fritillary). • Restore a network of species-rich hay meadows and increase pollinator habitat • Extend, restore and create semi-natural woodlands including PAWS sites, riparian woodland and hedgerows in mosaic with heath. • Expand lowland heath by managing and restructuring conifer plantations • Manage and expand the established pattern of shelterbelts and hedgerows including the rare native black poplar.

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA –5 Border Moors and Forests	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Upland plateau with Carboniferous deposits. • Extensive areas of exposed moorland with mire and unimproved grassland (a lot is internationally designated) • Large areas of planted coniferous forest. • Network of small streams/rivers flowing through narrow gorges and enclosed valleys. • Semi-improved and improved pasture in larger valleys with some hay meadows and copses of broadleaf woodland. <p>Narrative:</p> <p>The Border Moors and Forests National Character Area (NCA) consists of an extensive, sparsely populated upland plateau, with long-distance views and a strong sense of remoteness and tranquillity. The rivers North Tyne and Rede form wide valleys through the uplands, while the rivers Lyne and Irthing flow south-west to the Solway Firth. The underlying geology consists of Carboniferous deposits which have weathered differentially to form craggy outcrops, with subsequent glacial and fluvial deposition. The high altitude and climatic conditions led to the build-up of peat deposits and the formation of a large expanse of upland mire habitats, much of which is internationally designated as Border Mires, Kielder–Butterburn Special Area of Conservation. The extent of these habitats has been reduced by widespread conifer afforestation, particularly at Kielder Forest which occupies the slopes around Kielder Water, a large, winding reservoir at the head of the North Tyne Valley which also forms a prominent feature in the landscape. The uplands are drained by small rivers in enclosed valleys, with the larger valleys sheltering upland hay meadows, scattered farmsteads and copses of broadleaved woodland. The peatlands and their associated habitats, together with the extensive woodland cover, play a very important role in storing carbon and regulating water supply downstream. Afforestation had the most significant impact on the upland landscape during the 20th century.</p>	
Additional narrative to be incorporated – not adequately reflected in existing NCA description	

Data Sources for text:		National Character Area profile:		
Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the Cumbria part of the NCA (the whole NCA in brackets)	% of Cumbria resource in the NCA	
Blanket bog	3127 (12,537)	6.8		
Grass moorland	1279 (6506)	1.7		
Mosaic habitat	689 (2488)	6		
Deciduous woodland	367 (1041)	1.5		
Upland hay meadow	124 (188)	16.4		
Upland heathland	108 (13,513)	0.4		
Good quality semi-improved grassland	53 (640)	1.9		
Lowland raised bog	41 (218)	1		
Upland flushes, fens and swamps	18 (139)	0.3		
Lowland heathland	17 (136)	1.6		
Lowland fen	17 (49)	1.7		
Mountain heath and willow scrub	7.2 (7.2)	0.5		
Purple moor grass and rush pasture	5.6 (41)	0.9		
Traditional orchard	3.8 (5.3)	2.2		
Lowland meadow	1.4 (7.6)	0.4		
Fragmented heath	0 (1469)	0		
Upland calcareous grassland	0 (9)	0		
Lowland dry acid grassland	0 (4.3)	0		
Wood pasture and parkland	No data	No data		
Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²				
The following habitats and/or biodiversity areas are also considered to be important within the NCA				
Data or information source:				

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.)

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	<p>Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote)³.</p> <p>Supply data (where available) and short narrative</p> <p>Gains (Habitat Restoration/Creation)</p> <p><u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate and is supplied as a guide to the level of restoration/creation activity underway in the NCA.</p> <p>Upland hay meadow – 24.8 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category)</p> <p>1387.1 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p>																									
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	<p>Condition</p> <p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets and are for the NCA as a whole (i.e. including area outside Cumbria).</p> <table> <tbody> <tr> <td>Favourable</td> <td>9177 ha</td> <td>(53.8%)</td> </tr> <tr> <td>Unfavourable recovering</td> <td>7436 ha</td> <td>(43.6 %)</td> </tr> <tr> <td>Unfavourable no change</td> <td>426 ha</td> <td>(2.5 %)</td> </tr> <tr> <td>Unfavourable declining</td> <td>647 ha</td> <td>(0.2%)</td> </tr> </tbody> </table> <p>Environment Agency WFD</p> <table> <thead> <tr> <th>Water Body</th> <th>WFD Status</th> <th>Trend</th> </tr> </thead> <tbody> <tr> <td>Esk</td> <td>Poor</td> <td>Declining</td> </tr> <tr> <td>Irthing (upstream Butter burn)</td> <td>Moderate</td> <td>Stable</td> </tr> <tr> <td>Irthing (upstream of Crammel Linn)</td> <td>Moderate</td> <td>Improving (3 year trend)</td> </tr> </tbody> </table>		Favourable	9177 ha	(53.8%)	Unfavourable recovering	7436 ha	(43.6 %)	Unfavourable no change	426 ha	(2.5 %)	Unfavourable declining	647 ha	(0.2%)	Water Body	WFD Status	Trend	Esk	Poor	Declining	Irthing (upstream Butter burn)	Moderate	Stable	Irthing (upstream of Crammel Linn)	Moderate	Improving (3 year trend)
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Priority Species	<p>A list of priority species in the NCA is provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) 																									

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<ul style="list-style-type: none"> • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4
	LISTS TO CONFIRM
	Further information on, or suggestions for Priority Species ⁴
<p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 5</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p>	
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Data & Information sources	CBDC Recorder 6 data
Trends in range / population in the UK /England ⁵ (?)	
Trends in range / population in the NCA ⁶	
<p>Data which could elucidate trends is sparse for all species in NCA 5. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>DATA STILL TO BE EXTRACTED FROM EA, BTO and BC DATA SETS</p>	

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

	<p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p>		
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Broad-scale opportunities to increase or improve the condition of habitats ⁸	<table border="1"> <tr> <td>For example: A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands. Objective derived from the NCA are provided at the end of this document – which may help guide but not constrain thinking.</td></tr> </table>	For example: A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands. Objective derived from the NCA are provided at the end of this document – which may help guide but not constrain thinking.	
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⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>E.g.</p> <p>Climate Change mitigation from peatland restoration, woodland planting and management, wood pasture creation and management and High Nature Value farming practices</p>
Data and Information Sources	
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Protect and restore blanket bog habitat where possible. • Protect and extend upland hay meadows. • Protect, expand and connect areas of semi-natural woodland • Enhance coniferous woodlands (greater species diversity).

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

NCA – 6 Solway Basin	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>Summary:</p> <ul style="list-style-type: none"> • Lowland landscape with undulating low hills and coastal plain. • Triassic sedimentary sandstones, siltstone, mudstone and Carboniferous limestone geology. • Extensive areas of coastal salt marsh, sand dunes and intertidal mudflats supporting internationally important wader and wildfowl populations (designated SAC, SPA and Ramsar sites) • Internationally important lowland raised peat bogs known as 'mosses' (SAC) • Limited woodland cover confined to river valleys • Extensive pastoral agriculture with some arable farming on low hills. 	
<p>Narrative:</p>	
<p>The Solway Basin is a low-lying National Character Area (NCA) of gently undulating low hills that grade into the coastal plain and estuarine landscape of the Solway Firth, which is influenced by the second largest tidal range in the UK. The area is dominated by pastoral agriculture in rectilinear fields bounded by hedges but with increasing arable farming on the low hills. The coastal zone is characterised by a more open, wind-swept, dynamic and tidal landscape of salt marshes, beaches, sand dunes and intertidal flats along the margins of the Solway Firth and the Irish Sea. Almost the entire NCA coastline and many of the lowland wetlands are nationally and internationally important for their habitats and the species they support, as well as for their geomorphology and record of past environmental conditions. Along the coast, the Solway Firth is designated as a Special Area of Conservation (SAC) for its salt marshes, sand dunes and intertidal habitats, and as a Special Protection Area and Ramsar site for its populations of breeding birds and wintering waders and wildfowl, including barnacle geese and whooper swans. Inland from the coast, many of the series of lowland raised bogs make up the South Solway Mosses SAC which includes the most intact and extensive series of sites in England, with their unique communities of peat-forming mosses, dwarf shrubs, cotton grasses and large heath butterflies. This is added to in the eastern part of the NCA by Bolton Fell Moss SAC and Walton Moss SAC and the River Eden SAC, which extends far beyond this NCA, with its populations of salmon, otter and lamprey and its beds of water crowfoot. Cumbria's largest urban conurbation and only city falls within the NCA. The River Eden which runs through the heart of the city, along with other strategic urban greenspace provides connections for nature both within the city and into the surrounding countryside.</p>	
Additional narrative to be incorporated – not adequately reflected in existing NCA description	
Added to the narrative	
Data Sources for text:	National Character Area profile Carlisle City Council Solway Coast AONB Management Plan 2020-25

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the NCA	% of Cumbria resource in the NCA			
<u>Coastal and flood plain grazing marsh</u>	9307	45.1				
<u>Lowland raised bog</u>	2813	66				
<u>Coastal saltmarsh</u>	2682	64				
Deciduous woodland	2485	10.5				
Mosaic habitat	1308	11.4				
Coastal sand dunes	229	15.1				
Good quality semi-improved grassland	181	6.6				
Purple moor grass and rush pasture	72	11				
Lowland heathland	69	6.5				
Lowland fens	68	7				
Lowland meadow	34	10.6				
Maritime cliff and slope	20	5.8				
Traditional orchard	18	10.5				
<u>Coastal vegetated shingle</u>	11	38.3				
Lowland dry acid grassland	5	1.3				
Saline lagoons	2.5	1.5				
Reedbeds	2	11.8				
Mudflats	2	8.4				
Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²						
The following habitats and/or biodiversity areas are also considered to be important within the NCA <ul style="list-style-type: none"> • Urban Green Space and green infrastructure networks • Rivers and Streams 						
Data or information source:	Carlisle City Council Rivers Trusts					
Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative						
Gains (Habitat Restoration/Creation) <u>Natural England (land under restoration and creation)</u> – note extracted from CS options. Data will not be 100% accurate and is supplied as a guide to the level of restoration/creation activity underway in the NCA. Lowland raised bog – 138 ha Purple moor grass and rush pasture – 35 ha						

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

	<p>Lowland heathland – 40 ha Lowland fens – 98 ha Lowland meadow – 129 ha Lowland dry acid grassland – 5 ha</p> <p><u>Forestry Commission NFI</u> extracted figures (young trees category) 121 ha of 'young trees' (planted or regeneration, broadleaved and conifer)</p> <p>Other Wet grassland and saltmarsh restoration at key sites (Campfield March / Bowness Common) via RSPB</p>																																										
	<p>Losses Sections of sand dune habitat via coastal erosion- e.g. Mawbray, Dubmill, Crosscanonby and on Grune Point. Coastal rollback difficult because of the route of the B5300. Some of this is caused / worsened by hard engineering of coastal erosion works</p>																																										
	<p>Condition</p> <p>SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figures provided in hectares (ha) and percentage in brackets.</p> <table> <tbody> <tr> <td>Favourable</td> <td>3691 ha</td> <td>(44.8%)</td> </tr> <tr> <td>Unfavourable recovering</td> <td>3767ha</td> <td>(45.8%)</td> </tr> <tr> <td>Unfavourable no change</td> <td>526 ha</td> <td>(6.4%)</td> </tr> <tr> <td>Unfavourable declining</td> <td>238 ha</td> <td>(2.9%)</td> </tr> <tr> <td>Part destroyed</td> <td>9 ha</td> <td>(0.1%)</td> </tr> </tbody> </table> <p>Environment Agency WFD</p> <table> <thead> <tr> <th>Water Body</th> <th>WFD Status</th> <th>Trend</th> </tr> </thead> <tbody> <tr> <td>Wampool – lower</td> <td>Moderate</td> <td>Stable</td> </tr> <tr> <td>Wampool – upper</td> <td>Bad</td> <td>Declining</td> </tr> <tr> <td>Waver</td> <td>Moderate</td> <td>Improving</td> </tr> <tr> <td>Solway</td> <td>Poor</td> <td>Declining</td> </tr> <tr> <td>Caldew downstream Caldbeck</td> <td>Poor</td> <td>Declining</td> </tr> <tr> <td>Eden – Eamont to Tidal</td> <td>Moderate</td> <td>Declining (3 year trend)</td> </tr> <tr> <td>Esk</td> <td>Poor</td> <td>Declining</td> </tr> <tr> <td>Petteril (downstream of Blackrack Beck)</td> <td>Moderate</td> <td>Declining (3 year trend)</td> </tr> </tbody> </table> <p>Eden Rivers Trust The Eden is an internationally important river for biodiversity and geology known as a Special Area for Conservation, however in a UK wide classification of water bodies none of Eden's 86 official water body units have high water quality status, none are classified as High status, 35 (41%) are classified as Good, 33 (38%) are Moderate and 17 (20%) are Poor.</p>	Favourable	3691 ha	(44.8%)	Unfavourable recovering	3767ha	(45.8%)	Unfavourable no change	526 ha	(6.4%)	Unfavourable declining	238 ha	(2.9%)	Part destroyed	9 ha	(0.1%)	Water Body	WFD Status	Trend	Wampool – lower	Moderate	Stable	Wampool – upper	Bad	Declining	Waver	Moderate	Improving	Solway	Poor	Declining	Caldew downstream Caldbeck	Poor	Declining	Eden – Eamont to Tidal	Moderate	Declining (3 year trend)	Esk	Poor	Declining	Petteril (downstream of Blackrack Beck)	Moderate	Declining (3 year trend)
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	Data & Information Sources	Forestry Commission NFI Natural England England Habitat Network Natural England SSSI Unit Reporting Environment Agency 2019 https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12 Solway Coast AONB Eden Rivers Trust – Eden Catchment Plan
Priority Species	<p>A list of priority species in the NCA will be provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4 <p>LISTS TO BE COMPLETED</p> <p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 6.</p> <p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p> <p>This is a quick provisional list (and is subject to review).</p> <p>FURTHER WORK IS REQUIRED TO IDENTIFY CRITERIA FOR THESE LISTS</p> <p>Species identified on p.49 of the Solway Coast AONB Management Plan 2020-25 as targeted to conserve via bespoke action because of their significance to the designated landscape.</p> <ul style="list-style-type: none"> • Breeding and overwintering wildfowl and waders • Little tern • Marsh fritillary • Natterjack toad • Mud shrimp • Wrasse • Smallhound • Bass • Bell huss • Thornback ray • Atlantic salmon • Tope dogfish 	

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

	Data & Information sources	Solway Coast AONB Management Plan 2020-25
	Trends in range / population in the UK /England ⁵ (?)	
	No information	
	Trends in range / population in the NCA ⁶	
	Data which could elucidate trends is sparse for all species in NCA 6. The following data give some indication of trends for selected species, but not always coincident with the NCA. FURTHER WORK REQUIRED TO EXTRACT INFORMATION FROM BTO, BC and EA DATABASES	
	Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends. There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.	
	Data Sources	
Current drivers of change ⁷		
Current drivers of change ⁷	Nature Recovery Agenda <ul style="list-style-type: none">• Government policy around 25 year plan, Environment Bill and 'Nature Recovery' funding.• Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc)• Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate)• Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat)• Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) Agriculture and Environment Policy <ul style="list-style-type: none">• Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular)• Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods)• Increasing environmental legislation (farming rules for water for example) Agricultural profitability <ul style="list-style-type: none">• Beef and sheep units – underlying profitability of businesses dependent on support	

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

- Farming predominately lowland livestock, dairy with some arable
- More productive farming creates challenges with respect to opportunity cost of changing land use
- Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example)
- Lack of good incentives for some long-term land management changes – e.g. woodland management or wood pasture creation
- Increasing intensification, diversification and support for rural development (e.g. large-scale poultry units, leisure, equine, tourism).

Climate Change

- Coastal erosion and coastal squeeze linked to climate change and potential sea level rise.
- Climate change and changing weather patterns causing damage to peatlands and impacting on carbon sequestration abilities.
- In the future, climate change and its associated impacts on sea levels and weather patterns are likely to have an even greater effect on this low-lying area at the head of the Irish Sea; adaption to these challenges will be a driver for future management.

Planning and Development pressures

- There is a general ambition for growth, economically and in increasing population.
- Development pressures, although it is important to understand that development in itself is not necessarily a negative. SENSITIVELY designed and well laid out development that delivers biodiversity net gain could be argued to be a positive driver for change
- Economic growth and jobs are likely to be primary considerations in decision-taking except where sites and species are statutorily protected
- Rural development is being strongly supported.

Government Policy

- Changes in government policy e.g. the Planning White Paper, which sets out that the Environment Bill will legislate for mandatory net gains for biodiversity as a condition of most new development; a commitment that all new streets should be tree-lined; developing a national framework of green infrastructure standards; assessing the extent to which planning policies and processes for managing flood risk need to be strengthened.
- Environment Bill still in very early stages of parliamentary procedure.
- Thrust of national planning policy promotes development and growth. The need to meet a 5 year land supply means that greenfield sites in rural locations within the NCA may be vulnerable to speculative development outside the local plan identified sites.

Health and Wellbeing

- Health and wellbeing a positive driver for change – community need for more accessible outdoor space, close to homes, of a variety of typologies, orchards, allotments, semi-natural, blue infrastructure, woodlands etc.
- Increase in interest in and support for health and wellbeing, and contribution of outdoor recreation. Increasing visits to the accessible parts of the NCA for walking and cycling.

	<p>Tourism and Outdoor Recreation</p> <ul style="list-style-type: none"> • Tourism in this part of the district is being heavily promoted, seeking to attract visitors away from the Lakes to Hadrian's Wall & the AONB, and capitalise on home tourism. There is increasing interest in the provision of lodges and caravans by landowners to respond to increasing interest in domestic tourism in rural areas. • The Solway Basin NCA is where some of the districts most sensitive habitat sites lie, and in combination the increase in population levels has potential to affect recreational pressures on protected areas. <p>A range of issues related to increased recreational use as a result of increased local population and/or increased pressure of tourism along the coast including physical disturbance such as trampling, disturbance of bird roosts and foraging areas by human activity, water-based recreation resulting in injury or death to wildlife, pollution, litter and erosion of habitats and fly-tipping – as a result of increased population and developments along the coastal belt and nutrient enrichment via wastewater treatment works and untreated contaminated run-off impacting on the estuarine/marine environment in combination with other discharges.</p> <p>Flood Management</p> <ul style="list-style-type: none"> • Flood management measures – can be a positive outcome from development proposals, e.g. for the proposed garden village the layout and location of the strategic open space will play a role against flooding, climate change and ensuring that the development results in biodiversity net gain. <p>Energy Production</p> <ul style="list-style-type: none"> • Moves towards different energy sources, e.g. tidal lagoon. Allerdale District Council committed to the potential of the tidal lagoon in principle. • Potential for cumulative impact on ecologically sensitive sites • Allerdale Local Plan identifies an area suitable for wind energy within the district. It is likely that there will be an increase in wind turbine applications as a result, or for repowering of existing turbines. • Increasing support for offshore wind projects • Solar Arrays <p>Water Environment</p> <ul style="list-style-type: none"> • Possible formation of water level management board. • New farming rules for water – but needs increased regulation to be widely adopted and really drive change • Intensification of farming and eutrophication caused by agricultural runoff and atmospheric nitrogen • Pollution hotspots around the Solway Firth should be targets for interventions to improve water quality.
	<p>Data/information sources</p> <p>Carlisle City Council Allerdale Local Plan (Part 1) (ALPP1) Strategic and Development Management Policies Adopted July 2013 Allerdale Local Plan (Part 2) (ALPP2) Site Allocations Development Plan Document Adopted July 2020</p>

	<p>Allerdale Council Strategy 2020-2030 Habitats Regulations Assessment Local Plan Site Allocations July 2019 Maryport Delivery Plan 2018 Solway Coast AONB Management Plan 2020-25 West Cumbria Rivers Trust Cumbria Local Enterprise Partnership Eden Rivers Trust – Eden Catchment Plan</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>A move towards Natural Flood Management can help to deliver a wide range of biodiversity benefits including through:</p> <ul style="list-style-type: none"> • Restoration of natural river channels and natural riverine processes • Natural flood management measures on Wiza Beck, upstream of Wigton. • Action to ensure that a Water Level Management Board or alternative maintenance arrangements are sensitive to freshwater biodiversity, and water quality. • Restoring sections of canalised stream to improve habitat diversity, including addition of woody material and stable gravels for fish spawning and bankside fencing and tree planting. Particularly on lower River Wampool to re-join priority habitats. <p>Farm engagement work will offer opportunities through:</p> <ul style="list-style-type: none"> • Establishment of more Farming Facilitation Groups for sharing sustainable land management best practice. • Continuation and expansion of Farming Rules for Water project to provide soil and nutrient management advice to farmers from across the catchment. <p>Biodiversity Net Gain may provide opportunities around</p> <ul style="list-style-type: none"> • Harnessing Biodiversity Net Gain at a broader scale. • The St Cuthbert's Garden Village - its Biodiversity Net Gain report sets out a baseline assessment of biodiversity units on the total site area for the proposed garden village. • Although the Environment Bill is not yet approved, individual development proposals may still deliver benefits e.g. Glendale Caravan Park extension near Port Carlisle and the associated restoration of adjoining habitat. <p>Council Objectives for greener Allerdale will help:</p> <ul style="list-style-type: none"> • Improve and protect our open spaces and green infrastructure • Ensure environmental sustainability is at the heart of our policies • Use assets to encourage green technology <p>Other</p> <p>Works connected with the extension of the English Coastal path, and the Allonby to Silloth Cycleway.</p>

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

	<p>Improvements to Water Quality Reduce combined sewer overflows in Wigton.</p>	
	Data & Information sources	Carlisle City Council - St Cuthbert's Garden Village BNG report Allerdale Council Strategy 2020-2030 Solway Coast AONB West Cumbria Rivers Trust
Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution	<p>Health and Wellbeing from increased interest and awareness of the need for access to nature for mental health and wellbeing of society and from improved access to green/blue space</p> <p>Improved Water Quality Improved water quality inc. for bathing waters and shellfish waters – filtering runoff.</p> <p>Carbon sequestration through tree planting, peat bog restoration and wetland restoration/creation</p> <p>Soil Health Improved soil health – reduced soil erosion</p> <p>Natural flood management from peatland restoration, riparian corridors with trees and scrub and strategic wetland creation.</p>	
	Data and Information Sources	Solway Coast AONB Management Plan 2020-25 West Cumbria Rivers Trust West Cumbria Catchment Plan
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <ul style="list-style-type: none"> • Conserve and enhance the internationally important coastal and estuary systems including intertidal flats, salt marshes, sand dunes, intertidal habitats, vegetated shingle and coastal cliffs inside and outside of designated areas. • Restoration of coastal transition habitats and saltmarsh via managed retreat. • Re-establish transitional habitats such as saline and brackish lagoons. • Manage, restore and enhance the freshwater wetland landscape including lowland raised bogs and riparian corridors and develop new wetlands (including recovery of all peat soils to a peat-forming condition). • Buffering of all lowland wetlands via the creation of new wetland habitats adjacent to existing sites to avoid edge effects of drainage and eutrophication. • Protect, expand and connect areas of ancient woodland 	

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

- Create and expand farmland habitats that enhance biodiversity and improve soil and water quality by adapting farming systems and hedgerow establishment.
 - Re-introduction of Corncrake and Chough.
 - None of the above objectives involves communities, or outcomes linked to health and wellbeing.
 - St Cuthbert's Garden Village Local Plan draft natural environment objective is set out below for information.
- "To ensure that St Cuthbert's is always a garden first, complimenting and contributing to its internationally important landscape setting.
- To enable everyone to have easy access to vibrant and vital natural spaces, which teem with life and diversity, providing excellent and inclusive opportunities for recreation, education, and reflection. To create rich green spaces that are valued for their inherent beauty and the important ecological services they provide.
- To provide people with healthier and more environmentally friendly options for travel and play and to establish logical, and holistic natural networks that connect communities and habitats to form the beating green heart of the garden village.
- To meaningfully enrich the plan area's natural environment, creating, restoring and enhancing habitats, wildlife and other natural assets wherever the opportunity is presented, to ensure that all new development delivers a measurable environmental net gain across the Garden Village.
- To establish reliable mechanisms for the on-going maintenance, stewardship and protection of environmental assets and green infrastructure in perpetuity."

NCA – 10 North Pennines	Narrative Description of the Area (Information adapted from the NCA description (including Key Characteristics))
<p>The North Pennines National Character Area (NCA), at the northern end of the Pennine ridge, has a distinct identity, with its remote upland moorlands divided by quiet dales. It comprises some of the highest and most exposed moorland summits in England, with several major rivers, including the South Tyne, Wear and Tees, draining out to the north, east and south-east. It is bordered to the west by the Eden valley, to the north by the Tyne valley, to the east by the Durham lowlands and to the south by the Yorkshire Dales. The area's natural beauty is reflected in the fact that 88 per cent of it has been designated as the North Pennines Area of Outstanding Natural Beauty (AONB).</p>	
<p>The geology of the North Pennines is internationally significant, with the area being designated as a UNESCO European and Global Geopark. The largely Carboniferous rocks with mineral veins have given rise to a long history of mining and quarrying. Intrusions of igneous rock (Whin Sill) form striking crag outcrops and waterfalls. There is a dramatic scarp slope along the western edge, falling to the Eden valley.</p>	
<p>The North Pennines has a low population density which is reflected in high levels of tranquillity and low levels of light pollution.</p>	
<p>The mosaics of moorland habitat are of international significance. Special Areas of Conservation (SAC) cover 44 per cent of the NCA, and include upland heath, blanket bog, rare assemblages of arctic-alpine plants, species-rich grasslands, fast streams feeding into the rivers South Tyne and Eden, woodlands and freshwater habitats. The peat soils underlying the moorland habitats, especially blanket bog, store significant volumes of carbon, but in many places are extremely climate insecure with peat loss, gullyling and erosion features.</p>	
<p>Forty-six per cent of the area is designated Special Protection Areas (SPA), recognising the area's international importance for populations of golden plover, merlin, peregrine and its potential to support hen harrier. The national importance of the assemblages of breeding birds which also include curlew, dunlin, lapwing, redshank, snipe, black and red grouse and ring ouzel, are recognised in the extensive SSSI designations. However, these nationally and Internationally significant populations of breeding birds, and particularly wading birds rely not only on the designated sites and priority habitats, but also on appropriate land management outside of these areas.</p>	
<p>Tree cover is very low (<1%) and largely limited to river gorges and gills with a few copses round farms. There has been some significant new tree planting, particularly, but not exclusively along rivers and stream corridors. There are fragments of juniper scrub and occasional conifer plantations on moorland fringes. [See additional narrative A]</p>	
<p>Additional narrative to be incorporated – not adequately reflected in existing NCA description</p>	
<p>Additional narrative summarised and incorporated into the narrative above</p>	
Data Sources for text:	<p>National Character Area profile 10 – North Pennines Data source for additional text: North Pennines AONB Partnership Woodland Trust Eden District Council Natural England</p>

Priority Habitats ¹	Derived from the Priority Habitat Inventory (PHI)	Approx. area (ha) within the Cumbria part of the NCA	% of Cumbria resource in the NCA
<u>Blanket bog</u>	28,411 (72,428)	61.6	
Grass moorland	8000 (14,874)	10.4	
Upland heathland	4146 (33,663)	15	
<u>Upland calcareous grassland</u>	1161 (1365)	31.8	
Mosaic habitat	1149 (4152)	10	
Deciduous woodland	499 (2687)	2.1	
Mountain heath and willow scrub	431 (431)	30.4	
Good quality semi-improved grassland	143 (2348)	5.2	
Upland flushes, fens and swamps	66 (200)	1.3	
Fragmented heath	60 (152)	3.1	
<u>Calaminarian grassland</u>	52 (85)	100	
Limestone pavement	41 (41)	7.2	
Lowland calcareous grassland	37 (141)	3.5	
Lowland fens	32 (281)	3.3	
Upland hay meadow	28 (674)	3.7	
Lowland heathland	14 (563)	1.3	
Purple moor grass and rush pasture	8.4 (48)	1.3	
Lowland meadow	8.3 (203)	2.6	
Traditional orchard	1.3 (4.6)	0.8	
Lowland dry acid grassland	0.4 (134)	0.1	
Wood pasture and parkland	No data	No data	
Additions Habitats which are important in the NCA and need to be considered in for nature recovery (see footnote) ²			
<p>The following habitats and/or biodiversity areas are also considered to be important within the NCA</p> <ul style="list-style-type: none"> • Rush pasture on areas of predominantly acidic grassland are of vital importance to breeding wading birds • Habitat suitability mapping for wading birds has been carried out for the Northern Upland Chain LNP and should reflected in habitat network modelling. • River and streams and small water bodies • Habitats on which other species (such as adder, bats, some invertebrates may also rely <p>[Lowland calcareous grassland and purple moor pasture almost certainly mis-identified but are likely to be priority habitat of some description. Other habitats labelled as lowland may also be mis-identified but are likely to still be priority habitat of some description.]</p>			

¹ Note: In NCA statement *non-bold text = priority habitat to be maintained, bold text = priority habitat to be restored/enlarged for habitat networks.) Underlined habitats represent those where the NCA supports > 30% of the Cumbrian resource

² Please add any other habitat areas considered to be important for Biodiversity, for example important road verges, Green Infrastructure, Breeding Habitat for waders (and other species) etc.

	Data or information source:	North Pennines AONB Partnership Eden Rivers Trust
		Changes in habitat extent and condition since NCA statement (if known). See suggestions for potential data sources in footnote) ³ . Supply data (where available) and short narrative
		Gains (Habitat Restoration/Creation) <u>Natural England (land under restoration and creation)</u> – note extracted from CS options and data will not be 100% accurate
		Upland calcareous grassland -18 ha Lowland calcareous grassland – 19 ha Upland hay meadow – 109 ha Purple moor grass and rush pasture – 13 ha (?) Lowland meadows – 25 ha Wood pasture and parkland – 29 ha
		<u>Forestry Commission NFI</u> extracted figures (young trees category) 111 ha of 'young trees' (planted or regeneration)
		<u>Woodland Trust/Natural England</u> Areas around Dufton Pike and the edges of Moorhouse Common, the MOD land at Warcop (176,000 trees / 180 ha), smaller schemes at Harbour Flatt, Keisley, Bow Hall, Bluethwaite Hill, Knock Pike, Blencarn, Geltsdale, Cannerheugh, Croglin – have boosted local woodland / scrub woodlands
		<u>Peatland restoration – NPAONB</u>
	Losses	Not known
	Condition	SSSI info from NE (Note these figures also include geological SSSI – many of which are in favourable condition. So the percentage of 'biodiversity' SSSI in favourable condition is likely to be less than shown). Figure provided in hectares (ha) and percentage in brackets and are for the NCA as a whole (i.e. including area outside Cumbria).
	Favourable	16611 ha (16.5%)
	Unfavourable recovering	82278 ha (81.5%)
	Unfavourable no change	1560 ha (1.5%)
	Unfavourable declining	520 ha (0.5%)
	Data & Information Sources	Natural England National Habitat Network Forestry Commission NFI Natural England SSSI Unit Reporting Cumbria Wildlife Trust Woodland Trust

³ Potential data sources may include Partnership Projects, Planning Compensation/Net Gain etc. Data from national programmes or recording will be collated/supplied separately

Priority Species	<p>A list of priority species in the NCA will be provided in Appendix 1. This includes species from the following priority lists</p> <ul style="list-style-type: none"> • NERC Section 41 • Habitats Directive (Annex I or II) • IUCN Red List (Global, Europe or GB) • UK Birds of Conservation Concern 4
SPECIES LISTS NEED CONFIRMING	
<p>Further information on, or suggestions for Priority Species⁴</p> <p>A list of xxxx priority species is recorded in Appendix 1. The success of these species will be an indication of the success of nature conservation and recovery in NCA 10.</p>	
<p>Many of these species will benefit from the nature recovery action which focusses on the habitats listed above. The following species are some of those species which may need particular attention, either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:</p>	
<p>This is a quick provisional list (provided by the North Pennines AONB (and is subject to review).</p>	
FURTHER WORK REQUIRED TO AGREE CRITERIA FOR THESE LISTS	
<ul style="list-style-type: none"> • Corncrake • Barn Owl • Wading bird assemblage (Curlew, Lapwing, Snipe, Redshank, Oystercatcher) • Adder • European Eel • Salmonids (Salmon, Brown/sea trout) • Arctic/alpine plant assemblage • Beaver • Bat species • Red squirrel • Bilberry bumblebee • Moss carder bee • Violet oil beetle 	
Data & Information sources	North Pennines AONB Natural England

⁴ To include further information on species which may need particular attention e.g. either because they occupy multiple habitats, occupy habitats which are outwith priority habitat, occupy places for nesting, roosting or hibernating which are outwith priority habitat, are relatively immobile species requiring specific habitat interventions, or require introduction:

	Trends in range / population in the UK /England ⁵ (?)		
	No information		
	Trends in range / population in the NCA ⁶		
	<p>Data which could elucidate trends is sparse for all species in NCA10. The following data give some indication of trends for selected species, but not always coincident with the NCA.</p> <p>ONGOING WORK TO EXTRACT INFORMATION FROM BTO, BC AND EA DATA</p> <p>Most other species are not subject to regular survey. There has been range survey undertaken for some species (e.g. water vole), but this would need repeating to regularly to show trends.</p> <p>There is a need for repeatable baseline survey for selected species to show range and population trends, in order to demonstrate the efficacy or otherwise of the nature recovery work taking place.</p>		
	<p>Natural England</p> <p>For whole of North Pennines SPA, we have the following information:</p> <p><u>Golden Plover</u></p> <p>At the time of SPA classification, the site was estimated to support 1,400 pairs representing at least 6.2% of the breeding population of Great Britain. This population estimate was based on habitat and breeding densities alone.</p> <p>The 2005-2007 North Pennine Moors SPA survey (Shepherd, 2007) recorded 4,171 pairs of golden plover which represented 18.5% of the breeding population of Great Britain.</p> <p><u>Hen Harrier</u></p> <p>At the time of the SPA classification, a DETR/JNCC Raptor Working Group survey in 1998 estimated that the site supported 11 pairs representing at least 2.2% of the breeding population in Great Britain. Surveys in 2006 recorded 2 hen harrier territories across the SPA.</p> <p><u>Merlin</u></p> <p>At the time of the SPA classification, surveys in 1993 and 1994 estimated that the site supported 136 pairs representing at least 10.5% of the breeding population in Great Britain. Surveys in 2006 recorded 65 merlin territories across the SPA.</p> <p><u>Peregrine</u></p> <p>At the time of its classification, the SPA supported 15 breeding pairs, representing at least 1.3% of the breeding population in Great Britain. Surveys in 2006 recorded 4 peregrine territories across the SPA</p>		
	<table border="1"> <tr> <td>Data Sources</td> <td>Lune Rivers Trust North Pennine Moors European Site Conservation Objectives (public documents for all European Sites)</td> </tr> </table>	Data Sources	Lune Rivers Trust North Pennine Moors European Site Conservation Objectives (public documents for all European Sites)
Data Sources	Lune Rivers Trust North Pennine Moors European Site Conservation Objectives (public documents for all European Sites)		

⁵ Note this information has been collated from national reporting, national recording scheme and similar – but is not exhaustive.

⁶ Data sources may include 'State of Parks' or BAP recording, RSPB/BTO, Rivers Trusts, Environment Agency, CBDC

Current drivers of change ⁷	
	<p>Nature Recovery Agenda</p> <ul style="list-style-type: none"> • Environmental and Nature recovery agenda is an exceptionally busy area (New ELMS scheme, Nature recovery networks and strategies, Biodiversity net gain etc) • Competing agendas in terms of land use (food vs fuel, food vs nature, food vs climate) • Competition between environmental agendas (tree planting vs other environmental uses for example, NFM vs habitat) • Increasing support for nature recovery from the general public, also linked to the climate change agenda • Tensions between landlords and tenants over land use (e.g. landlord may be keen to take advantage of the new land use markets coming up which could leave the tenant out in the cold) • Nature recovery will not always sit with farm system (Ponds on poultry farm, wet areas on cattle farms lead to increased fluke challenge for example) <p>Agriculture and Environment Policy</p> <ul style="list-style-type: none"> • Huge time of uncertainty for farmers (Brexit, loss of markets more challenges from imports, change in the way support is delivered onto farms, in particular) • Existing agri-environment support, and uncertainty over the end of CS in 2023, and replacement with E.L.M (public money for public goods) • Increasing environmental legislation (farming rules for water for example) • Need for food and energy security and pressure this could bring to uplands <p>Government Environmental Policy</p> <ul style="list-style-type: none"> • Government 25 year plan and 'Making Space for Nature'. • Defra peatland strategy, including phasing out of rotational burning from blanket bog and support for peatland restoration. • Defra tree strategy (Drive for increase in forestry and government planting targets. Need for 'right tree in right place'). • Nature Recovery and Net Zero • Glover Review of Designated Landscapes. What will that do to AONB budgets and governance? • Net Zero - need for new land use policy that promotes multiple benefits • Natural Capital agenda – ecosystem approach. <p>Agricultural profitability</p> <ul style="list-style-type: none"> • Beef and sheep units – underlying profitability of businesses dependent on support • Upland/Hill units – underlying profitability of businesses dependent on support • Lack of good incentives for some long-term land management changes – e.g woodland management or wood pasture creation <p>'Nature' Funding</p> <ul style="list-style-type: none"> • Uncertainty regarding a range of project funding, e.g. after Brexit several funding streams for conservation e.g. LIFE, INTERREG will not be accessible and will they be replaced?

⁷ For example development pressures (site allocations etc.), land management practices, Sea level rise

	<p>Land Management</p> <ul style="list-style-type: none"> • Current agricultural grazing regimes and their impacts on habitats and species • Grouse moor management practices, including burning on peat <p>Climate Change</p> <ul style="list-style-type: none"> • Climate change (particularly in relation to loss of montane species, disruption of wetland systems, increase in frequency of novel diseases of plants and animals) <p>Atmospheric nitrogen pollution</p> <ul style="list-style-type: none"> • Air pollution especially atmospheric Nitrogen impacting on habitats with a naturally low nutrient status. <p>Invasive Species</p> <ul style="list-style-type: none"> • Spread of or introduction of Invasive species and plant diseases <p>Advice</p> <ul style="list-style-type: none"> • Lack of resource for ecologically literate land management advice <p>Planning and Development</p> <ul style="list-style-type: none"> • Alston is designated as a 'Market Town' and is the focus for moderate development appropriate to the scale of the town. Nenthead and Brough are designated as a 'Key Hubs' and is the focus for development to sustain local services appropriate to the scale of the village and its hinterland. <p>Over the Local Plan period (2014-2032) 131 new homes will be provided in Alston, 32 new homes will be provided in Nenthead and 89 new homes will be provided in Brough.</p> <ul style="list-style-type: none"> • Planning policy may not support what is needed for agricultural diversification
	<p>Data/information sources</p> <p>North Pennines AONB Woodland Trust Data/information sources Eden Local Plan 2014-2032 Lune Rivers Trust National Farmers Union (NFU) RSPB</p>
Broad-scale opportunities to increase or improve the condition of habitats ⁸	<p>Changes in agricultural and environmental policy and support mechanisms which lead to long term support for High Nature Value farming in the North Pennines, in turn delivering:</p> <ul style="list-style-type: none"> • Retention of rush pasture in suitable condition for wading birds • A more structurally & species diverse transition to moorland • Conservation & restoration of species-rich upland hay meadows • Conservation of other species-rich habitats and the expansion of species rich grasslands • Restoration of 'improved' pasture to species-rich pasture

⁸ Potential opportunities to improve/create/link habitats (e.g. major developments, landowners opportunities, increased funding/investment for woodland planting/peatland restoration, opportunities linked to flood/coastal management etc.

- A rich and abundant invertebrate fauna
- More open water and seasonally wet areas
- Increased native tree and scrub cover
- Enhancement of species diversity in existing woodland and woodland plantation
- An expansion of upland wood pasture
- The strategic expansion of hedgerow habitat for habitat connectivity and the restoration and good management of the whole hedgerow resource
- More tall-herb vegetation, for example along gills and rivers as vital habitat for invertebrates
- Habitat mosaics from micro to landscape-scale
- Connectivity of habitats through planned and coordinated work across organisations.
- Monitoring and control of invasive non-native species
- Restoration of priority habitats at a landscape-scale delivering multiple benefits.
- Favourable condition on SSSI and other designated sites

Increased resourcing of carbon sequestration from public and private sources, leading to the completion of large-scale moorland restoration, including:

- Full restoration of hydrological condition and function of all peatlands
- Conservation of species-rich habitats on moorlands and a reversal in the decline in species associated with these specialist habitats
- Development of upland woodland and scrub (not on deep peat), and more structurally and species diverse upland heathland
- Expansion in the populations of Annex 1 moorland birds (Hen Harrier, Merlin, Peregrine falcon, Golden Plover (White tailed Eagle?))
- Review of burning consents and an end to burning on deep peat.
- De-intensification of grouse moor management.

Increased resourcing of carbon sequestration from public and private sources, leading to large scale projects to increase tree, scrub and woodland cover, including:

- Increased native tree and scrub cover Forestry. (But need to ensure 'Right tree in the right place' – no inappropriate planting. Proper planning of what is appropriate where based on good data).
- A more structurally & species diverse transition to moorland
- An expansion of upland wood pasture

Higher baseline environmental standards, and resourcing for the provision of help and advice, monitoring and compliance, which better manage farm inputs/outputs (such as nutrients, vet and med, water), leading to

- A rich and abundant invertebrate fauna
- A rich and abundant bird fauna
- A more diverse flora

A drive for natural flood management which can be harnessed to deliver biodiversity benefits through the creation of seasonal, temporary or permanent wetlands, including, in appropriate locations through the re-introduction of beaver.

	<p>An increasing interest from large landowners in enhancing biodiversity on their land leads to opportunities for more natural processes to develop, over larger areas, including greater native woodland and tree cover, mosaics of habitat and the benefits this will provide to insect, bat and bird species.</p> <p>Coniferous woodlands from the 20th century can be restructured to make a more positive contribution to the landscape and biodiversity</p> <p>Continued and accelerated action on pollution from abandoned metal mines will lead to an increase in water quality, and support more aquatic life</p> <p>Development</p> <p>The review of the Eden Local Plan provides the opportunity to introduce new policies to increase or improve the condition of habitats e.g. biodiversity net gain. This would affect multiple sites across the district and cumulatively have a significant and positive impact on the condition of habitats.</p> <p>Good partnership working. Building on success of AONB landscape scale projects. Right partners in the right place.</p>
	<p>Data & Information sources</p> <p>North Pennines AONB RSPB Woodland Trust Eden District Council Cumbria Wildlife Trust Lune Rivers Trust Natural England</p>
<p>Wider environmental benefits for which the creation or restoration of habitats could provide a nature-based solution</p>	<p>Natural flood management</p> <p>from peatland restoration, woodland restructuring, woodland planting and management, wood pasture creation and management, roughing-up' of moorland fringes and riparian corridors with trees and scrub, High Nature Value farming practices, and strategic wetland creation.</p> <p>Climate Change mitigation (carbon retention and capture)</p> <p>from peatland restoration, woodland planting and management, wood pasture creation and management, regeneration of scrub, reduction in grazing pressure and High Nature Value farming practices</p> <p>Climate change adaptation</p> <p>from better connected habitats, more diverse habitats and habitat mosaics, more extensive management, and increased ecological function</p> <p>Improved water quality (reducing pollutants and sedimentation)</p>

	<p>from peatland restoration, woodland restructuring, woodland planting and management, wood pasture creation and management, High Nature Value farming practices, and action on metal mine pollution</p> <p>Improved health and wellbeing and improved recreation</p> <p>from access to a landscape with more wildlife (from nature restoration generally)</p> <p>Improved water course condition (cooling/shading and leaf litter)</p> <p>from tree and scrub planting/regeneration</p> <p>(Note: for over 95% of Eden tributary streams / watercourses there is zero shade. Across the landscape all of our upland water courses are no longer tree lined and shaded, leading to extremes of temperature affecting invertebrate populations and lack of fish breeding success. Lack of leaves in the water column reduces numbers of detritivore insects.)</p>
	<p>Data and Information Sources</p> <p>North Pennines AONB Natural England Woodland Trust Eden District Council Lune Rivers Trust Cumbria Wildlife Trust</p>
Objectives (for illustration only at this point)	<p>Objectives drawn from NCA Profiles, AONB/National Park Authority Plans & Strategies, of other key strategies.⁹</p> <p>Protect, manage and enhance the moorlands of the North Pennines:</p> <ul style="list-style-type: none"> • Full restoration of hydrological condition and function of all peatlands • Conservation of species-rich habitats and a reversal in the decline in species associated with these specialist habitats • Development of upland woodland and scrub (not on deep peat), and more structurally and species diverse upland heathland • Expansion in the populations of Annex 1 moorland birds (Hen Harrier, Merlin, Peregrine falcon, Golden Plover (White tailed Eagle?)) <p>Protect, manage and enhance the moorland fringes and upper dales of the North Pennines (including the Eden Escarpment):</p> <ul style="list-style-type: none"> • Retention, restoration and management of rush pasture in suitable condition to support sustainable populations of wading birds • A more structurally & species diverse transition to moorland • Conservation & restoration of species-rich upland hay meadows • Conservation of other species-rich habitats and the expansion of species rich grasslands • Restoration of 'improved' pasture to species-rich pasture

⁹ Please note these are not finalised objectives for the LNRS, but have been drawn from existing plans, strategies, NCA profiles etc. and are provided to help guide thinking with regards to drivers of change and identification of broad opportunities. They will provide a baseline for the development of joint objectives/outcomes in the LNRS.

- A rich and abundant invertebrate fauna
- More open water and seasonally wet areas

Protect, manage and enhance the habitats of the lower dales and Pennine fringe:

- Retention of rush pasture in suitable condition for wading birds
- A more structurally & species diverse transition to moorland
- Conservation & restoration of species-rich upland hay meadows
- Conservation of other species-rich habitats and the expansion of species rich grasslands
- Restoration of 'improved' pasture to species-rich pasture
- A rich and abundant invertebrate fauna
- A rich and abundant bird fauna
- More open water and seasonally wet areas
- Increased native tree cover
- Enhancement of species diversity in existing woodland and woodland plantation
- An expansion of upland wood pasture
- The strategic expansion of hedgerow habitat for habitat connectivity and the restoration and good management of the whole hedgerow resource
- More nesting opportunities in our villages and settlements for species now largely or wholly reliant on man-made structures

Manage the diverse streams, becks, rivers and reservoirs to maintain their high water quality and enhance their biodiversity interest

- Full restoration and management of hydrological condition and function of all wetland systems, including blanket bogs, river flood plains, mires and wet grasslands and wet woodlands
- Allow rivers and streams to follow their natural courses
- Manage watercourses and the riparian corridors to retain a range of natural conditions to maintain and increase fish, water vole and invertebrate populations.
- Promote the establishment of riparian vegetation along rivers and streams, in particular by excluding livestock, encouraging the natural regeneration and/or planting of native trees and scrub
- Work collaboratively to monitor and prevent the spread of invasive non-native species (INNS) along river corridors, particularly on upland catchments which are currently free of INNS, to maintain the biodiversity value of the watercourses and to prevent downstream contamination
- Work collaboratively to control or remove invasive non-native species (INNS) along river corridors, to maintain the biodiversity value of the watercourses
- Expand areas of wetland (including reedbeds, wet pastures and wet woodlands) in temporary flood storage areas.

	<ul style="list-style-type: none">• Remove artificial obstacles on rivers that prevent the passage of migratory salmonids• Ensure that on-farm water storage is designed to enhance biodiversity interest, through careful site selection, encouraging emergent vegetation and maintaining clean, oxygenated water
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