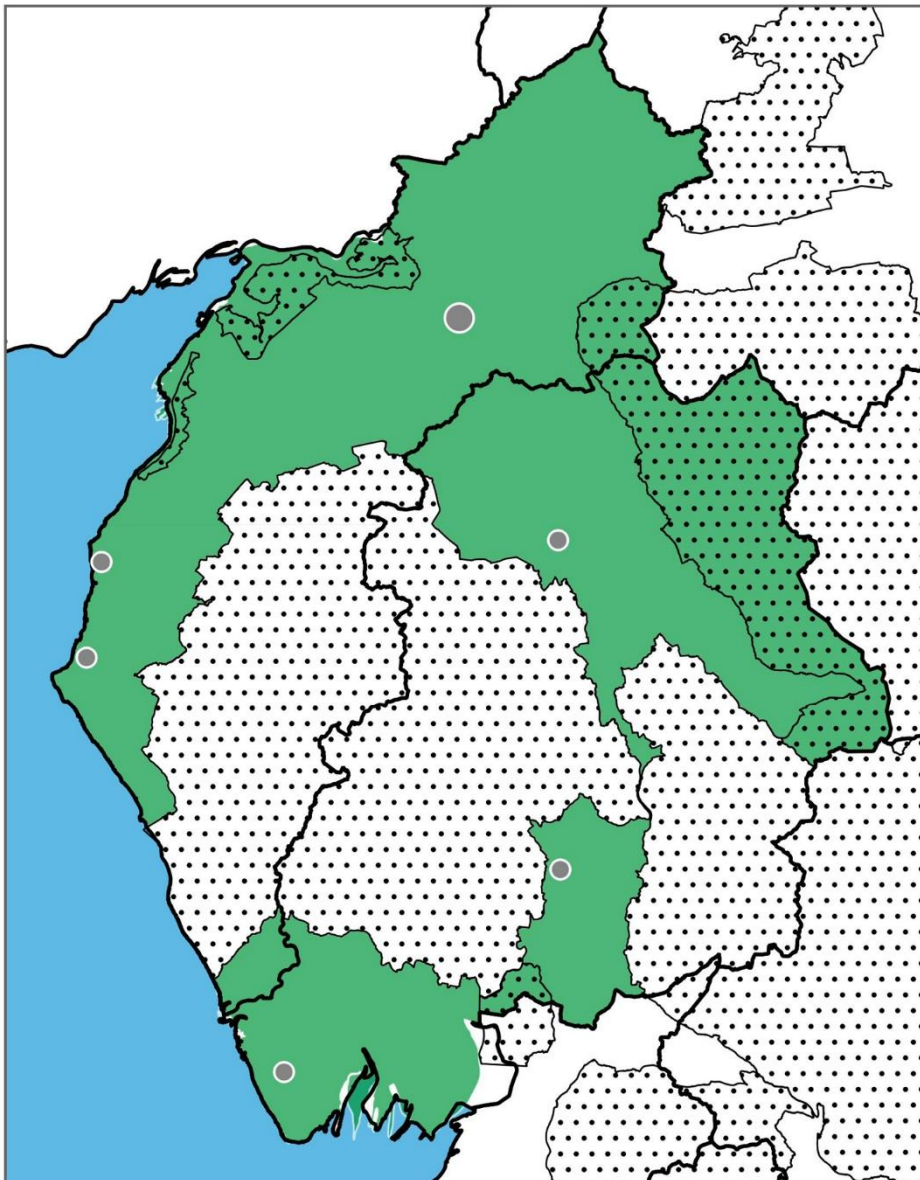


Cumbria Landscape Character Assessment (outside the National Parks)





Cumbria Landscape Character Assessment (outside the National Parks)

Project No: 111475

Version/Status: Final

Approved:

A handwritten signature in black ink, which appears to read 'D. Watkins', is written over a large, faint, circular watermark or background mark.

Project Director Name: Dominic Watkins

Date: 13/05/2026

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This document has been produced in compliance with the accessibility standards set out in the Westmorland & Furness Council documentation style guide (V0.6, May 2024).

Preface

The Cumbrian Landscape

The Cumbrian landscape has been shaped by its unique geology, topography and climate, and rich history of settlement and use of natural resources over millennia. Its diverse rural landscapes range from coastlines and estuaries, river valleys and lakes, to moorlands and high fells.

Much of the Cumbrian landscape is of national importance, specifically the Solway Coast National Landscape and parts of the North Pennines and Arnside & Silverdale National Landscapes, and includes part of the internationally recognised Hadrian's Wall World Heritage Site. The wider County includes the Lake District National Park (which is also inscribed as The English Lake District World Heritage Site), and part of the Yorkshire Dales National Park.

What is the role of Landscape Character Assessment?

Landscape character assessment is a tool for identifying the patterns and perceptual qualities that make a landscape distinct from another, rather than better or worse.

Understanding what makes a landscape distinctive is vital for informing a landscape-led approach to proposals for land management and land use change – such as woodland planting, building new houses or the siting of energy infrastructure.

What does the Cumbria Landscape Character Assessment contain?

This document sets out a landscape character assessment of Cumbria outside of the Lake District and Yorkshire Dales National Parks.

The assessment considers how the Cumbrian landscape has evolved over time in response to physical and cultural influences, and highlights the main forces for change that are likely to be influential in shaping the landscape in the future.

Thirteen different Landscape Character Types (comprising 34 Sub Types) that make the area distinctive are identified, mapped and described, and guidance is provided for managing change in each of these landscape types over the next 20 years or so.

A glossary of key terms used in the study can be found in **Appendix F**.

How will the Landscape Character Assessment be used?

As the Local Planning Authorities for Cumbria outside of the National Parks, Westmorland & Furness Council and Cumberland Council will use the landscape character assessment to inform spatial planning and development management functions within their areas.

It is also intended to support the planning and decision-making of developers, land managers, local communities and other stakeholders with an interest in shaping the future of the Cumbrian landscape.

Who prepared the Cumbria Landscape Character Assessment?

This Cumbria Landscape Character Assessment was produced by consultants CBA with the support of the client project team:

- Emily Battrick – Senior Planning Officer, Westmorland & Furness Council
- Rachel Whaley – Principal Planning Officer, Westmorland & Furness Council
- Jillian Hale – Principal Planning Officer, Cumberland Council

It was produced in collaboration with representatives of the following key stakeholders:

- North Pennines National Landscape Team/Partnership
- Arnside & Silverdale National Landscape Team/Partnership
- Solway Coast National Landscape Team/Partnership
- Lake District National Park Authority
- Yorkshire Dales National Park Authority

This document builds on and updates the Cumbria Landscape Character Guidance & Toolkit published in 2011 by the former Cumbria County Council. Photographs re-incorporated into this updated document are used courtesy of the former Cumbria County Council, Brian Irving HELM Images and Lucy Drummond.

1.0 Introduction

1.1 Background

- 1.1.1 In 2009, Cumbria County Council (CCC) working in partnership with the Cumbrian Local Planning Authorities began the review of the Cumbria Landscape Classification (published 1995/revised 2002) and the Cumbria Landscape Strategy (published 1997). Together these provided a “county-level” classification/description of Landscape Character Types/Sub-Types at 1:50,000 scale and strategy for Cumbria’s landscapes outside the Lake District and Yorkshire Dales National Parks.
- 1.1.2 It was agreed to review both documents (see **Appendix A**), and combine them into a Cumbria Landscape Character Guidance & Toolkit prepared in line with Landscape Character Assessment Guidance for England and Scotland (Countryside Agency/Scottish National Heritage, 2002).
- 1.1.3 The Cumbria Landscape Character Guidance & Toolkit was adopted by the Cumbrian Local Planning Authorities in March 2011. Part 1 provided Landscape Character Guidance for each of the “county-level” Landscape Character Types/Sub-Types, which provided a framework for more detailed “district-level” assessments that identify local Landscape Character Areas at 1:25,000 scale prepared in accordance with the Landscape Character Toolkit set out in Part 2.
- 1.1.4 The Lake District and Yorkshire Dales National Parks are separate Local Planning Authorities with their own Local Plans. Variation Orders to extend the boundaries of both National Parks came into effect on 1st August 2016.
- 1.1.5 The three Areas of Outstanding Natural Beauty (AONB) in Cumbria (North Pennines, Arnsdale & Silverdale and Solway Coast) were officially renamed as National Landscapes in 2023 as part of a rebranding of all AONBs.
- 1.1.6 On 1st April 2023, the two-tier authority system in Cumbria, made up of six district councils and the County Council, was replaced with two new unitary authorities:
- Cumberland Council (covers former areas of Allerdale, Carlisle and Copeland)
 - Westmorland & Furness Council (covers former areas of Barrow, Eden and South Lakeland)
- 1.1.7 Both new Councils are the Local Planning Authorities for the areas outside the National Park Authorities.

1.2 Purpose

Need for the Review

- 1.2.1 The Councils agreed that a review of the Cumbria Landscape Character Guidance & Toolkit was needed to reflect key changes over the last 14 years or so, including:
- Extensions to National Park Authority boundaries
 - Rebranding of AONBs as National Landscapes
 - Local authority reorganisation in Cumbria and preparation of new Local Plans
 - Recent forces for change that have shaped the landscape over the last decade or so, and current national policy and legislative drivers for future change
 - Current best practice landscape character assessment guidance
 - Updated landscape character assessments for National Landscapes and National Parks within Cumbria
- 1.2.2 In 2025, the Councils commissioned CBA to undertake a “light touch” desk-based review of the Cumbria Landscape Character Guidance Part 1 (see **Appendix A**), and to produce an updated Landscape Character Assessment for Cumbria in line with Natural England current best practice guidance (2014).

Uses

- 1.2.3 The updated Cumbria Landscape Character Assessment aims to provide the Local Planning Authorities, land owners and managers, developers and communities with an understanding of the character of the Cumbrian landscape when considering proposals for change. It provides a strategic framework to help protect, manage and plan changes to maintain and enhance the distinctiveness of Cumbria’s landscapes outside of the National Parks.
- 1.2.4 In line with Planning Practice Guidance on the Natural Environment¹, the updated Cumbria Landscape Character Assessment can support the Cumbrian Local Planning Authorities in exercising their functions, in particular by providing:
- Up-to-date landscape evidence to inform spatial land use planning and policy formulation as part of the Local Plan process
 - Landscape guidance to inform decision-making as part of the development management process
 - A foundation for informing Landscape Sensitivity Assessments of potential Local Plan site allocations
 - Baseline information for informing Landscape and Visual Impact Assessments of proposed development

¹ www.gov.uk/guidance/natural-environment#landscape

Policy Context

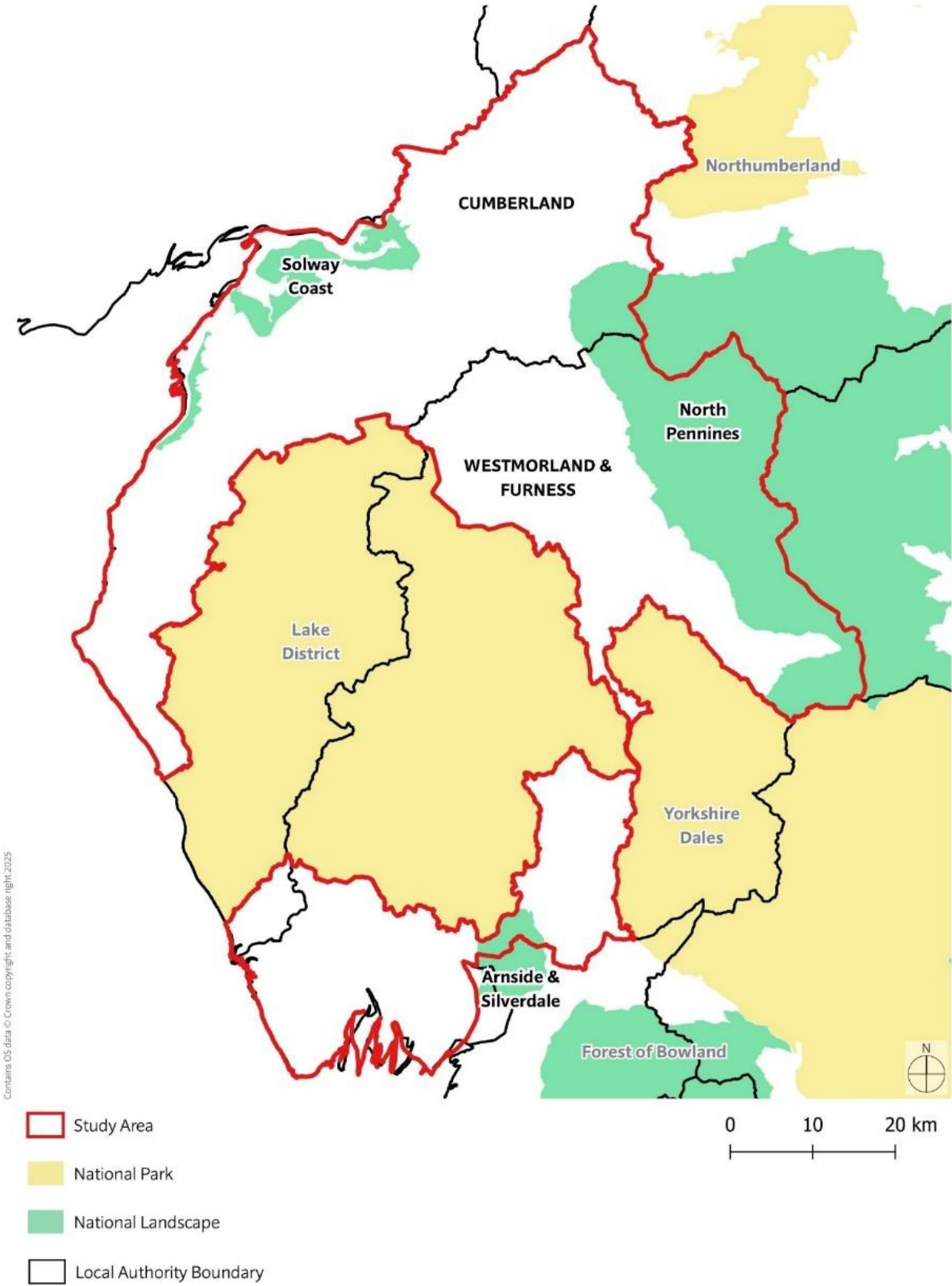
- 1.2.5 **Appendix B** outlines the national planning policy framework related to landscape character and Protected Landscapes (National Parks and National Landscapes) in England. It also sets out the statutory frameworks for Protected Landscapes, and nature and environmental improvement.

Study Area

- 1.2.6 As shown on **Map 1.1**, the Study Area encompasses all of the Solway Coast National Landscape and parts of the Arnside & Silverdale and North Pennines National Landscapes (see overview in **Appendix C** for information).
- 1.2.7 The Study Area does not cover those parts of the Lake District and Yorkshire Dales National Parks within Cumberland and Westmorland & Furness, as these are covered by separate Landscape Character Assessments produced by the National Park Authorities.
- 1.2.8 The Study Area also excludes the main urban areas in Cumbria (see **Map 3.1** in **Section 3.0**).

For the purposes of this Landscape Character Assessment, the Study Area is also referred to as “Cumbria” or the “Cumbrian landscape”. The term “County” is used to refer to the Cumberland and Westmorland & Furness council areas as a whole, including those parts of the Lake District and Yorkshire Dales National Parks within the councils’ areas.

Map 1.1: Cumbria Landscape Character Assessment Study Area



1.3 The Landscape Character Approach

All Landscapes Matter

- 1.3.1 The European Landscape Convention² definition of landscape (**Box 1.1**) recognises that landscape exists and whether they are ordinary, degraded or outstanding “all landscapes matter” as part of everyone’s shared inheritance.

Box 1.1: Definition of Landscape

‘An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors that can include natural, rural, urban and urban fringe areas; land, inland water and marine areas; and landscapes that might be considered outstanding as well as everyday or degraded landscapes.’

- 1.3.2 In line with the Convention, Natural England promotes the principle that landscapes everywhere play a part in forming the setting to people’s everyday lives, and should be protected, managed and planned to support social, economic and environmental goals, including well-being and nature recovery.
- 1.3.3 Cumbria has some of the most iconic, highly valued upland and coastal protected landscapes in the UK. Outside of these designated areas, the county also has distinctive landscapes that are valued locally, including the countryside close to where most people live in and around towns and villages. All Cumbria’s landscapes matter because they can have:
- Economic value – providing the setting for economic activity, in particular farming and forestry, and often being a key driver in attracting/retaining businesses and supporting tourism
 - Community and social value – contributing to a sense of belonging and well-being, and bringing enjoyment and inspiration to residents, workers and visitors
 - Environmental and cultural value – providing space for nature, and as a cultural record of society's use of land and natural resources
- 1.3.4 Over the last decade in England, there has been a shift in emphasis away from including non-statutory local landscape designations in local plans for protecting valued landscapes, in favour of a landscape character approach supported by criteria-based policies for protecting sensitive landscapes from inappropriate development, whilst actively promoting enhancement of local character and distinctiveness in all areas. This flexible approach has assisted local planning authorities in the planning, development and management for all landscapes, and not just those previously considered to be more highly valued.

² The UK is a signatory to the 2004 [Council of Europe Landscape Convention](#) (known as the European Landscape Convention), as amended by the 2021 Protocol, which came into force in the UK in March 2007 and July 2021 respectively.

Landscape Character Assessment

- 1.3.5 The current approach to landscape character assessment in England promoted by Natural England³ follows a well-established process developed over many years. The definition of landscape character (**Box 1.2**) set out in the Natural England guidance reflects the approach promoted by the European Landscape Convention.

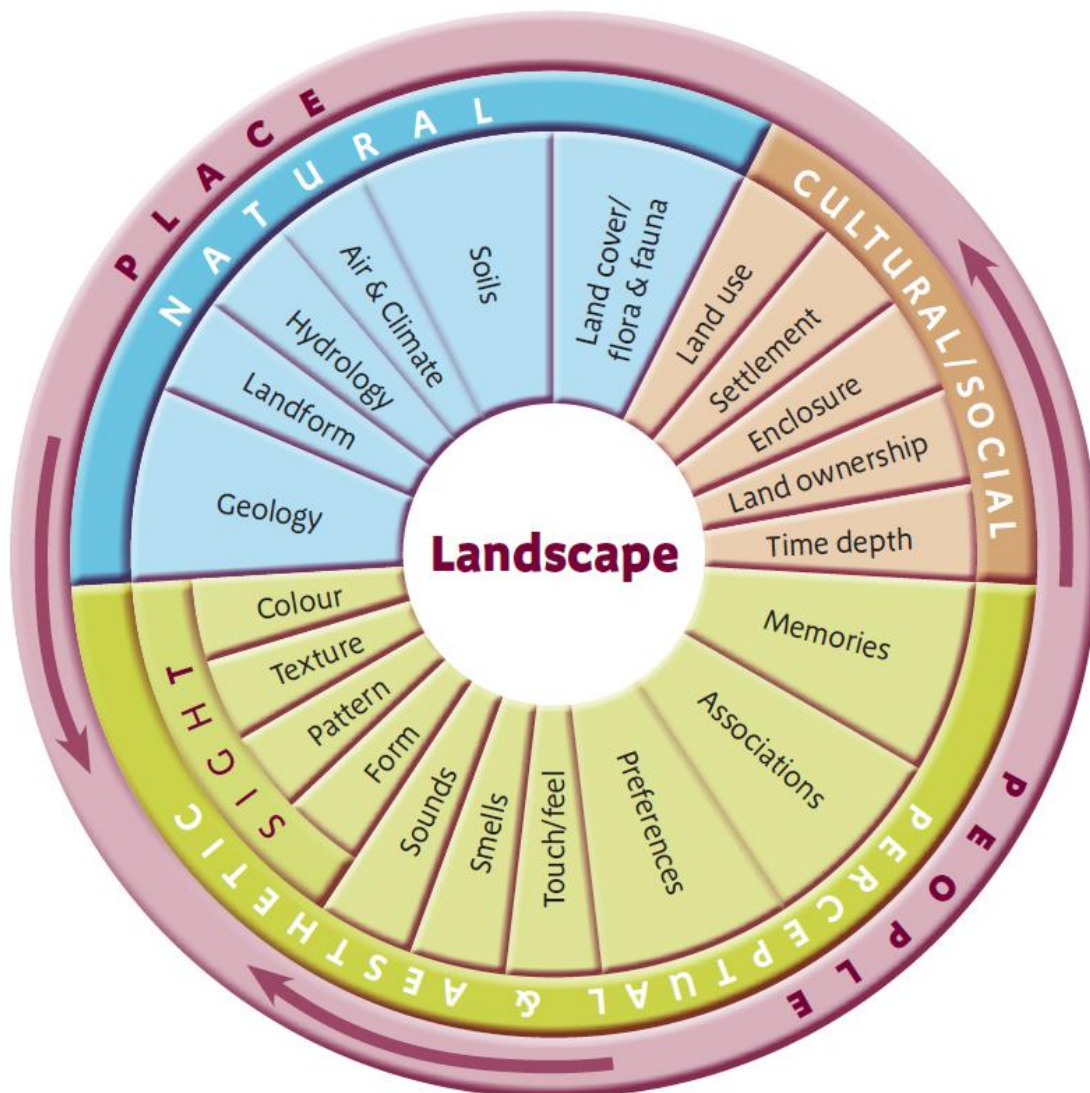
Box 1.2: Definition of Landscape Character

'The distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.'

- 1.3.6 Landscape is not simply about the view. It reflects the relationship between people and place, and the part it plays in forming the setting to our everyday lives. It is a product of the interaction of the natural and cultural components of the environment, and how they are understood and experienced by people.
- 1.3.7 Landscape character assessment is the process of identifying, mapping and describing variations in different types or areas of landscape character. It seeks to explain the interplay of natural, cultural/social and perceptual/ aesthetic (including visual) attributes in creating distinctive landscapes (**Diagram 1.1**).
- 1.3.8 An integrated understanding of landscape character assists informing judgements and decisions concerning management of landscape change. Landscape character assessment is an essential foundation for developing strategies, plans and guidance to help conserve, enhance and/or restore valued landscapes (or to inform the creation of new character where appropriate).
- 1.3.9 Natural England also promotes an approach to seascape character assessment⁴ for informing regional marine plans developed by the Marine Management Organisation.

³ [An Approach to Landscape Character Assessment \(Natural England, 2014\)](#)

⁴ [An Approach to Seascape Character Assessment \(Natural England, 2012\)](#)

Diagram 1.1: The Attributes of Landscape Character⁵

Landscape and Visual Impact Assessment

- 1.3.10 Landscape and visual impact assessment is a process for demonstrating the likely effects of a proposed development on the character of the landscape and amenity of visual receptors, normally undertaken in support of applications for planning/development consent.
- 1.3.11 The current approach to undertaking landscape and visual impact assessments in the UK is set out in best practice guidelines published by the Landscape Institute/Institute of Environmental Management & Assessment in 2013⁶.

⁵ An Approach to Landscape Character Assessment (Natural England, 2014)

⁶ Guidelines for Landscape and Visual Impact Assessment – GLVIA3 (LI/IEMA, Third Edition, 2013)

Landscape Sensitivity Assessment

- 1.3.12 Landscape sensitivity assessment is a spatial planning tool for understanding the likely effects of different development scenarios on landscape (see Glossary in **Appendix F** for details). The current approach to Landscape Sensitivity Assessment promoted by Natural England⁷ sets out a process for using evidence from a Landscape Character Assessment to show how susceptible/resilient a landscape might be to change.
- 1.3.13 The results of the assessment can be used to inform a plan, policy or strategy for land use change, such as the type/scale of housing or renewable energy development that might be able to be accommodated in a particular location without compromising valued landscape characteristics. For example, the 2021 Landscape Character Assessment of the Copeland Local Plan Area⁸ includes an assessment of the landscape sensitivity of areas around settlements to housing development, undertaken in accordance with the Natural England guidance.

1.4 Relationships with other Landscape Character Assessments

- 1.4.1 When considering proposals for change that might affect a National Landscape in the Study Area, the Cumbria Landscape Character Assessment should be used in conjunction with the following assessments to inform decision-making:
- Solway Coast Landscape & Seascape Character Assessment
 - Arnside & Silverdale Landscape & Seascape Character Assessment
 - North Pennines Landscape Character Framework
- 1.4.2 Where a proposal for change might impact on the setting of a National Park bordering the Study Area, the following should be used to inform decision-making:
- Lake District Landscape Character Assessment
 - Yorkshire Dales Landscape Character Assessment
 - Northumberland Landscape Character Assessment
- 1.4.3 These National Landscape and National Park landscape character assessments provide more local detail on landscape character types/areas and guidelines for managing change within and adjacent to their boundaries. Information on the special qualities that contribute to why these areas are designated as National Landscapes or National Parks can be found in their respective statutory Management Plans (see **Appendix E** for details).

⁷ [An Approach to Landscape Sensitivity Assessment \(Natural England, 2019\)](#)

⁸ [Copeland Local Plan Area Landscape Character Assessment of Landscapes Beyond the Main Areas of Settlement \(2021, HDA for Copeland Borough Council\)](#)

- 1.4.4 The relationship between the Cumbria Landscape Character Assessment classification and those of the landscape character assessments for the National Landscapes and National Parks is set out in **Appendix D**.
- 1.4.5 Where parish/town councils have produced more detailed local landscape character assessments to inform neighbourhood plans, these should also be used when considering proposals for change in and around villages and towns.

2.0 Evolution of the Landscape and Forces for Change

2.1 Overview

- 2.1.1 While Cumbria is the third largest County in England, it is the least densely populated with only 73 inhabitants per square kilometre.
- 2.1.2 Cumbria has been and always will be a dynamic and changing landscape. Changes over time have contributed to the predominately rural character of Cumbria's landscapes, which will inevitably continue to evolve in the future through natural and human influences.
- 2.1.3 This section summarises the main physical influences and human/cultural influences that have shaped the evolution and character of the Cumbrian landscape, and highlights some of the key forces for change that are likely to influence change in the future.
- 2.1.4 It builds upon information from the 2011 Cumbria Landscape Character Guidance & Toolkit, updated to reflect current national and local policy that are likely to be key drivers of future landscape change.

2.2 Physical Influences on the Landscape

Geological and Geomorphological Processes

Box 2.1: Overview of Cumbria's Geology and Geomorphology

The high fells and uplands of the Lake District dominate the County and comprise Ordovician marine sediments and outpourings of lava and ash from volcanoes. Large masses of igneous rock were intruded into these rocks during the early Devonian Period. This geology is mainly found in the Lake District National Park.

Surrounding the central core of the Lake District is a ring of rocks spanning the Carboniferous Period. These include the distinctive Carboniferous Limestone, which forms the limestone scenery of the Kent Estuary area and the Cumbrian part of the Yorkshire Dales area around Kirkby Lonsdale.

The overlying Upper Carboniferous sandstones and shales of the Millstone Grit, and the mudstones, shales and sandstones of the Coal Measures, form a broad band of outcrop from the coast north of Whitehaven to the north of the Lake District. The lower land around the Solway Firth in north Cumbria, the Carlisle Plain and Vale of Eden are floored by mudstones and sandstones of Permian and Triassic age. These outcrop on the coast in the St Bees area, where they form the well-known red sandstone cliffs.

The Cumbrian landscape (including the mountains and valleys of the Lake District) were shaped by the enormous erosive forces of the glaciers and ice sheets of the Ice Ages of the past 500,000 years. Huge amounts of material were deposited by

the ice sheets over the landscape leading to the formation of drumlins and the undulating and hummocky lower-lying ground around and between the Lakeland Fells and the North Pennines. This has resulted in very limited outcrops of the underlying rocks in these areas.

- 2.2.1 The main geological formations and geomorphological processes that have had a profound influence on the shape and character of the Cumbrian landscape within the Study Area are summarised in **Box 2.1**, and explored in more detail below set within the context of the County as a whole where appropriate.

Ordovician

- 2.2.2 Rocks of Ordovician age (495-443 million years ago) form the characteristic mountains, radiating ridges, steep scarps and glaciated valleys of the high fells of the Lake District adjacent to the Study Area. Two main groupings of Ordovician rocks are present. In the northern part of the Lakes, the rounded bulk of the hills of the Skiddaw area are formed by the mudstones and siltstones of the Skiddaw Slates. These were deposited in a deep-water basin and yield the fossils of a group of extinct, planktonic, colonial animals known as graptolites.
- 2.2.3 The second and overlying group, of Ordovician age is the Borrowdale Volcanic Group, which form the central core to the Lake District and the rugged mountains of Helvellyn and the Scafell range. The Borrowdale Volcanic Group comprises a thick sequence of lavas and tuffs (ash falls), which were the product of an extended period of violent volcanic eruptions. The volcanoes would have rapidly built up their cones well above sea-level, so that most of the debris, which included ash falls and lavas, fell on land whilst the fine-grained tuffs were probably deposited in water.
- 2.2.4 Following the extrusion of the rocks of the Borrowdale Volcanic Group, there was a period of considerable earth movement and erosion, before the return of marine conditions and the deposition of the limestones and associated sandstones, tuffs and lavas of the Windermere Super Group. The shallow water limestones of the Windermere Super Group yield fossil brachiopods and trilobites and outcrop in a narrow band at the southern end of the Borrowdale Volcanic Group outcrop and as isolated areas at Cross Fell and to the west of Ulverston.

Silurian

- 2.2.5 Marine conditions continued into the Silurian (443-417 million years ago) and deposition carried on without a break from the Ordovician. A series of mudstones, sandstones and silts were deposited, which contain fossil graptolites, brachiopods and trilobites. These rocks now form the gentler landscapes of the southern Lakes, outcropping from Ambleside southwards to a line running approximately between Ulverston and Kirkby Lonsdale.

- 2.2.6 The sequence of Silurian rocks exposed across the Southern Lakes show that the marine basin in which they were deposited gradually filled with sediment over time, so there is a change from deeper water muds in the Lower Silurian through to shallow water sandstones and onset of more continental conditions in the Upper Silurian and the beginning of the Devonian Period.

Devonian

- 2.2.7 The Devonian (417-354 million years ago) was a period when much of Britain, apart from south-west England, formed part of a large continental landmass. In Cumbria there are no continental deposits of this age, however, the Devonian was marked by a great phase of mountain-building (the Variscan Orogeny). This compression of the crust resulted in uplift of the land in the Lake District and buckling of the earlier rocks, which is still discernible, despite later periods of folding.
- 2.2.8 Associated with these earth movements was the intrusion of large amounts of igneous rock. After repeated phases of deposition and erosion, the previously deeply buried igneous masses are now exposed at the surface. These include the granite masses of Shap, Skiddaw and Eskdale (the largest granite body in the Lake District), as well as igneous masses around Ennerdale, Buttermere, Wastwater and Carrock Fell adjacent to the Study Area.

Carboniferous

- 2.2.9 The end of the Variscan mountain-building phase resulted in the formation of a new land surface, on which the deposition of sediments began again in the late Devonian or early Carboniferous (354-290 million years ago) following the encroachment of the early Carboniferous sea. In Northern England and southern Scotland, the land over which the sea transgressed comprised a series of blocks and troughs or basins. Greater thicknesses of sediment were deposited in the troughs than over the blocks which tended to remain as relatively stable, shallower, areas throughout the Carboniferous. Much of Cumbria lay over what was then one of these block areas and this influenced deposition during this period.
- 2.2.10 Apart from the south-west Cumbrian coast, rocks of Carboniferous age form a broad swathe of outcrop around the older core of the Lake District. The oldest rocks of the area belong to the Carboniferous Limestone Series. These rocks are composed of limestones, sandstones and shales deposited in a shallow marine-estuarine environment, and outcrop in south Cumbria in the Ulverston-Furness area, in a broad lobe between the Kent Estuary, Kirkby Lonsdale and up to Kendal and then in a broad band following the eastern and northern rim of the Lake District from Ravenstonedale, north-westwards to Penrith and then around the north of the Lakes to Cockermouth.
- 2.2.11 The Carboniferous Limestone is overlain by the Millstone Grit Series. In this area of England, the differences between the Millstone Grit and the older Carboniferous Limestone are less marked than further south, with sandstone common in the

Carboniferous Limestone and limestone present in the Millstone Grit. In Cumbria, the Millstone Grit series consists of a series of limestones, marine shales and sandstones, and the 'Millstone Grit' itself, thick coarse-grained sandstones, siltstones and mudstones. These rocks were deposited in the late Carboniferous (approximately 300 million years ago) in a coastal environment where large river deltas were building out into the shallow marine waters. Continuing deposition over the millennia led to the further building out of the deltas and the formation of an extensive low-lying, swampy land area in which the succeeding Coal Measures were deposited.

- 2.2.12 The Lower and Middle Coal Measures outcrop in north-west Cumbria from the coast at Whitehaven to Maryport and then easterly to south-east of Wigton. The rocks of the Coal Measures show a repeated coal, sandstone and mudstone cycle which reflects relative changes in land and sea level. The coals represent the fossilised remains of swamp vegetation which grew as luxuriant forests on the deltas, while the mudstones were deposited under shallow marine conditions. These Coal Measures contain the workable coals of the West Cumbria Coalfield.

Permian and Triassic

- 2.2.13 The Permian (290-248 million years ago) and Triassic (248-205 million years old) Periods in Cumbria are represented by red mudstones and sandstones that outcrop in a broken ring around the Lake District, from the south-west coast (south of Whitehaven) to the Solway Firth, Carlisle and the Vale of Eden. However, although these rocks have a relatively extensive area of outcrop, apart from at the coast, the solid rock geology rarely emerges from beneath a thick covering of glacial and post glacial deposits.
- 2.2.14 The Permian-Triassic rocks of Britain were deposited under arid conditions over a large desert plain with numerous basins and mountain ranges. In South Cumbria breccias and overlying marine or brackish water mudstones and limestones are probably of Permian age and represent deposits on the edge of the so-called Bakevellia Sea, a shallow sea that filled much of the present-day Irish Sea basin. Thick sandstones formed by desert dunes are also present, particularly in the Vale of Eden.
- 2.2.15 Lower Triassic sandstones, such as those exposed at St. Bees on the west coast represent the deposits of large, braided rivers that crossed the desert plain. These are overlain by the Mercia Mudstone Group, which comprise mudstones, sandstones and thin horizons of gypsum and rock salt. These rocks form the solid geology to north Cumbria along the shore of the Solway Firth to the River Eden estuary.

Quaternary

- 2.2.16 Over the last two million years the climate of Britain has varied tremendously with periods of temperate climate interrupted by repeated advances and retreats of

glaciers and ice sheets. Collectively these periods have become known as the Ice Age (Britain is still in one of the temperate phases) and the actions of the ice sheets have been instrumental in forming the landscape seen today.

- 2.2.17 Much of the bedrock geology of Cumbria is mantled by sediments deposited during the Ice Age by ice sheets moving over the area or from glaciers originating in the Lake District. There is a vast array of glacial deposits, mainly of till (boulder clay) lying over the surface of the Cumbrian landscape, deposited from beneath ice sheets and glaciers. The composition of the till varies depending on where the main ice flow was from, so that till over parts of northern Cumbria contains material derived from Scotland, while the Carlisle Plain received ice and its debris from the north, south and probably east.
- 2.2.18 During the melting of the last ice sheets and glaciers, over some 15,000 years, large amounts of material were released and transported by the meltwaters to form large spreads of fluvio-glacial sand and gravel deposits. Arctic, tundra-like conditions would have prevailed for the first few thousand years and during this time earlier glacial deposits would have been subject to repeated freezing and thawing leading to the formation of deposits of shattered bedrock (known as head) and large scree deposits. The presence of large amounts of glacial material also led to modifications in the course of streams and rivers.

Soils

- 2.2.19 Cumbria's upland soils are typically shallow, very acidic and peaty over rock, with high rainfall washing nutrients from the soil leaving them infertile, thin and prone to erosion on steep slopes. Base-rich soils are found on the Carboniferous Limestone around the Orton Fells, and on the western flanks of the Pennines.
- 2.2.20 Lowland areas of Cumbria, such as the coastal plain and river valleys (e.g., the Eden Valley and around Morecambe Bay) have deeper, more fertile soils. These include freely draining, slightly acid, loamy soils called cambisols, and slowly permeable, seasonally wet, slightly acid but base-rich, loamy and clayey soils called stagnosols.

Hydrology

- 2.2.21 Approximately 10,000 years ago, Cumbria was freed from ice and sea levels rose to current levels. The rivers developed from vast braided systems emanating from the ice sheet margins during the ice ages. In the upland areas, rivers are often "misfit" streams located in the glacial trough valleys or locally follow deeply incised meltwater channels, often crossing earlier watersheds and diverting drainage. In the lowlands, completely new river and estuarine systems developed after the last ice age on the till and glacial outwash plains.
- 2.2.22 The networks of becks and rivers radiate out from the central fells of the Lake District and meander through the main valleys, predominantly towards the Solway Firth, Duddon Estuary or Morecambe Bay. The river systems are all relatively short,

reflecting the proximity of the upland sources to the coast. The becks flow down the hillsides into the deeper and wider valleys, where they join the main rivers. The principal rivers in Cumbria include the Eden, flowing north to the Solway Firth; the Derwent, draining the western Lakes; the Kent, flowing through Kendal to Morecambe Bay; and also the Lune, Eamont, Cocker and the river Leven.

2.3 Human and Cultural Influences on the Landscape

2.3.1 As well as millennia of geological, geomorphological and hydrological changes, Cumbria's landscapes have been shaped by successive periods of human settlement and cultivation over at least the last 10,000 years. The main human and cultural influences on the Cumbrian landscape within the Study Area are explored below, set within the context of the County as a whole where appropriate.

Prehistoric Cumbria

2.3.2 The post-glacial landscape would have included extensive tracts of low-lying land, now submerged, as sea water locked up in the ice melted, and sea levels rose. A succession of trees re-colonised the former glaciated land, until mixed woodland covered much of the drier ground, with alder-rich fen on lower lying areas. Charcoal, alongside changes in the pollen record, suggest small-scale clearances were made into this woodland, possibly by the Mesolithic hunter-gatherers, but that these regenerated relatively quickly.

2.3.3 The Neolithic period (4000-2500 BC) witnessed an increasing reliance on domesticated animals and crops by human groups, although this adaptation was drawn out over many centuries. Small-scale woodland clearances are evident but usually regenerate, and there is significant tree cover throughout this period, with no evidence of formally demarcated permanent plots or fields.

2.3.4 There is some evidence of increased tree clearance throughout the Bronze Age, and this may be linked with climatic deterioration and less productivity in the uplands. Many of the upland cairn fields and linear stone banks may date from this period, suggesting that for the first time people were physically marking boundaries with permanent structures involving significant labour. This expression of tenure may also be related to more scarce land resources, and a more sedentary population. Although present, cereals are still rare in the pollen record, however, and a significant degree of pastoralism is likely. Pollen evidence shows that there was a notable increase in the areas of woodland cleared during the later Iron Age.

Roman Cumbria (c.43AD-410AD)

2.3.5 Many archaeologists believe that by the time the Roman army pushed northwards into modern-day Cumbria, they were already aware that there was an agricultural system in place that could provide for many of their needs, through taxing the native population. A significant increase in the level of tree clearance and the

presence of cereals at the end of the Iron Age, and increasing into the Roman period, suggest that this was indeed the case. The landscape the Roman army encountered is likely to have been occupied by small arable fields, extensive tracts of pasture, interspersed by small farmsteads.

- 2.3.6 The Roman military constructed a road system across the county to facilitate the movement of troops and supplies between their forts and stations, and in turn civilian settlements grew up around the forts to service them, these are known as vici. Some of these settlements were as large as medieval towns and probably had urban functions. Carlisle, the civic capital of the Carvetii was perhaps the only settlement that could be classed as a significant urban centre in Roman Cumbria and certainly is the only Roman centre to have significantly influenced later urban landscape development. It is unclear how much direct control the Roman military took over agricultural production, but it is likely to have intensified at this time, to meet the demands of a larger population. The larger enclosed farmsteads in the county suggest that some large nucleated farms or estates evolved at this time.
- 2.3.7 Pollen evidence suggests that there was some regeneration of woodland and scrub in the early medieval period, but this is unlikely to represent a wide-scale depopulation following the end of the Roman economy. Clearly, even in the north there was at least a high subsistence arable element to the agricultural economy, alongside cattle and sheep pastoralism, which will have dominated the uplands.

Early Medieval & Medieval Cumbria (c. 410AD-1500AD)

- 2.3.8 Recent research suggests that the largely dispersed pattern of settlement established in the Iron Age continued on through the Roman period into the early Medieval period. There is some evidence to suggest an intensification of settlement in the upland valleys, probably in part associated with incoming Norse settlers. This led to the creation of new dispersed farmsteads in the 10th and 11th centuries, and the proliferation of seasonal settlements usually known as scales in Cumbria but shielings in the North East.
- 2.3.9 The collapse of the Roman economy seems to have caused the demise of the vici with evidence coming only from Carlisle and Birdoswald for significant post-Roman settlement within the vici and/or Roman forts. Carlisle may have formed the only significant settlement nucleation in Cumbria between the 5th and 12th centuries.
- 2.3.10 A major re-planning of the landscape and settlement pattern appears to have occurred in the 12th century following the Norman occupation of Cumbria. To a large extent this established the rural settlement pattern still visible today in many areas. Throughout the Eden valley, the Solway Plain and much of the western coastal plain and Low Furness, planned regular villages and hamlets were laid out surrounded by common fields. These settlements and landscapes are very similar to those established at the same time over much of north-eastern England and are a variant of the type of planned medieval settlement considered so typical of the English Midlands.

- 2.3.11 In much of the uplands the dispersed settlement pattern established by the 10th and 11th centuries continued, with a new wave of permanent colonisation occurring in the 15th-16th centuries, especially in the Pennines.
- 2.3.12 Elsewhere the wooded districts that formed part of the extensive royal forests in the northern parts of Cumbria experienced the establishment of new isolated farmsteads originating as assarts in the 12th and 13th century. These and other processes gave Cumbria a mixed and complex settlement pattern by the late Middle Ages with regular planned villages dominating in some areas, hamlets in others and isolated farmsteads elsewhere.

Post-Medieval Cumbria (c.1500AD-1901)

- 2.3.13 Despite a continuous history of settlement and farming over more than 6,000 years, by the 18th century Cumbria was still dominated by large stretches of uncultivated, unenclosed land consisting of low fells, former wooded areas and mosslands as well as higher fells. Cumbria's farming landscape could justifiably be described as islands of cultivation within an ocean of unenclosed waste. Enclosure of the mosslands and lower lying open wastes accelerated hugely from the later 18th century, with enclosure brought about by Parliamentary acts. The process took about a century to complete, broadly resulting in the largely enclosed landscape of today. The fields formed as part of this process tended to have ruler straight boundaries and formed a rectilinear pattern.
- 2.3.14 Those areas which had open common arable and meadow fields in the Middle Ages, also experienced enclosure which often resulted in the preservation of some of the layout of the medieval field system through enclosed strip fields with distinctive reversed 's' curves to the longer field boundaries.
- 2.3.15 From the later 17th century, Cumbria began to experience an intensification of urban and industrial development. New ports and planned towns were established at Whitehaven and Maryport to facilitate the exploitation of the West Cumberland coalfield. Coal and iron mining and iron manufacture especially grew throughout the later 18th and 19th centuries resulting in further urban expansion.
- 2.3.16 The port and town of Barrow was established in the later 19th century to serve the iron industry and the associated engineering and shipbuilding industries that grew there. At the time along with Middlesborough it was considered to be the fastest growing town in England.
- 2.3.17 The increasing pace of industrial development from the later 18th century was regretted by some. Industrial and urban impact on the Lakeland landscape that in the 18th century had come to be seen as sublime and picturesque encouraged the growth of a counter-balancing desire to conserve 'natural' beauty. William Wordsworth for example resisted the extension of the railways into the heart of the Lake District and walked across the Cumbrian landscapes for pleasure; and Lake

District resident, Canon Rawnsley, was pivotal in founding the National Trust at the end of the 19th century.

Modern Cumbria (c.1901-present)

- 2.3.18 Within the Lake District, changes to traditional farming systems were also opposed in the early 20th century, and Beatrix Potter acquired farms in order to preserve a traditional way of life and the traditional Lakeland sheep, the Herdwick.
- 2.3.19 Protection of the Lakeland landscape from industrialisation, urbanisation and agricultural change, and to enable greater public access, was a cornerstone of the development of the conservation and access movement in England, where the demand of urban populations for access to the countryside and to nature for quiet appreciation became a political movement.
- 2.3.20 By the middle of the 20th century this movement had led to the 1949 National Parks and Access to the Countryside Act, with the designation of the Lake District National Park in 1951 and the Yorkshire Dales National Park in 1954. Subsequently, other parts of Cumbria were recognised as being of national importance for their natural beauty, with three Areas of Outstanding Natural Beauty (AONB) created that lie wholly or partly within Cumbria; the Solway Coast (designated 1964), Arnside and Silverdale (1972) and the North Pennines (1988).
- 2.3.21 Reflecting national trends in post-war town planning, urban extensions to settlements in Cumbria (especially around major towns such as Carlisle and Barrow), resulted in the growth of large housing estates (often council/social housing), suburban sprawl and development of business/industrial areas.
- 2.3.22 The Countryside and Rights of Way Act 2000 designated large areas of the County's mountain, moor and heath, and common land, as Open Access Land. This new right of public access was extended to coastal landscapes in England by the Marine and Coastal Access Act 2009. Once complete, the long-distance England Coast Path will enable people to walk along the full length of the Cumbrian coast between Gretna at the Scottish Border on the Solway Firth and Silverdale in Morecambe Bay.
- 2.3.23 In 2009, a review of the Yorkshire Dales and Lake District National Park boundaries examined options for extending and unifying these iconic landscapes. Following public consultation, variation orders to extend the boundaries around the M6 corridor encompassing Mallerstang and parts of the Howgill Fells were made in 2015 with the changes coming into effect in 2016. This resulted in extending the Lake District National Park to the east and south, and bringing more of Cumbria into the Yorkshire Dales National Park.
- 2.3.24 In 2023, the three AONBs in Cumbria were renamed as National Landscapes as part of a rebranding of all AONBs in England, Wales and Northern Ireland.

- 2.3.25 Development changes from construction projects and changes in land management relating to agriculture have traditionally been the main forces for change in the Cumbrian countryside. Significant changes continued in the latter half of the 20th century, often as a direct or indirect result of government policy, and in particular agricultural and forestry policy and grant regimes. The expansion of cities, towns and villages, improvements in infrastructure for transport, energy and telecommunications, and an increased national demand for minerals, stone, water and other resources, have all influenced Cumbria's landscapes.
- 2.3.26 The types of changes taking place within Cumbria have varied dramatically in both the rate at which they have occurred and their make-up. Major changes have taken place which have had an immediate effect on the landscape, such as large-scale forestry. Over a period of time, many smaller changes have also occurred which have had a cumulative or incremental effect on the character and appearance of the countryside, such as an increase in modern large-scale agricultural buildings.
- 2.3.27 Many of these influences have continued into the 21st century. However, as highlighted below the need to respond to the challenges of a climate change and biodiversity loss, have become major drivers of landscape change.

2.4 Forces for Change in the Landscape

- 2.4.1 As highlighted above, Cumbria's landscapes are dynamic, evolving over time in response to the prevailing environmental, social and economic conditions. This past change has created the distinctive character of the Cumbrian landscape today, which will continue to change in the future.
- 2.4.2 This section provides an overview of the key issues and forces for change that Cumbria's landscapes are facing now and are likely to face in the future (**Box 2.2**). Landscape type-specific forces for change over the next 10-20 years or so are included in the Landscape Character Type/Sub Type profiles set out in **Section 3.0**.

Box 2.2: Key Issues and Forces for Change in the Cumbrian Landscape

- Climate Change Mitigation and Adaptation
- Nature Recovery
- Green Infrastructure
- Agriculture
- Woodlands and Forestry
- Coastal Change
- Development and Land Use
- Tourism and Recreation

Climate Change Mitigation and Adaptation

- 2.4.3 Climate change is considered by the Government as the biggest environmental challenge facing the world today. The long-term shift in global temperature and increasingly unpredictable weather patterns present a range of challenges and opportunities for the entire UK.
- 2.4.4 Based on the UK Climate Projections 2018 until 2100, the long-term effects of climate change most likely to impact on Cumbrian landscapes over the next 75 years or so are highlighted in **Box 2.3**.

Box 2.3: Long-term Effects of Climate Change on the Cumbrian Landscape

- **Sea level rise** – causing coastal landscape change, flooding events and saltmarsh loss
- **Warmer, wetter winters** – leading to increased surface runoff and waterlogged areas affecting agricultural activities, and diseases such as ash die back
- **Hotter, drier summers** – stress on peatland and upland blanket bogs resulting in increased moorland fire risks, and stress on native upland vegetation/woodland
- **Increase in extreme weather events** – with more intense, frequent and high-impact rainstorms and an increase in flooding leading to increased erosion, destruction of trees and woodlands, and risk of landslides in steep valleys, and repeated impact on settlements (e.g. Keswick)
- **Long-term hydrological change** – causing shift in ecosystems and species distributions, and propagation of non-native invasive species of flora and fauna

- 2.4.5 Climate change is already happening in Cumbria. The area has experienced multiple extreme weather events over the last 20 years, including flooding in 2005, 2009 and 2015 (Storm Desmond), and extreme winds in 2021 (Storm Arwen) when thousands of trees were lost throughout the county. As the frequency and intensity of these events increases, the risk of further coastal and fluvial (river) flooding and erosion is a major concern as Cumbria is already one of the wettest regions in England. In 2022, the UK's warmest year on record, parts of Cumbria experienced a heatwave with temperatures exceeding 30°C for an extended period.
- 2.4.6 As these extreme weather events are increasingly becoming the “new normal”, the most likely consequences of the risks presented by these climatic changes for Cumbria’s landscapes include:
- Disruption to Cumbria’s “natural capital” assets and services from multiple hazards, driven by the impacts of climate change on terrestrial, freshwater, coastal and marine habitats/species, and on forestry and agriculture
 - Changes to river morphological characteristics and associated hydraulic processes, with implications for flood risk management approaches

- Increase in pests, pathogens and invasive species (for example, Himalayan Balsam, Japanese Knotweed and American Skunk Cabbage), negatively affecting priority habitats/species, forestry and agriculture
- Loss of habitats and biodiversity, decreasing the general abundance of priority species with impacts on survival of endangered and vulnerable species
- Damage to cultural heritage assets as a result of temperature, precipitation, groundwater and landscape changes

2.4.7 While more frequent and intense flooding/heatwaves are significant risks to the safety and livelihood of residents, climate change is also an increasing factor affecting Cumbria's diverse landscapes and the associated habitats/species.

2.4.8 Some of the most significant changes are likely in the upland habitats found within Cumbria. There will be an increased importance of upland habitats for biodiversity refuges as species migrate north, inland or higher up the hills and fells. It is likely that some species will become extinct in Cumbria, and new non-native species will appear.

2.4.9 Increase in peat, bracken and forest wildfires are being experienced. Soils and peat could be susceptible to drying out, releasing carbon dioxide into the atmosphere. There could be a change in grassland habitat as farming practices change, and changes in woodland habitat as species and management regimes change to support a wood fuel economy.

2.4.10 Climate change mitigation and adaptation are ways of responding to the challenges of climate change. Whilst actions to reduce carbon emissions focus on mitigating the risk of climate change, adaptation strategies aim to adjust to, and better cope with, climate change driven events that are already occurring or are expected to happen. Mitigation and adaptation measures will be needed for carbon capture/storage, flood risk management, coastal flood defences, water resources, habitat and species distribution, management of heritage assets, farming practices and energy sources.

2.4.11 Safeguarding, conserving and enhancing biodiversity is at the heart of the Cumbria Local Authorities' responses to helping communities adapt to the increasingly extreme weather that Cumbria is already facing, and to the more intense conditions the area may face in future. At the same time, taking action to limit and mitigate further climate change gives nature a better chance to recover and thrive.

2.4.12 Both Cumbria Local Authorities have declared climate and ecological emergencies. The current approaches to tackling climate change through improving the natural environment and achieving net zero are set out in the [Westmorland & Furness Climate Action Plan \(2024\)](#), [Westmorland & Furness Nature Strategy 2025-2035](#) and the [Cumberland Climate and Nature Recovery Strategy 2024-2027](#).

Climate Change Mitigation

- 2.4.13 The 2008 Climate Change Act set legally binding “carbon budgets” that provide five-year caps on total greenhouse gas emissions for the UK, which act as stepping stones towards the goal of reducing carbon emissions (originally 80% by 2050) to Net Zero by 2050. In addition to improving management of energy demand and increasing energy efficiency across all sectors, changing how energy is generated in the future can also help mitigate climate change. In order to achieve this, investment is required in a range of low carbon and renewable energy technologies such as nuclear power stations, large scale wind turbines, tidal and hydro technologies, solar and sustainably sourced wood fuel systems.
- 2.4.14 All of these technologies are either being deployed or considered in Cumbria and will need to be integrated effectively into the landscape. The need to support low carbon and renewable energy sources to achieve Net Zero could result in a change in character of the Cumbrian landscape. For example, tidal energy schemes could change the character of coastal and marine habitats and landscapes; developments to assist with carbon capture and storage and large-scale wind/solar are changing the character of Cumbria’s farming landscapes; and the future potential for additional nuclear power stations and associated grid upgrades could change the character of landscapes in some parts of the area.
- 2.4.15 Cumbria is host to Britain’s Energy Coast Business Cluster, which is working towards increasing both low carbon nuclear and renewable energy provision in the area. As the area has a relatively high wind resource and a relatively low population density, Cumbria is an area of the UK that developers have favoured for siting large-scale wind energy schemes. It is likely that developers will continue to be interested in developing more wind turbines in Cumbria, due to the national and international imperative to deliver more renewable energy in the future.
- 2.4.16 Large-scale arrays of wind turbines, both onshore and offshore, are highly visible features that can affect landscape and/or seascape character. Smaller-scale developments of one or two turbines in a sensitive landscape can also have a significant impact, both individually or cumulatively, on its special qualities and character. Accommodating them on the scale needed to meet national targets has resulted in wind turbines becoming an increasingly significant feature of landscapes and seascapes in some parts of Cumbria. The Cumbria Wind Energy Supplementary Planning Document was adopted by the Cumbrian Planning Local Authorities in 2008 to help guide the siting and design of onshore wind turbines and to indicate different landscapes’ capacity to accommodate them.
- 2.4.17 Over the last 30 years or so, numerous onshore wind farms have been built in Cumbria, primarily concentrated in West Cumbria and the Furness area⁹. Prior to 2011, sixteen onshore wind farms had been constructed within the Study Area ranging from smaller wind farms of 2-3 turbines to larger wind farms with up to 12

⁹ Source: [DESNZ Renewable Energy Planning Database](#)

turbines. As at February 2026, twelve further onshore wind farms have been constructed within the Study Area since 2011 ranging from smaller wind farms of 1-3 turbines to larger wind farms with up to 9 turbines (see **Box 2.4**).

Box 2.4: Onshore Wind Farms in Cumbria

Prior to 2011:

- Kirkby Moor nr Ulverston (4.8 MW/12 turbines) – operational 1993
- Siddick nr Workington (4.2 MW/7 turbines) – 1996
- Oldside nr Workington (5.4 MW/9 turbines) – 1996
- Harlock Hill nr Ulverston (2.5 MW/5 turbines) – 1997
- Haverigg Extension nr Millom (2.4 MW/4 turbines) – 1998
- Askam nr Askam-in-Furness (4.6 MW/7 turbines) – 1999
- Great Orton nr Carlisle (4 MW/6 turbines) – 1999
- Great Orton Extension nr Carlisle (2.3 MW/6 turbines) – 2000
- Lowca nr Workington (4.7 MW/7 turbines) – 2000
- Lambrigg nr Kendal (6.5 MW/5 turbines) – 2001
- Haverigg 2 Repowering nr Millom (1.2 MW/5 turbines) – 2004
- Winscales 1 and 2 nr Workington (8.8 MW/11 turbines) – 2004
- Eastman Chemicals nr Workington (4 MW/2 turbines) – 2006
- High Pow Farm nr Wigton (3.9 MW/3 turbines) – 2007
- Wharrels Hill nr Bothell (10.4 MW/8 turbines) – 2007
- Winscales Moor nr Workington (6 MW/7 turbines) – 2009

Since 2011:

- Fairfield Farm nr Distington (6.5 MW/5 turbines) – operational 2011
- Hellrigg nr Silloth (9.2 MW/4 turbines) – 2011
- Armistead nr Kendal (12 MW/6 turbines) – 2013
- Flimby Hall Farm nr Maryport (6.2 MW/3 turbines) – 2013
- Tallentire Hill nr Cockermouth (12 MW/6 turbines) – 2013
- Warwick Hall Farm nr Westnewton (6.2 MW/3 turbines) – 2014
- Wythegill nr Workington (2.3 MW/1 turbine) – 2015
- Potato Pot nr Workington (6 MW/3 turbines) – 2016
- Harlock Hill Repowering nr Ulverston (11.5 MW/5 turbines) – 2016
- Beck Burn nr Longtown (31 MW/9 turbines) – 2017
- Orton Park Farm nr Carlisle (1.6 MW/2 turbines) – 2017
- Hallburn Farm nr Longtown (13.2 MW/6 turbines) – 2018

2.4.18 As at February 2026, there are three consented schemes for single wind turbines awaiting construction, and four planning applications awaiting determination for onshore wind farm schemes (including three single turbine schemes and a 12 MW array of 6 turbines at Langthwaite Farm near Millom).

2.4.19 Cumbria is also home to several major offshore wind farms in the East Irish Sea, including some of the largest in the world when they were commissioned. Prior to

2011, two offshore wind farms had been constructed off the Cumbrian coast. Five further offshore wind farms have been constructed to the south-west of Barrow-in-Furness since 2011¹⁰ (see **Box 2.5**).

Box 2.5: Offshore Wind Farms off the Cumbrian Coast

Prior to 2011:

- Barrow 7km sw of Walney Island (90 MW/30 turbines) – operational 2006
- Robin Rigg East & West in the Solway Firth (174 MW/58 turbines) – 2010

Since 2011:

- Walney 1, 14km west of Walney Island (183.6 MW/51 turbines) – 2011
- Walney 2, 15km west of Walney Island (183.6 MW/51 turbines) – 2012
- Ormonde, west of Barrow (150 MW/30 turbines) – 2012
- W of Duddon Sands, 14km sw of Walney Island (389 MW/108 turbines) – 2014
- Walney 3 & 4, 16km w of Walney Island (659 MW/87 turbines) – 2018

2.4.20 As of September 2024, plans were being developed for the Collette offshore wind farm, a 1.2 GW scheme of between 80-100 turbines located west of Seascale.

2.4.21 Since 2011, both small and larger-scale solar photovoltaic farms have become an increasingly frequent feature of Cumbria's lowland and coastal landscapes. As at February 2026, fifteen solar farms have been constructed within the Study Area since 2011¹¹ (see **Box 2.6**).

Box 2.6: Solar Farms in Cumbria

- Roanhead Farm nr Barrow (6.5 MW/unknown sqm) – operational 2015
- Aspatria nr Wigton (19 MW/139,000 sqm) – 2015
- Orton Park Farm nr Carlisle (6.4 MW/4,500 sqm) – 2016
- Land West of Welton Road nr Carlisle (4.4 MW/5,000 sqm) – 2016
- Greaves Farm nr Kendal (5 MW/unknown sqm) – 2016
- Moorhouse Farm nr Workington (5 MW/113,400 sqm) – 2016
- Moss Thorn Farm nr Penrith (5.8 MW/unknown sqm) – 2017
- St Helen's Lane nr Maryport (5 MW/unknown sqm) – 2017
- Land at Wreay nr Penrith (5 MW/6,800 sqm) – 2017
- Sowerby Lodge Farm nr Barrow (5 MW/154,000 sqm) – 2018
- Kingmoor Park nr Carlisle (5 MW/unknown sqm) – 2020
- South Stilling Tanks nr Kendal (0.5 MW/unknown sqm) – 2021

2.4.22 As at February 2026, there are eight consented solar photovoltaic farms awaiting construction (mainly smaller capacity schemes between 0.25 and 3 MW with the

¹⁰ Source: www.renewableuk.com/energypulse/ukwed/

¹¹ Source: [DESNZ Renewable Energy Planning Database](#)

exception of a larger 20 MW array at High Parkfoot Farm near Carlisle); and ten planning applications awaiting determination for larger capacity schemes between 10 and 150 MW (including Barrow Energy Dock, the UK's largest floating solar farm at Cavendish Dock in Barrow).

- 2.4.23 The energy generated by the increasing number and capacity of both wind and solar farms within the Study Area is also driving the growing demand for Battery Energy Storage Systems (BESS), which enable excess renewable energy to be stored for discharge during periods of high demand. Planning applications for two BESS developments were approved in 2025, and further planning applications are currently awaiting determination.
- 2.4.24 Large-scale biomass planting will also be a renewable energy source that is likely to influence the character of the Cumbrian landscape over time, particularly where large plantation blocks of coniferous or short rotation forestry plantations are planned. A large-scale initiative involving farmers in Cumbria and Scotland growing Short Rotation Coppice willow to supply a biomass-fired combined heat and power plant in Workington has been established for over 10 years¹². Miscanthus (elephant grass) is a bioenergy crop that produces fast growing 3-4m tall, dense and "bamboo-like" grass year-round, and its extensive cultivation may also change the character of Cumbria's agricultural fieldscapes over time.
- 2.4.25 In addition to renewable energy, proposals for nuclear power stations along the Cumbrian coast to support low carbon energy goals could create both a localised and west coast wide change to coastal landscape character, and in particular change views significantly from key Lakeland peaks.
- 2.4.26 To support existing and future energy needs the current electricity grid will require upgrading around Cumbria. The Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) could result in additional large pylons and substations across some areas. Although sections could be buried underground this is costly and it is likely that much of the upgraded grid would continue to be on pylons above ground. This could affect the character of many landscapes as the grid upgrades are likely to span the whole of Cumbria. The technology to support an offshore underwater grid that could link to new nuclear energy and offshore renewable energy alike is unlikely to come forward in the foreseeable future.

Climate Change Adaptation

- 2.4.27 Although climate change is a significant threat to Cumbria's landscapes and biodiversity, the natural environment has a significant role to play in providing "nature-based solutions" to help adapt to and manage the risks and impacts of a changing climate through the ecosystem services they support.

¹² <https://bioenergyinternational.com/iggesunds-use-of-energy-crops/>

2.4.28 In addition to halting the decline in biodiversity, the restoration and enhancement of wildlife-rich habitats can help provide wider environmental and landscape benefits by significantly enhancing ecosystem services (the benefits that humans receive from natural ecosystems), and supporting more resilient ecosystems/communities in the face of critical global environmental challenges.

2.4.29 Examples of nature-based solutions that can also help to strengthen the character of Cumbria's landscapes include:

- Restoring habitats boosts biodiversity and supports essential functions like pollination, water purification and soil fertility, which creates stronger ecosystems capable of withstanding climate change and pollution
- Making habitats more resilient to climate change at a landscape-scale, for example by adopting a catchment-based approach to using woodlands and wetlands to help slow the flow of run-off into river systems
- Conserving and restoring peatland and upland blanket bog habitats (such as landscape-scale peatland restoration projects being delivered by the Cumbria Peat Partnership as part of the Great North Bog initiative), which helps to mitigate climate change by storing carbon, regulate water cycles to reduce flood and drought risks, reduce soil erosion to maintain productivity of farm businesses and improve air quality, benefiting environmental health and human well-being
- Revitalizing and transforming degraded landscapes in and around urban areas into biodiversity-rich multifunctional green spaces that offer natural buffers against extreme weather, and help reduce urban heat island effects
- Expanding networks of wildlife-rich habitats to provide recreational and educational opportunities, fostering community connections with nature and raising conservation awareness, and increasing access to nature, has significant health and wellbeing benefits from reduced stress and improvements in physical health
- Enhancing the aesthetic/recreational values of nature and landscapes to promote ecotourism, generating economic benefits and encouraging sustainable land use

2.4.30 The **sections** below **highlight the** role **that different mechanisms can** play in delivering climate change mitigation and adaptation, and in shaping Cumbria's future landscapes.

Nature Recovery

2.4.31 In line with national trends, Cumbria is experiencing a significant decline in biodiversity. Despite a long tradition of landscape and nature conservation, biodiversity remains under threat from climate change, habitat loss and fragmentation, changing land uses, invasive non-native species, disease, pollution and pressure from recreational activities. Many of Cumbria's native habitats and species remain at risk or are experiencing declines in their populations or declines

in their natural ranges. While the causes of biodiversity loss are multiple, interlinked and often human-driven, most are potentially reversible to a degree.

- 2.4.32 Cumbria is one of 48 areas in England that are required by the Environment Act 2021 to have a Local Nature Recovery Strategy. The county-wide Cumbria Local Nature Recovery Strategy (LNRS) was developed and published in November 2025 by Westmorland and Furness Council as the responsible authority, with the support of Cumberland Council, Natural England, Lake District National Park Authority and the Yorkshire Dales National Park Authority.
- 2.4.33 The vision of the LNRS is for Cumbria's wildlife in rural, urban and coastal places to be actively looked after and treasured, and for healthy ecosystems on land and sea to support a sustainable local economy valued for its natural assets and contribute to the wellbeing of residents and visitors.
- 2.4.34 In addition to halting and reversing biodiversity loss, the LNRS has an important role to play in helping to conserve, enhance and restore valued landscape features that contribute to the distinctiveness of Cumbria's landscapes. The LNRS outlines biodiversity priorities for nature recovery across the County, and identifies strategic areas with landscape-scale opportunities for enhancing, restoring and creating networks of wildlife-rich habitats that contribute to achieving these priorities.
- 2.4.35 The LNRS aims to directly support the delivery of the Government's current Environmental Improvement Plan for halting the decline in species abundance, restoring or creating wildlife-rich habitat and increasing tree and woodland cover. By identifying spatial priorities for habitat restoration and nature-based solutions, the Cumbria LNRS contributes to national goals for biodiversity net gain, climate change mitigation through carbon sequestration, and improved water/air quality.

Green Infrastructure

- 2.4.36 Green Infrastructure is needed to support the well-being of communities throughout Cumbria, in particular for the main settlements where further growth can be accommodated.
- 2.4.37 Green Infrastructure is a network of multi-functional green and blue spaces and other natural features, across urban and rural areas, capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate and communities. It includes parks and gardens, green spaces, green corridors such as rivers and canals, sustainable drainage systems, features for species, street trees and community orchards.
- 2.4.38 The range of functions that Green infrastructure can deliver include:
- Conserving and enhancing the natural environment
 - Providing wildlife corridors
 - Reducing noise and air pollution

- Helping communities to adapt to a changing climate through water and carbon management, and regulating extreme temperatures
- 2.4.39 Within and around settlements, functions include providing routes such as footpaths and cycleways, which link areas of open space within settlements and to the wider countryside, providing sustainable drainage, flood storage, urban cooling, and providing opportunities for children's play, sport, recreation and relaxation.
- 2.4.40 As the landscape is an important part of the natural environment and the landscape of settlements contribute to overall landscape character, it is likely that characteristics could be reinforced through this approach, and greater value could be placed on landscapes or new landscapes that may need to be designed to help deliver the approach. A clear understanding of landscape character of rural, urban and fringe areas will help support good decisions relating to the planning, design and management of Green Infrastructure.
- 2.4.41 Ecosystem services have a part to play in delivering Green Infrastructure. Put simply ecosystem services are life support services provided by the natural environment to support people. They include the provision of food, fibre and fuel, spaces for recreation, sports and nature appreciation, regulation of climate, purification of water and air, flood protection, soil formation and nutrient recycling. Cumbria's landscapes have a vital role in supporting these life support systems and underpinning future land use decisions. The need to take action to maintain a healthy natural environment and respond to changes in climate will continue to shape Cumbrian landscapes over the coming decades.

Agriculture

- 2.4.42 Much of rural Cumbria is characterised by pastoral landscapes reflecting agricultural practices largely dominated by livestock farming. The significant differences between the upland and lowland areas have an identifiable impact on the type of farming practised and, therefore, its effect on landscape. Farming within Cumbria is a vital industry but, unlike most businesses, it is subject to unforeseen changes and often requires quick decisions and potentially diversification to counter these changes and continue functioning. Farming, especially traditional upland farming, has sustained the rural appearance of much of Cumbria that the local community, visitors and tourists alike value.
- 2.4.43 Post-war national agricultural policy driven by food security, and subsequently the European Union's Common Agricultural Policy from the 1970s, had a focus on guaranteed prices and subsidies for food production, leading to an intensification of farming practices, increased pesticide/herbicide use and habitat loss due to the increase in field size in some parts of Cumbria.
- 2.4.44 In recognition of an increasing public awareness of environmental damage from intensive food production practices, and the challenges presented by climate change, a shift in European Union policy towards more sustainable farming

practices began to emerge during the late 1990s and early 2000s with agri-environmental schemes becoming more popular and influential on agriculture and land management.

- 2.4.45 Changes to the Basic Single Payment under the Common Agricultural Policy in 2005, and particularly the move away from headage payments to farm hectare payments, began to support less intensive farming and a reduction in grazing levels. The introduction of the Environmental Stewardship Scheme in 2005, provided financial incentives to support more environmentally friendly farming practices, including the restoration and management of traditional boundaries, field margins, wildlife habitats, historic farm buildings and increased public access.
- 2.4.46 Continued reform of the Common Agricultural Policy and an increasing public interest in sustainability, wildlife and climate resilience led to the introduction of the Countryside Stewardship Scheme in 2015, which provided funding for a greater range of sustainable land management practices.
- 2.4.47 Following Brexit, the Agriculture Act 2020 replaced the Common Agricultural Policy in England. This involved phasing out of the Basic Single Payment from 2021 to 2027, and replacing it with the new principle of paying farmers “public money for public goods.” The Agriculture Act introduced a new generation of Environmental Land Management Schemes, which included an enhanced Countryside Stewardship Scheme, a new Landscape Recovery Scheme for supporting large-scale ecosystem restoration and a new Sustainable Farming Incentive. Prior to its temporary pause in 2025, the Sustainable Farming Incentive had a high uptake of applicants for management options that encouraged healthy soils, clean water, improved biodiversity and reduced emissions.
- 2.4.48 These agri-environmental schemes have in the most part aided the restoration and enhancement of traditional landscape features that make Cumbria’s landscapes distinctive over the last 20 years or so. In addition, the more recent schemes aim to support more sustainable farming and land management practices to help stabilise soils, support diverse upland habitats and a greater diversity of nature, and result in more and better managed woodland.
- 2.4.49 Recent floods in Cumbria over the last decade or so have focussed attention on the role of the countryside in mitigating against some of the worse effects of future high rain/flood events. The farmed landscapes in some of the major catchment areas may need to change to respond to this. Woodland could become more prevalent to slow water run-off and the amount of active floodplain could increase. Future farm landscapes will have a greater role in supporting the provision of ecosystem services (or life support systems) such as wildlife habitats to help with crop fertilisation and woodlands to help capture carbon. Catchment sensitive farming initiatives can help reduce agricultural run-off, improve the edges of water courses to help improve water quality and assist with flood risk management. This could also assist in the restoration and creation of traditional landscape features.

- 2.4.50 Farming practices are also likely to change to reflect changes in temperature and rainfall and the need to supply food more locally and sustainably. This is inextricably linked to the need to reduce carbon emissions and the transportation of goods. There is also likely to be an increase in energy crops such as miscanthus and short rotation coppicing and forestry to help provide a sustainable and renewable source of fuel.
- 2.4.51 Natural and political forces are likely to continue to shape Cumbria's farmed landscapes, and farming and agricultural practices will inevitably need to adapt to meet demand, climate change, maximise their profitability and support nature recover and delivery of ecosystem services. There will continue to be opportunities for farm diversification to support farming incomes. This is likely to include tourist and recreation facilities, farm shops to support the demand for locally produced food and the provision of land for renewable energy sources such as wind turbines.

Woodlands and Forestry

- 2.4.52 The presence of woodland and trees in the landscape has a profound effect on the way the landscape is perceived and appreciated. Past influences on the woodlands are extensive. Natural forests once enveloped much of the County, outside the most mountainous areas, but from prehistoric times these were cleared for farming. Ancient woods are highly valued in landscape and wildlife terms but, today, many are neglected, heavily grazed by stock or under managed. Stock management appropriate to a wood pasture system has been declining since the 18th century. Woodland management, through regular coppicing, has largely been abandoned since World War II. This resulted from the decline in traditional woodland crafts such as charcoal burning and besom, swill basket and hurdle making. In addition, wood-made items such as bobbins were replaced with plastics and other materials.
- 2.4.53 From the late 18th century, but especially in the later 19th century, many large and smaller scale plantations were established typically in the Lake District, along the Borders and in the Eden Valley. Many of these were decorative plantings as settings for country houses and features of landscape parks, but others were established as shelter belts. Such plantations often featured large numbers of conifers such as larch, though exotic deciduous species alien to Cumbria at that time, such as beech and sycamore, were also planted. More recently, large block planting of conifers for commercial purposes have become features of less agriculturally-valuable areas and some upland landscapes.
- 2.4.54 Around 3% of the Cumbrian landscape was wooded 100 years ago. In 1998 around 7.5% of the County was wooded, and by 2005 it had increased to around 9.25% (with approximately 66% of woodlands privately owned)¹³. According to Forestry England, around 12% of the County is currently wooded.

¹³ North West Regional Forestry Framework (2011)

- 2.4.55 Many of Cumbria's woodlands provide suitable habitat for a diverse and rich range of wildlife reflecting differences in soils, geology and climate. Even less biodiverse coniferous plantations have provided habitat that aids survival of the red squirrel.
- 2.4.56 Climate change could affect seasonal autumn colour as leaves turn or drop earlier with warmer temperatures and less rainfall, and an increase in storms at all times of year can also stress trees with leaves likely to fall more quickly in the autumn.
- 2.4.57 The growing numbers of tree diseases, some of which are being exacerbated by climate change, are also a threat. Trees which are stressed due to summer drought are more susceptible to disease, and warmer winter temperatures mean that some diseases are not as likely to be killed off by cold weather. For example, in 2021 the National Trust felled 30,000 trees in several Cumbrian woodlands due to ash dieback, as well as felling trees affected by sudden larch death disease.
- 2.4.58 The Government has a target to increase tree cover in England from 14.5% in 2023 to 16.5% by 2050. The Forestry Commission and Natural England is committed to increasing tree cover to support Net Zero goals and climate resilience, nature recovery, health and wellbeing and timber security¹⁴. Where the planting takes place will vary according to the nature, existing use and value of the landscape. Practical reasons will limit woodland expansion in urban environments, desirability will limit it within the most protected landscapes and competition with food and energy crops could limit it in the most highly valued agricultural land. Elsewhere within areas of lower value agricultural land, a much higher degree of woodland expansion may be accommodated.
- 2.4.59 With a growing need to respond to climate change concerns through carbon capture and sustainable and renewable sources of fuel, forestry is increasingly being looked upon as a potential solution. Living trees store carbon and provide a carbon-neutral fuel source provided that the harvested wood is replaced. Short rotation coppicing using species such as Willow (and potentially fast-growing exotic species such as Eucalyptus) can produce sustainable biomass yields on a 5-year cycle. Grants that support new deciduous and coniferous woodland planting and better woodland management can also support the wood fuel agenda.
- 2.4.60 In Cumbria, new approaches could see significant woodland and forestry increase in lower value agricultural land outside the protected landscapes, such as in the borders and the low fells around the Lake District and Yorkshire Dales National Parks. These would historically be the most appropriate areas for new woodland development as they are the areas that were much more heavily wooded in the Middle Ages. The northern edge of the Lake District for example was once part of the Forest of Inglewood which contained extensive woodland tracts 800 years ago. In these areas a significant increase in woodland and a change in the type of woodland are likely to result in changes to landscape character at a local level and possibly more widely.

¹⁴ [Natural England and Forestry Commission position on woodland creation \(2023\)](#)

- 2.4.61 Change will need to be managed to ensure that its scale is appropriate for any given environment. Woodland should be encouraged in only the most suitable places and existing landscape values such as biodiversity and historic environment interests should be protected. Any increase in woodland should ensure that it produces multi-functional benefits, for example woodland planted primarily as a carbon store may also be expected to produce biodiversity, aesthetic and recreational benefits. In upland areas, there would need to be a careful selection of planting sites to prevent significant alterations these valued landscapes.
- 2.4.62 In future it may also be necessary to encourage the phased and partial re-planting of ancient woodland with suitable native species that help conserve or enhance the biodiversity value of those woodlands. Their long-term active management will also need to be encouraged, perhaps through an emphasis on revived woodland crafts. Where coniferous block plantations occur, their edges can be softened with, irregular plantings of deciduous species.
- 2.4.63 Cumbria Community Forest¹⁵ is a long-term, landscape scale initiative borne out of Defra's Trees for Climate fund in 2022. Its purpose is to substantially increase tree and woodland cover across its 1800 square mile footprint, guided by a 25-year Forest Plan. It aims to better connect coastal communities to nature, particularly neurodivergent people, by providing a series of connected community woodlands, private woodlands, on-street trees, urban woodlands, wooded habitat corridors and hedgerows, and through long-term community stewardship. In addition to enhancing biodiversity, the Community Forest aims to increase the resilience of communities to adapt to the effects of climate change, such as flooding and drought, through carbon capture and nature-based solutions.

Coastal Processes

- 2.4.64 The Cumbrian coast has always been shaped and moulded by the sea. Waves, currents, tides and other natural processes cause cliffs and beach material to be broken down and carried out to sea or moved to be deposited on a different part of the coast. It is this dynamic quality of the coast that has created the variety of coastal environments seen today.
- 2.4.65 This changing coastline and its estuaries and bays have created opportunities for both people and the natural environment. Coastal communities have grown up as a result of opportunities for trade, industry, national defence and, in the more recent past, for relaxation, recreation and tourism. The coastal railway connects communities, allows the appreciation of coastal landscapes and opens up areas for economic development and recreational uses. Viaducts form interesting features across some estuaries. In the future, coastal and marine resources could be harnessed for greater energy generation.

¹⁵ www.raisecumbria.co.uk/

- 2.4.66 As well as creating opportunities, coastal change can pose a threat to coastal communities, infrastructure and environments. This threat sits alongside others associated with the sea such as coastal flooding. The latest tendency shows that the risks of flooding and coastal erosion will be exacerbated by climate change.
- 2.4.67 Managing something as dynamic as the changing coast requires an equally dynamic approach from both Government and coastal communities. The Government is committed to effective shoreline management of flood and coastal erosion risk, both inland and on the coast. In the future, coastlines will be defended where it is sustainable and affordable to do so. However, there will be some locations where it is not sustainable to either build new defence structures or maintain existing ones. Where this is the case, there could be a change to landscape character that needs to be considered as part of the process of adapting to both the physical effects of coastal change, and the social and economic impacts that can accompany this.

Development and Land Use

- 2.4.68 Cumbria is predominantly a rural landscape with development opportunities typically occurring in and around the city of Carlisle, towns and villages, or along transport and communication routes. The vast majority of development over the last three to four decades has taken place in the countryside on the edge of, or near to existing settlements, on land perhaps highly valued by local residents. Increasingly, development is also taking place on disused sites within settlements. The need for affordable housing to meet local need is a critical issue in Cumbria, and more housing is needed to meet both local needs and population expansion.
- 2.4.69 The Cumbria Local Planning Authorities have started work on new Local Plans for Westmorland & Furness and Cumberland (excluding the National Parks). When adopted, these will replace the legacy local plans adopted by the former Councils. The new Local Plans will provide a long-term strategy for sustainable development within their areas over the next 20 years, and include policies for guiding new development (e.g. housing, employment, minerals and waste) to the most appropriate locations and protecting areas from development where necessary.
- 2.4.70 Over the next two decades there is likely to be a continued need to expand Carlisle, Workington and Whitehaven (Cumberland) and Barrow, Kendal, Ulverston and Penrith (Westmorland & Furness) to support affordable housing, population expansion and economic growth. Other towns and villages are also likely to experience some expansion to support their rural hinterland and maintain viable communities.
- 2.4.71 Future development patterns and design will be influenced by the need to reduce carbon emissions, and also have regard to the role that green and blue spaces within and on the edges of settlements linked to the wider countryside have in providing multi-functional green infrastructure to support communities and nature across Cumbria.

- 2.4.72 Development will continue to be needed to reflect changes in agriculture and to support a diversifying local economy and business development. This could include further conversions of former agricultural buildings, the introduction of larger agricultural barns and the development of facilities to support growing tourism and recreation, such as holiday accommodation, golf courses, horse riding and mountain biking centres.
- 2.4.73 Significant areas of development are also likely to be linked to climate change adaptation and mitigation and the need for greater energy security. This could include the reworking of coal sites; an increase in low carbon and renewable energy infrastructure; new pylons and improvements to the national grid; and changes to shoreline and flood risk management, which may see greater coastal realignment and managed retreat in some areas of Cumbria. There could be a significant increase in woodland and forestry cover to capture carbon emissions and provide renewable energy, and a growth in energy crops.
- 2.4.74 Transport infrastructure could change in parts of Cumbria, particularly if nuclear energy sites come forward. The M6 corridor in Cumbria has seen variable message signs installed in 2020. Widening of the A66, the new Carlisle Southern Link Road and the A595 Grizebeck bypass/improvements are likely to have localised and wider changes to landscape character. The West Coast Mainline route has seen recent upgrades of overhead power lines, track and bridges and signalling.

Recreation and Tourism

- 2.4.75 Recreation and tourism development is likely to continue due to the attraction to Cumbria arising from its intrinsic beauty, its varied coastline, countryside, nationally and internationally protected landscapes and wildlife habitats. Over the last 60 years or so, recreation has increased with people often arriving by car for activities or taking scenic drives through the countryside. Such activities can put pressure on locations for car parking and reduce tranquillity in some landscapes.
- 2.4.76 In contrast there are currently 7,671km of public rights of way across Cumbria which provides a sustainable transport network that incorporates historic tracks, trails and paths used by walkers, horse riders and cyclists. They also provide the opportunity to reach viewpoints from which to appreciate the Cumbrian landscape's natural beauty and access some of Cumbria's remote and most spectacular landscapes.
- 2.4.77 The first section of the England Coast Path in Cumbria was completed in 2014 between Allonby and Whitehaven, with significant parts of the section from Gretna to Allonby opened in 2023; additional sections between Whitehaven and Morecambe Bay are currently planned/under development.
- 2.4.78 Cumbria's countryside and coast, and access to them, will continue to be important to the Cumbrian economy. As temperatures rise, and costs of flights abroad

increase to reflect rising fuel prices, there could also be an increase in visitor numbers from within the UK.

3.0 Landscape Character Assessment and Guidance

3.1 Overview

- 3.1.1 Whether in town or countryside, it is important that new development and changes to land management and uses are compatible with the distinctive characteristics of the landscape or townscape.
- 3.1.2 This is particularly important in areas where natural and historic character are important assets in making Cumbria a high-quality location for business and tourism. In some cases, it might be necessary to design new landscapes that are resilient to climate change. Where this is the case, a clear understanding of what makes the landscape distinctive can help develop a sensitive response.
- 3.1.3 The landscape character assessment and guidance set out in this section aim to inform the protection, planning and management of multi-functional landscapes for people, places and nature across Cumbria. It is based around the need for sustainable landscapes that are resilient to a changing climate and make space for nature. It is also about harnessing the power of landscape to enrich people's lives by supporting economic prosperity, and the health and well-being of communities and visitors alike.
- 3.1.4 The landscape character assessment identifies the characteristics and features of the Landscape Character Types that make the Cumbrian landscape distinctive, and considers the sensitive elements of these landscapes.
- 3.1.5 Guidance is provided in the form a vision and guidelines for informing decision-making about proposals for change in the different landscape types over the next 20 years or so, in ways that can help protect and strengthen the distinctiveness of all of Cumbria's landscapes.

Cumbria Landscape Character Typology

3.1.6 The landscape character typology for Cumbria comprises 13 Landscape Character Types and 34 Sub Types as summarised in **Table 3.1**.

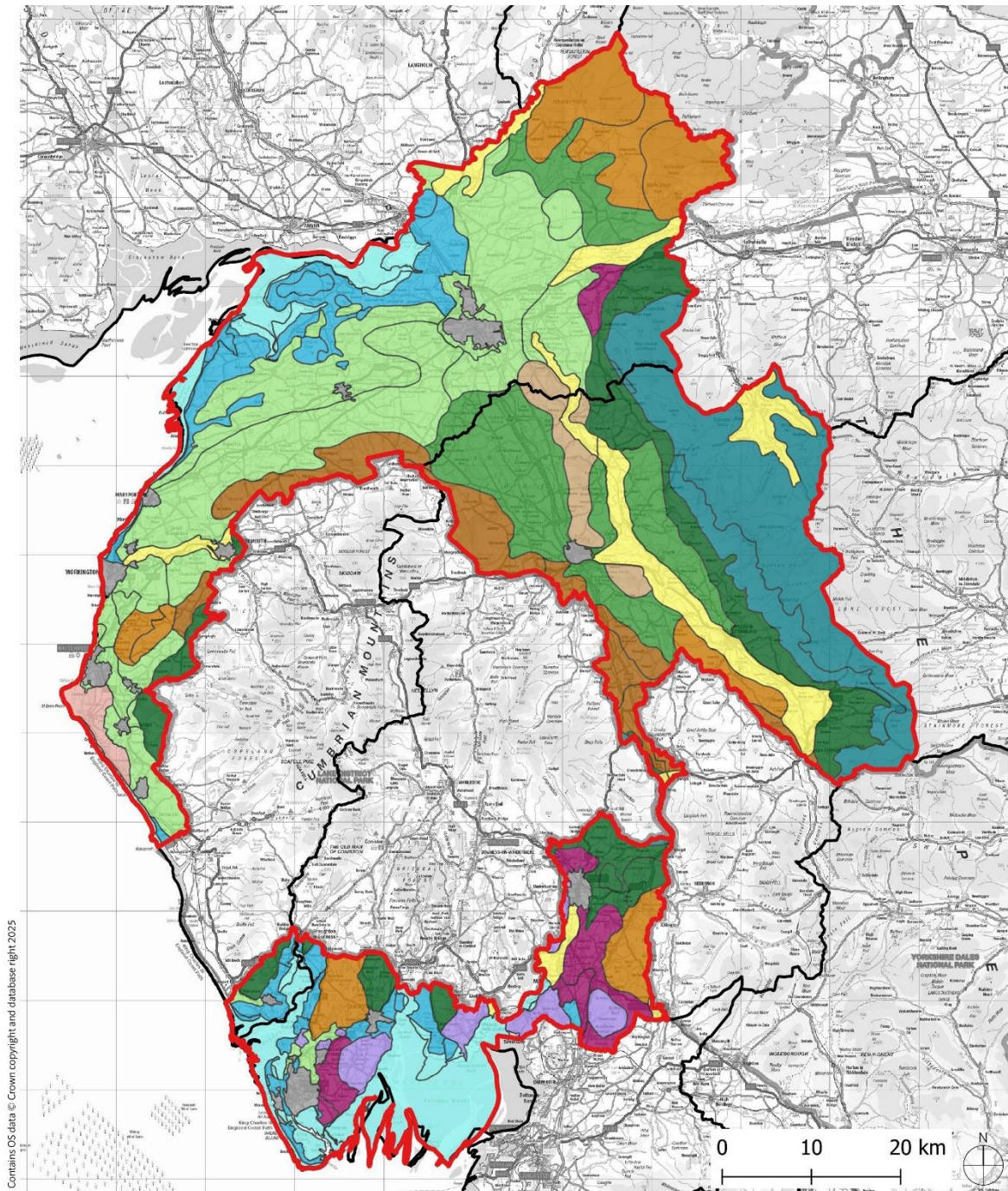
Table 3.1: Summary of Cumbria Landscape Character Typology

Landscape Character Types	Landscape Character Sub Types	Locations within Cumbria
1: Bay and Estuary	1a: Intertidal Flats	Solway Firth, Morecambe Bay, Kent Estuary, Duddon and Leven Estuaries, St Bees to Drigg, Workington to Maryport, Walney Island
Blank cell	1b: Coastal Marsh	Solway Coast; Duddon, Kent Estuary and Leven Estuary, Walney Channel
2: Coastal Margins	2a: Dunes and Beaches	Sandscale Haws, Walney Island, Haverigg, Drigg, Solway Coast
Blank cell	2b: Coastal Mosses	Solway Coast, Duddon Estuary
Blank cell	2c: Coastal Plain	Leven and Duddon Estuaries, Holme, Walney, Solway Coast
Blank cell	2d: Coastal Urban Fringe	Silloth, Workington, Millom, Askam, Walney, Sowerby, Rampside, Ulverston, Flookburgh
3: Coastal Limestone	3a: Open Farmland and Pavements	Great Urswick, Farleton Knott, Grange over Sands
Blank cell	3b: Wooded Hills and Pavements	Arnside and Silverdale
Blank cell	3c: Disturbed Areas	North of Dalton in Furness
4: Coastal Sandstone	No Sub Type	South of Whitehaven
5: Lowland	5a: Ridge and Valley	Carlisle to Whitehaven
Blank cell	5b: Low Farmland	Wigton and Solway Coast, east of Carlisle and West Cumbria
Blank cell	5c: Rolling Lowland	Warwick Bridge, Winscales, Barrow in Furness
Blank cell	5d: Urban Fringe	West Cumbria and Carlisle
Blank cell	5e: Drained Mosses	Bolton Moss
6: Intermediate Farmland	No Sub Type	South and east of Carlisle, the Eden Valley
7: Drumlins	7a: Low Drumlins	Rampside, Milnthorpe/Holme
Blank cell	7b: Drumlin Field	East of Barrow, north and south of Kendal
Blank cell	7c: Sandy Knolls and Ridges	Carlisle

Landscape Character Types	Landscape Character Sub Types	Locations within Cumbria
8: Main Valleys	8a: Gorges	Eden Valley
Blank cell	8b: Broad Valleys	Eden Valley, Lune Valley, Derwent Valley, Black and White Lyne, Irthing Valley
Blank cell	8c: Valley Corridors	Lune Valley
Blank cell	8d: Dales	South Tyne and Nent Valleys
9: Intermediate Moorland and Plateau	9a: Open Moorlands	Pica, Bewcastle
Blank cell	9b: Rolling Farmland and Heath	Hoff, Killington
Blank cell	9c: Forests	Kershope and Spadeadam
Blank cell	9d: Ridges	Arlecdon, Kirkby in Furness
10: Sandstone Ridge	No Sub Type	Cotehill, Eden Valley
11: Upland Fringes	11a: Foothills	North Pennines fringe, Lake District fringe
Blank cell	11b: Low Fells	Benson Knott and Lambrigg
12: Higher Limestone	12a: Limestone Farmland	Shap
Blank cell	12b: Rolling Fringe	Sleagill, Sockbridge
Blank cell	12c: Limestone Foothills	Berrier to Calbeck
Blank cell	12d: Moorland and Commons	Hardendale
13: Fells and Scarp	13a: Scarps	North Pennines
Blank cell	13b: Moorland, High Plateau	North Pennines
Blank cell	13c: Fells	Lake District fringe, Wasdale Foot

3.1.7 The Landscape Character Types in Cumbria are shown on **Map 3.1**. The locations of the Landscape Character Sub Types can be found on the detailed maps included in the **Cumbria Landscape Character Map Book** (available separately). The updated Landscape Character Typology dataset is available as a GIS Shapefile on request from the Councils.

Map 3.1: Cumbria Landscape Character Types



Contains OS data © Crown copyright and database right 2025

Study Area

Landscape Character Types:

- | | |
|--|---|
| <ul style="list-style-type: none"> 1: Bay and Estuary 2: Coastal Margins 3: Coastal Limestone 4: Coastal Sandstone 5: Lowland 6: Intermediate Farmland 7: Drumlins | <ul style="list-style-type: none"> 8: Main Valleys 9: Intermediate Moorland and Plateau 10: Sandstone Ridge 11: Upland Fringes 12: Higher Limestone 13: Fells and Scarp Urban Areas |
|--|---|

- 3.1.8 In general, the original Landscape Character Type/Sub-Type names and boundaries have been retained in this updated assessment. In some places, amendments to the boundaries of Landscape Character Type/Sub-Type have been made to reflect landscape change associated with expansion around main urban areas in Cumbria.

Cumbria Landscape Character Profiles

- 3.1.9 A landscape character profile is provided for each Landscape Character Type/Sub Type (**Box 3.1**).

Box 3.1: Landscape Character Profiles Structure

Landscape Character Assessment Information:

- Location (and signposts to other Landscape Character Assessments)
- Key Characteristics
- Physical Character
- Land Cover & Land Use
- Ecology
- Historic & Cultural Character
- Perceptual Characteristics
- Sensitive Characteristics or Features

Landscape Character Guidance:

- Vision
- Changes in the Landscape
- Guidelines

- 3.1.10 Signposts are provided to more detailed character descriptions/guidance in the Landscape Character Assessment for the relevant National Landscapes within the Study Area, or to guidance in Landscape Character Assessments for the relevant adjoining National Park. These should be used to inform decision-making about proposals that may affect the special qualities of these Protected Landscapes.

Cumbria Local Nature Recovery Strategy

- 3.1.11 The Cumbria Local Nature Recovery Strategy (LNRS) has an important role to play in helping to conserve, enhance and restore valued landscape features that contribute to the distinctiveness of Cumbria's landscapes.
- 3.1.12 The LNRS provides a Statement of Biodiversity Priorities¹⁶ for nature recovery across Cumbria as a whole, and sets out potential measures that would help meet

¹⁶ <https://cumbrialnrs.org.uk/statement-biodiversity-priorities>

these priorities. It includes a Local Habitat Map¹⁷ that identifies strategic areas with landscape-scale opportunities for delivering these potential measures that are most likely to provide greatest benefits for biodiversity and the wider environment.

- 3.1.13 The Local Habitat Map includes local nature recovery networks that show areas of particular importance for biodiversity (locations where existing wildlife-rich habitats could be enhanced to make these better); and areas that could become of particular importance for biodiversity (existing degraded or fragmented habitats that could be restored to make these habitats bigger, better and more joined up; and land that could be suitable for the creation of wildlife-rich habitat that would make existing wildlife-rich habitats bigger and more joined up).
- 3.1.14 The local nature recovery networks are grouped under six broad habitat themes:
- Woodland, trees and scrub
 - Moorland, heathland and montane
 - Grassland and limestone pavement
 - Wetland and freshwater
 - Coastal and estuarine
 - Built environment
- 3.1.15 Decision-making about proposals for change in the landscape should be informed by the Cumbria LNRS Statement of Biodiversity Priorities and Local Habitat Map, which are supported by the landscape guidelines for the Cumbria Landscape Character Types/Sub Types set out in **Sections 3.2 to 3.14** below¹⁸.

National Character Area Profiles

- 3.1.16 The information included in the National Character Area Profiles published by Natural England can be used to inform land management and other activities for strengthening the character of each Area (see **Appendix E**).
- 3.1.17 The headline statements of environmental opportunity for the ten National Character Areas wholly or partly within the Study Area (see **Appendix G**) are broadly reflected in the Cumbria Local Nature Recovery Strategy. They are also supported by the local landscape guidelines for the Cumbria Landscape Character Types/Sub Types set out in **Sections 3.2 to 3.14** below.

Hyperlinks to the National Landscape and National Park Landscape Character Assessments, the Cumbria Local Nature Recovery Strategy and the National Character Area Profiles can be found in **Appendix E**.

¹⁷ <https://cumbrialnrs.org.uk/local-habitat-map>

¹⁸ Including the Cumbria Landscape Character Types/Sub-Types dataset as a layer on the online Local Habitat Map on the Cumbria Local Nature Recovery Strategy website is advisable.

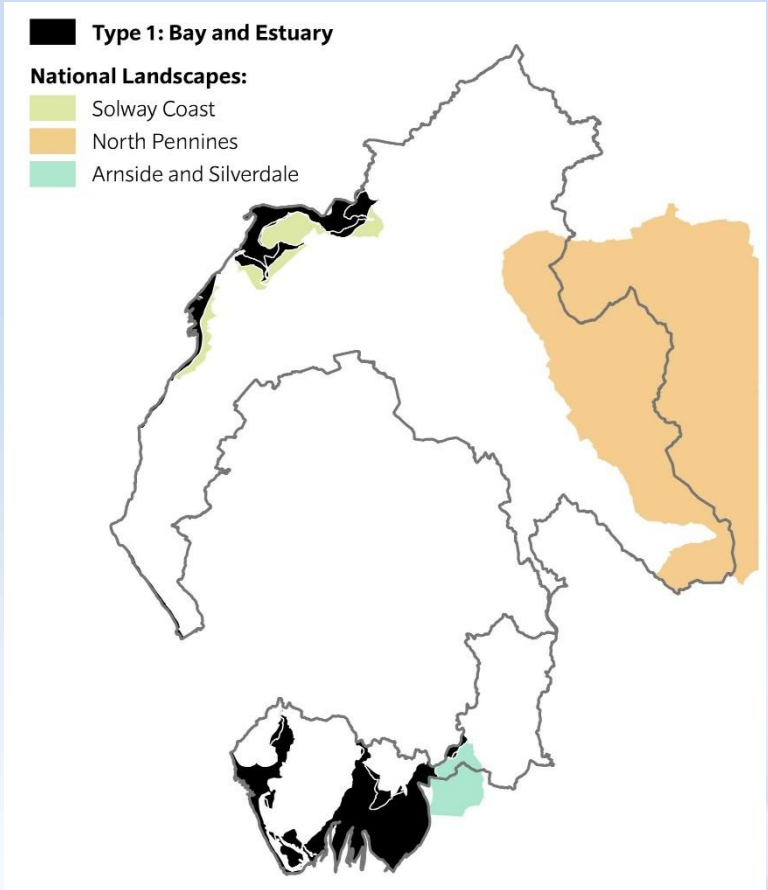
Landscape Character Design Principles

- 3.1.18 Good design can help achieve development that is well integrated with the surrounding countryside or townscape character. For example, the sensitive adaptation of existing redundant farm and other rural buildings for employment purposes can help in regenerating the rural economy and improve the appearance of neglected areas. In addition, there is a clear challenge to ensure that new infrastructure is provided where it is needed, and designed and sited in a way which minimises negative effects on the landscape.
- 3.1.19 All decisions about development proposals must be made in accordance with policies in the relevant Local Plan for the area. The Landscape Character Assessment will be a material consideration. However, there are some general design principles with regard to landscape character which are likely to be applicable to most proposals.
- 3.1.20 When making decisions about the location, siting and/or design of development proposal, potential site allocations or other landscape change (such as woodland felling or planting energy crops), decision makers should use the Landscape Character Design Principles and Checklist in **Box 3.2**. These should be used in conjunction with any Design Codes or other relevant supplementary planning documents to the Councils' Local Plans.

Box 3.2: Landscape Character Design Principles and Checklist

- **Scale:** Will the development be at the right scale for the landscape. Will it and should it look “in proportion”?
- **Landform:** Do the proposed landforms sit well with existing landforms, or do they contrast?
- **Mass:** Is the size and shape of the development appropriate in relation to the massing of existing elements?
- **Pattern:** Would the development change the pattern of field shapes/sizes or the relationship between buildings and open spaces?
- **Materials:** Would the development be constructed of characteristic materials, or would it introduce new materials that represent a new vernacular style?
- **Colour:** Is the existing landscape muted or vibrant, and are the proposals harmonious or contrasting?
- **Skylines:** Would the skyline remain unaffected from all angles, or would a new skyline be created and would this have beneficial or adverse impacts on landscape character?
- **Boundary Treatment:** What are existing boundaries made of (dry stone walling, brick, fencing or hedgerows), would the development’s boundaries be similar and if not would this change be appropriate?
- **Vegetation Cover:** Would development change the proportion, pattern and/or species of tree/shrub cover and how would this affect landscape character?
- **Tranquillity:** Is the existing area peaceful or bustling and how would development affect the level of activity?
- **Sense of Wildness:** Does the area feel wild and remote or more civilised, and how would the development affect this?
- **Enclosure or Exposure:** Is the area intimate or open and expansive, and how would the development affect this characteristic?
- **Proximity:** Would the development affect landscape character between nearby settlements?

Type 1: Bay and Estuary



3.2 Type 1: Bay and Estuary

3.2.1 These dynamic maritime seascapes lie at the interface of land and sea, comprising wide and expansive mudflats, sea, marshes and beaches. The coastal edges tend to be soft and low lying with only a narrow strip of more exposed coast with high cliffs south of St Bees.

3.2.2 The estuaries stretch well inland and intersect with other landscapes. The sheltered waters of the upper estuaries are fringed by salt marshes. Long expansive views across open sea mix with shorter views across tidally inundated sand and mudflats within the estuaries, Solway Firth and Morecambe Bay. Movement is provided by water and the flocks of waders and seabirds who use the environment as feeding grounds. The character changes with the tide, seasons and the weather.

3.2.3 Sub types:

- 1a Intertidal Flats
- 1b Coastal Marsh

Sub type 1a: Intertidal Flats

Location

- 3.2.4 The Intertidal Flats sub type is found around Morecambe Bay, the Duddon Estuary and the Solway Firth, and partly lies within the Solway Coast National Landscape and the Arnside and Silverdale National Landscape. It is also adjacent to the Lake District National Park.
- 3.2.5 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape, the Arnside and Silverdale National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Dynamic landscape changing rapidly with daily tides and through cycles of erosion and deposition
- Mudflats, sands, shingle and pebble beaches contrast with open water
- Predominantly flat and open topography
- Vast uncluttered skies and horizons
- Significant ecological interest – large intertidal habitat for invertebrates forms internationally important roosting and feeding grounds for wading birds and wildfowl
- Cultural artifacts and historical routes or ‘waths’ across the sands enrich this landscape and strengthen a sense of the past
- Cockle fishing, Haaf netting and other fishing activities provide a human presence

Physical character

- 3.2.6 This sub type comprises wide beaches and expanses of mudflats within the estuaries and bays that are exposed at low tide. At high tide they are covered by sea water.
- 3.2.7 The areas are underlain by Triassic and Permian mudstone with fine sands, silts and pebbles forming the intertidal flats. These are dynamic high energy seascapes, changing with the daily tides but also through the centuries by processes of erosion and deposition. The area of mudflats has greatly increased over the centuries following progressive siltation. Inflowing rivers carry little suspended sediment load. Sediments derive mainly from the Irish Sea. River channels are constantly shifting thus affecting the extent of the salt marshes and channels in Morecambe Bay. On the open coast the processes of longshore drift operate.
- 3.2.8 Small islands and low-lying coastal edges frame the mud and sandflats.

Land cover and land use

- 3.2.9 At low tide mudflats predominate. The wide estuaries and bays are dissected by river channels that are constantly changing position. This is particularly the case in Morecambe Bay. Sometimes patches of strewn boulders (scaurs) or pebbles and exposed bedrock occur.
- 3.2.10 As the tide rises water channels fill and sand banks are revealed until they too are covered in sea water. A simple and expansive water body then fills the seascape to the seaward horizon until the tide begins to fall. The beaches comprise mud, sand, shingle and pebbles, the latter tending to form the upper foreshore where they are associated with increased gradient. These often support cockle and mussel beds, some of which are harvested commercially. These support feeding grounds for vast numbers of birds.
- 3.2.11 Man-made features are virtually absent, limited to small viaducts, causeways and piers projecting into the seascape. Undeveloped coastline, sea defences and towns and villages fringe the area and are associated with adjacent sea and landscapes. The Robin Rigg offshore wind farm in the Solway Firth has been a feature of the seascape for over 15 years. The Barrow offshore wind farm in the Irish Sea to the west of Walney Island was constructed in 2006, and has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecology

- 3.2.12 The intertidal sand and mudflats of the Cumbrian coast are some of the most important wildlife habitats in the UK. The flats support huge numbers of invertebrates such as cockles, lugworms, sandhoppers, small pink baltic tellin and mud snails. They also provide the main feeding grounds for internationally important numbers of wintering and passage waders and wildfowl. These include shelduck, pintail, oystercatcher, grey plover, dunlin, bar-tailed godwit, curlew and redshank. The flocks of wading birds are particularly noticeable on the coming tide when the beach area becomes progressively restricted.
- 3.2.13 Between Maryport and Silloth and along the outer shore of Walney, boulder scars support mussel beds and reefs formed by colonies of the polychaete worm *Sabellaria alveolata*, the former providing feeding areas for eider duck, oystercatcher, turnstone and purple sandpiper.

Historic and cultural character

- 3.2.14 Throughout the landscape there is evidence relating to shipping and trade. Within the intertidal zone of Morecambe Bay there are a number of wrecks dating throughout history. The waterlogged conditions ensure excellent organic preservation, particularly of wood, leading to the survival of artefacts ranging from preserved prehistoric forests to fish traps.

- 3.2.15 The route across “Kent Sands”, latterly “Morecambe Bay”, was described by numerous writers including Ann Radcliffe, Elizabeth Gaskell in “The Sextons Hero”, Edwin Waugh in “Over Sands to the Lakes”, Melvyn Bragg in “The Maid of Buttermere” and in “The Lonsdale Magazine. It is too an area well documented through the work of artists including J.N.W Turner, David Cox, Thomas Sunderland. Poets such as Sir Walter Scott, William Wordsworth and Norman Nicholson have all been inspired by these landscapes.

Perceptual character

- 3.2.16 The unique attraction of this landscape centres on its dynamic nature with shifting patterns of texture, colour and play of light across its surfaces. The scene rhythmically changes with the tide from shimmering water to golden sands or shining silt. It has big skies and a mix of open panoramic uninterrupted seaward horizons and mountainous landward horizons to Scottish, Lakeland and Bowland fells.
- 3.2.17 The weather and tides often dictate the mood both at different times of day and through different seasons. A calm day may be tranquil and restful with gliding tides over smooth sands, a stormy day invigorating and dangerous with surging tides and dark expansive skies. Clouds cast shadow patterns adding to the dynamics of the landscape and windblown salt spray can fill the air. The shifting nature of the weather, tidal conditions and sands ensure people venture here with care. Tranquillity is enhanced by the expansive vistas, lack of people and the strong presence of birds and wildlife.
- 3.2.18 The majestic scale and openness of these landscapes can inspire a sense of freedom, remoteness and wildness, especially when looking out to uninterrupted views across the open sea. In other areas shorter views are gained across the Solway Firth, Duddon Estuary and Morecambe Bay providing a more intimate experience. The lack of development on the horizons reinforces these experiences.

Sensitive characteristics or features

- 3.2.19 The largely undeveloped horizons, naturalness and tranquillity of the wide-open seas and mudflats contribute to its sensitivity. Daily inundation provides a feeling of wildness and remoteness which is sensitive to manmade development. Nature conservation and birds reinforce the naturalness of area and is sensitive to significant changes in management and use. The large and expansive backdrop of the Lakeland and Scottish fells add to the drama of the area.

Vision

The open unspoilt qualities of these estuaries, bays and beaches and the rich variety of wildlife associated with them will be conserved.

- 3.2.20 Statutory designations are currently in place protecting the vast array of important wildlife in these intertidal areas, and within estuaries for example, developments must be of high quality and meet strict tests laid down in the planning system. Major energy or other infrastructure will be carefully controlled and undergrounded where acceptable. A balance will be met between the protection and management of environmental interests and the sustainable growth of fisheries, rural economies and settlements. There will be a response to the potential threat of flooding and coastal erosion reducing the landscape and ecological impacts of climate change and the environmental impacts of coastal and flood defence schemes will be balanced against the economic and social benefits to local communities and will recognise the dynamic characteristics of the areas.

Changes in the Landscape

- 3.2.21 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
 - In the south of Cumbria, there has been erosion of the intertidal flats landscape with some pockets of accretion, such as near Aldingham and Bardsea; and at Humphrey Head. In the west and north of Cumbria, the pattern of coastal change is more varied and localised, with a mix of erosion and accretion along the channel of the River Eden estuary.¹⁹
- 3.2.22 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change and Coastal Processes:

- Natural processes in these highly dynamic areas will continue to shape and change their character.
- The threat of increased storminess and possibly sea level rise may change the natural processes of erosion and deposition. There could be the potential to damage dunes, highways and natterjack habitats (erosion), particularly in the Solway area.

¹⁹ https://www.solwayfirthpartnership.co.uk/solway-review/physical/coastal-change/#chapter_0

- The introduction of new shoreline and flood risk management techniques to combat climate change could have major impacts on the coastline and adjacent farmland.
- Increases in rainfall and temperature could change habitats and species. More extreme run off events could possibly increase siltation levels.

Management Practices:

- Pollution occurs in the form of marine rubbish and sewage which spoils beaches. Cockle or mussel fishing can directly affect birdlife on the mudflats through disturbance and indirectly by reducing the quality of their feeding areas.
- Expansion in salt marsh habitat in various locations due to changes in management practices and habitat creation.²⁰

Development:

- Coastal protection and flood defence works should be considered in terms of their aesthetics and environmental sustainability. Managed retreat may be an option in places. In others the west coast rail line, roads and sea dykes may continue to form hard edged coastal protection.
- Development pressures include major infrastructure and energy infrastructure proposals, which can be highly intrusive particularly as the waters-edge naturally attracts attention and is a focal point. The need to develop renewable energy sources to help mitigate climate change could include tidal energy schemes and on and further offshore large-scale wind energy developments. These could have significant effects on natural coastal processes, habitats and the open seascape character.
- Extraction of sand and shingle along the foreshore and waste tipping has also affected natural processes.
- Natural dynamic processes of erosion and deposition are sensitive to the introduction of man-made coastal flood defences, which can increase erosion effects on adjacent soft unprotected coast.
- Litter and old industrial waste and spoil can be spread along the coast and have an unsightly effect on the beaches.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.

²⁰ <https://thefloodhub.co.uk/ourfuturecoast/>

Guidelines

3.2.23 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change and Coastal Processes:

- Avoid the use of ‘hard’ defences against erosion along the outer soft coast favouring ‘soft’ accretion solutions. Within the estuaries flood defences such as sea dykes need to be carefully planned to minimise environmental damage and selectively protect the most ecologically valuable areas.
- Coordinate approaches to shoreline management along the Cumbrian coast
- Consider the scope for managed retreat of flood and coastal defences allowing reversion of farmland to marsh, mudflat or beach.

Natural and Cultural Features:

- Provision of information and interpretation of wildlife and related interest.
- Conserve and enhance historic sites through avoiding disturbance and removal of structures, levelling, excavation and tipping.

Development:

- Avoid developments that damage features of ecological, archaeological or landscape interest or require long term protection through new coastal defences.
- Protect the more intimate character of inner estuaries from inappropriate development, particularly with regard to sites in adjacent landscapes.
- Retain open views across the intertidal flats, and to sensitive horizons, through the careful control, siting and design of infrastructure or energy developments.
- Ensure that the design and siting of all development is of a high standard which enhances its surroundings and habitats are carefully restored after construction.

- Ensure the development decisions respect long distance views to adjacent landscapes in the Lake District, Forest of Bowland and Dumfries and Galloway fells and within the Hadrian's Wall buffer zone.
- Encourage the deep burial of cables to reduce the need for vertical structures both in this and adjacent seascapes that form the backdrop to this type, especially the Solway Coast and Arnside and Silverdale National Landscapes, and the Hadrian's Wall buffer zone.

Access and Recreation:

- In areas where coastal access will introduce new routes, appropriate access management may be needed in sensitive locations, at certain times of the year, to minimise disturbance to wildlife.

Sub type 1b: Coastal Marsh

Location

- 3.2.24 The Coastal Marsh sub type is found around Morecambe Bay, Walney Channel, Duddon Estuary and the Solway Firth, and partly lies within the Solway Coast National Landscape and the Arnside and Silverdale National Landscape. It is also adjacent to the Lake District National Park.
- 3.2.25 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape, the Arnside and Silverdale National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Salt marshes in sheltered parts of estuaries and bays
- Hedge topped sea dykes
- Closely grazed fine sward
- Creeks and channels form a dendritic pattern
- Higher marshes dissected by streams
- Sporadic scrub and remnant field hedges

Physical character

- 3.2.26 The geology is a mixture of Triassic mudstone, Carboniferous limestone, with some Silurian slates/siltstones around the Duddon. Extensive areas of saltmarsh occur around the sheltered waters of the estuaries and bays. This is a dynamic seascape with the saltmarshes constantly changing size and location. There is accretion by sediment at high tides.
- 3.2.27 The seaward edge is characterised by a system of dendritic creeks and erosion cliffs up to 3m high. A series of terraces within the marshes can be related to isostatic uplift and creek migrations. Sections of creeks can be cut off leaving isolated sections of water known as pans or fleshes. River channels constantly cut new courses. The area of marsh can be considerably reduced or enlarged by the changing course of a river or inundation of the sea.

Land cover and land use

- 3.2.28 The marshes lie above the average daily tides. The higher the marsh, the less frequent is tidal inundation. This results in a transitional seascape character.
- 3.2.29 On the seaward edge, lower saltmarshes are characterised by a closely grazed fine sward etched by an intricate maze of creeks and channels in a dendritic pattern. This gives way to higher, older saltmarshes dissected by streams meandering

towards the sea and frequently colonised by gorse scrub. The tide and streams have etched out an intricate and changing pattern of channels across a plain of sea-washed turf. In the Solway Firth turf cut grooves add a linear regular pattern across the saltmarshes. Ungrazed marshes are also found across parts of this area, such as around Walney Island, some pockets of which are particularly distinctive displaying an abundance of flowering sea lavender in late summer.

- 3.2.30 The marshes are essentially open except for patches of scrub and remnant field hedges on the higher marshes. The marshes are usually enclosed by manmade sea dykes. These provide a strong enclosure that contrasts with the open character of the marshes, particularly where they are topped by hedges which are left to grow taller to act as windbreaks.
- 3.2.31 Common grazing rights occur on some of the marshes where sheep and cattle wandering freely across them have been an essential feature for centuries. Other than the sea dykes, manmade elements are noticeably absent.
- 3.2.32 The Robin Rigg offshore wind farm in the Solway Firth has been a feature of the seascape for over 15 years. The Barrow offshore wind farm in the Irish Sea to the west of Walney Island was constructed in 2006, and has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecological character

- 3.2.33 All the coastal marsh in Cumbria is of international ecological importance. Where appropriately managed and where grazing is very limited or absent, the saltmarshes can support a range of plants including glasswort, sea lavenders, sea aster, sea purslane and thrift. They provide feeding grounds for wildfowl and roosts for waders, including pink-footed geese, Bewick's swan, whooper swan, wigeon, teal, barnacle geese, curlew, knot, bar-tailed godwit, redshank, lapwing and golden plover. Peregrine falcon and merlin hunt over coastal grazing marsh during the winter months. Other birds breed on saltmarshes, including redshank, lapwing, black-headed gull and terns. Saltmarshes support a number of uncommon and rare invertebrates, whilst upper saltmarshes are important for natterjack toads and great-crested newts. The prolific birdlife on the marshes is an integral part of their character. Overgrazing results in the closely grazed sward seen across much of the area, and although grazing is recognised as part of the historic character of this landscape, it is not conducive to improving the ecological condition of the saltmarsh.

Historic and cultural character

- 3.2.34 The highly dynamic nature of the environment has resulted in the remains of former settlements being lost to the sea, as well as former marine features, such as quays, becoming land locked. The coastal marshes also contain the remains of salt pans.

- 3.2.35 William Wordsworth, amongst other local poets, took inspiration from the Duddon estuary. In 1307 Edward the first anticipated the invasion of Scotland. His strategy was to invade via the Solway Mosses. He died before the invasion took place at Burgh-by-Sands where today there stands a monument in his memory. In May 1568 Mary Queen of Scots fled the rebellion in Scotland and escaped by boat down the Solway Firth.

Perceptual character

- 3.2.36 The intrinsic beauty of this seascape type lies in its unspoilt simplicity, wildness and remoteness. The remote qualities are reinforced by bird life, and the presence of grazing stock complements the peaceful scene.
- 3.2.37 This landscape makes a valuable contribution to the wider seascape and has striking relationships with neighbouring landscape types. The open marshes, expansive mudflats and long horizons create a strong sense of space and freedom. The inner estuaries become more intimate with the protecting enclosure of land and fells. Here the simple flatness of the marshes contrasts dramatically with the verticality and complexity of the fells. The green colour of the marshes is a distinctive characteristic which contrasts with the grey and sandy colours of the estuary. Gorse scrub provides colourful contrasts on the landward edges of the marshes. The changing weather that can sweep across the adjacent estuaries and bays can switch from a calm and tranquil to an exposed and elemental experience.

Sensitive characteristics or features

- 3.2.38 The sheltered salt flats and intricate pattern of creeks lie adjacent to open flats/sea. The open and undeveloped nature makes them sensitive to development and significant changes to the largely undeveloped horizon. There is a high degree of naturalness and tranquillity and a feeling of wildness and remoteness that is also sensitive to development. The large number of birds reinforce the naturalness of the area and the habitats are sensitive to changes in sea dynamics, marsh management and fishery activities. The organic form and line along the coastal edge could be sensitive to hard realignment and changes in sea level and coastal dynamics. The large and expansive backdrop of the seas and Lakeland and Scottish fells could be sensitive to significant infrastructure development.

Vision

Conservation and restoration will be the main priority in this landscape of distinctive high landscape and ecological value.

- 3.2.39 The restoration of drained agricultural land to saltmarsh will be encouraged, with some enhancement of coastal margins as changes in coastal flood defences come forward. Management (including of grazing) and restoration of these landscapes to improve the ecological condition of the saltmarsh will be encouraged. The visitor experience within these landscapes will be enhanced/managed to reduce impacts.

Changes in the Landscape

3.2.40 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
- In the south of Cumbria, there has been erosion of the coastal marsh landscape with some pockets of accretion along the Capeshead embankment west of Flookburgh; and at Humphrey Head. In the north of Cumbria along the channel of the River Eden estuary there is mostly a pattern of accretion, with erosion along a stretch of the coast north and west of Burgh by Sands.²¹

3.2.41 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change and Coastal Processes:

- The saltmarshes are in a constant cycle of erosion and deposition. They are added to by sediment following high tides and the same forces are continuously eroding them. The dramatic change in the extent and position of the saltmarshes over time is well illustrated in historical maps. Expansion in salt marsh habitat may occur in various locations due to changes in management practices and habitat creation.²²
- Predictions of increased storminess and possibly sea level rise could have serious implications for the extent of low-lying saltmarshes, especially if hard sea defences prevent an inland retreat.
- Coordinate approaches to shoreline management along the Cumbrian coast
- Consider the scope for managed retreat of flood and coastal defences allowing reversion of farmland to marsh, mudflat or beach.
- The raising of sea dykes as part of the shoreline management process could destroy hedges and marsh habitat.

Development:

- Energy infrastructure including tidal, further large-scale off-shore wind turbines and pylons could be considered in the adjacent estuary and bay areas. These could have significant effects on natural coastal processes, habitats and the open seascape character.

²¹ https://www.solwayfirthpartnership.co.uk/solway-review/physical/coastal-change/#chapter_0

²² <https://thefloodhub.co.uk/ourfuturecoast/>

- Major and medium scale development in adjacent landscapes including coastal defences, energy infrastructure, communication masts and caravan site extensions could compromise the remote qualities of these areas.

Management Practices:

- The balance of saltmarsh grazing, by which sheep modify the vegetation to a close-cropped turf, could be upset by changes in the grazing regimes. Turf cutting is a traditional management practice but is ecologically damaging, and can scar and erode the marshes.

Access and Recreation:

- Without proper management recreation (and sea fisheries activities) can lead to localised visual intrusion of parked cars, erosion of the turf by vehicles particularly on the narrower more accessible saltmarshes and disturbance to birdlife and livestock from vehicles.
- Without appropriate guidance and management, walking with dogs can be a substantial cause of disturbance to wildlife and habitats.
- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.

Guidelines

- 3.2.42 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change and Coastal Processes:

- Any improvement of sea dykes needs to be carefully planned to minimise environmental damage whilst selectively protecting the most valuable farmland and residential areas.

- Economic and social benefits need to be carefully weighed against the likely environmental impacts of flood defence schemes including loss of dyke hedgerows and marshy habitats.
- Consider the re-creation of saltmarsh on land, which in the past has been reclaimed to agriculture, in instances where managed retreat of coastal defences is inevitable.

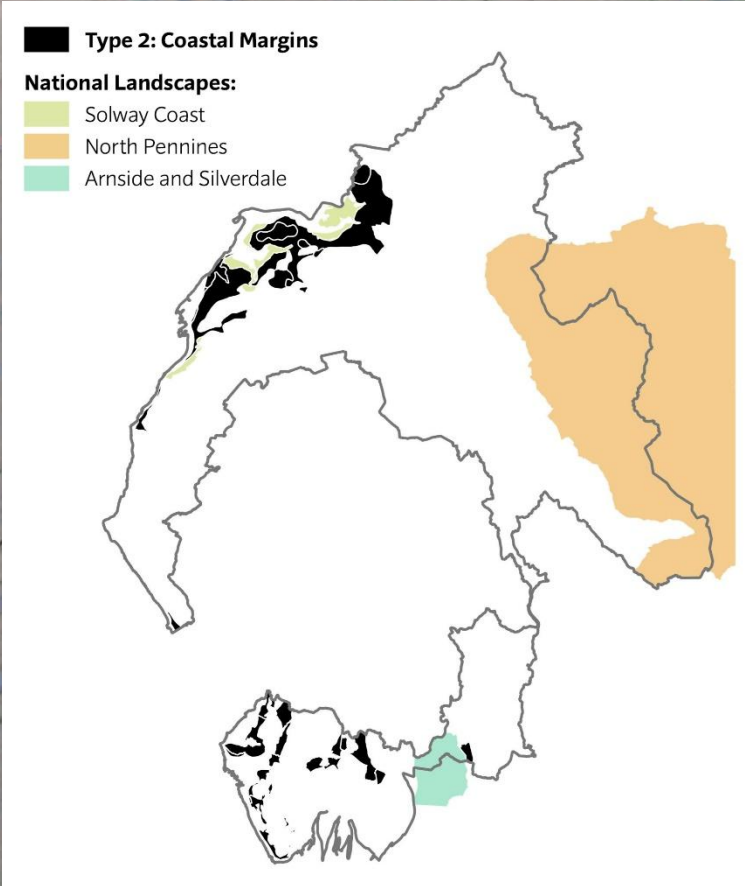
Development:

- Protect the periphery of saltmarshes from the intrusion of large and medium scale development within neighbouring landscape types.
- Ensure large scale development does not cause significant harm to natural coastal processes and habitats.
- Resist the clutter and obstruction of views by minor development such as signs and fencing.
- Ensure that the design and siting of all development is of a high standard which enhances its surroundings
- and any saltmarsh habitat disturbed by construction is carefully restored.

Access and Recreation:

- Improve information for visitors to encourage the protection of sensitive saltmarsh habitats and minimise wildlife disturbance.
- Ensure car parks and lay-bys are sensitively sited and well-designed being appropriate in size and form.
- Where appropriate provide well-designed vehicle barriers around car parking areas to prevent erosion of the saltmarsh.
- Ensure that planning decisions support increased recreation provision that is compatible with the remote and wild qualities of these landscapes.
- Support improved coastal access through waymarking, gates, gaps, bridges and appropriate surfacing and encourage use of wardens around areas of wildlife sensitivity.
- In areas where coastal access will introduce new routes, appropriate access management may be needed in sensitive locations at certain times of the year, to minimise disturbance to wildlife.

Type 2: Coastal Margins



3.3 Type 2: Coastal Margins

3.3.1 This is a predominantly flat open landscape incorporating diverse characteristics from Cumbria's coastal margins to the urban fringes of coastal settlements.

3.3.2 Where the sea meets the land, sandy beaches and a dune landscape are present, and are very open and grazed. The soft organic and dynamic forms of the shoreline and coast become more stable as you move inland through a geometric mosaic of undulating pasture/ moss land and sporadic woodland.

3.3.3 Coastal plains consist of boulder clay topography, large field systems with agriculture being the main land use. Urban developments tend to be strong forms upon a flat open landscape where weak field boundaries are coupled with man-made landforms and a visible industrial heritage.

3.3.4 Sub types:

- 2a Dunes and Beaches
- 2b Coastal Mosses
- 2c Coastal Plan
- 2d Coastal Urban Fringe

Sub type 2a: Dunes and Beaches

Location

- 3.3.5 The Dunes and Beaches sub type is found around the mouth of the Duddon Estuary and south of Seascales. In some places, it lies within the Solway Coast National Landscape and adjacent to the Lake District National Park.
- 3.3.6 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Hummocky dunes and flat raised beaches
- Beaches of mud, sand, shingle and pebbles
- Semi-natural grassland dominates
- Isolated farms and linear stone villages
- Bounded by small roads leading to minor tracks and paths
- Strong sense of tranquillity in some parts

Physical character

- 3.3.7 This sub type is predominantly underlain by marine alluvium or undulating boulder clay covered by recent windblown sandy drift and soils. The dunes are influenced by tidal movements, coastal forces and weather events. These sculpt the dunes and beaches, changing their profile, position and shoreline orientation. Plants have trapped the sand and established colonies providing stability to the dunes in these landscapes.

Land cover and land use

- 3.3.8 The seascape comprises hummocky sand dunes, wet hollows and raised beaches and is an interface between the sea and farmland.
- 3.3.9 The vegetation is a mix of dune grassland and heathland and semi-natural grassland which is occasionally grazed or mown. Access is limited to minor tracks and paths. The landscape type is often bounded by minor rural roads serving a string of linear villages and isolated farms.
- 3.3.10 There is a strong building vernacular of a substantial stone and cobble construction. Buildings are closely spaced for shelter. Cobble stone banks and walls traditionally form the boundaries of farms and roads with some recent replacement with fences.
- 3.3.11 Hard sea defence works and tourism development contrast with the soft natural features, vernacular development and rural roads.

- 3.3.12 The Robin Rigg offshore wind farm in the Solway Firth has been a feature of the seascape for over 15 years. The Barrow offshore wind farm in the Irish Sea to the west of Walney Island was constructed in 2006, and has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecology

- 3.3.13 All the sand dune systems in Cumbria are either of international or national ecological importance. Their damp dune slacks support 50% of the UK's population of natterjack toad, and provide habitat for breeding colonies of eider duck, terns, gulls and great crested- newt. Sand dunes are also important for rare plants, fungi and invertebrates. In Cumbria they form some of the most botanically diverse dune systems in the country. Species include coralroot orchid and dune helleborine which are often found in wet hollows. The largest UK population of coralroot orchid is found at Sandscale Haws and dune helleborine is an UK endemic species confined to a small number of sites.

Historic and cultural character

- 3.3.14 A very volatile environment frequently remodelled through wave and wind action, though rarely permanently settled evidence of prehistoric land use and occupation sometimes erodes out of the dunes in the form of stone tools and the remains of fires. The remains of ancient beaches (remnants of ancient seas) may be found far inland, complete with shells and beach pebbles.

Perceptual character

- 3.3.15 The sea is the dominant influence on this rare and dynamic landscape, the mood changing with the tides, season and weather. The beaches have wide uninterrupted views across open sea, marsh and mudflats or landwards to mountains and fells. These open and exposed seascapes offer wide attractive views. The big skies and natural forces can be exhilarating and evocative with focal points such as Piel Island and Criffell in Scotland adding interest. In contrast the dunes offer shelter and a feeling of intimacy with plants and providing a rich variety of interest. Most enjoy a sense of tranquillity and remoteness. In contrast beaches on the fringes of settlements are more energetic and are often full of human activity.

Sensitive characteristics or features

- 3.3.16 The wildness and high ecological value of the sand dunes and dune grassland are likely to be sensitive to coastal dynamics, shoreline management responses and changes in management regimes. The small scale traditional coastal villages and farms are sensitive to medium to large scale expansion of modern housing and industry.

- 3.3.17 The open and expansive views to a largely undeveloped horizon both inland and offshore are sensitive to large scale wind energy development. The feeling of tranquillity arising from ‘naturalness’ of the landscapes is sensitive to unsympathetic development and noisy land uses. The organic form and line along the coastal edge could be sensitive to hard realignment and changes in sea level and coastal dynamics.

Vision

The conservation and enhancement of the wild qualities and ecological value of the dunes and grassland will be a priority, while at the same time the public’s freedom to roam will be retained.

- 3.3.18 There will be co-ordinated management for the dynamic dune system and its ecosystem. There will be more interpretation to foster greater respect of the dune system. Important habitats such as those for Natterjack toads will be maintained and any opportunities to increase the extent of or enhance the unique features of the dune system will be taken. Impacts linked to coastal erosion will be monitored and managed. New development will be sensitively sited and designed to reflect the tranquillity of the dunes and beaches. Recreational uses will be monitored and managed to minimise negative impacts.

Changes in the Landscape

- 3.3.19 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
 - The dunes and beaches landscape have experienced a varied pattern of localised coastal erosion and accretion.²³
- 3.3.20 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change and Coastal Processes:

- As this is a dynamic and changing seascape natural processes will continue to change the character of the area. The threat of sea level rise and increased storminess as a consequence of global warming is likely to increase pressure for more coastal defences in some areas. In some places the dunes are eroding, in others they are accreting. Evidence suggests that erosion may be related to the

²³ https://www.solwayfirthpartnership.co.uk/solway-review/physical/coastal-change/#chapter_0

loss of sediment supply due to the extraction of sand and gravel or the introduction of hard coastal defences in adjacent stretches of coast. However, erosion could increase due to climatic changes and become severe in some areas resulting in direct biodiversity loss.

- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Practices such as tipping, heavy grazing and intensive mowing have tended to tame the wild qualities of the dune grasslands and their ecological interest.
- Scrub can establish quickly in areas that are not appropriately managed by mowing or grazing.

Development:

- Energy infrastructure including tidal, further large-scale off-shore wind turbines and pylons could be considered in the adjacent estuary and bay areas. These could have significant effects on natural coastal processes, habitats and the open seascape character.
- Major and medium scale development in adjacent landscapes including coastal defences, energy infrastructure, communication masts and caravan site extensions could compromise the remote qualities of these areas.
- Minor detractions include engineered urban detailing to features such as streams, fences and walls along with neglect of traditional features such as cobblestone banks.
- Development in nearby settlements could influence the need for changes to shoreline management that could influence the character of the area.

Access and Recreation:

- Damage due to recreational pressures including wear and erosion by vehicular access, spoiling by litter, fly tipping, unauthorised camping, fires and disturbance to wildlife.
- Damage to the dune system from the misuse of four-wheel drive vehicles, quads, mussel fishers and unrestricted parking is very evident here, leaving the shingle shore and vegetation in an unmanaged state.
- Plover, tern, oystercatcher and other protected birds are also vulnerable.
- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved to support the coastal open access programme. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.
- Some poorly designed facilities such as informal car parks can visually detract.
- Large scale tourism developments could detract from the open qualities of the area.

Guidelines

3.3.21 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change and Coastal Processes:

- Support the reinforcement of the dune system as a coastal defence and favour 'soft' accretion solutions for coastal protection in favour of less compatible 'hard' coastal defences.
- Ensure coastal defence schemes are carefully planned and based on knowledge of local erosion and deposition processes along the seacoast. They should also minimise visual intrusion, avoid indirect damage to adjacent coast and selectively protect the most valuable wildlife and historic sites.

Natural and Cultural Features:

- Conserve and manage traditional features such as cobblestone banks to strengthen a sense of place. Minimise the intrusion of incongruous features such as fences, tracks, hard coastal defences, engineered drains and channels that compromise the remote and wild qualities of the dunes.

Development:

- Ensure large scale development does not cause significant harm to natural coastal processes and habitats.
- Protect the periphery of dunes from the intrusion of large-scale development within neighbouring landscape types.
- Development should be sited and designed to maintain an open and undeveloped shoreline character.
- Ensure that new facilities are carefully sited and designed to minimise their landscape and visual effects on this undeveloped and natural seascape.

- Provide and replace vehicle restraints to a robust and consistent design sympathetic to the dune character.
- In the Solway Coast National Landscape, ensure that housing development and associated stone walls utilise traditional materials from locally sustainable sources. Cobble removal from the shoreline should be managed to prevent a negative change in character and changes in function as a natural sea defence.
- Prohibit extraction of sand and gravel from the foreshore.

Access and Recreation:

- Coastal access footpaths, areas and facilities should be improved and developed to be compatible with the undeveloped and natural character of this sub type. In line with the Marine and Coastal Access Act consideration should be given to routing coastal access footpaths along appropriate sea defence structures.
- In areas where coastal access will introduce new routes, appropriate access management may be needed in sensitive locations at certain times of the year, to minimise disturbance to wildlife.
- Information should be provided to encourage responsible enjoyment of these undeveloped and natural seascapes, and the importance of not damaging the dune system with unauthorised vehicles.
- Develop coordinated programmes of recreation management including repair and maintenance of facilities, regulating public access, repairing grassland damaged by vehicles and pedestrians, removal of rubbish, interpretation of wildlife interest.
- Consider relocation of existing car parks away from dune grassland, particularly where these are exacerbating erosion problems and are poorly screened.
- Improve the appearance of facilities such as car parks, picnic areas, toilet blocks, signs, footpath links and boundary treatments. Unify designs in an appropriate coastal vernacular avoiding urban municipal characteristics and using high quality durable materials.

Sub type 2b: Coastal Mosses

Location

- 3.3.22 The Coastal Mosses sub type is found around the head of the Duddon Estuary and to the north and west of Carlisle, and partly lies within the Solway Coast National Landscape. In some places, it lies adjacent to the Lake District National Park.
- 3.3.23 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Lowland raised mosses
- A mosaic of heath, Willow Carr, Birch scrub woodland and pasture
- High ecological value
- Field shapes vary, bounded by hedges and fences
- Some woodland around the Duddon Estuary
- Picturesque backdrop of the Lakeland Fells/open flat panoramic views
- Distinct raised edges
- Sense of remoteness and tranquillity

Physical character

- 3.3.24 Lowland raised mosses (peat bogs or raised mires) have formed by peat accumulation in poor draining alluvial or boulder clay basins. The mosses rise up to three metres above surrounding levels. These are often associated with post glacial drumlins that form local features in the adjacent landscapes. They are usually found close to the coastal edge or in areas of drained land.

Land cover and land use

- 3.3.25 These comprise a mosaic of moss, willow carr or birch scrub woodland and pasture. The woodland scrub often forms distinctive edges, particularly in the Solway. Enclosure may be by trimmed hedges or overgrown gapped hedges and fences. Woodland is limited to the upper mosses around the Duddon Estuary.
- 3.3.26 Field shapes range from the small and irregular in undulating areas to large rectangular fields on flat open mosses.
- 3.3.27 Settlement is sparse, though some vernacular farm buildings lie on the fringes of the mosses. Large scale peat extraction can be found in places around the Solway. The distinctiveness of the mosses is being weakened and fragmented by encroaching pasture and peat extraction.

- 3.3.28 The Robin Rigg offshore wind farm in the Solway Firth has been a feature of the seascape for over 15 years. The Barrow offshore wind farm in the Irish Sea to the west of Walney Island was constructed in 2006, and has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecology

- 3.3.29 This is a landscape of great ecological importance, dominated by lowland raised bogs of international and national significance. Most of the remaining raised mire in England lies in Cumbria. Whilst many of the mires have been subjected to peat extraction and drainage there are still extensive areas of relatively intact raised mire and these support communities dominated by Sphagnum mosses and cotton-grasses, whilst drier areas of mire are often dominated by heather or birch and Scot's pine woodland. The drained margins of these mires can support large areas of rush and purple moor- grass pasture. Lowland raised mire supports a range of uncommon and rare species, including the large heath butterfly, variable dragonfly, reed bunting, skylark and redshank.

Historic and cultural character

- 3.3.30 The mosses have a rich cultural heritage and contain evidence of reclamation, particularly in areas held by Holme Abbey in the north of Cumbria. Within the field systems is the preserved evidence of former peat rooms in long narrow enclosures. In general, there is good boundary preservation and evidence of both traditional field patterns consisting of small irregular enclosures and later larger more regular enclosures.
- 3.3.31 Where the mosses are not degraded, they have the potential to preserve waterlogged organic archaeological deposits including wood. Consequently, they may contain evidence of prehistoric trackways or other features that do not survive in normal terrestrial environments. They are also important for preserving pollen which allows the past environment and climate to be interpreted, and they have previously produced skeletal evidence of past fauna both wild and domesticated.

Perceptual character

- 3.3.32 This is a rare landscape in both national and Cumbrian terms. The open remnant patches of moss provide a rich note of interest in surrounding agricultural landscapes.
- 3.3.33 The variety of moss plants is colourful and rough textured, contrasting with the smoother improved pasture fields. Despite some peat extraction the mosses are generally peaceful backwaters. The small, yet open and undeveloped nature of the mosses contributes to broader seascape views across the Solway Firth and along the Duddon Estuary. The Duddon Mosses have the benefit of the backdrop of the Lakeland Fells and uninterrupted views along the Duddon Estuary. In the Solway views tend to be limited and discrete, and the remaining uninterrupted views to the

sea are important to the sense of remoteness associated with these landscapes. The experience of these landscapes is influenced by the seasons and weather with a calm and tranquil feeling sometimes giving way to a wilder feeling when winds rise and skies darken.

Sensitive characteristics or features

- 3.3.34 Changes in drainage around the moss land could affect the simple balance of the mosaic landscapes and habitat. The sense of remoteness and naturalness, the rich habitats and presence of birds, and the flat dark and open areas that contrast with green farmland, large skies and seaward views could be sensitive to significant changes in land management and large-scale infrastructure development.

Vision

The mosses will be conserved and restored creating a landscape enriched with ecological diversity.

- 3.3.35 Detailed management and restoration projects will extend the mosses and allow their visual and wildlife interest to flourish creating much more diverse landscape and habitat. The small-scale pattern of carr woodland will be retained and proposals for the extraction of peat and extensive commercial woodland planting will face strong opposition ensuring the protection of the hydrology of the peat body and retaining a sense of tranquillity.

Changes in the Landscape

- 3.3.36 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Onshore wind farms have become a feature of this landscape with construction of the Beck Burn Wind Farm near Longtown (31 MW/9 turbines) in 2017
 - Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
 - Restoration of peat bogs that were previously utilised as commercial peat extraction sites, such as the South Solway Mosses National Nature Reserve

3.3.37 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change and Coastal Processes:

- Increased rainfall could provide opportunities to improve the condition of existing areas and reinstate areas of moss. Active mosses can help with carbon sequestration and mitigate against climate change.
- Those that are found close to the coastline could be susceptible to periodic inundation from sea water if sea levels rise significantly.

Management Practices:

- Agricultural reclamation and improvement has traditionally been the main pressure on this rare landscape. Even where the moss is not directly removed, adjacent drainage works can cause the edges to dry out encouraging scrub development with a consequent risk of fire. Desiccation can also cause land shrinkage, drops in height and road deformation.
- Large-scale peat cutting and coniferous planting also weaken the character of this landscape by obscuring or destroying mosses. Solway Moss north of Carlisle is still subject to commercial peat extraction.
- Unmanaged burning can damage the surface vegetation and the overall hydrological integrity of the bog.

Development:

- The introduction of energy infrastructure and associated tall and vertical structures such as pylons and large-scale wind turbines can impact greatly on the character of these expansive open areas. The introduction of pylons with regard to the Great Grid Upgrade launched in 2023 could act as an incentive to developers looking to site tall structures which could obscure important views.
- Further offshore wind farm development could see turbines becoming even more frequent features in the adjacent seascapes.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved to support the coastal open access programme. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.

Guidelines

- 3.3.38 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change and Coastal Processes:

- Strategic projects should be developed to ensure the carbon sequestration potential of the raised mires is enhanced. Development, in and around the
- landscape, that could significantly reduce this potential should be avoided.
- Adopt environmentally sensitive management of the mosses including maintenance of a high-water table, phased cutting and burning of heather, preventing damage to moss growth by overgrazing and poaching, control of scrub encroachment, restricting liming,
- fertilizer, and herbicide and pesticide treatments.
- Allow drained and managed mossland to revert back to semi-natural wetland. This may include ‘blocking’ of adjacent drainage systems, restricting grazing, appropriate wetland planting or seeding, removal of hedgerows and scrub.
- Resist improvement or introduction of drainage systems that might threaten the dampness of the mosses.

Natural and Cultural Features:

- Restrict new planting, particularly conifer woodlands to maintain an open semi-natural character.
- Manage hedgerows in a traditional way involving a cycle of hand laying and trimming.
- Restore fenced boundaries to hedgerows involving replanting and renovation of gappy overgrown hedges. Discourage introduction of fences to replace or ‘gap up’ hedgerows.

Development:

- Protect the small-scale open character of the mosses from inappropriate development, specifically large vertical developments such as large-scale wind turbines and pylons.
- Avoid fragmentation of the natural patterns of the mosses and wildlife links by infrastructure development.

Access and Recreation:

- In areas where coastal access will introduce new routes, appropriate access management may be needed in sensitive locations at certain times of the year to minimise disturbance to wildlife.
- Support the roll out of coastal access and encourage sensitively sited coastal access and recreational infrastructure. Coastal access footpaths, areas and facilities should be improved and developed to
- be compatible with the undeveloped and natural character of this sub type. In line with the Marine and Coastal Access Act consideration should be given to routing coastal access footpaths along appropriate sea defence structures.

Sub type 2c: Coastal Plain

Location

- 3.3.39 The Coastal Plain sub type is found extensively around the Solway Firth, and to a lesser extent around the Duddon Estuary, Walney Island and Cartmel Sands, and partly lies within the Solway Coast National Landscape and the Arnside and Silverdale National Landscape. In some places, it is adjacent to the Lake District National Park.
- 3.3.40 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape, the Arnside and Silverdale National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Flat and slightly undulating coastal plain
- Long and narrow fields in undulating areas with larger fields in flat areas
- Intersected by shallow rivers and watercourses
- Hedges form main field boundaries
- Scarce tree cover
- Predominantly pasture with some arable in drier areas
- Hadrian's Wall (part of the Frontiers of the Roman Empire World Heritage Site) is a significant archaeological feature in the Solway
- Historic field pattern strongly linked to settlements

Physical character

- 3.3.41 The flat coastal plain is largely based on fluvial drift, marine alluvium and undulating boulder clay on Triassic mudstones and sandstones. The land is up to 15m AOD. This coastal landscape is subject to coastal erosion and flooding.

Land cover and land use

- 3.3.42 Improved pasture predominates in this agricultural landscape. In flatter areas the coastal plain is divided into large square fields surrounded by a linear matrix of drainage ditches. In undulating areas fields are often long and narrow and around historic settlements are derived from the pattern of medieval common field farming in strips. In drier areas, particularly on boulder clay, arable crops are grown producing a patchwork of colour and texture. Rougher and marshy pasture with rushes or gorse scrub occur around the moss, saltmarsh fringes and along watercourses.

- 3.3.43 Proximity to the sea is a major influence on land cover. Field division is primarily by hedges with or without cobblestone banks (kests), but replaced with fences, particularly on more marginal farmland. On the exposed coasts hedges tend to be sparse, sometimes with gorse, and tree cover is often sparse. Thicker hedges and wind sculpted hedgerow trees are scattered in more sheltered areas. Further inland small copses or shelterbelts, associated with farms or churches are prominent features along with the thicker hedges. Birch woodland occurs on the edges of the mosses providing shelter and enclosure. Around the head of the Solway and Levens estuaries small coniferous and deciduous plantations are found, associated with large estates.
- 3.3.44 Coastal villages tend to be vernacular in character and nucleated and closely knit with stone walls for shelter. They are usually the most prominent feature on the skyline. Inland, buildings are more spread out and softened by hedges. Roads and railway lines, both operational and disused, form strong linear features that cut across the plains. These features are reinforced by scrub and woodland growing alongside.
- 3.3.45 Telecommunications masts and pylons provide prominent and contrasting vertical features in some of the areas. In parts of the Solway, the coastal plain adjacent to the mosses are characterised by 20th century military sites that include airfields, radar and radio installations. These are isolated developments and do not dominate the overall agricultural character of the landscapes.
- 3.3.46 The Robin Rigg offshore wind farm in the Solway Firth has been a feature of the seascape for over 15 years. The Barrow offshore wind farm in the Irish Sea to the west of Walney Island was constructed in 2006, and has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecology

- 3.3.47 As this is some of the most agriculturally improved land in Cumbria, ecological interest is largely confined to small areas of remnant lowland raised mires and coastal and floodplain grazing marsh habitats. The former are mostly wooded with birch or Scot's pine, with only small areas of open mire vegetation. These woods are often important for red squirrel. The coastal and floodplain grazing marsh habitats support large flocks of wintering barnacle geese, pink-footed geese and whooper swan, particularly around the Solway. This agricultural landscape is also important for farmland birds, particularly barn owl and corn bunting, with most of the few remaining Cumbrian populations of the latter species occurring in this landscape type. The grazing marsh supports a range of plants including creeping bent and marsh foxtail. In wetter field margins greater reedmace, reed canary grass, water plantain and sedges are supported. The lower reaches of both the River Esk and River Eden flow through this landscape and both are important for otter and Atlantic salmon. The banks of these rivers also provide nest sites for sand martins.

Historic and cultural character

- 3.3.48 The coastal plain has a highly nucleated settlement pattern with evidence of the late enclosure of former common arable outfields. The settlements are characterised by vernacular buildings constructed of local stone with red sandstone, a feature of the north of Cumbria. Many of these buildings date to the seventeenth and eighteenth centuries. In general, the character of this landscape type has strong and discernible links to its past development. On the Solway Plain salt pans can be found. Clay built buildings are a characteristic feature too. Amongst the characteristic archaeological remains are former sea defences but the most significant archaeological feature is Hadrian's Wall, which, west of Carlisle, runs through the Solway Plain. Some present villages such as Burgh-by-Sands occupy the sites of former Roman forts along the Wall. Other cultural features include a monument to Edward I.

Perceptual character

- 3.3.49 The impression varies according to distance from the open sea and the local topography. Open, flat, larger scale landscapes with big expansive skies and long views of the sea and Lakeland and Scottish Fells contrast with undulating enclosed and intimate landscapes. Land cover patterns tend to be simple with farms and copses standing out as prominent features. Marginal farmland on the fringes can appear neglected. Outer coastal plains are strongly influenced by the sea with wind sculpted hedges and trees providing a sense of exposure to natural processes. Here experiences are influenced by the seasons and the weather and can leave you feeling tranquil and calm when the weather is good to vulnerable and exposed in stormy and poor weather. All areas have the appearance of peaceful backwaters relatively unspoilt by 20th century development.

Sensitive characteristics or features

- 3.3.50 The medieval field patterns and traditional scale vernacular villages are sensitive to village expansion and changes in land management. The open character of the exposed coastal farmland is sensitive to development.
- 3.3.51 The open views across adjacent marshes and flats out to sea and inland to the Lakeland Fells are sensitive to large scale infrastructure development. Wind sculpted hedges and trees and traditional kest hedges are sensitive to changes in land management.

Vision

This working landscape is well maintained and supports a diverse range of wildlife habitats.

3.3.52 The impacts of agricultural intensification will be minimised and traditional farming practices will be supported resulting in the restoration and management of key features such as hedgerows, hay meadows, semi-natural and native woodland and historic field patterns. Any opportunities to restore semi-natural wetland, fen, reedbed and local raised bog will be exploited enriching wildlife and visual diversity. The contrasting open fields enclosed by bold masses of woodlands will be strengthened while the scattered pattern of isolated mature trees and clumps will be reinforced and conserved. Some diversification of farmland to new crops and recreational uses will be accommodated and encouraged where it will benefit local character. Hadrian's Wall is a key feature within this type and will be conserved and maintained. Some infrastructure and energy developments will be accommodated in the landscape should they be designed carefully and sited appropriately.

Changes in the Landscape

3.3.53 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Onshore wind farms have become a feature of this landscape with construction of the Hellrigg Wind Farm near Silloth (9.2 MW/4 turbines) in 2011
- Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
- The coastal plain landscape has experienced a varied pattern of erosion and accretion, including erosion at Walney Island, along the coast at Dunnerholme adjacent to Duddon Sands and on both sides of the River Leven channel.²⁴

3.3.54 Over the next 10–20 years this landscape could be subject to the following changes or issues:

Climate Change and Coastal Processes:

- Areas close to the sea could be affected by rises in sea level, increased storminess, coastal erosion and proposals for shoreline management.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

²⁴ https://www.solwayfirthpartnership.co.uk/solway-review/physical/coastal-change/#chapter_0

Management Practices:

- The switch from hay making to more intensive silage production changes the nature and biodiversity of the landscape.
- The drainage and improvement of wetland, remnant mires, grazing marshland and floodplain reduces the varied land cover and biodiversity. It can also reduce the remnant mire potential for carbon sequestration.
- The removal and neglect of hedges and move away from traditional maintenance practices erodes the distinctive character.
- Loss of farmland wildlife could be due to more intensive farming practices.
- Loss of woodland can reduce the biodiversity and interest of the landscape.

Development:

- Proposals linked to tidal energy could lead to new infrastructure in the coastal plain which could affect the open and distinctive character of the landscape.
- The Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) could result in additional large pylons and substations across some areas, which could affect the open character of the landscape.
- Further onshore wind farm development could become a more frequent feature of this landscape
- Further offshore wind farm development could see turbines becoming even more frequent features in the adjacent seascapes.
- Developments such as new industrial scale farm buildings could impact on this type if they are introduced in large numbers or, if they lead the way for proposals for similar developments.
- Farm diversification could lead to an increase in the use of farmland for horse grazing and equestrian uses could result in changes to field patterns and boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved to support the coastal open access programme. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.
- Visitor numbers could increase in these areas linked to the roll out of coastal access, and attractiveness of adjacent National Park areas. This could lead to the need for better management of sensitive parts of the landscape.

Guidelines

3.3.55 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change and Coastal Processes:

- Restrain development in areas susceptible to flooding to allow the land to possibly be grazed, drained or returned to wetland should areas of this landscape become liable to flooding due to climate change.
- Encourage approaches to shoreline management that are sensitive to undeveloped nature of parts of the seascape.

Natural and Cultural Features:

- Plant new woodland belts to ameliorate existing conifer plantations, enhance significant views and reduce the visual dominance of transmission lines, where appropriate, avoiding areas of coastal plain with breeding wader interest.
- Plant new hedgerow trees to replace maturing stock using indigenous species, or tagging selected saplings avoiding obstruction of attractive open vistas,
- Undertake small scale native woodland planting concentrated around villages and farmhouses to form visual islands on the coastal plain and soften the forms of new farm buildings, where appropriate, avoiding areas of coastal plain with breeding wader interest.
- Restore fenced boundaries to traditional hedgerows involving replanting and renovation of gappy overgrown hedges, where appropriate, avoiding areas of coastal plain with breeding wader interest.
- Discourage the introduction of fences to replace or gap-up hedgerows.
- Manage hedgerows in a traditional way involving a cycle of hand laying and trimming.
- Restore and maintain locally distinctive boundary treatments such as cobblestone and turf hedge banks.

Development:

- Minimise the impact of major developments such as large-scale wind energy, roads, pylons, masts and infrastructure linked to offshore developments by careful siting to maximise screening from public view and high standards of design and landscape treatment. Open and exposed sites and those that affect key views should be avoided, especially where development would become the dominant feature
- Reduce the impact of new farm buildings by careful siting, breaking down mass, choice of sympathetic colours and non-reflective finishes and screen planting.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.

Access and Recreation:

- Support the roll out of coastal access and encourage sensitively sited coastal access and recreational infrastructure. Coastal access footpaths, areas and facilities should be improved and developed to be compatible with the undeveloped and natural character of this sub type.
- In areas where coastal access will introduce new routes appropriate access management may be needed in sensitive locations at certain times of the year to minimise disturbance to wildlife.

2d: Coastal Urban Fringe

Location

- 3.3.56 The Coastal Urban Fringe sub type is found around Flookburgh, Ulverston, Walney and Millom in the south of Cumbria and around Silloth and the coastal edge between Workington and Maryport in the north and west. In some places, it lies within the Solway Coast National Landscape and adjacent to the Lake District National Park.
- 3.3.57 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Low lying flat land
- Urban influences linked to tourism development, derelict buildings and major transport routes
- Strong man-made landforms on coastal edges
- Mixed land cover of mown grass, pasture, scrub and semi natural grassland
- Weak field patterns.

Physical character

- 3.3.58 These are generally flat or gently undulating land largely based on fluvial drift, marine alluvium and undulating boulder clay on Triassic mudstones and sandstones. The land is up to 15m AOD.

Land cover and land use

- 3.3.59 The areas characterised by urban, industrial and leisure related development, derelict and unused buildings and transportation routes. In parts of the Duddon Estuary and Morecambe Bay the fringe areas are adjacent to coastal beaches and mudflats. These along with agricultural land, playing fields and recent man-made landforms such as slag banks associated with former industrial sites provide an open character to the seascape.
- 3.3.60 Land cover is typically mixed; predominantly pasture, but sometimes mown grass or semi-natural grassland and scrub. Fields are small and patterns are weak. Field division is often by hedges or fences. Hedges are sparse and gappy where they occur.
- 3.3.61 The areas along the coastal edges are usually hard and man-made characterised by roads, promenades, sea dykes and sea defences. Roads, railways, large scale wind turbines and pylons cut across the seascape around settlements. Holiday

parks and redundant buildings and sites are frequently found, as are unmaintained fences and hedges. The urban characteristics of adjacent areas are increasing in this seascape with extension to business parks and leisure facilities, particularly around Carlisle and Barrow.

- 3.3.62 The Robin Rigg offshore wind farm in the Solway Firth has been a feature of the seascape for over 15 years. The Barrow offshore wind farm in the Irish Sea to the west of Walney Island was constructed in 2006, and has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecology

- 3.3.63 This landscape supports a surprising wealth of wildlife, often, but not exclusively, associated with former industrial sites. Areas of iron slag are often colonised by herb-rich grasslands, which can support uncommon plants and wildlife. Previously developed land around Workington and Maryport support a significant population of small blue butterfly and purple broomrape. Great crested newts and natterjack toads are frequent in damp ground and pools within this landscape; and where it adjoins areas of saltmarsh and intertidal sand and mudflat areas can be used as a high tide roost by wintering and passage waders and wildfowl such as whooper swans, pink footed goose and barnacle goose. Hodbarrow Lagoon is of importance for breeding and wintering birds and scarce aquatic plants such as spiral tasselweed. Previously developed land also supports mosaic habitats of pen land, grassland, scrub, pools and heathland.

Historic and cultural character

- 3.3.64 There are rich Haematite deposits in Low Furness (Lindal), Millom (Hodbarrow), Egremont (Florence Mine) and west Cumbria. Monks of Furness Abbey first exploited Furness Iron “industrially” in the 12th/13th century. There are rich coal deposits in west Cumbria. Further afield it was heavily involved in the slave trade between west Africa and the West Indies and American Colonies. From these it gained rum, sugar, cotton and tobacco. Cumberland rum butter, Kendal mint cake and Kendal snuff have all derived from this trade routed primarily through Whitehaven and Lancaster.
- 3.3.65 Whitehaven is important as the first classically planned new town in England, dating from the late 17th century, but there were others that came later along the west Cumbria coast in response to maritime trade and industry. These include Maryport, Harrington, Silloth, Askam, Barrow and Millom. Barrow-in-Furness is a Victorian model town, planned on grid pattern, utilising the natural harbour and local Haematite deposits for building steel ships. Iron-master, John Wilkinson built the first iron ship on the River Severn, having first experimented with a small version on Witherslack Mosses. He was a leading light of 18th century industrial revolution and was involved with Backbarrow Iron Furnace. Other features of John Wilkinson’s iron legacy can be found around Lindale and Castle Head House, which he built.

- 3.3.66 The cultural heritage of this zone is rich and highly variable from area to area. Near Silloth 20th century military remains are a significant feature in the landscape. Around Barrow the landscape is marked by former industrial manufacturing and mining sites. On Walney Island there is much below-ground evidence of prehistoric habitation and land use.

Perceptual character

- 3.3.67 This landscape is busy with many uses and a variety of land cover. It can have an air of neglect where buildings and land have become run down. It has a strong association both with the urban character of nearby villages, towns and cities and the open and undeveloped adjacent landscapes. Roads, railways, buildings and derelict sites detract from the unique attraction of sea views, beaches and water. Open and less developed parts provide an important link to interesting sea views and expansive skies. In these parts the time of day, seasons and weather can influence the character and experience of the landscape, especially when looking out to sea.

Sensitive characteristics or features

- 3.3.68 The high ecological value of some former industrial sites is sensitive to changes in land management and development. The views across adjacent landscapes to open sea and expansive skies are sensitive to development that would enclose or interrupt these views.

Vision

The qualities of this landscape and seascape will be enhanced, restored and improved as important settings for recreation. In order to foster strong local ownership and distinctiveness, improvements will be made regarding community involvement.

- 3.3.69 The rural and natural qualities of these areas will be reinforced and there will be the development of a bold landscape structure to unify disparate uses. This will be achieved through the conservation of rural green areas and a reduction in the impact of development in prominent locations. Where possible, derelict and old industrial sites will be restored through positive development and management schemes, reflecting any historic or biodiversity value and landscape works will soften coastal edges, protect significant views and improve recreation facilities. In the farmed hinterlands hedgerows will be restored, natural grassland and scrub fringes will be conserved and extended, and woodland will be created in more sheltered locations.

Changes in the Landscape

3.3.70 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Onshore wind farms have become a feature of this landscape with construction of the Wythegill Wind Farm near Workington (2.3 MW/1 turbine) in 2015
- Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
- Pockets of increased trees and scrub on rough grassland, notable on Walney Island.
- The coastal urban fringe has experienced a varied pattern of localised erosion and accretion, including erosion along the coast east of Ulverston.²⁵

3.3.71 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change and Coastal Processes:

- Sea level rise and increased storminess may lead to pressure for further hard sea defence works to mitigate against flooding and other consequences.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- The farmed hinterland can sometimes suffer by neglect of agricultural management that may be a reaction to fragmentation of holdings or public access pressures.
- Mown grassland and large areas of concrete and tarmac weaken the natural distinctiveness provided by scrub woodland and grassland.

Development:

- Fragmented and sporadic development has a negative influence on the character of this landscape. New housing and business development could reinforce a sporadic characteristic.
- The development of brownfield land could erode important habitats that have developed, particularly on sites that have been left vacant and neglected for some years.

²⁵ https://www.solwayfirthpartnership.co.uk/solway-review/physical/coastal-change/#chapter_0

- Farm diversification could lead to an increase in the use of farm land for horse grazing and equestrian uses could result in changes to field patterns and boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.
- The coastal edge is attractive to visitors and interest for recreational and tourism development is likely to continue in these areas.
- Energy infrastructure could be introduced and the Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) will result in new, larger pylons and substations. This could affect the character of some of the less developed parts of the coastal urban fringe.
- Further onshore wind farm development could become a more frequent feature of this landscape
- Further offshore wind farm development could see turbines becoming even more frequent features in the adjacent seascapes.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved to support the coastal open access programme. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.
- These areas provide good opportunities for large numbers of people to appreciate the surrounding landscapes and seascapes, particularly from promenades coastal roads. Interest in such activities is likely to continue to be popular.
- Recreation pressure on the coastal edge has led to an extension of mown grass areas or hard urban edges.

Guidelines

- 3.3.72 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change and Coastal Processes:

- Encourage coordinated approaches to shoreline management that are sensitive to undeveloped nature of parts of the seascape
- Ensure that areas under threat from climate change have adequate defensive measures in place whether through managed retreat, soft 'accretion' solutions, re-wetting of the areas or hard defences if absolutely necessary.

Natural and Cultural Features:

- Restore and reclaim derelict airfields, industrial sites and mining areas to remove eyesores, enhance open mosaic and semi-natural habitats and to make a positive contribution to the landscape.
- Retain and manage hedgerows in a traditional way encouraging restoration and maintenance of locally distinctive and historic boundary treatments such as cobblestone and turf hedge banks.
- Discourage introduction of fences to replace or 'gap-up' hedges and restore fenced boundaries to traditional hedgerows.
- Where a dilapidated pattern of fields may no longer function as part of a productive farm unit and their value in serving present day needs is questionable consideration should be given to removing some field boundaries to create open 'commons', and creating new woodlands that reflect topographic variation and help define public and private spaces.
- Conserve coastal slag banks and former mining sites as a proxy for naturalised vegetated shingle which supports breeding shorebirds and seabirds.

Development:

- Protect 'green' areas from sporadic and peripheral development. Support the retention and development of 'green gaps', green infrastructure and ecosystem services approaches in Local Development Frameworks where they would help maintain distinctive, undeveloped characteristics.
- Encourage new development on brownfield and vacant sites to protect and enhance habitats, such as those found in Workington and Maryport that support the small blue butterfly.
- Minimise the impact of new development by careful siting, design and high standards of landscape treatment particularly where public views are affected.
- Minimise the impact of major developments such as large-scale wind energy, roads, pylons, masts and offshore infrastructure by careful siting in less sensitive areas, maximising screening from public view and following high standards of design and landscape treatment. Open and exposed sites and those that affect key views should be avoided, especially where development would become the dominant feature.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with

appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.

- Establish new woodland belts or thick hedgerows along the edges of developments to soften their impact, provide a backcloth, define limits of urban expansion and integrate isolated development.
- Manage and restock existing woodland and hedgerow screens.

Access and Recreation:

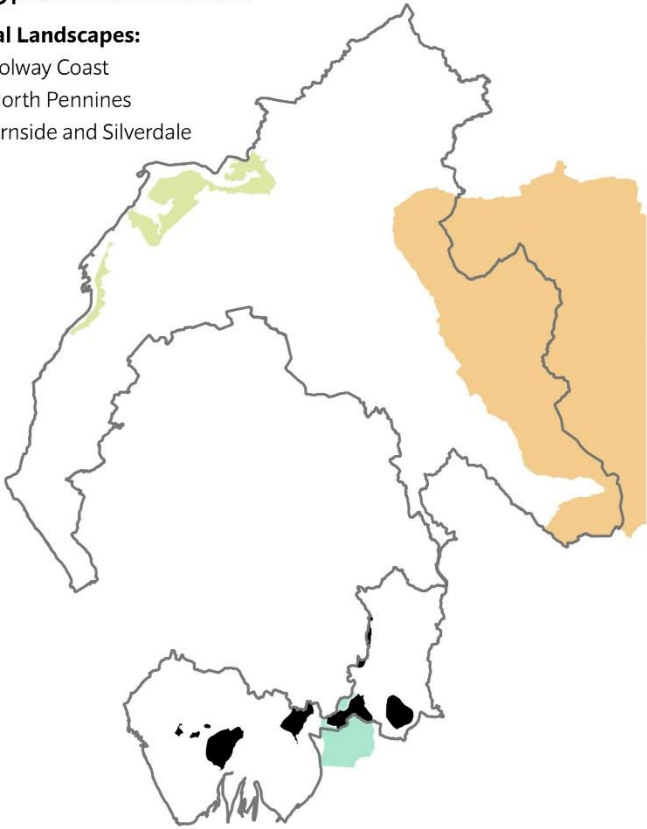
- Support the roll out of coastal access and encourage sensitively sited coastal access and recreational infrastructure. Coastal access footpaths, areas and facilities should be improved and developed to
- be compatible with the undeveloped and natural character of this sub type.
- In line with the Marine and Coastal Access Act consideration should be given to routing coastal access footpaths along appropriate sea defence structures.
- In areas where coastal access will introduce new routes appropriate access management may be needed in sensitive locations at certain times of the year to minimise disturbance to wildlife.
- Seek to improve the network and enjoyment of rights of way and other paths particularly circular and linking routes while protecting neighbouring land and sensitive habitats.
- Establish new planting to provide shelter, enclosure, interest and direct views.
- Unify detailing such as street furniture, lighting and signing respecting any local distinctiveness and historic identity.
- Unify boundary treatments favouring locally distinctive elements such as cobblestone walls or stone and turf banked hedges.
- Upgrade existing rights of way and other paths with appropriate surfacing, waymarking, gates, gaps, bridges, planting, removal of eyesores and enhancement of views.

Type 3: Coastal Limestone

Type 3: Coastal Limestone

National Landscapes:

- Solway Coast
- North Pennines
- Arnside and Silverdale



3.4 Type 3: Coastal Limestone

- 3.4.1 These form part of the Morecambe Bay Limestones which are unique to Cumbria and Lancashire. A landscape rich in history derived from prehistoric features and medieval enclosure patterns and rich in biodiversity due to the mosaic of semi-natural habitats, including limestone pavements, scrub, semi-natural coppice woodland, herb-rich grasslands, peaty fenlands and mosses.
- 3.4.2 The conspicuous limestone hills, scarps and pavements rise above low-lying pasture and wetland. The limestone farmland creates neat, ordered, rolling landscapes, larger in scale and more open than the wooded hill and pavement areas.
- 3.4.3 Late 19th century iron mine workings in the Barrow area of this character type have left a landscape which contrasts with other areas in this type, man-made irregular landforms and spoil heaps generally create a visually complex landscape.
- 3.4.4 Sub types:
- 3a Open Farmland and Pavements
 - 3b Wooded Hills and Pavements
 - 3c Disturbed Areas

Sub type 3a: Open Farmland and Pavements

Location

- 3.4.5 This Open Farmland and Pavements sub type is found along the coast of Morecambe Bay south of Ulverston and west of Grange. Inland they are found around Farleton Knott and between Kendal and Levens. In some places, it is adjacent to the Lake District National Park.
- 3.4.6 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Steep scarp limestone slopes, limestone pavement or other rocky outcrops
- Grazed land with stone wall field boundaries
- Rough pasture as open common or fell in higher areas
- Sporadic scrub and woodland on steep scarp slopes
- Stately homes and parklands in lower areas
- Extensive open and uninterrupted views from high ground

Physical character

- 3.4.7 This sub type is found on Lower Carboniferous limestone with calcareous brown soils. The landscape has steep scarp slopes, exposed limestone pavement or other rough rocky outcrops. It has similar characteristics to other limestone landscape types, but its coastal associations provide additional distinctiveness. Around the coast these are open, rolling limestone hills rising to between 130m and 230m. Inland the coastal limestone form distinctive scarp and rocky skyline features and rise to around 280m. The sub type contrasts sharply with adjacent lower lying coastal areas.

Land cover and land use

- 3.4.8 Both along the coast and inland most of the land is improved and semi-improved grazing. There is a distinctive and sometimes historic pattern of fields which are strongly defined by a matrix of limestone walls and hedges at lower levels.
- 3.4.9 There are pockets of scrub, including juniper scrub, and deciduous woodlands associate with both pasture fields and limestone pavement. There are extensive plantations on Hutton Roof as well as extensive areas of bare rock with scrub developing around the edges.
- 3.4.10 Some attractive semi-natural woodland and pavements form distinctive features around Eggerslack Wood and Curwen near Clawthorpe.

- 3.4.11 Settlements are generally small and dispersed, with the main settlement being the Victorian seaside town of Grange over Sands. Holme Park Quarry is a significant manmade feature in this sub type and can be prominent in views, mainly from the west. Pylons provide some limited vertical features in the landscape.

Ecology

- 3.4.12 The ecological habitats of this landscape are almost entirely determined by the underlying limestone geology. Where the rock outcrops open limestone pavements support a range of characteristic and rare species, including dark red helleborine, limestone fern, rigid buckler-fern, angular Solomon's seal and lily-of-the-valley.
- 3.4.13 Pavements also support a number of rare invertebrates, such as the narrow-mouthed whorl-snail. Thin soils over limestone support limestone grassland, including the nationally scarce blue moor-grass grassland type. This grassland supports a range of uncommon plants, including spiked speedwell and is important for a variety of uncommon and rare butterflies, including northern brown crops, high-brown fritillary, pearl-bordered fritillary, Duke of Burgundy fritillary and small blue. The woods of this landscape are of the upland mixed ash wood type and support a rich flora and fauna including dormouse, mezereon and yew. Juniper scrub is also characteristic of this landscape.

Historic and cultural character

- 3.4.14 Areas within this sub type are rich in Neolithic remains, many artefacts such as bracelets and axe heads have been found. Several sacred sites are present. A stone circle exists at Birkrigg Common.
- 3.4.15 The settlement pattern is nucleated, but mainly became so in the 19th century. The field pattern is mixed but characterised by dry-stone walls with features including bee boles. Many of the farm buildings are traditional and limestone built. There is much evidence of quarrying and numerous lime kilns. Stately homes with parklands are a characteristic. Archaeological remains include evidence of past iron working. Iron Age and Romano-British settlement sites are characterised by well-preserved extant earthworks. Medieval stone buildings occur sporadically. The remains of former quarrying occur throughout.

Perceptual character

- 3.4.16 A larger scale more open landscape than other coastal limestone landscapes. The farmed areas have a managed feel due to the improved pasture and neat stone walls displaying the underlying geology. These contrast with the rougher semi-improved pasture. The dramatic limestone pavements provide shelter to many plants and species but have a wilder unmanaged feel to them. This is a rare and unusual landscape which is varied and interesting due to the range of limestone features and the strong sense of history derived from pre-historic features and

medieval enclosure patterns. There are large expansive views from higher parts of the landscape. The undeveloped nature and uninterrupted views to the Lakeland Fells, Yorkshire Dales and across the coastal plain and mosses to Morecambe Bay provide a feeling of openness and exposure to the elements and seasons and the dramatic skyline above and seascape below.

Sensitive characteristics or features

- 3.4.17 The high ecological value of wooded pavements, outcrops and limestone grassland are sensitive to changes in land management practices. The small, dispersed settlement pattern could be sensitive to unsympathetic village expansion. Prehistoric features, medieval enclosure patterns, the strong matrix of limestone walls and hedges and limekilns are sensitive to changes in land management practices. The openness in higher parts and long uninterrupted views to the Lakeland Fells and across Morecambe Bay are sensitive to large scale and infrastructure development.

Vision

The high scenic quality of these limestone hills will be conserved and enhanced. Development proposals will respect the open unspoilt tops and commons and will avoid causing disruption in the lower- scale patterns of farmland, woods and villages.

- 3.4.18 There will be support for the maintenance of key components such as the historic pattern of small fields, stone walls and hedges in the lower areas. Limestone pavements, calcareous grasslands and ancient semi-natural woodlands are important components and will be conserved and enhanced through positive measures and management practices will improve in relation to grazing levels and recreation.

Changes in the Landscape

- 3.4.19 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.
- 3.4.20 Over the next 10– 20 years this landscape could be subject to the following changes or issues.

Climate Change:

- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- A range of agricultural changes including intensification, fertiliser application and reduction in grazing could contribute to reduced species diversity in limestone grasslands and lead to the invasion of scrub.
- Pressure to extend quarries could further influence distinctive characteristics. In the past the removal of limestone pavement badly damaged an irreplaceable landscape feature and wildlife habitat. However, this now enjoys protection through Limestone Pavement Orders.
- Changes to the sheep farming economy could result in changes in management practices leading to either intensification or abandonment.

Development:

- As part of the Government's response to Climate Change there could be interest in the development of large-scale wind turbines in the higher and more exposed parts. These could erode the open character of the area and affect the settings of national landscape designations.
- The attractiveness and proximity to major towns has resulted in pressures to expand the historic villages; this may continue in order to support housing and economic growth.
- Planned and incremental expansion of villages and towns could result in a loss of vernacular character, the small, dispersed settlement pattern, and a proliferation of settlement fringe development. This could erode the distinctive character of the area.
- Expansion of farms including increases in area of buildings for housing livestock/poultry and subsequent need for further waste/slurry storage buildings, eroding the distinctive character of the area.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved to support the coastal open access programme. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.
- An increase in visitor numbers and the roll out of coastal access could result in additional recreational pressures. If this is the case, it may need to be better managed to maintain paths in a good condition and enhance local landscape features.

Guidelines

3.4.21 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Conserve and manage scrub where it relates to characteristic vegetation patterns. This may include rotational cutting to encourage a diverse structure or development to restore relic ancient semi-natural woodland.
- Discourage field enlargement and introduction of fences to replace or gap-up walls and hedgerows.
- Restore and manage limestone walls and hedgerows using traditional methods.
- Protect selected features including remnant medieval ‘strip fields’ around villages.

Development:

- Preserve the distinct historic forms of settlements and intimate relationship to the scale and form of the landscape.
- Protect uncluttered skylines and key views to and from the area from large-scale energy infrastructure developments such as large-scale wind turbines, pylons or telecommunications masts.
- Resist expansion of quarries where these will produce prominent scars or destroy irreplaceable features and habitats.
- Ensure quarries have high quality restoration schemes that support the expansion of semi-natural habitats.
- Ensure new developments respect the scale, traditional form and materials of villages and do not infill important open spaces such as orchards and gardens integral to their character.
- Enhance settlements through sensitive environmental improvements to village greens, ponds, lakes and other features.

Access and Recreation:

- Support the ongoing roll out of coastal access and encourage sensitively sited coastal access and recreational infrastructure. Coastal access footpaths, areas and facilities should be improved and developed to be compatible with the undeveloped and natural character of this sub type.
- In line with the Marine and Coastal Access Act consideration should be given to routing coastal access footpaths along appropriate sea defence structures.
- In areas where coastal access will introduce new routes, appropriate access management may be needed in sensitive locations at certain times of the year to minimise disturbance to wildlife.
- Manage public footpaths through better waymarking, improved gates and gaps and appropriate surfaces and better interpretation, whilst retaining the open and comparatively wild character of the landscape.
- Preserve the distinct historic forms of settlements and intimate relationship to the scale and form of the landscape.

Sub type 3b: Wooded Hills and Pavements

Location

- 3.4.22 This Wooded Hills and Pavements sub type is found in the Arnside and Silverdale National Landscape. In some places, it is adjacent to the Lake District National Park.
- 3.4.23 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Arnside and Silverdale National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Low rolling wooded hills
- Open pasture of mainly drained mossland
- Coastal features include cliffs salt marshes and shingle beaches
- Extensive limestone pavement
- Views out across Morecambe Bay and up to the Lakeland Fells exist

Physical character

- 3.4.24 This sub type is found on Lower Carboniferous limestone with calcareous brown soils. The landscape has steep scarp slopes, exposed limestone pavement or other rough rocky outcrops. It has similar characteristics to other limestone landscape types, but its coastal associations provide additional distinctiveness. Limestone pavement is an important feature of the area. Most of the pavement is within woodland blocks which are often visible in open clearings. This landscape of low, rolling hills terminates in a varied coast including estuarine features such as cliffs, salt marsh and shingle beach.

Land cover and land use

- 3.4.25 This landscape is a complex mosaic of improved pasture, grassland, mosses, limestone outcrops and woodland and woodland pasture. The pasture is divided into small to medium sized fields bound by a strong matrix of limestone walls and high hedges. Woodland cover is extensive and includes former coppice pavement, hazel, ash and natural yew woods. Pavement is often visible in open clearings within the woodlands. Large coniferous plantations are being restored back to locally native woodland. Small orchards are scattered throughout the area.
- 3.4.26 Nineteenth and 20th century settlements are generally nucleated and include Victorian coastal towns. More traditional vernacular farmsteads and settlements are dispersed inland. Medieval and historic field patterns are often visible close to the settlements and provide open spaces within them. Pele towers notable historic features in the area. The settlements, woods and fields are connected together by

a complex network of narrow winding lanes enclosed by stone walls and high hedges which thread through the area.

Ecology

- 3.4.27 A landscape characterised by large expanses of upland mixed ash wood and wooded limestone pavement, limestone grassland and species-rich hedgerows. The woods support high-brown fritillary and mezeon, whilst the grassland is important for butterflies such as northern brown argus, high-brown fritillary, pearl-bordered fritillary. Duke of Burgundy fritillary and small blue and rare plants such as fingered sedge. Where the rock outcrops open limestone pavements support a range of characteristic and rare species, including dark red helleborine, limestone fern, rigid buckler-fern, angular Solomon's seal and lily-of-the-valley. Pavements also support a number of rare invertebrates, such as the narrow-mouthed whorl-snail.

Historic and cultural character

- 3.4.28 The historic landscape is mainly a mixture of ancient enclosure, parkland and woodland. Much of the woodland is ancient coppice wood and contains evidence of former woodland management and industries. There are former quarries: limekilns and occasional iron mines scattered throughout. The limestone kilns are a common feature and many date from the late 18th to mid-19th century when farmers burned limestone to create quick lime, which was then added to the land to improve its fertility. Caves contain evidence of prehistoric occupation from the Ice Age through to the Romans. Deer parks and designed landscapes are still evident.

Perceptual character

- 3.4.29 This is an unusual or rare landscape and its scenic beauty is recognised in the national landscape designation. In places it is a complex, intimate landscape which can easily lose a new visitor not familiar with its matrix of roads and footpaths and woodlands. Towards the coast and around Arnside Knott it is more open and the contrast between the expanses of sand and limestone cliffs and headlands provide additional drama. In higher parts there are dramatic views across the sky, sands and mudflats of Morecambe Bay out to sea and across to Grange over Sands and the Lake District fells. Here the changing weather, seasons, skies and tides influence the open views which can sometimes be tranquil and calm and at other times be wilder and more elemental. Local views, which are generally limited by rolling topography or woodland and are sometimes dominated by large features such as Arnside Knott and Middlebarrow Hill.

Sensitive characteristics or features

- 3.4.30 The complex mosaic of grassland, mosses, limestone features and woodland are sensitive to changes in land management practices. The matrix of limestone walls

and high hedges is sensitive to changes in land management and farming diversification. Pele towers and their open locations are sensitive focal points in the landscape. The enclosed narrow and winding rural lanes are sensitive to road improvements and new access to development. The special character of the Arnside and Silverdale National Landscape is sensitive to unmanaged changes to land management, village expansion and tourism development. There are some valued views from open parts of wooded pavements across Morecambe Bay and the Lakeland Fells that could be sensitive to changes in woodland management and poorly sited development.

Vision

This landscape will be conserved and enhanced in accordance with the Arnside and Silverdale National Landscape Management Plan.

- 3.4.31 Development and the intensity of vehicular traffic will be subject to strict controls. The co-ordination between recreation and countryside management will continue enhancing facilities for quiet enjoyment and understanding. Pasture, mossland, woodland and pavements will be managed to enhance biodiversity. Farmers and landowners will be encouraged to adopt detailed management and restoration projects to support mosaic habitats, traditional farming patterns, semi-natural woodlands, unimproved and limestone grasslands, mosslands and features of historic or cultural significance including parkland.

Changes in the Landscape

- 3.4.32 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.
- 3.4.33 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- There has been an increase in the number of invasive species within limestone pavements, including cotoneaster.

Management Practices:

- Intensification of agriculture and larger farm holdings could affect distinctive features such as species rich grassland, traditional field boundaries and woodland.
- Afforestation using non-native species now ceased.
- The former destruction of limestone pavement for garden rockery has been stemmed as a result of protection afforded by Limestone Pavement Orders.
- A decline in the distinctive character of historic parklands, and in the fabric of historic features such as lime kilns and fortified farmhouses

- Conservation grazing with traditional breed cattle used to manage the unique mosaic of limestone grassland, pavements, woodland and scrub.
- Reduction in woodland canopy across the area, associated with Ash die-back disease and related woodland management.

Development:

- Development of residential, holiday homes, caravan sites (and extensions), minor road improvements and recreational facilities could lead to some 'suburbanisation' of rural character.
- Planned and incremental expansions of settlement such as Arnside could result in a loss of historic boundaries and a weakening of vernacular or traditional characteristics.
- Extension of limestone quarrying and small-scale local industry can erode the woodland and intimate character.
- Energy infrastructure or other large-scale development could be sited in adjacent landscapes which could affect open views.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved to support the coastal open access programme. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.
- Parts of the landscape are likely to continue to be attractive for recreation and tourism purposes. This could lead to traffic congestion, issues with parking and heavy use of some footpaths. Footpaths and facilities may be improved linked to the coastal access roll out.
- There is likely to be continued interest in development linked to tourism and recreational activities including the expansion of some of the large caravan sites. This could lead to loss of open farmland, woodland. Incremental suburban features could also erode the character of the area.

Guidelines

- 3.4.34 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Retain and appropriately manage areas of historic 18th and 19th century designed landscapes and parkland.
- Conserve and restore through appropriate management the drystone walls and hedges which enclose the historic pattern of small-scale fields and lanes.
- Discourage field enlargement and introduction of fencing to subdivide fields, or to replace or gap-up walls and hedgerows.
- Conserve and enhance disused quarries and historic structures such as medieval farmhouses, wells, lime kilns and associated quarries.
- Utilise conservation grazing where appropriate, with traditional breed cattle used to manage the unique mosaic of limestone grassland, pavements, woodland and scrub.
- Restock and/or manage natural regeneration of woodlands following impacts from ash dieback, with a species mix compatible with future climate predictions and ecological function.

Development:

- Manage any further expansion of villages to respect their natural and historic boundaries and features and to avoid sprawl and encroachment into surrounding countryside and important village settings.
- Protect village fringes from unsympathetic peripheral development. Ensure any new developments are visually contained and respect the scale, traditional form and character of the settlement and building materials.
- Resist infill development of important open or historic spaces within villages.
- Enhance villages through sensitive environmental improvements to entrances, village greens, estuary frontages etc.
- Retain the character of the rural road network and encourage new highways signage to reflect the rural character of the area.
- Manage other development, such as new or extensions to caravan sites, to prevent unsympathetic development, additional suburban characteristics and to ensure they are visually contained and are of an appropriate scale.
- Manage the siting of large-scale development, and particularly energy infrastructure, in adjacent landscapes where it could adversely affect key coastal and inland views.
- Resist expansion of quarries where these will produce prominent scars or destroy irreplaceable features and habitats.
- Ensure quarries have high quality restoration schemes that support the expansion of semi-natural habitats.

Access and Recreation:

- Support the roll out of coastal access and encourage sensitively sited coastal access and recreational infrastructure. Coastal access footpaths, areas and facilities should be improved and developed to be compatible with the undeveloped and natural character of this sub type.
- In line with the Marine and Coastal Access Act consideration should be given to routing coastal access footpaths along appropriate sea defence structures.
- In areas where coastal access will introduce new routes appropriate access management may be needed in sensitive locations at certain times of the year to minimise disturbance to wildlife.
- Protect sensitive natural habitats through careful routing of paths and provision of vehicle restraints.
- Resist the expansion or further development of tourism or recreation facilities, which would prejudice the quiet scenic qualities of this area.
- Develop traffic management schemes to address the problems of congestion and parking whilst avoiding measures to increase capacity for cars.
- Minimise the visual intrusion and ecological damage created by existing facilities such as car parks, lay-bys, waymarking, signage and footpaths through sensitive siting and design, and use of high-quality durable materials.

Sub type 3c: Disturbed Areas

Location

- 3.4.35 This Disturbed Areas sub type is found in three small areas north of Dalton-in-Furness.

Key Characteristics

- Undulating glacial till
- Restored mine working landscape
- Patchy woodland cover, small areas of marsh, ponds and reed beds
- Abandoned mine buildings, old limestone quarries and reclaimed agricultural land

Physical character

- 3.4.36 Glacial till and mineral veins on Carboniferous limestone underpin this sub type. The hummocky land rises up to 130m AOD. It has been created by iron mine workings superimposed on undulating land. Mining has left an irregular landform strewn with spoil heaps and steep sided depressions containing ponds.

Land cover and land use

- 3.4.37 This disturbed hummocky land is fast becoming naturalised and taking on a bosky appearance, although the new man-made landforms still dominate the character of the sub type. The sides of the spoil heaps and depressions are commonly covered by a mixed native scrub of willow, alder, hawthorn, gorse, elder, bramble and rose. Several pits have been filled in with refuse and reclaimed for agriculture. Grazed pasture can be found between these semi natural habitats. Small patches of marsh occur in the lower areas along with ponds and reed beds.
- 3.4.38 Woodland cover is patchy. Ash and birch are colonizing land around Burlington Pits and ash and sycamore can be found around Lineal Moor.
- 3.4.39 Views tend to be intermittent and limited by the hummocky terrain. The hilltops offer long views across the coast.

Ecology

- 3.4.40 A rich diversity of semi-natural habitats forms a valuable wildlife refuge bounded by pasture or built up areas. Habitats include open water, scrub, woodland, carr and roadside verges. Ponds are steep sided and deep with little emergent vegetation. Shallow ponds have been created to improve the habitat for fish. Between the ponds there is willow/alder carr, hawthorn scrub and patches of unimproved, herb rich grassland which was formerly found in surrounding fields.

Birds using the ponds include mallard, moorhen, common and black-headed gull. Insects such as butterflies, dragonflies and damselflies also occur.

- 3.4.41 Former mine workings and quarries and steep banks support stands of limestone grassland, together with areas of gorse and hawthorn scrub. Damp hollows hold stands of rush pasture, reed bed and wet woodland in the form of willow carr.

Historic and cultural character

- 3.4.42 These areas have a heavy industrial mining heritage. This is celebrated through Norman Nicholson's poetry of Millom. Percy Kelly, a local artist painted around Hodbarrow iron mines and also the works at Millom. This is an industrial landscape with evidence of former iron mining and limestone quarrying. Little evidence of pre 19th century field patterns.

Perceptual character

- 3.4.43 The unity and identity of this landscape is derived from the disturbance by mining which has produced a distinctive landform and land cover. The industrial scars are softened by the colonizing vegetation. They give a strong sense of both the pre and post-industrial character associated with nearby quarries and towns.

Sensitive characteristics or features

- 3.4.44 Emerging semi natural habitats and recently colonised land support rich biodiversity that is sensitive to changes in land management.

Vision

These areas will be conserved and enhanced to retain their industrial legacy and wildlife interest.

- 3.4.45 Recreational demands such as fishing will be carefully managed. Other areas which are predominantly working landscapes will be enhanced and restored through the improved management of key features and the integration of high-quality development respecting traditional character. In order to achieve this, field patterns and woodland cover will be strengthened, field enlargement will be resisted and the intrusion of modern farm buildings will be reduced. There will be little capacity to accommodate further development; therefore, harsh development edges will be softened and peripheral development will be integrated within a stronger landscape framework.

Changes in the Landscape

3.4.46 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Solar farms have become a feature of this landscape with construction of the Roanhead Farm Solar Farm near Barrow (6.5 MW/unknown sqm) in 2015
- Small pockets of mineral workings/industrial uses have become more apparent

3.4.47 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Management Practices:

- Activities such as tipping and agricultural reclamation can damage character of these areas.

Development:

- Some areas are subject to development opportunities, often linked to village expansion. There is some loss of hedges and replacement with intrusive fences.
- Further solar farm development could become a more frequent feature of this landscape

Access and Recreation:

- Given their proximity to urban centres these landscapes can provide opportunities for quiet enjoyment and other recreational activities. However, the areas are susceptible to damage from inappropriate activities, such as motorbike scrambling

Guidelines

3.4.48 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Resist land filling or tipping within pits and quarries of historical, ecological or geological importance.
- Encourage retention, restoration and traditional maintenance of hedgerows.
- Increase planting of native broadleaf trees as features within hedgerows.
- Encourage retention and restoration of stone walls, traditional gate posts and features on a whole farm basis.

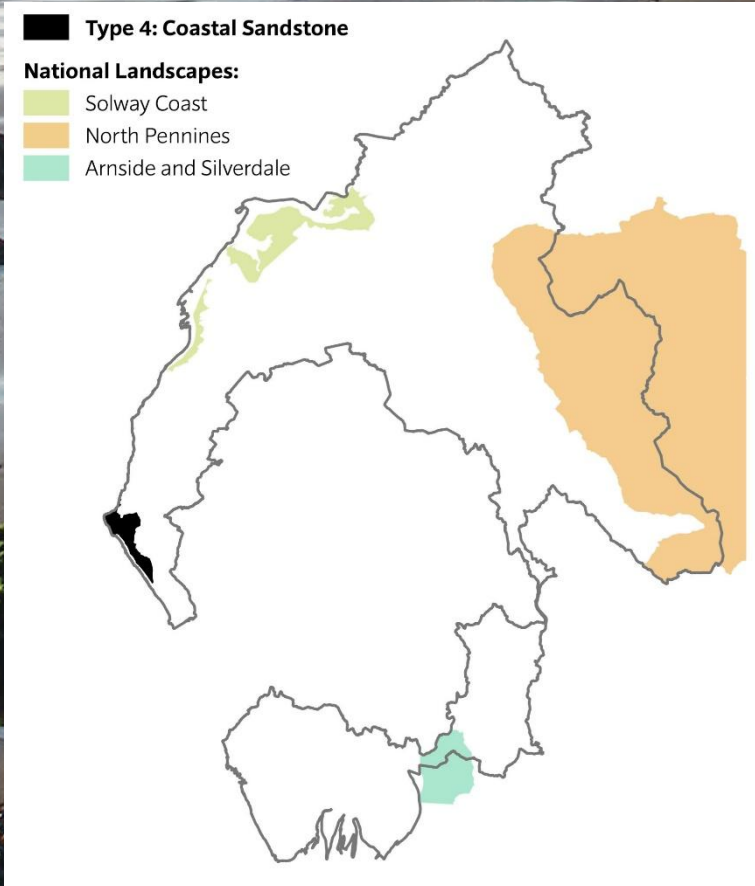
Development:

- Encourage retention of existing traditional stone buildings, gate posts, planting on garths, around buildings, along farm access roads and main entrances.
- Reduce the impact of any large-scale new farm buildings by sensitive siting, breaking down mass, choice of sympathetic colours and non-reflective finishes and landscaping using traditional hedgerows and woodland screen planting.
- Resist proposals to reclaim former mining areas for development.

Access and Recreation:

- Improve the network of public rights of ways and encourage the quiet enjoyment of these areas by sensitively upgrading routes with appropriate surfacing, better waymarking, improved gates and gaps (that can restrict unauthorised vehicular activities), better interpretation and enhancement of viewpoints.
- Improve and manage facilities for recreation such as existing car parks in appropriate rural vernacular and using high quality durable materials

Type 4: Coastal Sandstone



3.5 Type 4: Coastal Sandstone

3.5.1 This is a large-scale landscape that includes the dramatic and exposed sandstone cliff scenery of St Bees Head. Beyond this to the south are rolling coastal hills and inland a farmed plateau.

Location

3.5.2 This type is found along the coastal edge extending from Whitehaven to St Bees Head and south to Sellafield.

Key Characteristics

- Coastal sandstone cliffs
- Sandstone rolling hills and plateaus
- Large open fields
- Prominent hedge banks bound pastoral fields
- Small woodland blocks along valley sides
- Exposed coastal edge moving to intimate and enclosed farmland inland

Physical character

3.5.3 Permo Triassic red sandstones overlain by fluvial- glacial drift and brown sandy soils extend between Whitehaven and Sellafield. The tall sandstone cliffs at St Bees Head are a prominent feature and form the best exposure of the sandstone in the area and along the coast of Cumbria. The land becomes progressively lower and the cliff edge softens as you move towards Sellafield. A plateau like area is found around St Bees, intersected by Pow Beck towards the edge of Whitehaven.

Land cover and land use

3.5.4 The area comprises the distinctive sandstone cliff scenery around St Bees, undulating plateau and the rolling coastal hills that move inland and south towards Sellafield. The open plateau north of St Bees is covered in a patchwork of large open regular pastoral fields. These are largely divided by hawthorn hedges. Between St Bees and Sellafield the patchwork of fields continues and gently rolling pastoral fields with prominent hedge (kest) banks of gorse, hawthorn and sometimes bracken. Small blocks of mixed woodland and scrub occur on the valley sides and inland throughout this type. The valley of Pow Beck which cuts through the higher ground is often open and bare, but higher up is more wooded with well-maintained hedges.

3.5.5 The area is lightly settled with small scale farmsteads and hamlets scattered away from the cliffs to the north of St Bees. The lighthouse is the most prominent built feature. Further south nucleated caravan sites and villages are dotted closer to the coast but often sited in dips and undulations in the rolling hills. The traditional

buildings are built in the distinctive rich red sandstone. Modern buildings are often rendered with sandstone dressings.

- 3.5.6 The railway follows the shoreline and low contours and is generally hidden and discrete feature in the landscape. The most significant man-made development is the sandstone quarry in the coastal cliffs near Whitehaven.

Ecology

- 3.5.7 The cliffs of St Bees Head support colonies of breeding seabirds, including razorbill, guillemot puffin and kittiwake. The cliffs also support large areas of coastal heath and species-rich grassland including sea campion, bloody crane's bill, kidney vetch, thrift, common scurvy grass and red fescue. Inland the landscape is largely agricultural, but along the valley of Pow Beck there is areas of rush pasture, reed bed and swamp vegetation. Small, deeply incised tributaries to Pow Beck hold small semi natural woodlands.

Historic and cultural character

- 3.5.8 The St Bees area is characterised by remnants of the former monastic landscape created by the 12th century Priory. The settlements are nucleated and discrete surrounded by the fossilised strips of former medieval field systems. Many of the discrete settlements emerged with parliamentary enclosures in the late 18th century. Many of the buildings are in the local vernacular tradition and built of sandstone. The field pattern is a mix of former common arable field, ancient enclosures and planned enclosure.

Perceptual character

- 3.5.9 The open character of the landscape along the coast offers wide and uninterrupted views across to sea horizons and along the coast. There is a feeling of remoteness and wildness along the coastal edge with the exposure to the cliff edge, changing weather and sea. In particular the high cliffs and cliff top landscape at St Bees Head is vast in scale and has an exposed, invigorating, remote and beautiful feel. Inland there is a more intimate feel due to the simple farmed character and the more enclosed rolling land and small valleys.

Sensitive characteristics or features

- 3.5.10 The dramatic cliffs of St Bees Heritage Coast, their colonies of breeding sea birds that provide a strong link with the open sea and sense of 'naturalness', and the discrete siting of the railway line along the lower coastal edge are all sensitive to the dynamic forces of the sea. The networks of native hedges are sensitive to changes in land management and farm diversification. Discrete settlements, the distinctive sandstone of traditional buildings and fossilised medieval strip fields are sensitive to village expansion.

Vision

The objective is to manage, enhance and restore the landscape.

- 3.5.11 This includes the conservation and enhancement of the distinctive sandstone cliff scenery of the Heritage Coast and enhancement of the coastal strip below St Bees. This should include the restoration of locally distinctive features such as hedge banks and the restoration of maritime heath along the cliff top. A Management Plan should be prepared for the Heritage Coast. Coastal access improvements will encourage visitors and recreation development will be sensitively sited and designed. There is an opportunity to create more woodland on the good soils behind the immediate coast.

Changes in the Landscape

- 3.5.12 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- The coastal sandstone landscape has experienced a varied pattern of erosion and accretion, including erosion of the cliffs at St Bees near Whitehaven²⁶.
- 3.5.13 Over the next 10 – 20 years this landscape could be subject to the following changes or issues.

Climate Change:

- The coastal edge may be affected by higher levels of erosion due to increased storminess and significant tidal events.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management practices:

- This high-quality landscape - rare within Cumbria - is affected by agricultural change including neglect or loss of field boundary hedges and the loss of landscape features.

Development:

- There is likely to be continued interest in urban and industrial development in areas around Whitehaven which could erode the undeveloped and rural character of the northern part of this landscape type if not carried out sensitively.

²⁶ <https://www.bbc.co.uk/news/articles/cz7ngzv9727o>

- New buildings are often rendered and opportunities to reinforce the rich red sandstone vernacular are not always taken, despite access to locally quarried stone.
- Large scale wind energy development could take place here due to the exposed coastal location where wind speeds could be high.

Access and Recreation:

- Implementation of enhanced access to the coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.
- Coastal access will be improved through the roll out of open access along the coast. Space will be needed to allow the route to shift in this dynamic area and in response to any future coastal erosion.

Guidelines

- 3.5.14 Guidelines for managing the potential changes in the landscape identified for this type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- In areas less affected by sea winds encourage a programme of mixed planting over a phased period; to include establishment of wind breaks, followed by further planting of tree groups, woodlands and feature trees.
- Establish native tree planting along the main water courses at Pow Beck and River Ehen to further emphasise their legibility in the landscape and increase their potential for nature conservation.
- Restore and maintain existing hedgerows and hedge banks in a traditional manner.
- Undertake supplementary planting of scanty hedgerows and hedge banks.
- Where climatic conditions allow, increase planting of deciduous trees within hedgerows to strengthen the pattern in the landscape and increase their value as a wildlife habitat.

- Discourage the sole use of fences as field boundaries and encourage planting and traditional management of hedgerows.

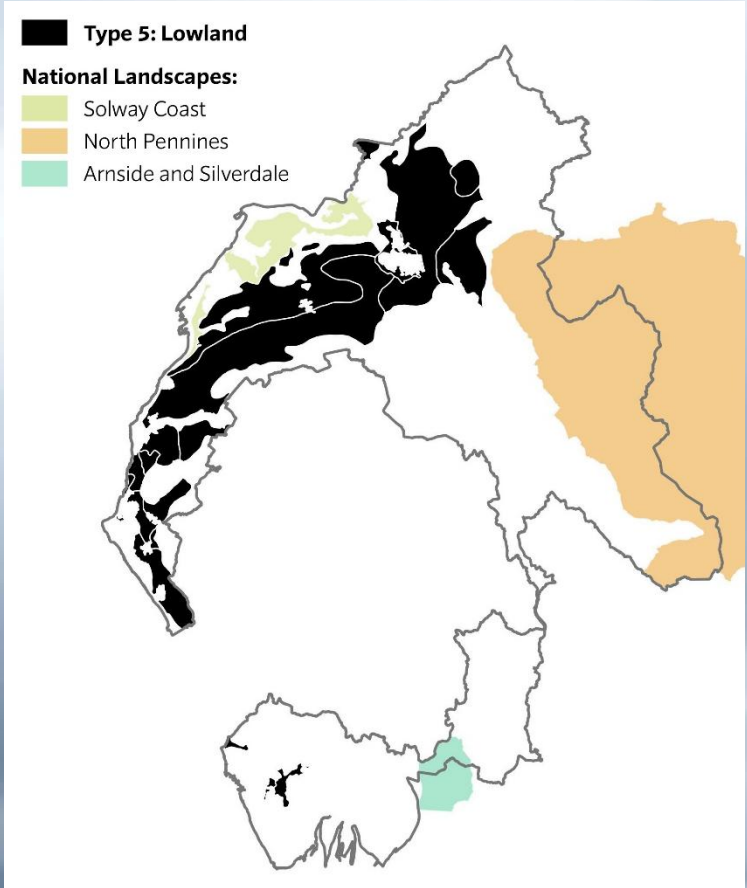
Development:

- Strengthen definition between town and country by using extensive buffer planting to screen the built-up areas and reduce the impact of industry.
- Improve visual containment of caravan parks close to the coast with landscape works and discourage further large-scale developments, such as wind energy, in prominent coastal locations.
- Conserve and enhance the traditional farm buildings and features within their own setting.
- Reduce the impact of any new buildings by careful siting and design.
- Support small scale quarrying at the existing site to provide local stone for new developments and repairs to buildings.

Access and Recreation:

- Support the roll out of coastal access and encourage sensitively sited coastal access and recreational infrastructure. Coastal access footpaths, areas and facilities should be improved and developed to be compatible with the undeveloped and natural character of this type.
- In line with the Marine and Coastal Access Act consideration should be given to routing coastal access footpaths along appropriate sea defence structures.
- In areas where coastal access will introduce new routes appropriate access management may be needed in sensitive locations at certain times of the year to minimise disturbance to wildlife.
- Introduce planting associated with wind-break barriers to improve the appearance and shelter along promenades.
- Undertake sea frontage improvements linked to the existing and potential recreational capacity.
- Improve the design and maintenance of public facilities.

Type 5: Lowland



3.6 Type 5: Lowland

3.6.1 This landscape includes extensive areas of lowland agricultural pasture with variations in character that reflect topographical and other influences.

3.6.2 It includes ridges and dissecting valleys, lowland and undulating rolling farmland, drained mosses and agricultural land influenced by urban fringe development. In parts of the landscape traditional development and lowland pasture have been influenced by more recent 20th century development and past mineral workings. It is generally a large-scale open landscape with simple farmed uses. However, they are sensitive to both incremental and planned development and agricultural change.

3.6.3 Sub types:

- 5a Ridge and Valley
- 5b Low Farmland
- 5c Rolling Lowland
- 5d Urban Fringe
- 5e Drained Mosses

Sub type 5a: Ridge and Valley

Location

- 3.6.4 This Ridge and Valley sub type runs in an unbroken band from Carlisle to Workington alongside the Limestone Fringe landscape. It becomes broken up around Workington and continues in this way to Cleator Moor. In some places, it is adjacent to the Lake District National Park.
- 3.6.5 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- A series of ridges and valleys that rises gently toward the limestone fringes of the Lakeland Fells
- Well managed regular shaped medium to large pasture fields
- Hedge bound pasture fields dominate, interspersed with native woodland, tree clumps and plantations.
- Scattered farms and linear villages found along ridges
- Large scale structures generally scarce

Physical character

- 3.6.6 This landscape is found mainly on carboniferous rocks overlain by extensive glacial till and riverine sand and gravels deposited in the glacial outwash plain. The glacial till formed some low subtle drumlins and the sand and gravel formed some long low eskers. These have helped shape the ridges and valley landscape. In some places, kettle holes occupy hollows in the surface of the glacial deposits and in places peat mires have formed. Coal seams can be found throughout the area. The ridges and valleys vary in height between 50-130m AOD.

Land cover and land use

- 3.6.7 The landscape rises gently to high wide ridges with long views or falls to small, narrow valleys. The Ellen Valley forms a distinctive feature.
- 3.6.8 The landscape is dominated by improved farmed pasture. Fields are typically regular in shape and are medium to large in size. Arable fields provide an occasional contrast with the pasture. Field patterns tend to be oblong with straight boundaries enclosed by hedges, hedge banks or fences. These still reflect the planned enclosure of open common pastures in the 19th century.
- 3.6.9 The patchwork field pattern is interspersed with both native broadleaved and planted coniferous woodlands and some unimproved and features include dense

high hedges, woodland, especially along narrow valleys, shelterbelts, remnant parkland and tree clumps. Some hedges are fragmented. Small areas of forestry plantation punctuate the landscape.

- 3.6.10 Scattered farm buildings are dispersed throughout the area and are often concealed by undulations in the land and woodlands. Villages are linear or nucleated in form, having developed this character largely in the later 19th and 20th centuries, and mainly sited along ridge tops.
- 3.6.11 Roads that connect the villages along the ridge tops are generally straight. Roads in the valleys tend to wind along contours and are flanked by high hedges or banks.
- 3.6.12 Industrial activities have influenced the landscape, with areas of reclaimed open cast land introducing modern field patterns, woodland and plantation features. Wind energy schemes are a reoccurring feature, and along with other vertical elements such as pylons, are often sited along ridge tops. They interrupt the skyline and form prominent features in the landscape.

Ecology

- 3.6.13 Much of the ecological interest of this agriculturally improved landscape lies in species-rich hedgerows and hedge banks, particularly where they are allowed to grow tall. Most woods are plantations, both of native broadleaves and of conifers, but native oak woodland is found along the more deeply incised river and stream valleys. Plantations are often found on Ancient Woodland sites. The larger conifer plantations are important for red squirrels. Less common habitats include species-rich rush pasture and purple moor-grass wet grasslands and, in a few rare cases, hay meadows. Small patches of species-rich pasture are occasionally present along steep banks. West of Carlisle several small remnant lowland raised bogs are present, now largely covered by woodland. Several important river systems flow through these valleys, including the River Ellen and tributaries of the River Derwent, which are important for Atlantic salmon, otter and freshwater pearl-mussel.

Historic and cultural character

- 3.6.14 This sub type is culturally very varied. Fields are often planned enclosure of former arable common fields and common grazing land. In general, nucleated villages developed late in a historically dispersed settlement pattern. It features ancient market centres such as Aspatria, Wigton and Dalston. Settlements are often surrounded by traditional field systems with some fossilised strips. On the outskirts of many settlements are the remains of former industries including iron mining and working, coal mining, quarrying and lime burning. Evidence of Roman occupation is prolific in places and includes Roman roads and settlements like Papcastle. More recent military sites are a feature as at Great Broughton and Great Orton.

Perceptual character

- 3.6.15 These are medium scale landscapes generally enclosed in valleys and around woodlands with a more open feel along the ridge tops. Here the experience of the landscape can be influenced by changes in the seasons and weather and there can be a more elemental experience on exposed ridge tops. There are strong associations both with the nearby limestone fringe and coast due to the long views from the ridge tops. In particular there are attractive views over the Solway Firth and to the Lakeland Fells. Despite the concentration of large-scale wind energy schemes that dominate the landscape around Workington, many parts remain intact and retain the sense of a pleasant, peaceful working farmed landscape.

Sensitive characteristics or features

- 3.6.16 The peaceful pastoral atmosphere away from busier parts is sensitive to large scale development. Native broadleaved woodlands, shelterbelts and remnant parklands, species rich hedges and hedge banks, and the interest they provide to the farmed landscape, are sensitive to changes in land management. Discrete and dispersed farmsteads are sensitive to unsympathetic expansion. Ridge top locations of settlements are sensitive to village expansion. Undeveloped areas of ridge tops and valley rims are sensitive to large scale ridge line development where significant contrast could arise between small scale settlements and large-scale features such as large scale wind turbines and pylons.
- 3.6.17 Open and uninterrupted views from ridge tops to the Solway Firth and Lakeland Fells are sensitive to large scale infrastructure development.

Vision

This pleasant working farmed landscape will be enhanced and restored.

- 3.6.18 This landscape will accommodate further agricultural intensification and limited field enlargement and removal of hedges but this will be balanced with the improved management of retained hedgerows and woodlands and traditional field patterns. Bold new woodland planting will provide visual contrast. In addition, harsh development edges will be softened and existing and new, peripheral development will be integrated within a stronger landscape framework. Ridge top clutter will be restricted to strengthen the rural environment and minimise the effects of urban influences.

Changes in the Landscape

3.6.19 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Solar farms have become frequent features of this landscape with construction of solar farm development at Aspatria near Wigton (19 MW/139,000 sqm) in 2015, at Orton Park Farm near Carlisle (6.4 MW/4,500 sqm) in 2016, on Land West of Welton Road near Carlisle (4.4 MW/5,000 sqm) in 2016 and St Helen's Lane near Maryport (5 MW/unknown sqm) in 2017
- Wind farms have become more frequent features of this landscape with construction of wind farm developments at Flimby Hall Farm near Maryport (6.2 MW/3 turbines) in 2013, Tallentire Hill near Cockermouth (12 MW/6 turbines) in 2013, Warwick Hall Farm near Westnewton (6.2 MW/3 turbines) in 2014, Potato Pot near Workington (6 MW/3 turbines) in 2016 and Orton Park Farm near Carlisle (1.6 MW/2 turbines) in 2017
- Increases in tourism-related development, such as lodges northeast of Aspatria
- Expansion of residential development on the edge of settlements, for example at the villages of Dearham and Seaton

3.6.20 Over the next 10–0 years this landscape could be subject to the following changes or issues.

Climate Change:

- An increase in short rotation coppice, biomass or other woodland planting could help mitigate against climate change and support renewable energy production.
- An increase in rainfall and extreme weather events could result in an increase in flash flooding. Flood risk management may result in man-made mitigation measures such as strengthened river defences, re-engineered bridges and access routes.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Changes in agricultural practices could lead to the loss of traditional boundaries and field enlargement.
- Implementation of the Water Framework Directive could result in changes to water abstraction, pollution control, and changes in flood risk and river basin management. This could provide opportunities for enhancement and restoration of streamside features and river catchment areas.

Development:

- There could be a trend towards the development of urban fringe characteristics where the sub type abuts towns and villages.
- Farm diversification could lead to an increase in the use of farmland for horse grazing and equestrian uses could result in changes to field patterns and boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.
- The continued need to support renewable energy schemes is likely to result in an increase in large scale wind and solar energy schemes, energy crops and biomass planting. Large scale wind energy schemes have already changed the character of the sub type, particularly around Workington. Without careful control parts of this sub type could become defined by wind energy development. This could have knock on effects on the character of adjacent landscape types due to the far-reaching visual effects of such development.
- The Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) will result in additional large pylons and sub stations across some areas.
- There could be pressure to accommodate other large-scale infrastructure development including, industrial buildings, roads, masts, and opencast coal mining. The latter could take place as markets for coal change. The exposed and open character of the ridgelines makes them sensitive to such development.
- Existing mineral sites could extend in the future which, if well planned, could provide opportunities for ecological enhancement during restoration.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

- 3.6.21 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage energy crops along valleys and away from ridge tops. These should avoid areas of sensitive habitat and seek to enhance hedge boundaries around fields. Planting should respect the scale of the local landscape features. The edges of short rotation forestry should be soft and follow the grain of the topography.
- Encourage appropriate woodland or other planting in landscapes higher up the river catchment areas to help provide natural alleviation to extreme weather events and reduce the amount of hard engineered solutions needed alongside rivers and close to settlements.

Natural and Cultural Features:

- Use appropriate large-scale new planting to integrate settlements and associated industrial development with the surrounding countryside and provide landscape frameworks for development expansion.
- Undertake environmental improvement within villages and built-up areas to complement planting proposals within the surrounding farmland areas: to include roadside tree planting and within public open spaces to create a more established appearance and a stronger identity to individual settlements.
- Discourage the further nucleation of the settlement pattern.
- Manage and restock maturing hedgerow trees and woodlands.
- Reintroduce locally native hedges to enhance the strong matrix of field boundaries.
- Enrich depleted hedgerows following the pattern of the strong and dense hedgerows in certain areas while linking to woodland planting where possible.
- Enhance/restore hedgerows and encourage traditional management and maintenance.
- Discourage permanent introduction of fences to replace or 'gap up' hedgerows.

Development:

- Discourage the further nucleation of the settlement pattern.
- Improve visual awareness of individual settlements, land uses and cultural landmarks along roads and provide stopping, viewing and picnicking locations.
- Introduce appropriate roadside planting to frame long distance views of fells and estuary and relieve bland farmland views and reduce the detrimental impact of straight major roads on ridge tops through the open countryside.

- Undertake environmental improvements within the settlements including traffic calming, crossing points, roadside tree planting and strong definition of the gateway entrance and exit from the individual settlement.
- Ensure that the capacity for tall and vertical development such as pylons and turbines is agreed and not exceeded to maintain views, particularly in area surrounding Workington.
- Ensure new development makes a contribution to the character of the area by respecting the form of villages e.g. linear along ridge lines, creates new focal spaces and takes advantage of attractive long views.
- Carry out village enhancement schemes including townscape environmental improvements, tree planting and establishment of attractive green spaces.
- Reduce the impact of large-scale new buildings by careful location away from ridge tops and subservient to traditional farm and landscape proposals, and using a choice of sympathetic colours and non-reflective finishes.
- Conserve and enhance the traditional farm buildings and features within their own setting.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.
- Large scale wind energy schemes should follow the guidance and capacity assessments of the Cumbria Wind Energy Supplementary Planning Document. Wind turbines and other energy infrastructure should be carefully sited and designed to prevent this sub type becoming an energy landscape.
- Encourage mineral sites to develop restoration schemes that reinforce the landscape features and provide ecological enhancement.

Access and Recreation:

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Disused railway lines could provide opportunities for discrete recreational routes and the enhancement of landscape features and ecological corridors.

Sub type 5b: Low Farmland

Location

- 3.6.22 The Low Farmland sub type can be found to the north, east and west of Carlisle, south of Whitehaven and north of Barrow, and partly lies within the Solway Coast National Landscape. In some places, it is adjacent to the Lake District National Park.
- 3.6.23 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Solway Coast National Landscape and the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Undulating and rolling topography
- Intensely farmed agricultural pasture dominates
- Patchy areas of woodland provide contrast to the pasture
- Woodland is uncommon west towards the coast
- Fields are large and rectangular
- Hedges, hedgerow trees and fences bound fields and criss cross up and over the rolling landscape

Physical character

- 3.6.24 Permo Triassic bedrock is overlain by thick glacial drift deposits forming sand and gravel eskers, low drumlins and a variety of undulations and topographical variations in the landscape. The rolling topography is dissected by small and larger meandering river valleys, with the latter being found through the lower plain around Carlisle. The land is low lying, usually below 100m AOD.

Land cover and land use

- 3.6.25 Much of this type is intensively farmed agricultural land. The predominant land cover is pasture. This is interspersed with arable land. Fields tend to be fairly large and bounded by hedges with hedgerow trees, or replacement fences. The hedges form an interlocking matrix across the undulating land.
- 3.6.26 Tree clumps, riverside and hedgerow trees are notable features. Woodland is uncommon particularly close to the coast in the west. It increases as you move inland but is often found as patchy woodland. The valley of the River Lyne runs from Kirklington north eastwards forming an important linear feature east of Carlisle. It includes hanging and ancient semi-natural woodlands. Areas of wet pasture are found in low lying areas and near watercourses.
- 3.6.27 The settlement pattern is varied, with large and small nucleated traditional settlements intermixed with many discrete farms dispersed across the landscape.

Buildings are often rendered with rich red sandstone buildings dominant along the west coast, and lighter sandstone buildings around Carlisle. Straight roads are common.

- 3.6.28 Pylons and telegraph poles are generally subtle elements, but pylons can sometimes dominate, especially where there is more than one line of them. Onshore wind farm and solar farm developments introduce new features into the landscape.

Ecology

- 3.6.29 This is an intensely, agricultural landscape where semi- natural vegetation is scarce. There are areas of grazing marsh and floodplain habitat north west of Wigton and north east of Carlisle. This supports a range of plants including creeping bent and marsh foxtail. In wetter field margins greater reedmace, reed canary grass, water plantain and sedges are supported. Hedgerows are common, but often species-poor and woodland is scarce west of Carlisle. Significant woodland cover is however present along the River Lyne, supporting a range of upland oak and wet woodland communities.
- 3.6.30 Small and medium sized rivers are a common feature of the landscape, supporting small ribbons of woodland and otters. Several small remnant lowland raised bogs are present around the Carlisle area and these support areas of birch and pine woodland, rush pasture and purple moor-grass and small areas of raised mire vegetation. One has a colony of the uncommon white-faced darter dragonfly. This landscape is important for farmland birds, including yellowhammer, linnets and tree sparrow. This landscape is also important for barn owl to the north and east.

Historic and cultural character

- 3.6.31 In the north of Cumbria this landscape type is greatly influenced by the presence of the Anglo Scottish border and contains a number of medieval fortified sites including tower houses. Cropmark sites of prehistoric and Romano-British settlements are found. Other archaeological and historical interest in the landscape includes Hadrian's Wall and sites as diverse as Egremont Castle, the former Royal Ordnance Factory at Gretna and stretched across the Scottish border, Britain's earliest operational nuclear power station at Calder Hall. The settlement pattern is varied. To the west of Carlisle areas of medieval influenced nucleated settlements around former common arable fields and more dispersed farmsteads developed around the time of planned field enclosure. To the north and east of Carlisle and around Millom field patterns are dominated by planned enclosures and ancient enclosures. South of Whitehaven more traditional settlements are dominated by modern settlements and development associated with Sellafield. In general the field pattern is very regular with the area to the north of Carlisle characterised by late enclosure.

- 3.6.32 The Charles Dickens and Wilkie Collins collaboration ‘The Lazy Tour of Idle Apprentices’ describes a journey from Corrode Fell to Allonby.

Perceptual character

- 3.6.33 This is a traditional working farmed landscape, interspersed with large scale industrial developments in the countryside. It is generally large scale and open. Views can be wide and long distance to the Fells and sea and have an expansive feeling, or small and contained giving a more intimate feel. Wind sculpted trees and hedges give a feeling of exposure and connections with the windswept coastline. Here the experience of the landscape can be more readily influenced by changes in the seasons and weather and there can be a more elemental experience close to the coastline. Woodlands, and traditional scale farms and associated tree clumps provide distinctive punctuation and interest in the landscape.

Sensitive characteristics or features

- 3.6.34 The matrix of interlocking hedges, woodlands, trees along rivers and fields and wind sculpted trees in hedges in coastal areas are sensitive to changes in land management. The ecological value associated with grazing marsh, wetlands and floodplains are also sensitive to changes in land management. Frontiers of the Roman Empire: Hadrian’s Wall and associated Romano British settlements are sensitive to infrastructure and other development.
- 3.6.35 The traditional feel of villages and farms can provide a sense of stepping back in time in places and is sensitive to unsympathetic village expansion. The open and uninterrupted views to the Solway Firth and Lakeland Fells are sensitive to tall infrastructure development.

Vision

The key features of this well-maintained working landscape will be conserved and enhanced.

- 3.6.36 Further agricultural change and development will be absorbed and combined with measures to conserve and enhance landscape, wildlife features and minimise urban intrusions. Limited field enlargement and the removal of hedges will take place but the management of retained hedges will be a key priority to maintain traditional boundary features. Trees and woodland will be managed, restored and enhanced and will be used to integrate urban intrusions into the landscape.

Changes in the Landscape

3.6.37 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Onshore wind farms have become a feature of this landscape with construction of the Hallburn Farm Wind Farm near Longtown (13.2 MW/6 turbines) in 2018
- Solar farms have become a feature of this landscape with construction of the Sowerby Lodge Farm Solar Farm near Barrow (5 MW/154,000 sqm) in 2018
- Expansion of residential development on the edge of settlements, for example at the village of Scotby and at the town of Wigton

3.6.38 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- An increase in short rotation coppice, biomass or other woodland planting could help mitigate against climate change and support renewable energy production.
- An increase in rainfall and extreme weather events could result in an increase in flash flooding. Flood risk management may result in man-made mitigation measures such as strengthened river defences, re-engineered bridges and access routes.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Further intensification could result in a depletion of traditional field boundary patterns and the replacement of hedges with wire fences.
- Loss and neglect of features such as hedgerow trees, copses and wetland.
- There could be damage to lowland raised bogs and wetlands due to agricultural pollution, and changes to drainage that cause drying out.
- There has been an increase in the number of invasive species along watercourses, including Himalayan Balsam and Japanese Knotweed.

Development:

- Green infrastructure provides an opportunity to seek enhancements to the landscape, biodiversity and cultural heritages adjacent to urban areas and to create green corridors between settlements.
- Creeping urbanisation includes airport, warehouse, garden centre and large car park development which can degrade the traditional landscape characteristics.
- Large scale farm development sited away from the traditional farmstead can erode the pastoral character.

- Farm diversification could lead to an increase in the use of farm land for horse grazing and equestrian uses could result in changes to field patterns and boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.
- Ambitions to develop the Energy Coast (between Silloth and Barrow-in-Furness) to support the clean energy sector will potentially see new development and infrastructure both on and off-shore, including Pioneer Park on land adjacent to Sellafield, which could change the character of the landscape over the next 10 years.
- The siting process for a national Geological Disposal Facility (GDF) for disposing of the nation's legacy radioactive waste has commenced with two Areas of Search identified within Mid Copeland and South Copeland; Cumberland is currently the only area of interest. If either of these progress to development stage there will be a requirement for significant infrastructure above ground to support the facility. Timescales currently projected for the GDF are late 2030s for siting and design approval and early 2040s for construction to commence
- The Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) will result in additional large pylons and sub-stations across some areas.
- The continued need to support renewable energy schemes could likely result in an increase in large scale solar and wind energy schemes. Wind energy schemes have already changed the character of the adjacent Ridge and Valley sub type and without careful control this could be replicated here.
- New large-scale energy Infrastructure and the impact of the transportation of the infrastructure for potential large-scale wind turbines could affect small country roads which may not have the capacity for such large loads.
- Whilst there is potential for coal extraction and the re-working of previous coal sites could become prevalent in these areas, specifically in areas around Flimby and Workington, which could impact upon local character, current national policy on coal extraction means that proposals are unlikely to be approved.

Access and Recreation:

- New recreation facilities close to towns and cities, such as golf courses could lead to pressures in these landscapes.
- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.6.39 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines. Climate Change:

- Encourage biomass, short rotation coppice and energy crops that avoid areas of sensitive habitat, such as grazing marsh habitat and that seek to enhance hedge boundaries around fields. Planting should respect the scale of the local landscape features. The edges of short rotation forestry should be soft and follow the grain of the topography.
- Encourage appropriate woodland or other planting in landscapes higher up the river catchment areas to help provide natural alleviation to extreme weather events and reduce the amount of hard engineered solutions needed alongside rivers and close to settlements.

Natural and Cultural Features:

- Manage and restock hedgerow trees, parkland trees and copses round farms and villages.
- Increase planting of mixed woodland and tree groups of varying sizes to create more panoramic diversity and colour
- Use woodland to contain and soften those areas that have been degraded by development or require an improved setting in the landscape.
- Use woodland planting particularly along the M6 corridor, east of Carlisle, where strong landscape features are needed to compete with this divisive element.
- Restore and maintain remaining hedgerows to strengthen field patterns and convey an impression of good health.
- Renovate gappy overgrown hedges through management and replanting.
- Discourage introduction of fences to replace or gap up hedgerows
- Manage hedgerows in a traditional way.
- Restore and maintain traditional kests (hedge banks) and small scale field patterns.

- In all areas strengthen and develop field patterns to provide an improved setting for towns and villages.

Development:

- Energy infrastructure including nuclear and large-scale wind energy generation, pylons and substations should be carefully sited and designed to prevent this sub type becoming an energy landscape. Prominent locations should be avoided and appropriate mitigation should be included to minimise adverse effects.
- When new development takes place consider opportunities to enhance and strengthen green infrastructure to provide a link between urban areas and the wider countryside. Reinforcing woodland belts, enhancing water and soil quality and the provision of green corridors from and between settlements could all help reinforce landscape and biodiversity features.
- Plant deciduous tree groups and lines on garths, around farm buildings, along farm access roads and main entrances.
- Reduce the impact of large-scale new farm buildings by locating them in a non-prominent position subservient to traditional farm buildings, broken down in mass, softened by landscape proposals using a choice of sympathetic colours and non-reflective finishes.
- Encourage retention of traditional stone gateposts and features.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.
- Ensure new development respects the historic form and scale of villages creating new focal spaces and using materials that are sympathetic to local vernacular styles. Further ribbon development or fragmented development should be supported where it is compatible with the wider landscape character.
- Improve visual awareness of the individual settlement, land uses and cultural landmarks along each road and provide locations for stopping, viewing and picnicking.
- Encourage environmental improvements along roadside settlements to include traffic calming, planting and stronger definition of gateway entrances and exits. Introduce roadside planting of deciduous and mixed species to enrich views from the road.

Access and Recreation:

- Integrate new recreation development, such as golf courses, into the countryside by careful siting, appropriate ground modelling and planting and exploit opportunities these developments provide to improve visual and wildlife diversity.
- Small scale sensitive farm-based tourism/recreational businesses should be well sited close to or within existing farm buildings and appropriate landscaping should be included to integrate new facilities into the landscape.

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance public access to farmland through Environmental Land Management or other schemes.

Sub type 5c: Rolling Lowland

Location

- 3.6.40 This Rolling Lowland sub type is found to the east of Wetheral, west of Cockermouth and north east of Barrow. In some places, it is adjacent to the Lake District National Park.
- 3.6.41 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Open undulating and rolling topography
- Lowland agricultural landscape dominated by pasture
- Hedges and hedgerows trees are common on lower ground and sparse on higher ground
- Some scrub woodland

Physical character

- 3.6.42 The geology of these areas varies. Carboniferous rock is found around Workington and Barrow, with Triassic mudstones or sandstones found east of Carlisle. Both are overlain by fluvial glacial drift. The topography is generally rolling with some low summits and dissected in some parts by steep sided valleys. Land rises from 25 – 125m AOD.

Land cover and land use

- 3.6.43 This is a lowland agricultural landscape dominated by pasture with some woodland, scrub and other marginal land. Field patterns are variable relating to topography and are generally regular at lower levels, but irregular around Barrow. In lower lying areas the landscape is generally undulating and fields bounded by a strong matrix of hedgerows and hedgerows trees are dominant. On higher ground land is more rolling and open and the topography is the distinctive characteristic. Hedges and other vegetation are sparse.
- 3.6.44 Parkland can be found around Greysouthen and along the River Eden. Plantations, scattered woodland and shelterbelts punctuate the pastoral fields and are found along the valley sides, such as the River Marron and Goldmire Beck. These often form linear features.
- 3.6.45 Villages are generally nucleated and some retain a strong vernacular character and are built in local stone. The traditional character of some is weakened by an increase in modern 20th century development. Farms are dispersed and large

modern farm buildings near to the traditional farmsteads are common. Rural roads criss-cross between villages and farmsteads. In parts quarrying, sand extraction and waste landfill sites inject a developed and industrial character.

Ecology

- 3.6.46 This is largely an agricultural landscape with only isolated areas of semi-natural vegetation. Hedgerows and small semi natural woodlands are the most widespread features of ecological interest. However, a feature of note in this landscape is the presence of a number of basin mires to the south-east of Carlisle. These support a range of mire and fen communities, together with a rich invertebrate fauna and breeding sites for birds such as reed bunting, reed warbler and sedge warbler. The Rivers Eden and Cocker flow through sections of this landscape and are important for otter and aquatic plants such as water crowfoots.

Historic and cultural character

- 3.6.47 The settlement pattern is predominantly dispersed but there are some nucleations surrounded by traditional field systems including some fossilised strips. The domination of red sandstone as the main building material gives a distinctive local character to the villages. The fields are defined by the often ancient hedgerows.
- 3.6.48 There are some stately homes with surrounding parklands as at Corby Castle. Formal parkland boundaries are surrounded by stone-built walls of 19th century date which form the park pale. Eaglesfield was the birthplace of John Dalton, 1766-1844, who established the Atomic Theory in 1803 with paper on the relative weights of the ultimate particles of bodies. In 1794, he published the first description of colour blindness. George Graham born 1673 at Kirklington was apprenticed to Thomas Tempion, and made various clocks and scientific instruments for the Royal Observatory at Greenwich.

Perceptual character

- 3.6.49 This is a typical working farmed landscape punctuated by quarrying activities. Views are limited by undulating topography.

Sensitive characteristics or features

- 3.6.50 The matrix of hedges and hedgerow trees that form and shape strong field pattern are sensitive to changes in land management. Rolling, open and undeveloped higher ground is sensitive to tall infrastructure or large-scale development. Parkland and woodland in the farmland and alongside rivers are sensitive to changes in farming practices. Tranquillity is greatest along rivers and is sensitive to development or farming intensification.
- 3.6.51 The strong red sandstone vernacular of small, nucleated villages is sensitive to changes from unsympathetic village expansion.

Vision

This working landscape will be enhanced and restored through the improved management of key features and the integration of development.

- 3.6.52 A prosperous farming economy will be created and programmes will lead to the strengthening of traditional field patterns, hedgerows, trees and woodland cover. However, limited field enlargements and hedge removal could be supported and any modern farm buildings will be sited unobtrusively. Unsympathetic development edges will be softened and peripheral development will be integrated within a stronger woodland landscape framework while the identity of existing buildings and villages will also be enhanced.

Changes in the Landscape

- 3.6.53 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Solar farms have become a feature of this landscape with construction of the Roanhead Farm Solar Farm near Barrow (6.5 MW/unknown sqm) in 2015
 - Expansion of residential development on the edge of settlements, for example at the village of Wetheral
 - Expansion of mineral extraction activities, including southwest of Cockermouth
- 3.6.54 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- An increase in short rotation coppice, biomass or other woodland planting could help mitigate against climate change and support renewable energy production.
- An increase in short rotation coppice or other woodland planting could help mitigate against climate change and support renewable energy production.
- An increase in rainfall and extreme weather events could result in an increase in flash flooding. Flood risk management may result in man-made mitigation measures such as strengthened river defences, re-engineered bridges and access routes.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- These areas have been subjected to agricultural intensification and there has been a neglect of traditional boundary features and particularly the loss of hedgerow trees from modern hedge pruning and flailing techniques.

Development:

- These areas are subject to pressures for urban development due to their proximity to key towns and cities in Cumbria. Without careful management planned and incremental expansion could erode the landscape character. The Green Infrastructure approach provides an opportunity to seek landscape and biodiversity enhancements as new development is planned on the edges of settlement. Green infrastructure and the development of green corridors can help connect the settlements with the wider countryside and other settlements.
- The Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) will result in additional large pylons and sub-stations across some areas.
- The continued need to support renewable energy schemes could likely result in an increase in large scale solar and wind energy schemes. Wind energy schemes have already changed the character of the adjacent Ridge and Valley sub type and without careful control this could be replicated here.
- Farm diversification could lead to an increase in the use of farm land for horse grazing and equestrian uses could result in changes to field patterns and boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.
- New roads, housing, recreational facilities and quarrying have led to loss of landscape features.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

- 3.6.55 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS,

with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage biomass, short rotation coppice and energy crops that avoid areas of sensitive habitat, such as grazing marsh habitat and that seek to enhance hedge boundaries around fields. Planting should respect the scale of the local landscape features. The edges of short rotation forestry should be soft and follow the grain of the topography.
- Encourage appropriate woodland or other planting in landscapes higher up the river catchment areas to help provide natural alleviation to extreme weather events and reduce the amount of hard engineered solutions needed alongside rivers and close to settlements.

Natural and Cultural Features:

- Planting of mixed shelterbelts in the more exposed areas with tree groups, woodlands and feature trees throughout the landscape and particularly along watercourses.
- Plant small mixed woodlands to enrich landscape pattern and to visually contain village expansion, existing quarries and recreational facilities.
- Improve the management and maintenance of existing mature woodlands, and carry out supplementary planting of woodlands, tree groups and copses within this area.
- Encourage management and enhancement of parklands to include programmes of amenity management and replacement planting in sympathy with the historic significance.
- Encourage retention, restoration and traditional management of hedgerows.
- Increase planting of deciduous trees as feature trees, within hedgerows.
- Ensure where possible that 'linked networks' of vegetation are created using native trees and shrubs to enhance their nature conservation value and their use as 'ecological corridors'.
- Encourage retention and restoration of stone walls, traditional gate posts and features on a whole farm basis.

Development:

- When new development takes place consider opportunities to enhance and strengthen green infrastructure to provide a link between urban areas and the wider countryside. Reinforcing woodland belts, enhancing water and soil quality and the provision of green corridors from and between settlements could all help reinforce landscape and biodiversity features.
- Energy infrastructure including large scale wind energy generation, pylons and substations should be carefully sited and designed to prevent this sub type becoming a wind energy landscape. Prominent locations should be avoided and appropriate mitigation should be included to minimise adverse effects.

- Encourage retention of existing traditional stone buildings, gate posts, planting on garths, around buildings, along farm access roads and main entrances.
- Reduce the impact of any large-scale new farm buildings by sensitive siting, breaking down mass, choice of sympathetic colours and non-reflective finishes and landscaping using traditional hedgerows and woodland screen planting.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.
- Encourage environmental improvements within settlements including traffic calming measures that reflect the character of the rural roads. Use planting to strengthen the definition of 'gateways' and enhance the identity.
- Soften the impact of unsympathetic development edges and integrate peripheral development within a stronger landscape framework.
- Integrate new recreation development such as golf courses into the countryside by careful siting, appropriate ground modelling and planting and exploit opportunities these developments provide to improve visual and wildlife diversity.
- Ensure mineral extraction is carried out in a manner that does minimal damage to distinctive landscape features.

Access and Recreation:

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.

Sub type 5d: Urban Fringe

Location

3.6.56 This Urban Fringe sub type is found around the edges of Carlisle, Workington and Whitehaven.

Key Characteristics

- Long term urban influences on agricultural land
- Recreation, large scale buildings and industrial estates are common
- Mining and opencast coal workings are found around Keekle and Moor Row
- Wooded valleys, restored woodland and some semi- urbanised woodland provide interest

Physical character

3.6.57 The geology of these areas varies. Carboniferous rock is found around Workington and Barrow, with Triassic mudstones or sandstones found east of Carlisle. Both are overlain by fluvial glacial drift.

Land cover and land use

3.6.58 These agricultural landscapes have been subjected to urban and industrial influences for a long time and in many parts maintain a rural character. Field patterns remain distinct in the largely pastoral areas, often bounded by strong hedges and hedgerow trees. The urban influences vary.

3.6.59 In West Cumbria small settlements associated with former mining and associated activities spread over a ridge and valley landscape. While deep mining of iron ore has largely gone, agricultural areas on restored opencast coal sites introduce modern 20th century field patterns amongst more regular field patterns associated with parliamentary enclosure. Woodland, wetland and scrub has been reintroduced through restoration schemes. Derelict land is dotted throughout the landscape. Despite the scars of former industries, much of the countryside character is still intact with wooded valleys retained along valleys that cut across the landscape.

3.6.60 In Carlisle there is a ring of semi-urbanised low farmland around the city. Large development such as large industrial estates, the racecourse and golf courses sit alongside small modern settlements linked to traditional farmsteads. Large modern agricultural buildings are also common.

Ecology

- 3.6.61 Largely an urban influenced landscape with mainly species-poor hedgerows and occasional small areas of woodland. There are isolated areas of coastal grazing marsh around Carlisle and hay meadows in West Cumbria. In addition to this, derelict former industrial or other previously developed sites have the potential to support a range of habitats and species which may have colonised the site since the previous uses ended.

Historic and cultural character

- 3.6.62 On the outskirts of Carlisle there is buried evidence of prehistoric settlement including burnt mounds, Neolithic activity and one of the largest Mesolithic sites found in North West England. Whitehaven was, briefly in the 18th century, the second Atlantic coast port (after Bristol) trading with Ireland, and exporting coal, so in West Cumbria the urban fringes contain much evidence of former coal and iron mining. The settlement pattern is generally dispersed and of fairly recent origin. Traditional fields are regular and indicative of late enclosure.

Perceptual character

- 3.6.63 This is a busy area where modern development dominates the pastoral character. The towns can be seen as progressively encroaching and areas have an air of neglect. The more agricultural areas and parts where woodland and open green spaces remain are important green lungs close to the towns and cities which provide respite from the busy areas and a connection to the wider countryside.

Sensitive characteristics or features

- 3.6.64 Wooded valleys, restored woodland, some semi urbanised woodland, and the intact field patterns of farmland reinforced by hedges and hedgerow trees are sensitive to changes in land management and settlement expansion. Open green spaces and fields close to settlement edges are sensitive to unsympathetic development.

Vision

This changing landscape will be enhanced through restoration.

- 3.6.65 Management practices will create a stronger definition between town and country areas integrating adjacent discordant land uses into the landscape. Woodland areas and traditional field boundaries will be managed and enhanced. New woodland planting will be used strategically to create a bold landscape structure unifying disparate uses in developing areas while the reinforcement of rural green qualities will help maintain rural character and provide visual relief. Access through the public rights of way network from towns and cities into the countryside will be enhanced.

Changes in the Landscape

3.6.66 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Solar farms have become a feature of this landscape with construction of solar farm developments at Moorhouse Farm near Workington (5 MW/113,400 sqm) in 2016 and Kingmoor Park near Carlisle (5 MW/unknown sqm) in 2020
- Expansion of residential development on the edge of settlements, for example at the city of Carlisle
- Changes to ground cover (large scale landscaping and vegetation) associated with recreational facilities adjacent to settlements, such as at a golf club east of Whitehaven.

3.6.67 Over the next 10 – 20 years this landscape could be subject to the following changes or issues.

Climate Change:

- An increase in rainfall and extreme weather events could result in an increase in flash flooding. Flood risk management may result in man-made mitigation measures such as strengthened river defences, re-engineered bridges and access routes.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Urban encroachment and changes in land use can lead to declining patterns of field boundaries.
- Areas of despoiled and unused derelict land can detract from the local character.

Development:

- The tendencies for urban development to further encroach on the countryside and for agriculture to suffer from vandalism and pressures for access.
- Housing development on sensitive ridges can often lack the soft landscaping needed to help integrate it into the wider landscape.
- Expansion of villages can lead to a lack of identity and poor definition between town and country.
- Green infrastructure provides an opportunity to seek enhancements to the landscape, biodiversity and cultural heritages adjacent to urban areas and to create green corridors between settlements.
- Farm diversification could lead to an increase in the use of farm land for horse grazing and equestrian uses could result in changes to field patterns and

boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.

- Further solar farm development could become a more frequent feature of this landscape

Access and Recreation:

- Public rights of way provide a network of routes from towns and cities that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.6.68 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage appropriate woodland or other planting in landscapes higher up the river catchment areas to help provide natural alleviation to extreme weather events and reduce the amount of hard engineered solutions needed alongside rivers and close to settlements.

Natural and Cultural Features:

- Establish new woodlands or tree groups on prominent skylines in order to soften their windswept appearance and provide screening where climatic conditions allow.
- Carry out schemes of structural planting to contain settlements, punctuate and reinforce the identity of each settlement and contain urban edges.

- Use planting and general environmental improvements to frame views and define open spaces and recreational links along river valleys.
- Schemes for the management of riverbanks should be carried out sympathetically.
- Restore and develop the pattern of hedgerows with additional planting and supplementary planting of scanty hedgerows.
- Increase planting of deciduous trees as feature trees, within hedgerows, along watercourses and in tree groups to enrich the general landscape.
- Ensure, where possible, that linked networks of vegetation are created using native trees and shrubs to enhance their nature conservation value and their use as 'ecological corridors'.
- Discourage the replacement or sole use of fences and encourage planting and traditional management of hedgerows.
- Develop whole farm environmental schemes.

Development:

- When new development takes place consider opportunities to enhance and strengthen green infrastructure to provide a link between urban areas and the wider countryside. Reinforcing woodland belts, enhancing water and soil quality and the provision of green corridors from and between settlements could all help reinforce landscape and biodiversity features.
- Protect 'green' areas from sporadic and peripheral development. Support the retention and development of 'green gaps', green infrastructure and ecosystem services approaches in Local Development Frameworks where they would help maintain distinctive, undeveloped characteristics.
- Protect countryside areas from sporadic and peripheral development through the local plans.
- Careful siting of any new development in non- prominent locations.
- Strengthen undeveloped areas of land with mixed woodland and hedgerow planting and restoration of natural landscape features.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.
- Along major roads, develop schemes to improve visual awareness of the individual settlements, land uses and cultural landmarks.
- Conserve and maintain traditional farm buildings within their own setting.
- Reduce the impact of large-scale new farm buildings by careful location so as not to dominate the traditional farm buildings on a plot adequate to accommodate circulation, storage and landscape proposals using a choice of sympathetic colours and non-reflective finishes.

Access and Recreation:

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible and reinforce the remaining pastoral characteristics of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.

Sub type 5e: Drained Mosses

Location

3.6.69 This Drained Mosses sub type is found around Bolton Fell to the east of Carlisle.

Key Characteristics

- Mainly flat open landscape
- Extensive areas of lowland raised bog
- Distinctive geometric field patterns
- Low ridges with linear woodland planting
- Mossy fields, sparse hedges and relict woodlands
- Areas of peat extraction

Physical character

3.6.70 Triassic sandstone is overlain by fluvio-glacial deposits. Peat has accumulated in low lying areas developing a raised dome. It is similar to the coastal mosses, but found further inland.

Land cover and land use

3.6.71 This is a mainly flat, open landscape of drained mossy fields bounded by sparse hedges and relict woodlands. There are significant areas of lowland raised bog and fen with some active peat extraction. Between the areas of raised bog a series of low ridges have been planted with avenues and shelterbelts that bound large scale pasture fields and create an unusual grid pattern in the landscape. Drainage ditches and roads tend to be straight.

3.6.72 The area is sparsely populated with few settlements, dispersed farmsteads and hamlets. This is an unusual, if simple landscape with some incongruous features linked to industrial yards, buildings, pylons and the peat extraction.

Ecology

3.6.73 This landscape is dominated by two extensive raised mires. Whilst Bolton Fell has been subject to extensive peat extraction the centre of the mire still retains characteristic raised mire vegetation with abundant Sphagnum mosses and species like bog rosemary and cranberry. Walton Moss supports areas of raised mire vegetation, together with areas of wet heath and birch woodland. There are extensive areas of rush and purple moor-grass on drained mossland around both mires.

Historic and cultural character

- 3.6.74 The drained mosses may have some potential for studying past landscapes through analysis of plant remains in preserved peat. However, it is likely that survival or remains would be variable across the mosses. They also contain evidence of former peat extraction. There are surviving areas of unenclosed low fell and moss.

Perceptual character

- 3.6.75 This is a large scale, mainly open landscape. The changes in land cover from raised bog, to pasture and woodland provide variety and support wildlife interest. There are open views, particularly southwards from the low ridges. This is a peaceful landscape with a feeling of remoteness due to the lack of settlement. The feeling of remoteness can increase with seasonal and weather change.

Sensitive characteristics or features

- 3.6.76 The distinctive geometric field patterns reinforced by woodland planting are sensitive to changes in land management. The relict woodlands, raised mire, bog and fen areas are sensitive ecological areas that could be affected by changes to drainage and other land management. The lack of settlements and openness of the mosses provides a sense of remoteness and tranquillity that is sensitive to land management changes and medium to large scale development.

Vision

The raised bog will be managed and drained and worked mossland will be restored.

- 3.6.77 The potential to recreate a more natural landscape and increase wildlife interest will be encouraged through the restoration of the worked mosses. An active programme will be embarked upon to plant and improve maintain the distinctive field patterns and the management of hedges, woodland and tree belts. Unsympathetic buildings and structures found around the periphery will be screened to enhance this landscape.

Changes in the Landscape

- 3.6.78 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Restoration of peat bogs that were previously utilised as commercial peat extraction sites, such as at the Bolton Fell Moss National Nature Reserve
- 3.6.79 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Raised bog has a high carbon sequestration potential. Good condition bog can help mitigate against adverse effects of climate change. Management practices might need to change to improve the condition of bog and enhance its carbon sequestration potential.

Management Practices:

- Continued peat extraction can threaten the landscape and nature conservation interest and carbon capture potential of the area.
- Agricultural improvements can lead to the neglect of existing landscape features.

Development:

- Pylons can be found in the area, and there is interest in large scale wind energy development in the area. This could lead to dominant man-made features and create visual clutter in the simple landscape. There is also consented solar farm development in this area (not yet built) at Leaps Rigg.

Guidelines

- 3.6.80 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Restore drained mossland back to wetland. This may include 'blocking' of drainage systems, restricting grazing, and removal of invasive scrub and woodland.
- Manage and enhance raised bog through appropriate management including lowering stocking levels, ditch blocking and reviewing any burning practices.

Natural and Cultural Features:

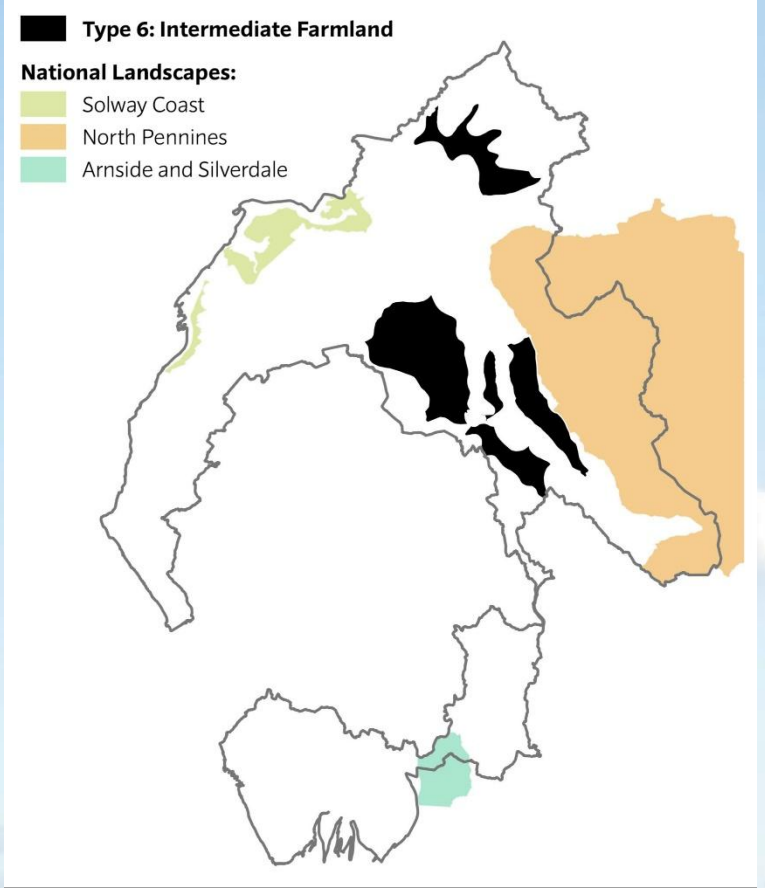
- Plant woodland clumps in association with groups of farm buildings.

- Plant additional small-scale mixed woodlands to create all year interest.
- Undertake improved management and supplementary planting of tree clumps and belts.
- Consider the potential for interpretation, controlled access and additional facilities in consultation with Natural England.
- Undertake additional planting of hedgerows along ditches, road sides and accesses to farms, to create new features in the landscape on a whole farm basis.
- Undertake supplementary planting and management of neglected hedgerows and traditional maintenance of all hedgerows.
- Maintain tree lines as key features.
- Plant a variety of indigenous species and sizes of trees within the hedgerows to create an enriched environment of natural appearance.

Development:

- Protect the mosses from further commercial peat cutting and agree schemes to ensure worked areas revert to a natural condition.
- Ensure that any proposals within existing peat working areas are carefully sited and designed to retain the unspoilt open character of this landscape.
- Resist any infrastructure development that undermines the remote and peaceful character or significantly changes views to the Lakeland fells.

Type 6: Intermediate Farmland



3.7 Type 6: Intermediate Farmland

3.7.1 This is a large-scale open landscape of intermediate farmland that occurs between lowland and rolling upland areas. The land use is predominately grazing land bound by hedgerows and stone walls. There are some variations in character within the landscape reflecting local geology and vernacular.

Location

3.7.2 This landscape type runs is found around Wreay and Sedbergham south to Kings Meaburn, around Kirkoswald to Appleby and around Lazonby towards Penrith. It is also found further north from Catlowdy south to the line of Hadrian's Wall near Brampton.

Key Characteristics

- Transitional farmland between the lowland and upland landscapes
- Extensive areas of improved pasture with some arable farming
- Planned villages with greens displaying topographical and archaeological evidence of their medieval origins
- In parts the landscape is dissected by the deeply incised or open river valleys
- Wooded valleys and ghylls
- Sandstone and limestone vernacular

Physical character

3.7.3 Carboniferous rocks overlain by glacial drift predominate areas to the north of Carlisle and to the north west and south of Penrith. To the north east of Penrith the geology is Permo Triassic sandstone overlain by glacial drift.

Land cover and land use

3.7.4 This type comprises of predominantly grazing land between 100-200m AOD. It is intermediate between the lowland and more rolling upland types. The higher parts are open and rolling with wide views, stone walls and few hedges. At lower levels land becomes more undulating and enclosed with a regular pattern of hedges or hedgerow trees.

3.7.5 In Carlisle the area is dissected by the deeply incised valleys of the Black and White Lyne which are well wooded. Settlements are dispersed and small. Field patterns vary between being large and irregular in shape, to being more medium and rectilinear in shape. These are mainly bounded by hedges and trees.

3.7.6 In Eden very broad valleys and narrow ghylls intersect the fields and woodland. Pasture dominates, interspersed with arable fields. Fields are large scale with mainly regular and rectilinear patterns. However, there are some areas of older

enclosures that provide variety to the landscape through more irregular field patterns. Field walls form a strong matrix and are built in rich red sandstone along the North Pennine edge. Elsewhere hedges are the predominant field boundary. Blocks of woodland reinforce the regular field patterns and are complemented by wooded ghylls and stream and river banks. Most of this landscape type is fairly simple in character with some strong features such as the parkland around Unthank.

- 3.7.7 Throughout this type some parts are lightly settled with small nucleated villages. Farms are dispersed with some large scale modern agricultural buildings forming new features in the landscape. Many of the settlements retain a traditional centre with rich red sandstone vernacular where the type is found in the eastern parts of the Eden Valley, with other traditional buildings being built in a lighter sandstone or limestone elsewhere. The M6 motorway and railway line provide modern linear features running through Eden and the telecommunications masts at Skelton form a distinctive vertical feature and modern landmark.

Ecology

- 3.7.8 This is a landscape of improved pastures with species- rich hedgerows and, in the Eden Valley small woodlands. Along the White and Black Lyne rivers there are more extensive river valley woodlands with a range of upland oak and wet woodland communities. Plantations are often sited on ancient woodland sites. Areas of rush pasture and purple moor-grass are occasional, with one area supporting the rare marsh fritillary butterfly. A couple of small basin mires are to be found near Penrith. Species-rich roadside verges are occasional to the north and south of Penrith. Tributaries of the River Eden, as well as the Black and White Lyne and River Petterill support otter and to the north of Brampton.

Historic and cultural character

- 3.7.9 Within this landscape type there is considerable cultural diversity. The Eden area is characterised by nucleated villages, with some medieval planning, either as row settlements or as settlements around a village green, probably originating from the 12th century. They often possess large churches and consist of largely sandstone buildings. The villages are characterised by the large number of traditional farm buildings within them and are surrounded by large former open common field areas. Inglewood Forest is distinct from much of the rest of the intermediate land as it is late enclosed and characterised by post-medieval squatter settlements. Archaeological survivals include well preserved earthworks of late prehistoric and medieval settlements and a variety of Roman remains including roads, marching camps and forts. In Carlisle the area once formed part of the Debatable Lands. Settlements are dispersed and individual farms have become nucleated settlements and vice versa over time. Planned enclosure is mixed with ancient enclosures which can be seen in the current field patterns. Ancient woodland is concentrated in ghyll woodland alongside the Black and White Lyne Rivers.

Perceptual character

- 3.7.10 This is a large scale mainly open working farmed landscape. The woodland, valleys, farmland and strong but varied vernacular give interest to the general rural character. Hedges, trees and the undulating nature of the land can limit views and provide a more intimate feel to the landscape. Where land rises and opens out, there are extensive views to the Lakeland Fells and North Pennines, giving a more open and exposed feel linked to the dramatic backdrop. This experience can be influenced by changes in the weather bringing a more elemental character, particularly when the Fells and Pennines can be obscured by cloud or be snow-capped in the winter. In parts of Eden, the M6 motorway and Skelton Masts are constant reminders of the working nature of the landscape but do not dominate the wide landscape.

Sensitive characteristics or features

- 3.7.11 Traditional villages with greens and vernacular stone architecture are sensitive to unsympathetic village expansion. Wooded valleys and ghylls, isolated parkland and hedge bounded fields are sensitive to changes in land management. The intersecting open valleys and deeply incised rivers are sensitive to valley side development.

Vision

This landscape will be restored and enhanced.

- 3.7.12 Neglected field boundaries will be restored, along with woodland and other features of landscape and wildlife interest. Neglected farmland will be restored and prominent modern developments will be better integrated into the landscape. Traditional farmsteads and villages will be conserved in their setting. Development will be sited to respect local character, settlement patterns and will be designed to have an appropriate scale and to use vernacular materials.

Changes in the Landscape

- 3.7.13 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Solar farms have become a feature of this landscape with construction of solar farm developments at Moss Thorn Farm near Penrith (5.8 MW/unknown sqm) in 2017 and Land at Wreay near Penrith (5 MW/6,800 sqm) in 2017
 - Expansion of residential development on the edge of settlements, for example the eastern edge of the town of Penrith
 - Increases in tourism-related development, such as static caravans at Long Marton

3.7.14 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- There could be increased interest in the planting of energy crops to support renewable energy generation. Energy crops could include miscanthus, short rotation coppice (usually willow) or short rotation forestry of fast-growing tree species to provide biomass for electricity production and heat. Large scale planting or planting in sensitive locations could change the character of this landscape.
- Opportunities could also arise to bring woodland into better management to support the biomass and wood fuel markets.
- Farming practices could change if temperatures rise and it is more effective to grow arable crops.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Agricultural improvements have been leading to the loss of hedgerows, wetland habitats and the neglect of field boundaries.
- There could be future pressures for arable intensification to help with food security and an increase in popularity for community farming and allotment schemes.

Development:

- In the last decade there has been an increase in the number of large-scale farm buildings sometimes sited in prominent locations.
- The introduction of newer, larger slurry tanks within these types could impact upon character. In addition, the potential for anaerobic digestion on farms could result in changes to farm buildings in the future and may affect traditional characteristics.
- The use of modern building materials has weakened the strong local vernacular character particularly around Penrith, Appleby and the outskirts of Carlisle.
- The M6 corridor as an element in the landscape could have the potential to attract new large-scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.
- The potential expansion of Carlisle Airport could influence the character of this landscape type in the north of Cumbria.
- Further solar farm development could become a more frequent feature of this landscape
- The development of energy infrastructure such as large-scale wind turbines could result in an increase in vertical features. These could change the character

of the landscape as vertical elements are currently mainly associated with the radio masts around Skelton.

- Farm diversification could lead to an increase in the use of farm land for horse grazing and equestrian uses could result in changes to field patterns and boundaries. An introduction of stables and ménages could cause incremental change the character of the farmed areas.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

- 3.7.15 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage biomass planting of a scale that respects the local characteristics. Edges to forestry or coppicing should respect existing field boundaries and be designed to reflect the general grain of the land.

Natural and Cultural Features:

- Strengthen and expand existing farm woodlands and shelterbelts to frame open views and soften the impact of prominent urban development.
- Manage existing broadleaved woodland by natural regeneration, restocking with local native deciduous species and by maintaining clearings and coppiced areas.

- Plant small to medium scale broadleaved woodlands on valley sides and within the motorway corridor and around the edges of plantations to help soften the cycles of clear felling of commercial woodlands. However, care should be taken to ensure new planting doesn't reinforce the linear corridor of the M6 motorway.
- Maintain and enhance the pattern of hedgerows with additional/supplementary planting of scanty hedgerows and traditional management.
- Plant new hedgerow trees to replace maturing stock using indigenous species or tagging selected saplings.
- Establish ecological corridors using local native trees and shrubs.
- Encourage retention and traditional management of dry-stone walls.

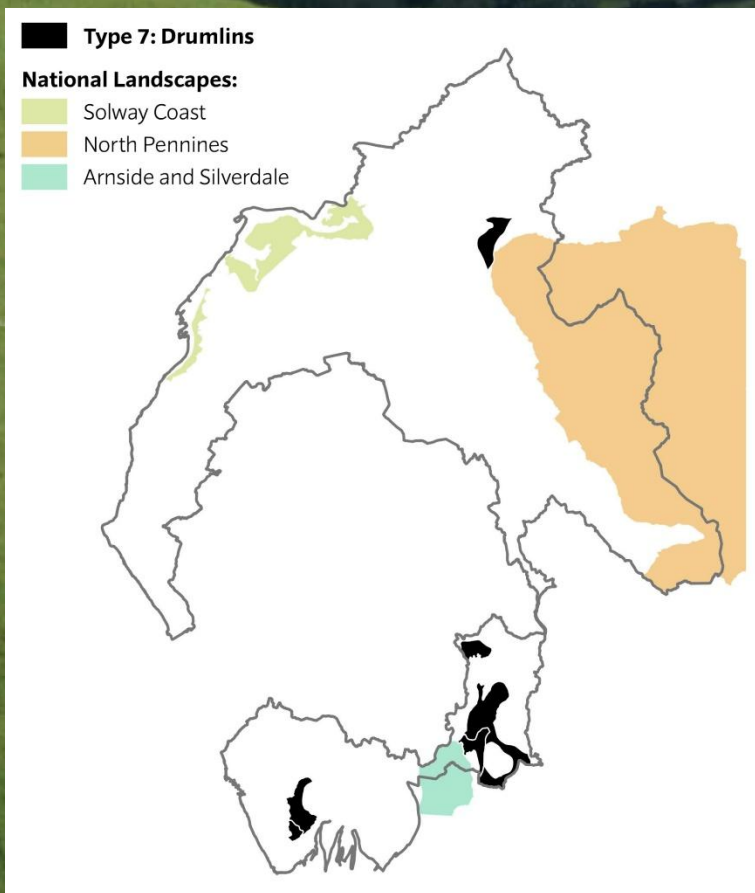
Development:

- Conserve and enhance the stone-built farm buildings and features within their landscape settings.
- Ensure new development respects the variable scale and character of the landscape, creates focal spaces and is also well related to distinctive built forms. This should help protect and enhance historic stone-built villages with distinctive nuclear or linear forms.
- Reduce the impact of large-scale new buildings by careful siting and design and by the use of appropriate materials.
- Introduce appropriate roadside planting to frame long distance views of fells and estuary and improve visual awareness of the individual settlements, land uses, and cultural landmarks along each road and provide locations for stopping, viewing and picnicking.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the rural character of the area.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the
- landscape. Noise pollution should be mitigated against through careful selection of surface materials.
- Ensure additional vertical features such as masts, large scale wind turbines and telegraph poles don't create a cluttered landscape or result in significant adverse changes to local character.
- Conserve parkland and sensitive development around the Penrith area in keeping with local character.
- Encourage farm diversification where it will benefit the landscape and economy.
- Encourage horse grazing and equestrian uses to respect field boundaries and field patterns. Stables and other facilities should be sited sensitively with appropriate landscape mitigation to prevent the erosion of the pastoral farmland character.

Access and Recreation:

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.

Type 7: Drumlins



3.8 Type 7: Drumlins

3.8.1 This is a working landscape defined by its pronounced patterns of drumlins and regular field patterns. The subtle differences in landform scale have contributed to defining these sub types.

3.8.2 Frameworks of hedges and occasional woodland support this bare rolling landscape. The predominant land cover is pasture and improved grassland. Many of the villages and hamlets in this area retain a strong historic structure and grain responding to the shape of the landscape.

3.8.3 Sub types:

- 7a Low Drumlins
- 7b Drumlin Field
- 7c Sandy Knolls and Ridges

Sub type 7a: Low Drumlins

Location

- 3.8.4 This Low Drumlins sub type is found around Barrow to Rampside and between Milnthorpe and Farleton Knott, and partly lies within the Arnside and Silverdale National Landscape.
- 3.8.5 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Arnside and Silverdale National Landscape with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Tracts of low drumlins
- Broad rounded tops, often with steep sides
- Strong agricultural pattern of medium to large improved pasture fields
- Strong matrix of hedges with minimal tree cover
- Intersected by small streams and watercourses
- Scattered farmhouses with modern outbuildings
- Expanding historic stone villages, with peripheral modern housing, scattered farmhouses

Physical character

- 3.8.6 The drumlins lie on Carboniferous rocks and were formed in the Quaternary period. The tracts of low drumlins form oval whaleback hills formed by glacial till. These are usually around 10m - 25m high and are often steep sided with broad rounded tops. They have a parallel alignment which gives a distinctive grain to the land. The drumlin features are often isolated and are less distinct and contained than the adjacent Drumlin Fields sub type.

Land cover and land use

- 3.8.7 The drumlins are farmed and have a strong agricultural pattern. Fields are usually medium to large sized and regular in shape. They are predominantly improved pasture, but there are occasional arable fields.
- 3.8.8 The fields are usually bounded by managed low cut thorn hedges, but stone walls can also be found. Field boundaries reinforce the distinctive shape of the drumlins as they rise up and down the sides and skirt along the edges. Tree and shrub cover is notably absent with only occasional hedgerow trees particularly in sheltered valleys, copses around buildings and streamside trees.
- 3.8.9 Streams intersect the landscape and areas of wetland can be found in the hollows and dips between the drumlins.

- 3.8.10 Around Barrow, fields are more irregular in shape and boundary hedgerows are often planted on small stone banks. Scattered farmhouses are reached by a network of winding lanes and tracks.
- 3.8.11 Around Milnthorpe the agricultural drumlins are intersected by expanding villages with historic stone-built centres surrounded by modern housing. Other modern developments include isolated industrial buildings, overhead power lines, main roads, motorway and a railway lines and weaken the agricultural rural character. The hilly topography and hedges contain some of this development and screen long distance views.

Ecology

- 3.8.12 This is a landscape of improved pasture with species- rich hedgerows and occasional small woodlands. The Lancaster Canal runs through Holme and supports a range of aquatic plants, whilst otters are present in the small rivers.

Historic and cultural character

- 3.8.13 The settlement pattern is mixed with traditional nucleated and discrete settlements. The field pattern is variable reflecting former common arable and ancient enclosures. There are a number of traditional market centres such as Burton-in-Kendal and Milnthorpe. The evidence of the former iron industry is distinctive around Barrow and south of Kendal one of the most significant features is the northern end of the Lancaster Canal.

Perceptual character

- 3.8.14 This a pleasant working landscape distinguished by its pronounced pattern of drumlins and regular field pattern. Pasture fields produce a dynamic pattern of colour and texture changing with the seasons and are contained within a strong patchwork framework of hedges. The noise of main roads, the motorway and railway sometimes fragment the pastoral scene. The glimpsed views of neighbouring limestone hills and the coast provide an important connection to adjacent landscapes and contrast with the intimate and enclosed feel of the landscape.

Sensitive characteristics or features

- 3.8.15 The hedges and walls that form a patchwork over the low drumlins are sensitive to changes in land management. The strongly orientated, small scale and distinctive drumlin forms are sensitive to development that would affect their overall form and appearance in the landscape. Rural lanes that wind along the lower reaches of the drumlins are sensitive to highway improvements for safety or to support new development.

Vision

This is a well composed landscape which will be conserved and enhanced.

- 3.8.16 The distinctive field pattern will be maintained along with the conservation and restoration of natural features such as hedges and streams. The unique topography within this type will be maintained through strict controls regarding development and any other potentially detrimental activities. The intrusion of new farm buildings and other development will be minimised through careful siting that complements the grain and form of the drumlins, is of an appropriate scale and high-quality design, including conversion of older farm buildings into residential use. The pattern of small woods and hedgerow trees that complement the scale, relief and field patterning of the drumlins will be conserved and extended where possible. Recreation routes will also be strengthened and better maintained.

Changes in the Landscape

- 3.8.17 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.
- 3.8.18 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- There could be increased interest in the planting of energy crops to support renewable energy generation. Energy crops could include miscanthus, short rotation coppice (usually willow) or short rotation forestry of fast-growing tree species to provide biomass for electricity production and heat. As arable and woodland planting is very limited in the landscape sub type this could change the character significantly.
- Drier summers causing more frequent browning and burn-off of grassland as aspect/incline in this area tends to encourage drainage and drier ground conditions.

Management Practices:

- Agricultural change towards intensively managed grassland and silage production.
- The introduction of newer, larger farm buildings could impact upon character, including diversification to poultry units and indoor dairy systems.
- Increased interest in the potential for anaerobic digestion on farms could result in further changes to farm buildings in the future which may affect traditional characteristics.
- There are localised examples of neglect of hedges and walls which need better management as they are a key landscape feature.

Development:

- There is the continued need for additional housing, commercial and recreational development related to towns and larger villages which could affect the rural qualities.
- Village expansion, barn conversions, and sporadic development that don't reflect the local vernacular or traditional siting of development at the foot of the drumlins could weaken local identity.
- There could be an increased interest in large scale onshore wind energy development in parts of Cumbria where these landscape sub types occur.
- The Great Grid Upgrade launched in 2023 (to allow connection to more off-shore energy) will result in additional large pylons and sub-stations across some areas.
- Other Infrastructure developments including roads, motorway and railway improvements cutting across the grain of landscape and introducing vertical structures that dominate the drumlin characteristics.
- Development sited away from settlements could introduce buildings that are inappropriate in location, siting, and scale.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.
- Farm diversification to support recreational and tourism businesses could weaken the distinctive character of the landscape if not carried out sensitively.

Guidelines

- 3.8.19 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage biomass planting where appropriate, such as in hollows and between the lower more open drumlins to help retain the distinctive form and pasture land cover of the drumlins.

Natural and Cultural Features:

- Plant small pockets of indigenous woodland within hollows and woodland belts between the lower more open drumlin swarms.
- Discourage large scale planting that would obscure or swamp the pattern of drumlins.
- Conserve and maintain hedgerows in a traditional way where possible with hand laying and trimming.
- Discourage boundary removal and field enlargement, and encourage re-instatement of hedgerows and field trees lost during post-war mechanisation/intensification.
- Maintain dry stone walls in the traditional manner.
- Restore dry stone walls and neglected hedgerows; the latter involving replanting of gaps and coppicing of overgrown plants.
- Conserve and enhance features such as remnant medieval 'town fields' and disused iron ore mines in Furness by positive management and discouraging damaging agricultural and other reclamation schemes.
- Conserve and enhance historic routes such as the Lancaster Canal and encourage public use by management of trees and scrub, carrying out structural repairs to bridges, walls etc. (with archaeological advice) and protection from stock.

Development:

- Ensure that all developments are of high quality and well related to the distinctive grain and scale of this landscape. Avoid siting development on prominent hill tops or cutting across slopes, particularly with reference to tall structures such as pylons and large-scale wind turbines, and take advantage of natural containment by landform and trees.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the rural character of the area.
- Reduce the impact of new farm buildings by careful siting, breaking down mass, choice of sympathetic colours and non-reflective finishes and screen planting. Ensure any diversification from farming use does not disrupt the strong held pattern.
- Conserve and protect historic villages by ensuring new housing development respects their scale, traditional form and vernacular styles and does not overcrowd narrow lanes or infill open spaces such as orchards and gardens integral to the character. Encourage sensitive environmental improvements to village greens, ponds, tree plantings etc.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.

Sub type 7b: Drumlin Field

Location

- 3.8.20 This Drumlin Field sub type is found in a band running from Cowan Head south east past Kendal to near Kirkby Lonsdale, and in a band running from Lindal in Furness south to the coast around Roosebeck. In some places, it is adjacent to the Lake District National Park.
- 3.8.21 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Tracts of high drumlins
- Rounded tops with steep sides
- Distinct landform grain
- Hedges and stone walls form strong boundaries
- Streams and wet hollows are found in the valleys and dips between the drumlins
- Farms and development often nestle in intersecting valleys
- Narrow lanes with tall hedges and steep banks criss-cross through the drumlins
- Drumlins are cut through by the M6 motorway, railways and power lines

Physical character

- 3.8.22 The drumlins lie on Carboniferous rocks and were formed in the Quaternary period. The tracts of rolling high drumlins form oval whaleback hills moulded from boulder clay by glacial processes. They range from 50 - 125m high, have broad rounded tops and are frequently steep-sided.
- 3.8.23 The drumlins provide evidence of glaciation. During the Pleistocene period these areas were glaciated several times and till (boulder clay) was deposited. The present topography resulted from the last glaciation when the ice sheet deposited the 'Lake District Drift' and moulded it into a striking drumlin pattern. The parallel alignment of these hills gives the landform a distinctive, uniform grain. The orientation of the drumlins is NW/ SW around Kendal and NNW/SSE in Furness.

Land cover and land use

- 3.8.24 The drumlins are mainly covered in pastoral fields, usually divided by thick well managed hedges. Limestone walls can be found bounding fields in higher parts and around villages. The strong patchwork of fields forms a distinctive pattern that crosses up and down the drumlins.

- 3.8.25 Small broadleaved woods, orchards and hedgerow trees are abundant around Kendal but, perhaps due to exposure, these rarely occur in Furness where tree cover is restricted to sheltered valleys of farms and villages. Brooks and streams wind through the hills and occasional tarns occur in the hollows between them.
- 3.8.26 Many of the villages retain a strong historic structure responding to the shape of the landform either strongly linear along the side of hills or nucleated within hollows with houses grouped around greens or tarns. Modern housing expansion has weakened this intimate relationship and the vernacular identity of the villages.
- 3.8.27 The drumlin fields are crossed by power lines, main roads, railways and the M6 motorway. The Lancaster Canal, south of Kendal, is partly infilled but still retains its towpaths, bridges, tunnels and planting in many parts.
- 3.8.28 There are some urban fringe characteristics in the parts of the landscape closest to Barrow and Kendal which have weakened the distinctive pastoral drumlin and village scene.

Ecology

- 3.8.29 This is a landscape of improved pasture with species-rich hedgerows and occasional small woods. Small areas of rush pasture are occasionally present in hollows. The northern section of the Lancaster Canal supports a range of aquatic plants, whilst otters are present in small rivers.

Historic and cultural character

- 3.8.30 The landscape consisting of nestling farms within the drumlins is interesting and often painted by artists such as; William Collingwood, Arthur Tucker and Hubert Coutts. Particular features are kettle tarns, which were formed in basins by the melting ice age.
- 3.8.31 The settlement pattern is largely dispersed and the field pattern regular with a mix of field sizes reflecting former common arable and ancient enclosures. However, these are distinguished by the recent removal of many hedged boundaries. The traditional buildings are constructed of limestone. The most distinctive archaeological feature is the evidence from industrial activity such as paper making and gunpowder manufacture.

Perceptual character

- 3.8.32 This is a comfortable working landscape dominated by pasture fields. Seasonal farming practices bring a dynamic nature to the area with summer mowing creating a bright patchwork of greens and yellows. The combination of drumlin landforms overlain by a geometric net of fields gives this landscape a strong identity. The hedgerows often seem to march over the drumlins, their curvature

accentuating the relief of the hills. The landscape is punctuated by hedgerow trees, farms, woods, tarns and villages. The lack of tree cover in Furness creates a bare rolling landscape. A journey through it reveals a series of contrasts from enclosed sheltered hollows to exposed open hilltops affording long views. In some cases, the views open across valleys where farmland and towns, such as Kendal, are framed in the landscape. A sense of intrigue and surprise can be created by the hilly winding lanes.

Sensitive characteristics or features

- 3.8.33 The distinctive grain and interlocking appearance of the drumlin forms are sensitive to development that would change their appearance in the landscape. The strong matrix of hedges and walls that criss-cross and ‘rollercoaster’ up and down the drumlins are sensitive to changes in land management. The rivers and watercourses that intersect the drumlins reinforce a sense of tranquillity and are sensitive to farm intensification and changes to land management. Rural lanes that wind along the lower reaches of the drumlins are sensitive to highway improvements for safety or to support new development. The traditional vernacular village forms reflect the distinctive shape of the drumlins and are sensitive to village expansion. Open and expansive views to Morecambe Bay, the Lakeland Fells and Yorkshire Dales are sensitive to large scale infrastructure development.

Vision

This well composed landscape will be conserved and enhanced to retain its distinctive characteristics.

- 3.8.34 Its unique topography will be maintained and enhanced as a striking asset. The intrusion of new farm buildings will be minimised, field patterns maintained and strengthened and natural features restored through careful conservation.
- 3.8.35 Conservation and restoration of the small woods and hedgerow trees will complement the scale, relief and field patterning of the drumlins. Any small-scale development will be sited and aligned to complement the grain and form of the drumlins and a good network of paths and recreational routes will exist.

Changes in the Landscape

3.8.36 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Solar farms have become a feature of this landscape with construction of solar farm developments at Greaves Farm near Kendal (5 MW/unknown sqm) in 2016 and South Stilling Tanks near Kendal (0.5 MW/unknown sqm) in 2021
- Expansion of residential development on the edge of settlements, for example at Endmoor and at Kendal

3.8.37 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- There could be increased interest in the planting of energy crops to support renewable energy generation. Energy crops could include miscanthus, short rotation coppice (usually willow) or short rotation forestry of fast-growing tree species to provide biomass for electricity production and heat. As arable and woodland planting is very limited in the landscape sub type this could change the character significantly.
- There could be an increase in localised flooding linked to increased rainfall and storm events which may need to be managed in the future.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Agricultural change towards intensively managed grassland could reduce biodiversity and support more silage production.
- There continue to be localised examples of neglected hedges and walls.

Development:

- Interest in residential, commercial and recreation development is likely to continue close to major towns and villages.
- Village expansion, barn conversions, and sporadic development that don't reflect the local vernacular or traditional siting of development at the foot of the drumlins could weaken local identity.
- Infrastructure developments including large scale wind energy developments, pylons, roads, motorway and railway improvements could cut across the grain of landscape and introduce vertical structures that dominate the drumlin characteristics.
- Further solar farm development could become a more frequent feature of this landscape

- Development sited away from settlements could introduce buildings that are inappropriate in location, siting, and scale.
- Farm diversification could result in more recreational uses such as golf courses.
- The M6 corridor as an element in the landscape could have the potential to attract new large-scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.
- Visitor numbers could increase in areas adjacent to the Lake District and Yorkshire Dales National Parks and from programmes encouraging people to access the countryside around where they live.

Guidelines

- 3.8.38 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage biomass planting in hollows and between the lower more open drumlins to help retain the distinctive form and pasture land cover of the drumlins.
- Encourage appropriate flood risk management measures to reflect the local character.

Natural and Cultural Features:

- Plant small pockets of indigenous woodland within hollows or on prominent hilltops and woodland belts between the lower more open drumlins.
- Resist large scale planting that would obscure or swamp the pattern of drumlins.
- Conserve and maintain hedgerows in a traditional way where possible with hand laying and trimming.
- Discourage boundary removal and field enlargement.
- Maintain dry stone walls in the traditional manner.
- Restore dry stone walls and neglected hedgerows; the latter involving replanting of gaps and coppicing of overgrown plants.
- Conserve and enhance features such as remnant medieval 'town fields' and disused iron ore mines in Furness by positive management and discouraging damaging agricultural and other reclamation schemes.
- Conserve and enhance historic routes such as the Lancaster Canal and encourage public use by management of trees and scrub, carrying out structural repairs to bridges, walls etc. (with archaeological advice) and protection from stock.

Development:

- Ensure that all developments are of high quality and well related to the distinctive grain and scale of this landscape. Avoid prominent hill tops or cutting across slopes, particularly with reference to tall structures such as pylons and large-scale wind turbines and, take advantage of natural containment by landform and trees.
- Reduce the impact of new farm buildings by careful siting, breaking down mass, choice of sympathetic colours and non-reflective finishes and screen planting. Ensure any diversification from farming use does not disrupt the strong held pattern.
- Conserve and protect historic villages by ensuring new housing development respects their scale, traditional form and vernacular styles and does not overcrowd narrow lanes or infill open spaces such as orchards and gardens integral to the character. Encourage sensitive environmental improvements to village greens, ponds, tree plantings etc.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where they could degrade the rural character of the area.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Promote and enhance existing recreation routes by improving waymarking, appropriate surfacing, gates and gaps and interpretation.
- Encourage the development of footpath, bridleway and cycleway networks where appropriate combined with additional hedgerow and tree planting to provide interest.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.

Sub type 7c: Sandy Knolls and Ridges

Location

3.8.39 This Sandy Knolls and Ridges sub type is found in a small swathe running south from Brampton towards Castle Carrock.

Key Characteristics

- Regular knolls and ridges
- The land cover is generally pasture
- Field patterns are irregular
- Significant amounts of woodland cover in the form of hanging woods, coniferous plantations and semi natural woods

Physical character

3.8.40 The prominent ridges and knolls are formed from glacial alluvium and overlie Permo Triassic sandstone rocks. A distinctive feature in this sub type is a 'kame' ridge formed of gravel from glacial meltwater which stretches for 4 km to the east of Brampton. The landscape is similar to Rolling Lowlands (sub type 5c) but has greater variation in topography due to the knoll and ridge features.

Land cover and land use

3.8.41 The predominant land cover is pasture with irregular field patterns. Fields are usually bounded by hedges, with hedgerow trees. There is significant woodland cover throughout the landscape which varies from coniferous plantations, semi-natural woodlands, parkland, such as that at Naworth, and dramatic hanging woods along the River Gelt. Buildings are generally in a vernacular tradition and limestone built outside of the Georgian town of Brampton. Pylons, the A69 and the railway line cut across the area. These are sometimes discrete features hidden by changes in topography and woodland cover.

Ecology

3.8.42 This is a landscape of improved pasture with species- rich hedgerows and frequent upland oak woodland, particularly along the River Gelt. Otters are present along the River Gelt and other rivers.

Historic and cultural character

3.8.43 The area has been a popular location for a variety of artists such as Ben Nicholson, Winifred Nicholson, George Howard, Christopher Wood and Donald Wilkinson. The settlement pattern consists of small nucleations surrounded by recently modified traditional field systems containing some fossilised strips. There is some planned enclosure south of Brampton. The medieval castle of Naworth lies close to

Brampton and dates back to the early 14th century, although there is evidence of an earlier fortification in 1270. There is some parkland associated with major estate centres such as Naworth Castle. The principal archaeological features are the route of the Roman road known as the Stanegate, a variety of medieval castles and The Mote (Brampton) and Written Rack of Celt, Torte (Naworth).

Perceptual character

- 3.8.44 This is a pleasant farmed landscape. It is a generally small to medium scale, enclosed landscape which opens out on the edges. The combination of knolls and ridges with mature woodland and pasture creates an enclosed parkland like appearance. Most views are framed by woodland or topography. There are some longer vistas northwards from the ridges near Brampton.

Sensitive characteristics or features

- 3.8.45 Semi natural woodlands, hanging woodlands and parkland are sensitive to changes in land management. Traditional vernacular villages are sensitive to unsympathetic expansion.

Vision

This varied well-composed landscape will be conserved and enhanced.

- 3.8.46 Hedges and other boundary features, small and medium scale woodlands and individual trees will be managed and restored with the help of farmers and landowners. Large-scale changes in agricultural management or major increases in woodland will be discouraged. Small-scale development will be carefully sited and landscaped to exploit the natural potential for visual containment. Residential development, mineral extraction and recreation development will be carefully controlled.

Changes in the Landscape

- 3.8.47 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Changes to and partial restoration of a mineral working site at Low Geltbridge

- 3.8.48 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Symptoms of agricultural change include neglect or removal of some hedges.
- Continued quarrying is likely in this area.

Development:

- Residential development and barn conversions within existing villages.

Access and Recreation:

- Visitor numbers could increase due to its proximity to the North Pennines and programmes encouraging people to access the countryside around where they live.
- Some of the woodland areas are currently managed for conservation with public access but otherwise there are few facilities for recreation.

Guidelines

- 3.8.49 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Encourage the creation of small to medium size new native woodlands.
- Ensure the natural topography of the ridges and knolls is maintained and not degraded.
- Encourage traditional management of hedgerows and maintenance of the existing pattern of field boundaries.
- Encourage the restoration of gappy hedgerows and the replacement of fences with hedges.
- Encourage the restoration and conservation of dry-stone walls and other boundary features.

- Conserve historic features in their landscape setting and encourage interpretation/visitor management.
- Consider the potential for interpretation, controlled access and additional facilities in consultation with English Heritage.

Development:

- Conserve and protect historic villages and hamlets and ensure all new development reflects the scale and character of the existing settlement.
- Encourage additional planting to soften and screen existing large scale or eyesore developments.
- Ensure mineral extraction is carried out in a manner that does minimal damage to distinctive landscape features.

Access and Recreation:

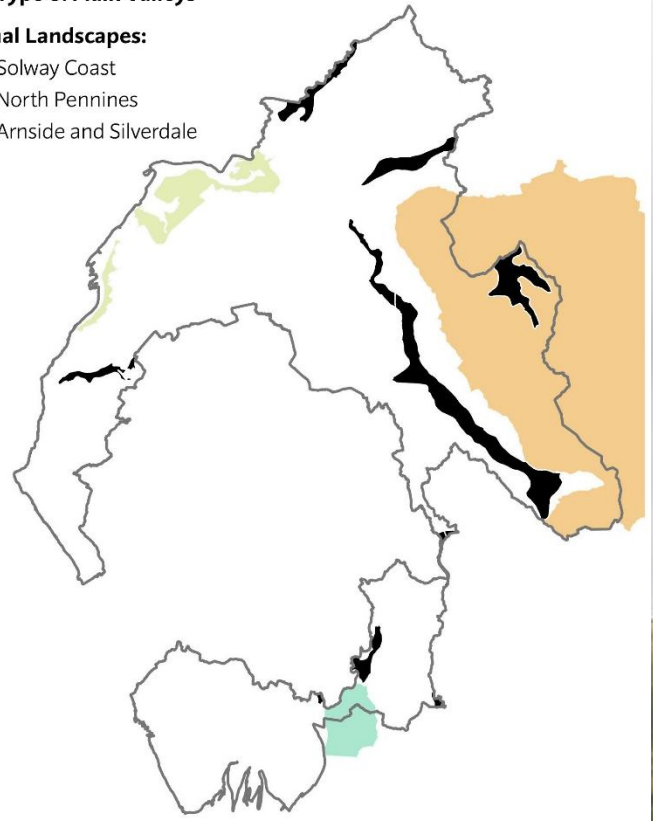
- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.
- Manage interest for both formal and informal recreation by encouraging access to areas able to sustain the impact without detriment.
- Encourage the development of footpath, bridleway and cycleway networks where appropriate combined with additional hedgerow and tree planting to provide interest.

Type 8: Main Valleys

Type 8: Main Valleys

National Landscapes:

- Solway Coast
- North Pennines
- Arnside and Silverdale



3.9 Type 8: Main Valleys

3.9.1 This includes the main linear valley landscapes within Cumbria, which include rivers, tributary streams, hanging woodlands, wet pasture, woodland and scrub. The relationships to settlements vary, which are influenced by the nature of the valley landform and perceptual qualities of the landscape.

3.9.2 Sub types:

- 8a Gorges
- 8b Broad Valleys
- 8c Valley Corridors
- 8d Dales

Sub type 8a: Gorges

Location

- 3.9.1 This Gorges sub type is a short section of the River Eden, which extends from near the 'Nunnery' north of Lazonby to Wetheral.

Key Characteristics

- A deep linear sandstone gorge
- Fast flowing river with waterfalls
- Outcrops of steep rocky cliffs
- Hanging woodlands cling to the gorge sides
- Large concentrations of ancient semi-natural birch woodland and occasional coniferous
- Impressive views into the gorge from adjacent high ground

Physical character

- 3.9.2 The dramatic gorge of the River Eden has formed in an area of Permo Triassic sandstone and cuts through the Sandstone Ridge (type 10) and Rolling Lowland (sub type 5c). The gorge drops from around 100 – 25m AOD in a northerly direction.

Land cover and land use

- 3.9.3 The gorge has a strongly distinctive character with rocky sides and cliffs that drop steeply down to the River Eden. The gorge is lined in many parts with swathes of hanging oak and birch woodlands and remnant ancient and semi natural woodlands. These tend to give way to coniferous plantations as you move up the gorge side before joining rolling farmland. Occasional improved or semi improved fields sit between the woodlands. Above the gorge sides pasture fields slope gently upwards and are bounded by sandstone walls and wire fences. A short section near Armathwaite includes a dramatic waterfall due to changes in geology. The gorge then opens up and has a flat floodplain valley floor and pasture fields extend down to the river.
- 3.9.4 There are traditional scaled nucleated settlements around bridging points and isolated traditional farmsteads and some modern dwellings sited along the river. Buildings are often constructed in the distinctive rich red local sandstone. A railway line skirts discretely along the western edge of the gorge and does not detract from the overall character.
- 3.9.5 The Lune Gorge is not included in this sub type due to significantly different man-made characteristics. It is included in sub type 8c (Valley Corridors).

Ecology

- 3.9.6 A landscape of high ecological interest, much of which lies in the upland oak woodland which lines the steep banks and cliffs of the Eden gorge. These woods are important for birds such as pied flycatcher, redstart, wood warbler and goosander. The damp cliffs support a diverse assemblage of mosses, liverworts, ferns and species such as the river jelly lichen. The river itself is of international importance and supports otter, Atlantic salmon and lampreys.

Historic and cultural character

- 3.9.7 The Settle to Carlisle railway runs through this landscape sub type and is regarded as the most scenic railway in England. A section of the route runs adjacent to the valley of the river Eden. Skilled engineering was required to overcome the complex landform of this area. Striking railway viaducts are a feature of this landscape.
- 3.9.8 The settlement pattern is concentrated into a few large villages which had an industrial past associated with water power. Buildings are sandstone constructed, largely dating to the eighteenth and nineteenth centuries. There are elements of ornamental designed landscapes on the river banks as at Armathwaite.

Perceptual character

- 3.9.9 The landscape is picturesque and can feel wild, natural and invigorating with its steep sides, heavily lined by swathes of woodland, looming over the fast flowing river in the gorge bottom. Changes in seasons can change the character of woodland, and weather changes can influence the flow, noise and energy of the river. Where fields interrupt the woodland they provide contrast with the dramatic hanging woodlands and provide more open views to farmland beyond. Views along the gorge are enclosed and snake along the rivers course. The lack of settlement and energy of the river give a feeling of remoteness.

Sensitive characteristics or features

- 3.9.10 Hanging woodlands in steep sided gorges and dramatic changes in geology are sensitive to changes in water management and natural forces. The distinctive sandstone vernacular and traditional scale villages are sensitive to unsympathetic expansion. Viaducts and the discretely sited Settle to Carlisle rail line could be sensitive to changes in the upkeep of the rail line. Enclosed views along a wild and remote undeveloped gorge are sensitive to valley rim development.

Vision

The picturesque qualities and ecological richness of the gorge will be conserved and enhanced.

- 3.9.11 The contrasts between the hanging woodlands and cliff faces will be retained. The character of the former ancient and semi-natural woodland cover will be restored through various management practices. Development and the management of recreation will be strictly controlled.

Changes in the Landscape

- 3.9.12 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.
- 3.9.13 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- There could be increases in flash flooding in upland areas linked to higher rainfall and extreme weather events. This could affect river courses and vegetation.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- The replanting of some of the ancient valley woods with further large-scale coniferous planting unlikely to happen in the future. However, sensitive management of maturing plantations is needed.
- Intensive bank side grazing, use of fertiliser and diffuse pollution could cause changes to the nature conservation value of the River Eden SSSI.

Development:

- Planned or incremental village expansion and increased recreational use and ancillary tourism developments such as caravan parks could change the generally undeveloped and vernacular character of the landscape.
- There could be an increase in interest for small scale hydroelectric schemes to help generate renewable energy.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.

Guidelines

- 3.9.14 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage flood risk management to maximise the use of natural approaches such as additional tree planting rather than the introduction of man-made flood management approaches.
- Ensure the management of floodplain areas resisting development while conserving and enhancing floodplain habitats.

Natural and Cultural Features:

- Where appropriate, extend broadleaf woodland cover along the River Eden and tributaries linking into the adjacent pattern of hedgerows to further emphasise their legibility in landscape and increase potential for nature conservation.
- Ameliorate existing coniferous plantations through sensitive management including softening of geometric outlines, phased felling appropriate to small scale linear landscape patterns, introduction of open spaces and restocking with appropriate broadleaf species.
- Retain and maintain existing stone walls, gate posts and other built features. Encourage new walls where wire fences have replaced them in the past.

Development:

- Ensure new development on the edges of settlements is sited and designed to reflect the traditional village form and character and maintains a rural setting. Maintain key views from villages to the River Eden.
- Ensure new development elsewhere, such as caravan parks, respects the scale and traditional form of other development. Ensure that new buildings are integrated into the landscape through careful siting, design and the use of appropriate materials.

- Ensure any small scale hydroelectric schemes are sensitively sited and do not erode the generally undeveloped character of the landscape, or harm any nature conservation interests.

Access and Recreation:

- Encourage new access proposals and improvements in areas that would not harm the nature conservation value of the river and woodlands.

Sub type 8b: Broad Valleys

Location

- 3.9.15 This Broad Valleys sub type includes parts of the rivers Liddel, Irthing, Eden, Derwent, Lune, Lyth, Kent and Winster, and partly lies within the Arnside and Silverdale National Landscape. In some places, it is adjacent to the Lake District and Yorkshire Dales National Parks.
- 3.9.16 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Arnside and Silverdale National Landscape, the Lake District National Park and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Wide and deep valleys with open floodplains
- Rural farmland comprising significant areas of improved pasture
- Pockets of scrub, woodland and coniferous plantations
- Hedges and stone walls form a matrix of field boundaries
- Roads and railway lines often follow the linear valley contours

Physical character

- 3.9.17 These broad valleys are found on a range of rocks, but are usually overlain by fluvio-glacial drift and river alluvium. The valley bottoms are often less than 50m AOD with either gentle or steep valley sides that reach to around 175m AOD. While generally broad and large in scale, the topography can vary as valleys cut through a range of landscape types including drumlin fields, limestone escarpments, and fells. Throughout this sub type the rivers have formed both open and wide floodplains and broad and deep valleys where the rivers gently meander along the valley bottoms. Occasionally narrow and faster flowing sections of river are found reflecting local geological variations.

Land cover and land use

- 3.9.18 Land cover is mixed. Fields of improved pasture dominate, but there are occasional arable fields, particularly in the Eden Valley. The farmland is broken up by pockets of scrub, deciduous woodland and small blocks of coniferous plantation. Fields are both irregular and regular in shape and bounded by hedges or stone walls and provide a strong pattern of boundaries. Hedges tend to be thicker in southern valleys. In places fences have replaced traditional boundaries. Hedgerow trees and riverside trees are common. These contribute to the wooded character of the valleys.

- 3.9.19 The more open sections of river usually have a flat floodplain with the river meandering gently along the valley bottom. Valley sides can be incised by small streams and tributaries. Improved pasture is dominant, particularly on the floodplain and lower valley sides. Blocks of plantations and broadleaved and coppice woodland can be found in more open areas and towards the top of the valley sides. These are often associated with estate parkland and areas that were historically deer park. Damson orchards are a distinctive feature of the Lyth Valley. Drained mosses can often be found towards the mouths of the Kent, Lyth and Winster in the south.
- 3.9.20 In the narrower deeper more gorge like valley sections the rivers are more twisting and can have short fast flowing sections with waterfalls. Valley sides are steeper and are often covered with wooded banks and hanging woodlands.
- 3.9.21 Small scale historic bridges cross the rivers in many places and have determined the location of many of the traditional villages. Small villages that retain a strong vernacular character are common, with buildings built mainly of local sandstone and limestone. Villages are often linear close to the river or more nucleated along the valley top. Towns such as Kirkby Lonsdale retain a traditional core but have modern characteristics where they have expanded. Farms are isolated and dispersed usually along valley sides.
- 3.9.22 Small rural roads and railway lines often follow the contours of the river valleys and are generally discrete features. More modern larger roads often cut across the valleys in a more discordant way.

Ecology

- 3.9.23 The rivers are often ecologically rich, supporting species such as otters, Atlantic salmon, bullhead, lampreys and white-clawed crayfish. Several are internationally important. The riverbanks are often wooded with upland oak, remnant ancient and semi natural woodland and wet woodland communities. Patches of rush pasture can also be present. Along the Lyth Valley small, wooded remnants of once more extensive lowland raised bogs are present. Species-rich hedgerows frequently bound the fields of improved pasture, and these, together with the river habitats provide important habitat for bats.
- 3.9.24 Species-rich roadside verges are a feature of the Lune valley east of Tebay. Earth cliffs along the riverbank provide nesting sites for sand martins whilst riverside woods support nesting goosander. Some valleys also support wintering sites for whooper swans.

Historic and cultural character

- 3.9.25 The broad valleys of the area have been popular locations for artists. The Lune Valley (and the upper Lune Valley in Ravenstonedale within the Yorkshire Dales National Park) were painted by J.M W. Turner, Norman Adams, and David Morris.

The Eden Valley is the location for one of Andy Goldsworthy's sheepfold sculpture walks.

- 3.9.26 The settlement pattern is dispersed except in the Eden and Irthing valleys and part of the Lune Valley which are more nucleated. Fields are often associated with ancient enclosure and former common arable land. Planned enclosure is dominant in the Lyth Valley and along the edges of the Eden, and Black and White Lyne valleys.
- 3.9.27 There are varying building styles with sandstone the primary building material in the north and limestone in the south. There are a number of historic weirs and bridges associated with the rivers. The most frequent archaeological sites relate to water powered industries; paper, gunpowder and iron manufacturing on the River Kent and corn mills on all the river systems. Marble quarrying once took place along the banks of the River Kent south of Kendal.
- 3.9.28 There are Roman sites such as Kirkby Thore in the Eden and Lune valleys. In Irthing Valley Hadrian's Wall and forts such as Birdoswold form the most significant archaeological components. The Wall and associated earthworks follow a prominent ridge running along the northern rim. There are a number of ornamental and parkland landscapes, particularly in the Kent and southern Lune Valley.

Perceptual character

- 3.9.29 These landscapes are generally medium in scale with a lot of variety along the length of the valleys. The narrow enclosed wooded sections can feel remote and wild due to the lack of development and speed and character of the river and hanging woodlands. The character of the river can change with the seasons and weather, sometimes increasing the sense of wildness. In more open parts there is a sense of calm within a working farmland. Close to large towns and roads there is a busier feeling but the rural qualities still dominate. Low level views are often intimate, contained by the valley sides and woodland. More expansive views are possible from the top of some valley sides towards the Scottish hills, Lakeland fells and the North Pennines.

Sensitive characteristics or features

- 3.9.30 Woodlands, orchards and the matrix of hedges and hedgerow trees and open meandering undeveloped river plains are sensitive to changes in land management. The planned nature of estate parkland and historic deer parks is sensitive to changes in estate management and the expansion of estate buildings. The limestone and sandstone vernacular, traditional scale of villages and their siting that follows the grain of the valleys are sensitive to unsympathetic expansion. Traditional stone bridges and roads that follow the grain of the valleys could be sensitive to flooding events and highway improvements. Undeveloped valley rims and their relationship with adjacent landscapes are sensitive to rim edge

development. The remoteness and wildness associated with the rivers, and the sense of calm associated with the more open farmland, are sensitive to changes in land management.

Vision

These landscapes will be conserved and enhanced.

- 3.9.31 Hedgerows and walls will be strengthened adding striking edges to field boundaries and will help define the river valleys and the farmed valley bottoms. Settlement patterns and habitats associated with the rivers will also be conserved and enhanced while tree cover will be maintained and strengthened. Development will be sited to complement traditional settlement patterns and use vernacular materials. The historic features and continuity will be conserved and enhanced.

Changes in the Landscape

- 3.9.32 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:
- Increases in tourism-related development, such as lodges at Great Salkeld
 - Expansion of residential development on the edge of or close to settlements, for example south of the village of Culgaith and at the village of Temple Sowerby
 - Changes (both increase and decrease) in some areas of woodland cover, such as to the south of Kershopefoot
- 3.9.33 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Changes in approaches to flood risk management could provide an opportunity for some floodplain areas to become wetter in future.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Changing agricultural practices have led to the neglect of landscape features and the loss or replacement of hedgerows by fences.
- There could be a tendency for coniferous forests and designed landscapes to introduce non-native trees which may bring disease.
- Lack of management to estate or other woodlands and hedgerow and riverside trees can erode the character of the area.
- Water abstraction, pollution and enrichment can affect riverside features.

Development:

- Large scale farm buildings can be found in some parts and are introducing uncharacteristic development into the farmed landscape.
- There is likely to be continued pressure for expansion of villages and towns along the Derwent, Eden, Kent and Lune.
- The need to provide more renewable energy sources could result in an interest for large scale wind energy development and small scale hydroelectric schemes.
- Road and rail improvements and energy infrastructure such as, large scale wind turbines could erode the rural character and affect adjacent landscapes.

Access and Recreation:

- Visitor numbers could increase in areas adjacent to the Lake District and Yorkshire Dales National Parks and North Pennines National Landscape and from programmes encouraging people to access the countryside around where they live.
- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.
- Additional recreation facilities such as fishing lodges, holiday accommodation and golf courses could be sought in these areas.

Guidelines

- 3.9.34 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Opportunities should be taken to create new areas of wetland in response to changes in flood risk management, such as is planned in the Lyth Valley.

Natural and Cultural Features:

- Ameliorate incongruous river engineering and canalisation works by softening geometric forms and creating a variety of habitats and natural features within and alongside rivers.
- Plant trees to enhance vistas whilst emphasising contrasts between wooded valley sides and open flood plain.
- Introduce open areas within woodland and manage water and wetlands to increase landscape value.
- Ensure that the planting of designed landscapes using non-native trees does not bring disease into the surrounding landscape.
- Improve the management of existing hedgerows to create stronger patterns in the landscape.
- Encourage the replanting and renovation of gappy overgrown hedges.
- Renovate parkland respecting historic designed layouts and planting schemes.
- Conserve historic buildings and structures, which may include removal of trees and scrub to keep them open and viewable.
- Conserve historic earthworks through avoidance of damaging agricultural activities such as infilling or levelling, tree planting, poaching by cattle, ploughing or tipping.

Development:

- Minimise the visual impact of recreational developments such as caravan sites. Careful siting, restrictions on scale and a high standard of design and landscaping may achieve this.
- Minimise the impact of infrastructure and housing development by careful siting, avoiding open valley floors, obstruction of corridor views and relating them to existing development. Set high standards of landscape treatment.
- Maximise opportunities to create/enhance semi- natural elements such as woodland and wetland in association with recreation developments such as golf courses.
- Minimise developments impact on local character through ensuring design and scale respects the local vernacular and character particularly regarding the introduction of modern large-scale farm buildings.
- Large scale wind energy schemes should avoid small, enclosed valleys and valley tops where they could appear dominant.
- Hydroelectric schemes should be sited and designed to be discrete elements in the landscape and not harm nature conservation interests.
- Conserve and enhance traditional farm buildings and features particularly within a historic setting.

- Encourage retention and restoration of stone gate posts, historical artefacts and features forming part of the cultural heritage.
- Reduce the impact of large-scale new buildings by careful location, siting and design.
- Conserve and protect the character of historic stone-built villages in their landscape settings.
- Discourage fringe development in non-traditional materials that will affect the setting of the village particularly in its relationship with the River Eden

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

Sub type 8c: Valley Corridors

Location

- 3.9.35 This Valley Corridors sub type is a short section of the Lune Valley running south from Tebay to Lowgill, following the M6 corridor. In some places, it is adjacent to the Lake District National Park.
- 3.9.36 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Narrow gorge between high fells
- Steep sides with pasture and woodland
- Meandering river along valley bottom
- M6 motorway, railway and pylons dominate the valley

Physical character

- 3.9.37 The underlying rocks are Silurian mudstones and sandstones overlain by till and gravel fluvial glacial deposits. The river runs through a steep deep gorge that is strongly enclosed by the Shap and Whinash Fells to the west (in the Lake District National Park) and Howgill Fells to the east (in the Yorkshire Dales National Park). The valley height varies from 175 - 200m AOD

Land cover and land use

- 3.9.38 The valley has a managed pastoral character that is dominated by transport infrastructure. Sloping pastures along the lower valley sides and floodplain from a patchwork of fields bounded by stone walls and hedges. These are interspersed with woodlands and copses and isolated trees. The woodland is often found along the edge of the river course. This provides contrast with the unenclosed rough grazing, bracken and rocky outcrops found on the valley sides and the enclosing fells.
- 3.9.39 At the northern end of the Lune Gorge there is the former railway village of Tebay. Otherwise settlement is sparse and limited to dispersed farmsteads that shelter in the valley bottom. As the gorge forms a gap between the fells it has been a vital transport route over the centuries. A Roman road runs along the eastern side, and a dismantled railway and associated features can still be found. More recently a modern railway line and M6 motorway were built along the western side. Earthworks associated with this have resulted in a number of artificial cliff features of which have a high geological interest. The motorway is the dominant feature running through the gorge despite it curving along the valley contours carefully.

This is largely due to its scale and the noise and movement associated with it. The railway line adds to the noise and movement in the landscape.

Ecology

- 3.9.40 The river valley supports areas of upland oak and wet woodland, scrub, rush pasture and floodplain grazing marsh and provide habitat for bats, otter, sand martin and Atlantic salmon.

Historic and cultural character

- 3.9.41 The Lune gorge is especially characterised by the route-ways going through it from a Roman road with an associated fort, through to a 19th century railway and the M6 motorway. Farmland is predominantly ancient enclosure with some former common arable land and unenclosed moorland.

Perceptual character

- 3.9.42 The Lune Gorge at Tebay is a large scale, dramatically enclosed landscape with discordance between its rough and wild texture and the presence of heavy motorway traffic. The noise of traffic detracts from the quiet enjoyment of the valley and nearby fells. Nevertheless this landscape is considered to be both invigorating and beautiful and is arguably the most dramatic section of motorway in the country. The weather influences the experience of the area as poor weather can obscure the containing fells.

Sensitive characteristics or features

- 3.9.43 The strong undeveloped enclosures of the Tebay, Howgill Grayrigg, Lambrigg Fells and Commons are sensitive to changes in land management. The unenclosed moorland that contrasts with lower level farms and fields is sensitive to changes in land management. The strong linear transport links that curve along the lower valley sides are sensitive to unsympathetic expansion.

Vision

This valley will be enhanced where possible and development intruding on the traditional characteristics will be resisted.

- 3.9.44 Enhancement will come in the form of strengthened natural features and landscape structure, contrasting wooded valley sides and open pastoral flood plains. Farmland structures will be restored and cultural or historic features will be carefully conserved and enhanced. The valley will remain a predominantly rural corridor with contained and managed road and rail infrastructure. The tourism resource in the Lune Valley for activities such as kayaking and walking will be managed and strengthened.

Changes in the Landscape

3.9.45 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.

3.9.46 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Changes in approaches to flood risk management could provide an opportunity for some floodplain areas to become wetter in future.

Management Practices:

- Hedges and walls could be damaged by increased run off from the enclosing fells due to an increase in rainfall and extreme weather events.
- Intensive farming practices could affect the condition and extent of wetter areas associated with the floodplain and lower valley sides.
- Older hedges and hedgerow trees could be susceptible to disease as they age.

Development:

- The M6 corridor as an element in the landscape could have the potential to attract new large-scale commercial development, particularly around Tebay. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.
- The need to provide more renewable energy sources could result in an interest for large scale wind energy development and small scale hydroelectric schemes.
- Rail, road and other infrastructure improvements, including pipelines and pylons could be routed along the valley.
- Extensions to farmsteads with modern farm buildings could affect the pastoral character of the valley.

Access and Recreation:

- Visitor numbers could increase in areas adjacent to the Lake District and Yorkshire Dales National Parks and from programmes encouraging people to access the countryside around where they live.
- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.9.47 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Opportunities should be taken to create new areas of wetland in response to changes in flood risk management.

Management Practices:

- Encourage catchment sensitive farming and reductions in diffuse pollution from fertilisers and other agricultural treatments.

Natural and Cultural Features:

- Reinforce and extend existing broad-leaved and mixed woods on valley sides by appropriate management and new planting.
- Conserve important riverside trees.
- Restore hedgerows involving replanting and renovation of gappy overgrown hedges.
- Manage hedgerows in a traditional way involving a cycle of hand laying and trimming.
- Plant new hedgerow trees to replace maturing stock using indigenous species, or tagging selected saplings.
- Conserve historic earthworks through avoidance of damaging agricultural activities such as disturbance and removal of stones, leveling and excavation, tree planting, poaching by cattle, ploughing and tipping.
- Repair and maintain historic buildings which may include removal of trees and scrub to keep views of them open from the riverside.

Development:

- Minimise the impact of infrastructure development by careful siting avoiding open valley floors, obstruction of corridor views and relating them to existing structures. Seek high standards of landscape treatment including restoration of semi-natural components.
- Large scale wind energy schemes should avoid enclosed valleys where they could appear dominant.
- Hydroelectric schemes should be sited and designed to be discrete elements in the landscape and not harm nature conservation interests.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.
- Reduce the impact of new farm buildings by careful siting, breaking down mass, choice of sympathetic colours and non reflective finishes, and appropriate planting.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes and riverside footpaths and bridleways by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.
- Protect neighbouring farmland and sensitive habitats by careful routing and maintenance of boundaries.

Sub type 8d: Dales

Location

- 3.9.48 The Dales sub type is found around Alston in the North Pennines National Landscape.
- 3.9.49 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the North Pennines National Landscape with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Distinctive, wide V-form upland valley
- Angular limestone scarps and steep slopes
- Dominated by rough pasture bounded by stone walls
- Steeper slopes are covered in bracken and scrub
- Woodlands are found along river banks
- Dispersed farms, small traditional villages and rural roads are the main built features

Physical character

- 3.9.50 The geology of these areas is varied. At Alston Moor a stepped profile has formed along the valley sides from alternating bands of mudstone, sandstone and limestone of the Yoredale series with drumlin features along the valley bottoms. These river dales are located in fells and scarps landscapes ranging from 250m to over 400m high.
- 3.9.51 The upland valleys generally have a distinctive wide V-form, defined by steep slopes from adjacent fells. These culminate in open skylines. In some places there are angular limestone scarps, narrow gorge features and small terraces forming a stepped profile along the slope sides. In other places the valleys widen and open out. The main rivers or becks are fed by numerous side ghylls which are often deeply incised. International and regionally important geological sites are found around Nenthead.

Land cover and land use

- 3.9.52 Land cover is dominated by rough pasture, with many of the steeper slopes being covered with bracken and scrub. Tree cover is mainly confined to small woodlands along riverbanks, stream sides and ghylls. However, there are some small copses and small plantations elsewhere. Large-scale afforestation is limited to the higher valley sides near Alston.

- 3.9.53 The grazing land covering the valley bottom is usually divided into small square fields by stone walls. In places the fields are more elongated and divided by a long series of walls separating the lower fields from the higher rougher grazing commons. Hay meadows are common in the lower areas. The fields often increase in size up the valley sides with some isolated 'intakes' found even higher still. Stone field barns are dotted about the valley. Old trees stand alone, follow walls or are clustered near buildings.
- 3.9.54 Settlements are generally found in the dales at Alston Moor, where they are sited close to bridging points along the rivers. These are mostly associated with early mines or mining and small tips and mine buildings are distinctive features that have modified the dales valleys. Dispersed farmsteads in limestone vernacular are found along the valley bottoms, with isolated barns (often derelict) dotted about the fields.
- 3.9.55 Roads are rural in character and tend to hug the valley bottom or lower sides.

Ecology

- 3.9.56 These high river valleys support narrow bands of upland oak woodland and occasional areas of wet woodland, together with rush pastures, hay meadows and calamarian grassland linked to the lead mines. The roadside verges provide an important wildlife habitat in these dales, supporting broad swathes of species-rich grassland and tall herb vegetation, characterised by meadowsweet, wood crane's-bill and around Alston, melancholy thistle. The rivers support otter, dipper and in the Alston area are noted for the flora and invertebrate fauna of their shingle banks which include rare helleborines and water voles. This mosaic of habitats in the Tyne and Nent valleys provides the main black grouse stronghold in Cumbria. Statutory designations include Alston Shingle Banks SSSI.

Historic and cultural character

- 3.9.57 The dales are generally characterised by a dispersed settlement pattern with irregular fields featuring surviving ring garths and evidence of intakes as well as isolated field barns. The fields are generally enclosed with dry stone walls and the buildings are limestone built. Alston has medieval origins and there are many traditional buildings of seventeenth and 18th century date. Outside of Alston bastles are a characteristic feature of the rural buildings. Archaeological features include evidence of quarrying, lime burning and coal and lead mining including surviving bingsteads. The increased industrialisation linked with the exploitation of minerals and the traditional farming heritage has led to farmer/miner landscapes. Culturally the landscape was developed as small holdings with mining being carried out as a part-time activity.
- 3.9.58 Nenthead is rich in mining heritage, regarded as the most important single site associated with the lead mining in the North Pennines. The mining dates back from

Roman times where lead was smelted to extract silver content. The Quaker London Lead Company built the village of Nenthead in the 1830's.

Perceptual character

- 3.9.59 In higher parts there is a large landscape feel with wide expansive views over the adjacent moorland. In the lower parts a smaller scale valley landscape prevails. This landscape can provide a feeling of enclosure, openness or remoteness depending on height and location. At higher levels changes in the seasons and weather can accentuate the remote feeling. The lower parts of the valley are tranquil due to a lack of modern development and a sense of naturalness from the hay meadows, birdlife and river. Relics of former mining activity provide a link to history and expose the geology of the area. Stone walls provide a strong unifying element. Seasonal changes bring colourful additions to the low-lying pasture and hay meadows and the higher bracken covered slopes.

Sensitive characteristics or features

- 3.9.60 Open and expansive uninterrupted views along the valley bottoms and rims are sensitive to unsympathetically sited and scaled development. Undeveloped skylines are sensitive to large scale infrastructure development. The deciduous ghyll woodlands, the tight matrix of stone walls that contain lower-level pasture and the contrasting open moor are sensitive to changes in land management. The small-scale vernacular towns, villages, farms and field barns are sensitive to expansion and redevelopment to non-agricultural uses. The open moorlands and more enclosed valley bottoms are sensitive to additional large-scale plantations. Discrete rural roads curve along valley sides and over moorland tops and are sensitive to urban style highway improvements and safety measures. The rich mining heritage and archaeological features are sensitive to changes in land management.

Vision

Conservation and restoration will be the priority in these dales which are designated and/or highly valued landscapes.

- 3.9.61 The well managed and traditional landscape pattern will be fostered, and features such as stone walls, barns, trees, woods and hay meadows will be retained and kept in good condition. Farming support schemes will be targeted towards these aims where appropriate, and some forms of farm diversification will be accepted to aid in maintaining this traditional landscape pattern; in addition, small-scale farm-based tourism developments supplementing farm incomes will be encouraged. However, new farm buildings will be strictly controlled, carefully and sited and sympathetically designed to avoid intrusion into the landscape. Small-scale broadleaved or mixed plantation will be introduced to make a positive contribution to the landscape.

Changes in the Landscape

3.9.62 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.

3.9.63 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Changes in approaches to flood risk management could provide an opportunity for some floodplain areas to become wetter in future.

Management Practices:

- Agricultural intensification including grassland improvement, loss of traditional hay meadows and new farm sheds.
- Symptoms of neglect including derelict walls and field barns, replacement of walls and hedges by fences, old woodlands and trees.
- The need to provide more renewable energy sources could result in an interest for large scale wind energy development and small-scale hydroelectric schemes.
- Diversification to tourism and forestry.
- Environmentally sensitive farming initiatives may have positive effects.
- Small scale potential for further mineral working in the Pennine dales.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.9.64 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Opportunities should be taken to create new areas of wetland in response to changes in flood risk management

Natural and Cultural Features:

- Conserve the pattern of small woods and scattered trees by appropriate management, natural regeneration, restocking and exclusion of stock.
- Plant new field boundary trees to replace maturing stock using indigenous species.
- Conserve and maintain the historic field pattern which is a key element in the dales.
- Encourage the restoration of gappy hedgerows using traditional methods.
- Restore stone walls and replace wire fences where possible.
- Conserve and maintain historic structures such as field barns, farmhouses, mining structures and lime kilns. This may include protection from stock, removal of trees or scrub and carrying out structural repairs with archaeological advice.
- Conserve important spoil heaps and other earthworks.

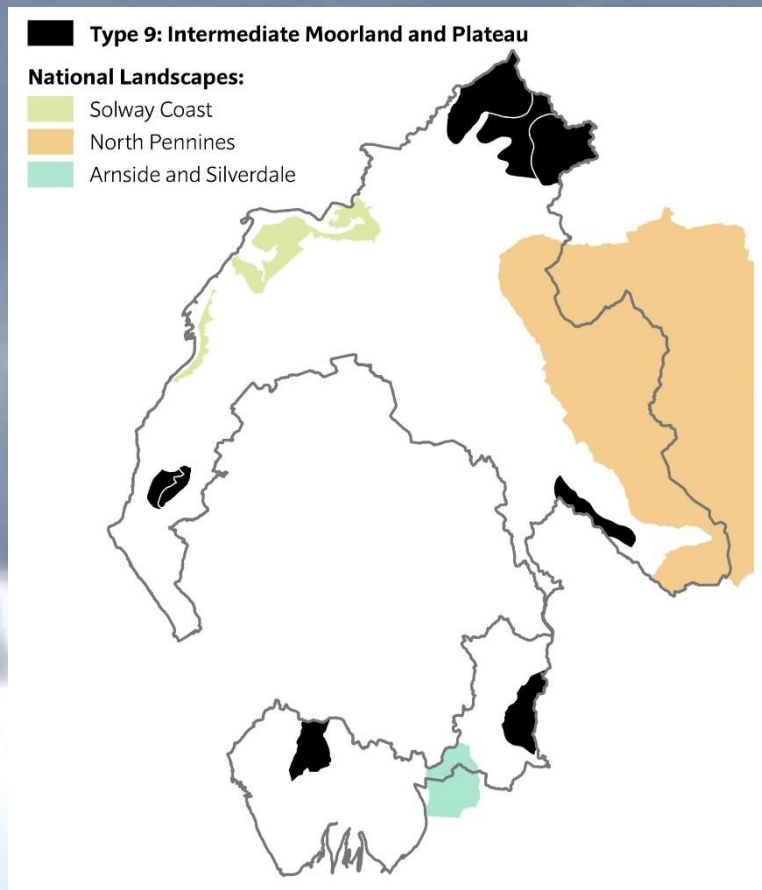
Development:

- Ameliorate existing daleside coniferous plantations including softening geometric outlines, introduction of open spaces and greater diversity of species.
- Ensure that new farm buildings and all other developments are carefully integrated into the landscape.
- Resist the proliferation of minor intrusions such as fences, enlarged vehicular access points and tracks. Where these are absolutely necessary encourage locally distinctive constructions and use of materials that harmonise with the local landscape characteristics.
- Large scale wind energy schemes will be strongly resisted in national landscape designations as they would cause significant harm to the landscape character and the purposes of designation.
- Hydroelectric schemes should be sited and designed to be discrete elements in the landscape and not harm nature conservation interests.
- Minimise surface scarring, clutter and dereliction of existing mineral workings.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the rural character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.

Type 9: Intermediate Moorland and Plateau



3.10 Type 9: Intermediate Moorland and Plateau

3.10.1 These are medium to large scale landscapes ranging from open exposed heath moorland, intensely farmed ridges to extensively planted coniferous plateau. Improved grassland is a dominant land cover throughout. Horizons are wide and the scale vast. Colours are muted and monochrome.

3.10.2 Sub types:

- 9a Open Moorlands
- 9b Rolling Farmland and Heath
- 9c Forests
- 9d Ridges

Sub type 9a: Open Moorlands

Location

- 3.10.1 This Open Moorlands sub type is found between Kershope Forest and Spadeadam Forest near Bewcastle in the north, and to the east of Distington and Frizington on the west coast.

Key Characteristics

- High mostly open landscapes
- Undulating semi-improved and unimproved pasture
- Open rough moorland
- Areas of deciduous woodland
- Areas of peat and raised mire

Physical character

- 3.10.2 There is a mixture of Carboniferous gritstone and mudstone overlain by large areas of peat in the north and coal measures and Permian sandstone with pockets of peat in the west. In the north undulating land is found at between 150-250m AOD with parts rising steeply to 500m. It is intersected by becks, streams and rivers. In the west the topography is less undulating and rises to around 200m adjacent to a moorland ridge and the River Keekle cuts through the landscape and helps define the boundary with the moorland ridge.

Land cover and land use

- 3.10.3 This is a high, generally open landscape. The predominant land cover is a mixture of semi-improved pasture in large rectangular 'lots' and extensive areas of unimproved and unfenced moorland. In some places the open moorland has been semi improved for farmland and has a more managed character. This is typically found in the west. Fields are mainly bounded by species rich hedges with hedgerow trees or wire fences. Areas of wet mossland intersperse the pasture and moorland and retain a wilder and more unmanaged character.
- 3.10.4 Deciduous and semi natural woodland can be found in small pockets, shelterbelts and along streams and becks in the more sheltered valleys. These often have straight, crisp edges. In the north the distinct lack of conifer plantations contrasts with the adjacent landscapes and helps define its boundaries.
- 3.10.5 The lower parts of the landscape are lightly settled, either with small settlements or dispersed, isolated properties. Roads are rural in character and skirt around the lower parts. Pylons run through the west and form prominent vertical features in the open farm and moorland. In the west there is evidence of past mining activities but much of the land has been restored to pasture and moorland.

Ecology

- 3.10.6 This is a landscape of rough pasture with extensive areas of rush pasture and purple moor-grass and areas of acid grassland. Upland oak woodland is present in steep river valleys and one of the largest areas of alder wet woodland in Cumbria is found south of Bewcastle. Areas of upland heathland are occasional to rare in this landscape, whilst blanket bog is extensive south-east and north-east of Bewcastle. Species-rich springs and flushes are locally frequent, particularly where there is a calcareous influence to the irrigating waters. In the west this landscape provides over wintering habitat for internationally important numbers of Hen Harriers.

Historic and cultural character

- 3.10.7 The settlement pattern is generally dispersed with some clusters of 19th century industrial workers housing. The fields are often large and formed by late moorland enclosure. There is good preservation of earthworks including prehistoric settlements and medieval shielings. The landscape type features remains associated with the border, including fortified sites, Roman roads and forts and evidence of coal mining around Moresby.

Perceptual character

- 3.10.8 In the north the large open landscapes give a feeling of remoteness and the darker, rougher moorland contrasts with the greener, smoother improved pasture. The changes in colour and texture and feeling of remoteness can be accentuated by changes in the seasons and weather. Views stretch to the Scottish Hills and are uncluttered and framed by forest. In the west the landscape still feels large and open but less remote due to its more managed look and past uses. However sudden changes to poor weather can lead to a feeling of remoteness in higher areas. Despite the row of pylons it retains large expansive views of the Lakeland Fells which provide a dramatic backdrop to the landscape.

Sensitive characteristics or features

- 3.10.9 The open character and expansive views across moorland and higher farmed areas are sensitive to large scale infrastructure development that could obscure or significantly interrupt the views. The small wooded valleys and shelterbelts that intersperse the open moorland and farmland are sensitive to changes in land management. The species rich hedgerows and wet mossland and flushes that provide biodiversity interest away from moorland and the archaeological remains and earthworks that provide cultural interest are sensitive to changes in land management. Contrast of rough moorland with improved pasture provides interest and is sensitive to changes in land management.

Vision

This landscape will be enhanced through restoration and enrichment creating a harmonious balance between the moorlands and woodlands and mining and agricultural features.

3.10.10 Semi-natural grassland will be conserved and enhanced, fragmented patterns of rough moorland will be repaired, areas of blanket bog will be restored and semi-derelict pastoral fields will be allowed to revert back to moorland. Degraded areas and neglected sections of landscape will be restored back to their former beauty through the creation of new landscape features including woodland, wetland and strengthened hedgerow patterns.

Changes in the Landscape

3.10.11 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Wind farms have become a feature of this landscape with construction of the Fairfield Farm Wind Farm near Distington (6.5 MW/5 turbines) in 2011
- Increase in cover of woodland blocks, such as west of Murray Holme and south of Walkmill Bridge

3.10.12 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Climate change mitigation and the Government's commitment to an increase in renewable energy could see increased interest in large scale wind energy schemes and short rotation coppicing and forestry.
- Areas of active blanket bog and peat provide the best carbon sinks after woodland and can assist with carbon sequestration.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Agricultural intensification and inappropriate management such as overgrazing, burning and drainage could result in the loss of moorland, semi natural grassland, woodland, wetland and stream features.
- Future agri-environment schemes may support beneficial changes in the landscape.
- Planned and incremental expansion of villages could result in the loss of landscape features and field patterns.

Development:

- Large scale wind energy infrastructure developments and other vertical structures such as, communication masts, pylons or overhead transmission lines could erode the open and remote character of the landscape and reduce the nature conservation interest.
- As energy markets change there could be new interest in open cast coal mining which could result in temporary landscape change; however, whilst there has been some recent interest, current national policy on coal extraction means such schemes are unlikely to be approved.

Access and Recreation:

- Informal recreation is likely to continue along public rights of way and across the extensive areas of open access land.

Guidelines

3.10.13 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Forestry and coppice planting should reflect any field patterns and the grain of the landscape. They should be sited and designed so that they integrate well with the landscape, retain the open moorland character and do not sit as large unbroken blocks of planting.
- Projects should be encouraged that seek to improve the condition of areas of peat to optimise their carbon capture potential.

Natural and Cultural Features:

- Create a mosaic of irregular shaped areas of mixed woodland sensitive to land form particularly on former areas of coal working and on marginal land and valleys.
- Maintain and enhance the pattern of hedgerows with additional planting and supplementary planting of scanty hedgerows.
- Consider the removal of derelict hedgerows on the more exposed parts to allow reversion to open moorland.
- Planting of deciduous trees as feature trees, within hedgerows, along water courses and in tree groups to create more interest in the landscape and to act as a foil to the coniferous woodland in the background.
- Create ecological corridors to enhance landscape and nature conservation value.
- Encourage planting and traditional management of hedgerows and replace fences where possible with hedgerows.

Development:

- Avoid siting development on prominent edges of the plateau taking advantage of the natural containment offered by intermediate ridges and horizons.
- Minimise the impact of development by careful siting and design and seek environmental gains such as heather moorland restoration.
- Carefully manage the expansion of major developments such as quarrying, mining, opencast coal (due to the location of the resource).
- Avoid siting large scale wind energy, and other
- vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the open and expansive character. They should be sited to prevent visual clutter with existing pylons.
- Minimise adverse effects of tall and vertical structures such as pylons and turbines through careful siting and managing the numbers of turbines to prevent them becoming a dominant feature in the landscape.
- Ensure new development respects the local landscape character and vernacular.

Access and Recreation:

- Public rights of way and access to open access land should be well maintained to allow quiet enjoyment and appreciation of the areas.
- Opportunities should be developed to promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

Sub type 9b: Rolling Farmland and Heath

Location

- 3.10.14 This Rolling Farmland and Heath sub type is found south of Appleby running alongside the Eden Valley, and to the east of the M6 motorway near Kendal and Kirkby Lonsdale. In some places, it is adjacent to the Yorkshire Dales National Park.
- 3.10.15 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Shallow relief plateau with ridges and hollows
- Rolling farmland
- Occasional rocky outcrops
- Rough pasture with wet flushes and semi heathland
- Coniferous plantations
- Narrow wooded valleys with wetland features

Physical character

- 3.10.16 The geology is a mixture of Carboniferous limestone and Silurian slates and gritstones. The land is relatively high, rising between 150-250m AOD. The underlying limestone geology gives rise to a rolling appearance in the east and a plateau landscape where the Silurian rocks occur between the Kent and Lune Valleys. The plateau has a shallow relief of ridges and hollows and occasional rocky outcrops and a knobbly outline to the ridges.

Land cover and land use

- 3.10.17 There is a varied land cover pattern with improved pasture dominant in lower parts. Medium sized fields are enclosed by hedges, some with significant hedgerow trees, and to a lesser extent, stone walls. In higher parts and along ridge tops rough and poorly drained pasture is dominant, often interspersed with patches of heather, bracken or rushes. The land is intersected by streams, tarns and marshy hollows.
- 3.10.18 The landscape is punctuated by small and medium sized coniferous plantations particularly on the higher ground. Small deciduous woodland is evident but sparse, and gorse and willow scrub can often be found.
- 3.10.19 Small villages, scattered hamlets and farms are connected by a network of rural roads that cut across the landscape. Masts and pylons have begun to change the character in some areas in the south. The Settle to Carlisle railway forms a liner

feature crossing the landscape in the east, and Killington Reservoir is an important manmade feature in the south.

Ecology

3.10.20 This is a landscape of rough and improved pasture containing areas of rush pasture and purple moor-grass, upland heathland and acid grassland. Of note in the area south of Killington Reservoir is the presence of a series of small raised bogs, whilst conifer plantations in this area provide nest sites for long-eared owl. Species-rich roadside verges are a feature of this landscape south of Appleby and above the Lune valley.

Historic and cultural character

3.10.21 In the south there is a dispersed settlement pattern with limestone built farmsteads often featuring date stones on both houses and farm buildings. In general buildings date from the late 17th century onwards. The field system is a mixture of ancient, former common arable and parliamentary enclosure. In the east, however, the settlement pattern is based on nucleated villages with a field pattern of early enclosures often containing fossilised strips.

Perceptual character

3.10.22 The landscape is medium to large scale and open. On higher land there are some wide views of surrounding fell and dale tops, adjacent valleys and, in the south, across to Morecambe Bay. Despite the introduction of some large scale vertical discordant features, the limited nature of these enables the landscape to retain the feeling of a peaceful, working farmland. Seasonal changes bring contrasts in colours between rough and improved pasture, heather and bracken and changes in weather can provide a feeling of containment when long views are obscured.

Sensitive characteristics or features

3.10.23 Open ridges along plateau edges and expansive views to the Yorkshire Dales, Lakeland Fells and Morecambe Bay are sensitive to poorly sited and scaled development, including large scale infrastructure development. The matrix of hedges and walls that reinforce the field pattern and contrast with more open and rough pasture found in higher parts are sensitive to changes in land management. The peaceful countryside character is sensitive to agricultural intensification and changes in land use.

Vision

This landscape will be enhanced and the core of rough heath and grassland will be retained.

3.10.24 The visual contrast between the open rolling farmland and the heath will be strengthened. The existing rough grassland and features, such as marshy hollows, will be maintained. Remnant heath will be conserved and enhanced and adjacent improved land will be allowed to revert back to heath where fragmentation has occurred. Woodland areas will be expanded as an alternative to agriculture as this will make a positive contribution to the landscape. Only development which is of high quality and can be contained by the natural rolling topography will be accepted and the uncluttered natural character of the rolling farmland and heath will be conserved.

Changes in the Landscape

3.10.25 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Wind farms have become a feature of this landscape with construction of the Armistead Wind Farm near Kendal (12 MW/6 turbines) in 2013
- Changes (both increase and decrease) in some areas of woodland cover, such as at Old Park north of Killington

3.10.26 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Climate change mitigation could see increased interest in short rotation coppicing and forestry.

Management Practices:

- Agricultural improvements on marginal land, and pressure to convert semi-natural areas to improved pasture.
- Localised symptoms of neglect including dilapidated walls, replacement of hedge and walls by fences, and grazed farm woodlands.

Development:

- The Government's commitment to an increase in renewable energy could see growing pressure for energy infrastructure developments such as large-scale wind turbines.
- Upgrades to the national grid and new pylons, communication masts and caravan parks could also erode the character of the area.

- The M6 corridor as an element in the landscape could have the potential to attract new large scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.10.27 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Forestry and coppice planting should reflect any field patterns and the grain of the landscape. They should be sited and designed so that they integrate well with the landscape, retain the open moorland character and do not sit as large unbroken blocks of planting.

Natural and Cultural Features:

- Protect rocky outcrops by preventing removal or disturbance and controlling scrub encroachment.
- Restore the matrices of hedgerows closer to plantations.
- Ameliorate existing coniferous plantations including softening geometric outlines, introduction of open spaces and species diversification.
- Establish new medium scale mixed and broad-leaved plantations aligned to respect and enhance the topographic pattern of interlocking ridges and reduce

the visual dominance of transmission lines and masts. Avoid planting on heath, species rich grassland and wetland.

- Restore and maintain dry stone walls and hedges enclosing improved farmland where they are a key feature.
- Strongly discourage the removal of hedges and stone walls and introduction of fences.

Development:

- Avoid siting development on prominent edges of the plateau taking advantage of the natural containment offered by intermediate ridges and horizons.
- Resist cluttering of further communication masts or large-scale wind turbines, particularly on valley rims.
- Ensure new development respects the local landscape character and vernacular.
- Reduce the impact of new farm buildings by careful siting and design, including choice of finishes and appropriate planting.
- Encourage the appropriate management of new farm development such as slurry and silage tanks to minimise their impact on local character.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the rural character of the area and affect sensitive views.
- Retain the rural character of the M6 corridor by resisting large scale commercial development, and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

Sub type 9c: Forests

Location

3.10.28 This Forests sub type is found around Kershope and Spadeadam Forests.

Key Characteristics

- Areas of high rolling or undulating moorland and plateau
- Large areas of coniferous planting
- Some open attractive areas on forest edge
- Extensive views towards distant hills and craggy scarps

Physical character

3.10.29 The geology is mainly Carboniferous sandstone and gritstone overlain by peat. The land is high rolling or undulating moorland and plateau. It rises from around 150m to 520m AOD.

Land cover and land use

3.10.30 The landscape is extensively planted with coniferous forest. Its character changes with the management cycles of clear felling and replanting. The forests are made up of large and extensive planting blocks with firebreaks and access roads. There is little variation in tree species and sitka spruce dominates. Within the forests open space is sparse and often limited to remnants of simple moorland that are found around the periphery of the forests.

3.10.31 Around the edge of the forest there are areas of farmland with a mixture of improved, semi improved and marshy pasture. Fields are large and regular in shape. Where the fields are bound by hedges there is a strong matrix field pattern. Some hedges have been replaced by wire fences. The field pattern and hedges tend to weaken closer to the plantations.

3.10.32 Settlement is sparse. Isolated farmsteads and dwellings are found at the edges of the forests. Part of Spadeadam Forest is used for military purposes and its associated roads, security fences, buildings and overhead power lines influence the landscape character.

Ecology

3.10.33 Extensive coniferous plantation dominates this landscape and provides nest sites for goshawk and a reserve for red squirrels. Within and around the edges of these plantations there are large areas of blanket bog, rush pasture, purple moor-grass and small raised bogs. These are particularly extensive in Spadeadam Forest. Isolated areas of hay meadow and wet woodland are present in the upper reaches of the River Irthing. Species- rich springs and flushes are present where there is a

calcareous influence to the irrigating waters and support species such as small white orchid.

Historic and cultural character

3.10.34 The landscape remains largely unenclosed and the settlement pattern is largely dispersed and post- medieval in origin. A number of the farms originated as bastles in the late sixteenth and early seventeenth centuries. Prehistoric sites including burial cairns are relatively common. Other important potential heritage sites include 20th century military sites such as the Blue Streak missile testing range at Spadeadam. In the 1950's Spadeadam was the test location for the "Blue Streak" missile project, the equivalent to the American Atlas missile. It was suddenly cancelled in 1960. Britain attempted to salvage the project by utilising the "Blue Streak" technology to enter the Space Race and form the first stage of a satellite launcher.

Perceptual character

3.10.35 The forests have a feeling of remoteness, wildness, tranquillity and space at the moorland edges. Changes in the weather can accentuate these feelings. At the forest edges horizons are wide and the scale vast with extensive views towards distant hills and craggy scarps. Within the forests, views are limited but the continuous tree cover provides a feeling of remoteness.

Sensitive characteristics or features

3.10.36 The peripheral areas of blanket bog, heathland and moorland provide contrast to the large scale and uniform plantations and are sensitive to changes in land management and additional forestry plantations. The simple dispersed settlement pattern is sensitive to expansion. The expansive views and sense of openness from forest edges to distant hills is sensitive to enclosure or interruption from significant infrastructure development. The remote feeling in forests and along edges arising from a lack of development is sensitive to intensification of land use.

Vision

The forest landscape, adjacent moorland and farming areas will be enhanced.

3.10.37 Recreation within these areas will be increased where opportunities present themselves and, there will be an increase in nature conservation interest of upland mire habitats both inside and outside the forests. The detrimental visual impact of remaining military areas will be reduced through careful restoration or redevelopment. The visual containment of the forests will provide limited opportunity for some wind energy development which will be combined with moorland reinstatement and complementary forest management. Natural

features, field boundary patterns and traditional farm buildings will all be enhanced to further improve the characteristics of the farming landscape.

Changes in the Landscape

3.10.38 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Substantial increase and decrease in woodland cover across both Spadeadam Forest and Kershope Forest

3.10.39 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Climate change mitigation could see a shift to short rotation forestry.
- Areas of active blanket bog and peat provide the best carbon sinks after woodland and can assist with carbon sequestration.

Management Practices:

- Within publicly owned forest, Forest Design Plans are reducing the impact of cycles of clear felling, creating open spaces and restoration of raised mires and seeking to introduce native species, particularly on Plantations with Ancient Woodlands (PAWS).
- Improvements are taking place within privately owned woods as management plans are developed.
- There could be a possible threat to upland mires through forestry expansion or agricultural improvement.
- Hedges are being replaced by wire fences as farming practices change.

Development:

- There is interest in wind energy development in the area due to its exposure and relative remoteness.
- The future use of military areas at Spadeadam may need careful consideration to limit adverse effects on landscape character.

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.

Guidelines

3.10.40 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Forestry planting should reflect any field patterns and the grain of the landscape. They should be sited and designed so that they integrate well with the landscape and retain the open moorland character.
- Projects should be encouraged that seek to improve the condition of areas of peat to optimise their carbon capture potential.

Natural and Cultural Features:

- Increase planting of deciduous trees as feature trees, within hedgerows, along water courses and in tree groups to act as a foil to the dominant coniferous woodland in the background.
- Adopt sensitive felling cycles to reduce the impact of clear felling and re-shape forests to enhance topographic variations of scarps, plateaus and lower foothills and vistas of crags and tors.
- Protect and enhance natural areas and mires peripheral to the forested areas and natural crags or tors from masking by forests.
- Relieve the overwhelming green of the predominantly sitka spruce stands with more open areas, change in species, colour contrast, inclusion of deciduous species in appropriate locations and introduction of focal points and features of interest including suitable trees for long term retention.
- Use of broadleaf species along the river valley sides to give definition to the water course rather than disguise it
- In fields adjacent to forests and woodland, enhance the pattern of hedgerows with additional planting and supplementary planting of poor hedgerows.
- Forestry activities should avoid damage to upstanding archaeological remains, and clear tree growth away from them when opportunities arise.

Development:

- Wind energy infrastructure should be sited and designed to reduce any adverse landscape and visual effects, particularly to the dispersed population.
- Create landscape buffer zones between the military areas and the surrounding forest landscape.
- Encourage partnership arrangements between Forest Enterprise, MOD, Local Authorities and conservation bodies to develop and monitor long term landscape and nature conservation plans.

Access and Recreation:

- Public rights of way and access to open access land should be well maintained to allow quiet enjoyment and appreciation of the areas.
- Establish points of orientation for recreation purposes and enhance the networks of footpath, bridleway and cycleway links.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Extend forestry management policies to encourage appropriate recreation activities

Sub type 9d: Ridges

Location

- 3.10.41 This Ridges sub type is found in two areas. In the west it is found at Dean Moor and High Park, north of Cleator Moor. In the south it is found to the north west of Ulverston and north east of Askam in Furness. In some places, it is adjacent to the Lake District National Park.
- 3.10.42 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Distinct ridges
- Extensive areas of true heathland moorland
- Improved pasture with distinctive stone walls
- Woodland and small belts of trees form prominent features

Physical character

- 3.10.43 In the west the geology is a mixture of coal measure and sandstone, and in the south there is a mixture of Silurian and Igneous rocks. Distinct ridges rise to around 300m AOD at the highest point. The ridges are steep sided and include a number of rounded hill summits that vary in height. The ridges have a strong topographical and geological link with adjacent higher low fell and fringe areas.

Land cover and land use

- 3.10.44 The landscape is a mixture of true heather moorland and a more managed farmed landscape. Unmanaged heather cover or bracken on higher ground gives way to pasture on the lower slopes. The improved pasture can be found in distinct rectangular fields bounded by strong stone walls. These form a prominent local feature against the open and unimproved moorland.
- 3.10.45 Tree cover is sparse and limited to a few remnants of old woodland and small belts of trees. These form strong local features in the open moorland. Streams, becks and tarns form wetland features.
- 3.10.46 Settlement is scarce. Isolated farmsteads and hamlets are scattered along the sides of the ridges. The landscape has been shaped by man in several ways and features linked to including open cast mining (now restored), quarrying, reservoirs and energy infrastructure intersperse the open moorland and farmed pasture. These introduce a significant man-made character to parts of the landscape. In particular the large scale wind turbines and pylons form prominent vertical features.

Ecology

3.10.47 Areas of moorland are present on the higher sections of these ridges, with upland heathland dominant on Kirkby Moor and rush pasture and purple moor-grass dominant on High Park. The lower slopes support rush pastures and swamp, together with improved grassland. These support a range of invertebrates and birds including Curlew, Skylark, Plover and Lapwing. Steeply incised valleys support small upland oak woodlands. Kirkby Moor provides a southwest outpost for red grouse in Cumbria.

Historic and cultural character

3.10.48 Settlement is sparse but in the lower areas is generally nucleated whereas higher up it is dispersed and later in origin. Lower down the fields are irregular and often small, but on higher land they are generally regular and a product of late enclosure. Unenclosed moorland is still evident in the south. The landscape is strongly affected by large-scale quarrying with the quarries at Bannishead being a particularly distinctive feature. Other characteristic archaeological remains are prehistoric settlements and burial cairns.

Perceptual character

3.10.49 These are generally open, large scale landscapes. The unenclosed moorland gives a feeling of wildness. Views are often wide and expansive and uninterrupted and striking views of the Lakeland Fells and Duddon Estuary and Morecambe Bay provide drama and reinforce the sense of wildness. Changes in weather conditions can accentuate the sense of wildness.

Sensitive characteristics or features

3.10.50 The open and distinct ridges and heather moorland and wide and expansive uninterrupted views to sea and the Lakeland Fells provide a sense of wildness that are sensitive to changes in land management and significant infrastructure development.

Vision

This landscape will be conserved and enhanced.

3.10.51 Development will be carefully controlled in order to ensure ridges aren't cluttered or dominated by new development. The fragmenting pattern of rough moorland will be repaired, significantly enriching the wildlife and visual interest of these areas. The remnant heather and rough pasture will be improved and extended. Existing features will be enhanced and new features will be created such as tarns, wetlands and small woods creating dramatic focal features in a predominantly open

landscape. The pattern of stone walls, hedges and woodlands on lower slopes will be conserved and maintained.

Changes in the Landscape

3.10.52 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Wind farms have continued to be a feature of this landscape with construction of the Harlock Hill Wind Farm Repowering scheme near Ulverston (11.5 MW/5 turbines) in 2016
- Changes to the extents of extraction activities at the Kirkby Slate Quarries

3.10.53 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Management Practices:

- Surface scarring could occur from quarrying and any move back towards open cast coal mining
- Much of the original moorland has been lost and remnant patches of heather continue to decline under agricultural pressures of overgrazing and conversion to pasture.
- Marginal land could be abandoned by farmers giving the potential for uplands to revert back to moorland.
- There has been a continued replacement of hedges by fences in the areas that are more intensively farmed.
- Changes to drainage methods and an increase in fertiliser can affect wetland areas.
- Overgrazing and under grazing can reduce and fragment areas of unimproved grassland, heathland and wetlands.

Development:

- The Government's commitment to an increase in renewable energy could see increased interest in further large scale wind energy schemes. The cumulative effects of schemes could have a significant adverse effect on the character of the area.
- Whilst there has been some recent interest in open cast coal mining, current national policy on coal extraction means such schemes are unlikely to be approved.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.

- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.10.54 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Enhance existing reservoirs to soften hard engineering details and integrate with adjacent moorland.
- Undertake small scale planting concentrated around farmhouses.
- Manage stone walls and hedges in a traditional way.
- Strongly discourage the introduction of fences as replacement boundaries or to sub-divide large fields. Remove fences to restore large-scale allotment rough pastures

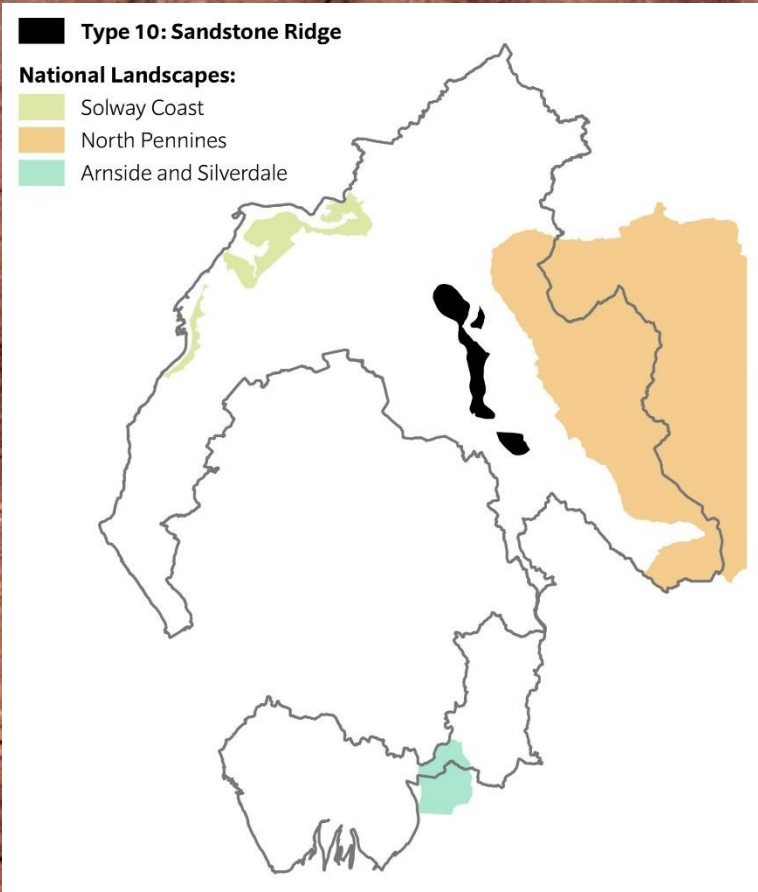
Development:

- Minimise the impact of development by careful siting and design and seek environmental gains such as heather and moorland restoration.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the open and expansive character.
- Carefully manage the expansion of major developments such as quarrying, mining, communication masts, large scale wind energy development and energy transmission lines.
- Minimise the impact of surface scarring from quarrying and opencast mining where possible through careful screening or siting.
- Ensure any re-establishment of opencast coal sites is managed and maintained in relation to local character.

Access and Recreation:

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

Type 10: Sandstone Ridge



3.11 Type 10: Sandstone Ridge

3.11.1 This landscape consists of a sandstone ridge running north from Penrith breaking off into a series of hills north of Lazonby. This open, large-scale landscape has a varied character including improved farmland, conifer plantation and unimproved heathland. Open expansive views are present both toward and away from the Lake District National Park.

Location

3.11.2 This landscape type consists of a sandstone ridge running from Cotehill to Whinfell, south of Penrith.

Key Characteristics

- Prominent north south ridge
- Improved pasture with a mosaic field pattern
- Conifer plantation blocks and mixed woodland punctuate farm and heathland
- Significant areas of improved heathland
- Open, expansive long-distance views

Physical character

3.11.3 The ridge of Permo Triassic sandstone is overlain by fluvial glacial deposits and has some scientifically important sandstone exposures. The ridge forms a distinctive landform with a number of hill and fell summits. These vary in height from 100-300m AOD. The southern part of the ridge including Beacon Hill and Lazonby Fell is most pronounced and Whinfell forms an outlier to the south of Penrith. North of Lazonby Fell it breaks into a series of isolated hills. Here the ridge is partly intersected by the Eden Gorge which forms a dramatic feature on the east side.

Land cover and land use

3.11.4 Land cover is dominated by improved farmland along the lower parts of the ridge with large blocks of conifer plantations and mixed deciduous woodlands on the middle and upper parts of the ridge. These are interspersed along the length of the ridge hill and fell summits by significant areas of unimproved heathland.

3.11.5 The pasture fields are generally regular in shape and medium to large in scale. They are often bounded by hedges, particularly in the northern part of the ridge, or stone walls which are more common in the southern part of the ridge. The strong field boundaries form a geometric mosaic around the large-scale plantations or areas of open heathland. The type generally lacks clear 'historic' field patterns and in recent years farming out by 'open range' methods has resulted in a neglect of some field boundaries.

- 3.11.6 The deciduous woodlands provide contrast and sometimes soften the edges of the more angular, large scale coniferous plantations. Woodland shelterbelts can form linear features across the ridges which reinforce the geometric patterning of the fields.
- 3.11.7 Roads run along and across the ridge between the summits. These are straight and wide and are often enclosed by tree belts of hawthorn, rowan and birch and species rich hedges. These connect isolated farmsteads and dwellings which usually nestle in dips and hollows away from the ridge tops. Some farmsteads have new uncharacteristic farm entrances and large-scale modern farm buildings. Otherwise settlement is limited.
- 3.11.8 Other development includes a small number of telecommunications masts located in prominent ridge top locations, with pylons running more discretely across the ridge along dips between the summits.

Ecology

- 3.11.9 This ridge supports the main areas of lowland heathland in Cumbria on Wanfell and Lazonby Fell. Whilst most of the conifer plantations are of limited ecological interest, those found to the south of Penrith support a range of uncommon plants associated with native Scot's pine woodland, including northern bilberry, creeping lady's tresses and common wintergreen. These also provide a resource for red squirrels. A basin mire supporting a range of uncommon and rare mire species, including lesser tussock sedge is also present on the southern end of the ridge. Rush pasture is occasionally present. At the northern end of the ridge a series of ponds and wetlands formed by mineral extraction support a range of swamp and fen communities.

Historic and cultural character

- 3.11.10 Settlement is sparse but mainly nucleated. Buildings are of sandstone. The field pattern is regular and of 19th century origin. The area was historically sparsely populated and was formerly used as medieval hunting preserves, either as forest or deer park. However most of these characteristics have been lost to modern plantations and field enclosures.

Perceptual character

- 3.11.11 This is a large scale, open landscape with a mixture of open and rough areas with colourful patches of heather and smoother managed pastoral fields. Tree lined roads provide a feeling of enclosure in places. Seasonal changes can accentuate the colour and contrasts between the heathland, woodland and managed fields. There are large and expansive uninterrupted long-distance views over the Patteril valley to the Lake District and the Eden Valley towards the North Pennines. The ridge is particularly prominent from the M6 corridor to the west from where it provides a mainly afforested skyline.

Sensitive characteristics or features

3.11.12 The summit and ridge top areas of heathland and geometric mosaic of fields and boundaries and woodland shelterbelts are sensitive to changes in land management and large-scale infrastructure development. The strong road enclosure from woodlands and hedges is sensitive to improvements to highway safety and access to new development. Discretely sited small scale vernacular settlements are sensitive to unsympathetic expansion.

Vision

The important features of this landscape will be enhanced and restored.

3.11.13 Forests will be managed in this visually prominent landscape to create a more natural character, softening the edges of coniferous plantation with deciduous species. The remaining areas of open ridge will be conserved and cluttering with vertical structures will be resisted. Stone walls and hedgerows within farmland, remnant sandstone heath and semi-natural acidic grassland will be conserved, expanded and restored. Wetlands will be conserved and re-created along with other natural features enriching the visual and wildlife diversity.

Changes in the Landscape

3.11.14 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Increased woodland and scrub cover on a number of field parcels of rough grassland at Cocklakes, and on the lower slopes around Blaze Fell
- Expansion of residential development on the edge of settlements, for example at the town of Penrith

3.11.15 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- There could be increased interest in the planting of energy crops to support renewable energy generation. Energy crops could include miscanthus, short rotation coppice (usually willow) or short rotation forestry of fast-growing tree species to provide biomass for electricity production and heat. Large scale planting or planting in sensitive locations could change the character of this landscape.
- Opportunities could also arise to bring woodland into better management to support the biomass and wood fuel markets.
- Farming practices could change if temperatures rise and it is more effective to grow arable crops.

Management Practices:

- Agricultural improvements have led to an increase in the number of native cattle, but the loss or neglect of hedgerows and walls and wetland habitats.
- There could be future pressures for arable intensification to help with food security and an increase in popularity for community farming and allotment schemes.
- There has been a loss of considerable areas of dry heathland to afforestation in the past.

Development:

- Telecommunications masts have been erected on some prominent ridge tops without harming the overall character of the landscape. However, as the higher parts of the landscape is open and is likely to have good wind speeds, interest in wind energy is likely to increase in response to changes in technology and the Government's commitment to renewable energy provision.
- The nearby M6 corridor could have the potential to attract new large scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in adjacent landscapes such as this.
- Pressure for sand extraction could lead to loss of boundaries and affect the character of the landscape.

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The holiday/recreational complex at Whinfell, though generally inconspicuous, could possibly create localised recreational pressures, particularly if expanded.

Guidelines

3.11.16 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Climate Change:

- Encourage biomass planting of a scale that respects the local characteristics. Edges to forestry or coppicing should respect existing field boundaries and be designed to reflect the general grain of the land.

Natural and Cultural Features:

- Integrate single species coniferous plantations into the landscape by softening geometric outlines, introducing open spaces, diversifying species and identifying suitable broadleaved species for long term retention.
- Discourage introduction of fences to replace or 'gap up' hedges.
- Restore fenced boundaries to traditional hedgerows.
- Encourage retention and traditional management of hedgerows.
- Encourage retention and restoration of traditional stone walls.
- Encourage the appropriate use of local sandstone to help maintain local distinctiveness.

Development:

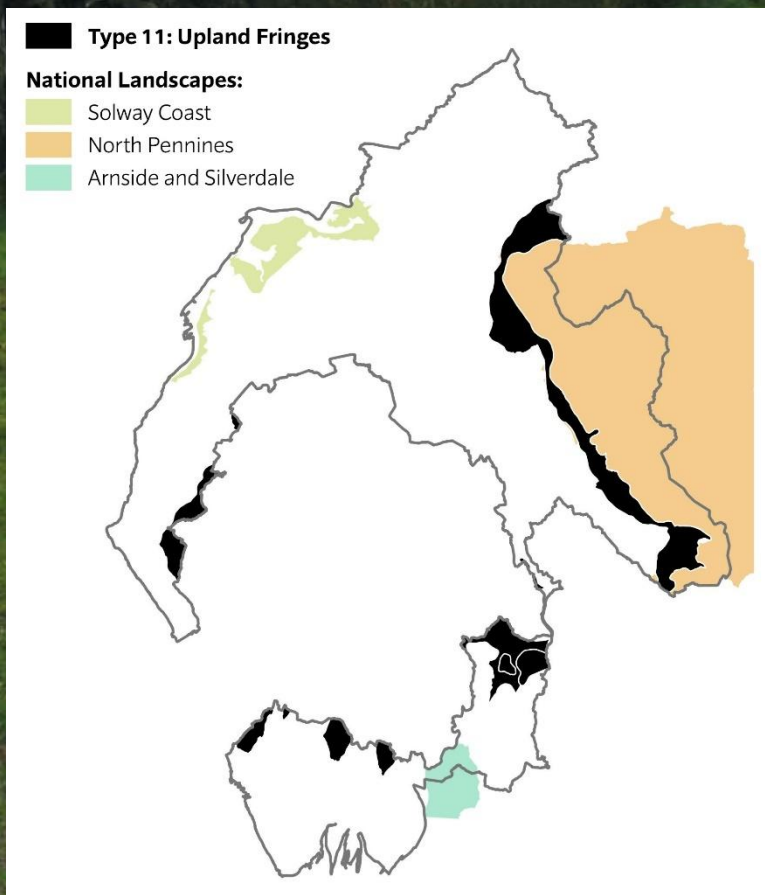
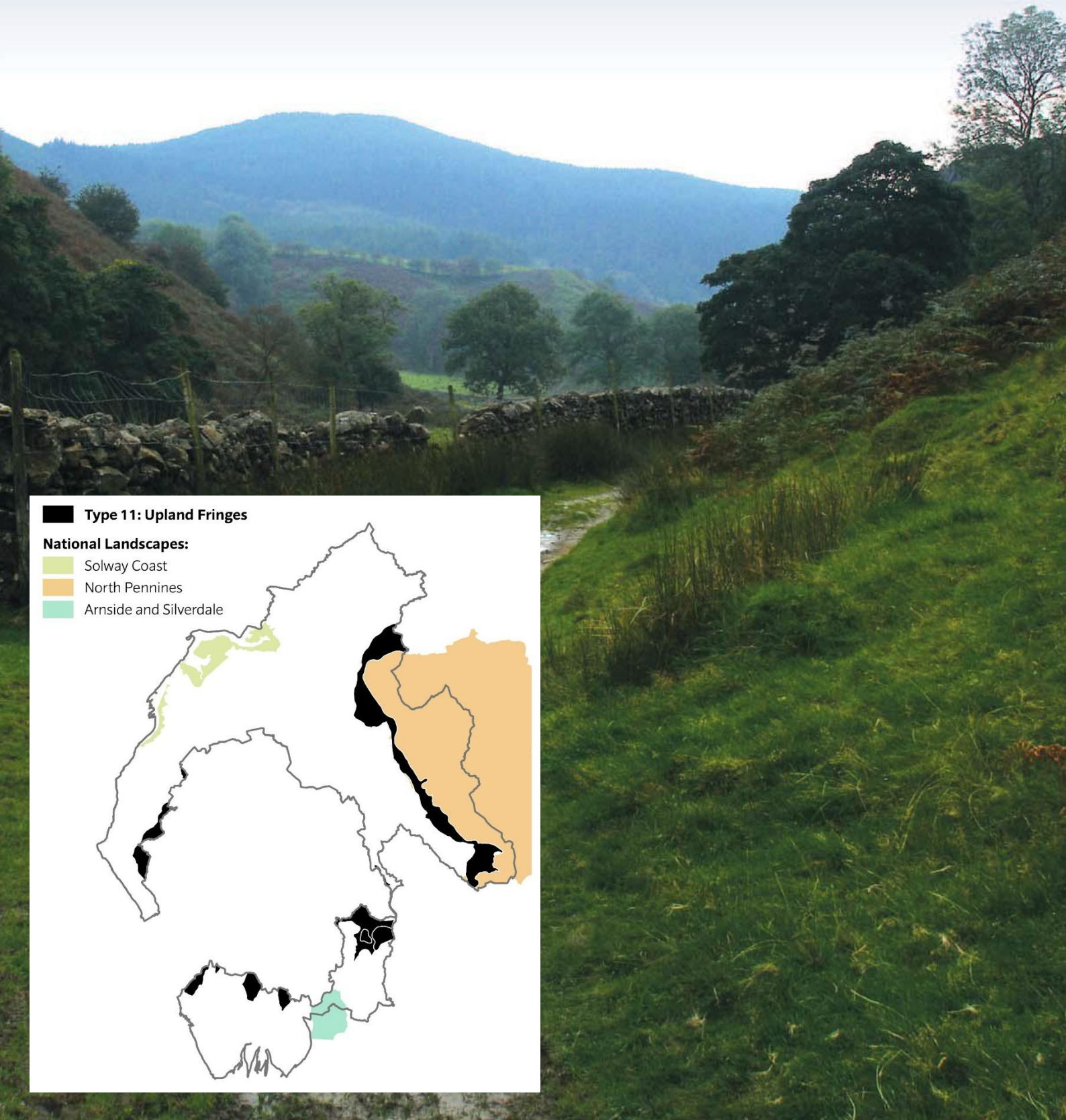
- Avoid developments in exposed skyline locations and ensure developments respect the ridgeline. This is particularly important regarding the introduction of tall and vertical structures such as pylons, large scale wind turbines or additional telecommunication masts.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.
- Ensure that farming related or other development is discretely located and designed to complement the landscape character.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

- Support measures to improve the availability of public access to woodlands and forests and that incorporate discrete facilities such as car parking.
- Support better management of routes and rights of way in close proximity to the Oasis complex at Whinfell to limit any adverse changes to landscape character.

Type 11: Upland Fringes



3.12 Type 11: Upland Fringes

3.12.1 These landscapes are characterised by rolling low fells, hilly plateau farmland and moorland. Patches of heather and features such as rocky outcrops, streams, stone walls and sparse woodland creates diversity. Despite the proximity to the M6 motorway and main roads, the landscapes are generally peaceful and lightly settled.

3.12.2 Sub types:

- 11a Foothills
- 11b Low Fells

Sub type 11a: Foothills

Location

- 3.12.3 This Foothills sub type is found along the North Pennines scarps, to the south, east and west of the Lake District fells, and partly lies within the North Pennines National Landscape. In some places, it is adjacent to the Lake District and Yorkshire Dales National Parks.
- 3.12.4 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the North Pennines National Landscape, the Lake District National Park and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Rolling, hilly or plateau farmland and moorland
- Occasional rocky outcrops
- Hills are dissected by numerous streams and minor river valleys
- Areas of improved grassland, unimproved heathland and extensive conifer plantations
- Semi natural woodland in the small valleys
- Large areas of farmland are bounded by stone walls and hedges

Physical character

- 3.12.5 The geology is predominantly Carboniferous limestone. However, it varies throughout this type as it forms a transition between coastal plain, farmland and the high fells of the Lake District and North Pennines. In Carlisle and Eden the type is characterised by rolling, hilly or plateau farmland and moorland generally 150-250m AOD adjoining the North Pennines National Landscape.
- 3.12.6 In west Cumbria this is a broad type transitional in character between the general countryside and the distinctive open moorland and fell found mainly in the Lake District between 100 - 250m AOD. -Further south, this type comprises slightly lower rolling hills between 50 - 200m AOD.

Land cover and land use

- 3.12.7 At lower levels in all these areas land use is predominantly improved pasture and meadows and there is a strong pattern of stone walls giving way to hedges at lower levels. At higher levels improved and semi-improved pasture give way to open moorland. Small woodlands are common on steeper slopes and alongside streams and rivers. Numerous field boundary trees and tree clumps occur around farms. Small coniferous shelterbelts contrast with large scale plantations. Occasional marshy hollows and small tarns with willow scrub add interest.

- 3.12.8 Settlements are generally dispersed and sparse. Farmsteads are isolated, and sometimes large in scale. Villages, hamlets and farms are often discrete features, concealed by the rolling topography sited along the base of slopes following the grain of the land. In the main, minor roads criss-cross through the landscapes serving the scattered farms and hamlets. These are often tree lined and follow the line of the slopes. Lines of pylons, the A66 and the M6, large scale modern agricultural buildings, quarrying, spoil heaps and coniferous plantations form large-scale man-made features in some parts of the landscape. These can detract from the overall character of the landscapes.
- 3.12.9 Along the North Pennines land cover ranges from improved grazing land with some arable to unimproved heathland or moorland with extensive conifer plantations. Most farmland has a pattern of large fields tending to be square with stone walls or hedges in generally poor condition. Many of the areas offer good views towards the Pennine scarp.
- 3.12.10 In the west, the farmland varies between pastoral landscapes with small fields to rolling higher topography with fine long distance views.
- 3.12.11 In the south, numerous streams and minor river valleys dissect the hills. These are sometimes steep sided with woodlands and occasional rocky outcrops. The M6 motorway and west coast mainline form a strong linear feature running adjacent to the landscape type around Tebay.
- 3.12.12 In the south, the Barrow offshore wind farm in the Irish Sea to the west of Walney Island constructed in 2006 has been joined by six further offshore wind farms constructed between 2011 and 2018.

Ecology

- 3.12.13 Largely an agricultural landscape but includes many small pockets of ecological interest. In the north and east there are areas of upland heathland and acid grassland, whilst rush pasture is frequent on poorly drained ground throughout, as are species-rich hedgerows, though these tend to be confined to lower ground. There are many small river valleys and these often support small upland oak woodlands. These woodlands are particularly notable along the upper River Belah east of Brough, where they are accompanied by stands of species-rich grassland. Occasionally there are outcrops of limestone and these support areas of limestone grassland and upland ash woodland. Species-rich springs and flushes are present where there is a calcareous influence to the irrigating waters. The numerous rivers and becks provide habitat for species such as otter, dipper and, along the River Eden, freshwater pearl-mussel.

Historic and cultural character

3.12.14 The settlement pattern is dispersed and the field systems mainly a product of late enclosure. In the east around Kendal settlements are more nucleated and both here, and around Furness, field patterns are linked to ancient enclosure. Some of the farms originated as late sixteenth or early 17th century bastles. Traditional farm buildings are limestone built and the field boundaries generally consist of dry-stone walls. Ring garths and intakes are identifiable. Upstanding archaeological remains are widespread and include prehistoric stone circles and cairns, medieval shielings and droeways, remnants of late medieval deer parks and the prolific remains of past industries. These include quarrying and lead mining in the Pennines. Some areas, like Warcop Common, are especially rich in archaeological remains.

Perceptual character

3.12.15 These are mostly small to medium scale enclosed landscapes with open moorland in higher parts. The landscape is transitional and is often seen against a backdrop of the larger fells and pikes of the Lake District and North Pennines. At lower levels the feeling is more intimate due to the topography and woodland cover containing views in some places. On higher land open views to the surrounding fells and sea give an expansive feeling to the area. In some cases, the views open across valleys where farmland and towns, such as Kendal and Appleby, are framed in the landscape. The landscapes are diverse varying from pasture to woodland to moorland and give a different feel with each season. The rich green of improved fields often contrasts strongly with the mottled and subdued hues of surrounding fells. Although easy to access the countryside is attractive and peaceful and is highly valued locally and is often as a rural backwater.

Sensitive characteristics or features

3.12.16 The strong matrix of stone walls and hedges provide a framework to the improved and semi-improved pasture. Wooded ghylls, woodland and hedgerow trees provide interest and support biodiversity. These are sensitive to changes in land management. Farmsteads and villages are discrete and dispersed and follow the grain of the rolling topography and are sensitive to unsympathetic expansion and redevelopment. Rural roads connect farmsteads and settlements following the flow of the topography and are sensitive to highway safety improvements or access to new developments. The remote, peaceful and rural farmland is sensitive to additional large-scale coniferous plantations. The contrast in scale with Pennine Scarps and Lakeland Fells and more intimate farms and woodland are sensitive to large scale infrastructure development.

Vision

This landscape will be conserved and enhanced.

3.12.17 Field boundaries, woodland, other natural features, cultural and historic features will be conserved and enhanced to reinforce the distinctiveness of the areas. Farm-scale woodlands will be supported in relation to agricultural change and to reinforce existing woodland patterns. Unimproved heathland will be managed and conserved. New large-scale forestry will be resisted, and the boundaries of existing plantations will be softened and a diversity of tree species will be supported. Existing settlements and built features will be conserved and new development will respect the grain and scale of the landscape. Informal and small-scale recreational activities will be managed to support nature conservation interests and local distinctiveness.

Changes in the Landscape

3.12.18 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Offshore wind farms in the Irish Sea to the west of Walney Island have become more prominent features in the seascape with construction of Walney 1 (183.6 MW/51 turbines) in 2011, Walney 2 (183.6 MW/51 turbines) in 2012, Ormonde (150 MW/30 turbines) in 2012, West of Duddon Sands (389 MW/108 turbines) in 2014 and Walney 3 & 4 (659 MW/87 turbines) in 2018
- Substantial changes (both increase and decrease) in some areas of woodland cover, such as at Denton Fell, Broomrigg Plantation and around the quarry at Millom Park
- Expansion of residential development on the edge of settlements, for example at the town of Kendal

3.12.19 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Changes in agricultural practices to help mitigate against climate change, such as short rotation forestry, could affect landscape features and local character.
- There could be an increase in alien species along river and streams in response to climate change and temperature rises.
- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- Agricultural intensification and changes in agricultural policy and practices, along with the erection of new large-scale farm buildings could affect landscape features and local character.
- Over grazing along streams can reduce woodland regeneration and a lack of variation in vegetation.
- Continued neglect and removal of field boundaries including walls and hedges could further erode these features in the landscape.
- Afforestation pressures have decreased in recent years but could be replaced by short rotation forestry as a response to the need to provide more renewable energy sources in rural areas.
- Agri-environment schemes could provide opportunities for habitat creation and boundary enhancements.

Development:

- Planned and incremental expansion of settlements and farmsteads and the use of non-vernacular materials could erode local character.
- The planned upgrading of the national grid (Great Grid Upgrade launched 2023) and the development of more large-scale offshore wind energy schemes could see turbines becoming even more frequent features in the adjacent seascapes.
- There is potential for short-term return to open cast coal mining in areas along the west coast, although current national policy on coal extraction means such schemes are unlikely to be approved.
- Other development pressures include quarrying extensions and communications masts.

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- Recreation which, although often low key in these landscapes, could increase as more people utilise these areas to access higher peaks, particularly along the edge of the national parks and North Pennines.
- Increased road traffic associated with recreation could change the character of the local road network.

Guidelines

3.12.20 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Coastal and Estuarine
- Grasslands and Limestone Pavement

- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Reduce the artificial appearance of straight edged plantations by feathering in broad leaved species and by leaving open areas along edges and water courses to help them assimilate into the landscape.
- Refrain from additional large-scale plantations and encourage small farm-scale plantations that enhance the landscape characteristics.
- Encourage planting of a mosaic of new, well-designed woodland incorporating open areas and recreational provision.
- Ensure that 'linked patterns' of vegetation are created to enhance landscape and nature conservation value.
- Retain and restore dry stone walls, traditional gateposts and features on a whole farm basis where appropriate.
- Retain and restore hedgerows to enrich the more prominent farmland particularly in Carlisle/Eden.
- Restrict the replacement of walls and hedges by post and wire fences and encourage planting and traditional management of hedgerows.

Development:

- Protect village fringes from unsympathetic development.
- Resist development of important open spaces such as small pastures or woods within villages.
- Ensure that new farm buildings are integrated into the landscape by careful siting and design and redundant modern buildings are removed.
- Protect uncluttered skylines and key views to and from the area from large-scale energy infrastructure developments such as large-scale wind turbines, pylons and expansive areas of biomass planting that may erode the character of the area.
- Conserve the rural character of the existing small road network.

Access and Recreation:

- Public rights of way and access to open access land should be well maintained to allow quiet enjoyment and appreciation of the areas.

Sub type 11b: Low Fells

Location

- 3.12.21 This Low Fells sub type is found to the east of Kendal around Hay Fell and Lambrigg Fell. In some places, it is adjacent to the Yorkshire Dales National Park.
- 3.12.22 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Rolling low fells with rocky outcrops
- Open improved pasture
- Some areas of bracken, moorland and heather
- Small woodlands and scrub on the steeper slopes and by farms
- Distant views along Kent and Lune valley

Physical character

- 3.12.23 This sub type is mainly Silurian gritstones forming low fells between 200m-300m AOD. They have a distinctive northeast to southwest grain. The relatively soft sedimentary rocks have eroded to fairly rounded forms with only occasional rocky outcrops and a knobbly outline in places.

Land cover and land use

- 3.12.24 The vegetation is generally open grassland with varying intensity of management. Sometimes there is a strong contrast between rich green improved pasture enclosed by stone walls and open moorland of rough grass, bracken and remnant heather.
- 3.12.25 The open landscape is relatively featureless with only occasional stone wall field boundaries. Trees can be found along small streams, and willow scrub is often found in rushy hollows. Small woods or scrub can be found on steeper slopes. Tree clumps are often associated with farm buildings. Occasional farmsteads coincide with the improved land served by peripheral lanes.
- 3.12.26 The M6 motorway and to a lesser extent the A684 are discordant features. Fell tops afford distant views down the Kent and Lune valleys.

Ecology

3.12.27 These low fells support areas of upland heathland and acid grassland, with areas of rush pasture and purple moor-grass and stands of gorse scrub. Small upland oak woodlands are present along stream valleys and small stands of wet woodland are present in damp hollows.

Historic and cultural character

3.12.28 There are few settlements and most are isolated farmsteads. The field system is a product of late enclosure and defined by dry stone walls. There is evidence of some medieval deer parks and widespread evidence of quarrying.

Perceptual character

3.12.29 Due to the transitional location and relationship to higher fells, these are relatively undramatic low fells. They have a simple, open character. Colourful patches of heather, streams and wooded steep slopes and the mosaic of stone walls provide interest which can be accentuated with seasonal change. Despite the movement and noise where the M6 motorway carves through the Westmorland fells, the area is still generally seen as an open place to enjoy the countryside, with wide and largely unspoiled panoramic views. A sense of isolation can occur at times of poor weather as views become enclosed by cloud or rain.

Sensitive characteristics or features

3.12.30 The distinctive landscape grain and mosaic of walls are sensitive to unsympathetically sited and scaled development and changes in land management. The small woodlands and contrasting wide open moorlands are sensitive to changes in land management. The wide and expansive views of Lakeland Fells and the Howgills are sensitive to significant and large scale infrastructure development.

Vision

This landscape will be conserved and enhanced.

3.12.31 Agricultural change will be managed to conserve and re-create key components such as species rich grassland, heather moorland and other natural features. Where complementary diversification is a real prospect in this marginal farming area it will be encouraged. Low key recreational uses and extensive woodland planting will be introduced in carefully sited areas to enrich the character and support the management of existing features and moorland. New housing development will be sensitive to the surrounding landscape and reinforce local vernacular.

Changes in the Landscape

3.12.32 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.

3.12.33 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Changes species and habitats could arise as temperatures rise and species migrate higher up hillsides.

Management Practices:

- Increased grazing, scrub and heather clearance could continue to change the character of the moorland.
- The loss of remaining moorland through drainage, reseeding, fertilisation and enclosure by fences.
- Symptoms of neglect, including grazed woods, over mature farm copses, unmanaged heather and dilapidated walls and barns.

Development:

- Planned and incremental expansion of settlements and farmsteads and the use of non vernacular materials could erode local character.
- The M6 corridor as an element in the landscape could have the potential to attract new large scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.
- The development of more large scale wind energy schemes could erode the open and generally undeveloped character, particularly close to national landscape designations.
- Other development pressures include quarrying extensions and communications masts.

Access and Recreation:

- Despite open access land and the Dalesway passing through this landscape recreation is low key and compatible with the landscape.
- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.12.34 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Protect rocky outcrops as features by preventing removal or disturbance and controlling scrub encroachment.
- Conserve and reinforce the scattered pattern of isolated mature trees and clumps concentrated around farms and tarns.
- Ameliorate existing coniferous plantations including softening geometric outlines, introduction of open spaces and identifying suitable species for diversification and long-term retention.
- Plant lower sheltered slopes with a mosaic of mixed and broad-leaved woodland avoiding moorland, wetland and rocky outcrops.
- Restore fenced boundaries to traditional stone walls.
- Restrict removal of stone walls and replacement by fences.
- Manage and repair derelict stone walls.
- Avoid the use of 'barrier' fencing.

Development:

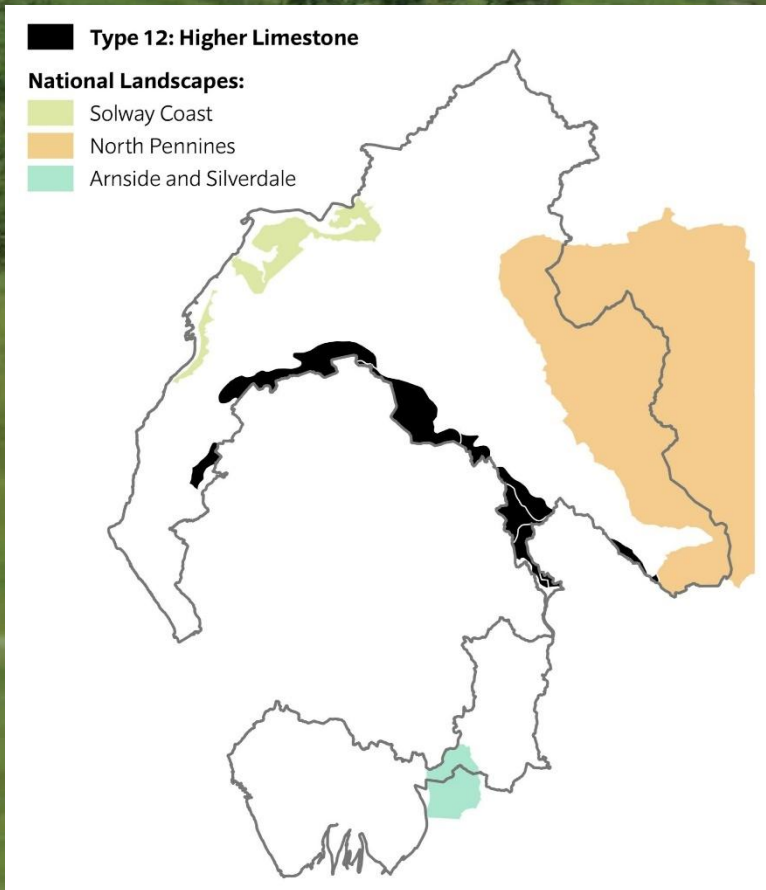
- Ensure that developments take advantage of the natural containment offered by intermediate ridges and horizons, avoiding sites on prominent edges of the plateau.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the rural character of the area.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.

- Ensure that all developments are carefully designed so as not threaten the open, unspoiled character; this is particularly the case with tall and vertical structures such as large wind turbines and pylons.

Access and Recreation:

- Public rights of way should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

Type 12: Higher Limestone



3.13 Type 12: Higher Limestone

3.13.1 This open and sometimes exposed, varied scale landscape is diverse in character, historic features, textures and has distinctive limestone characteristics. Improved pasture and heather moorland are abundant. Other land cover includes ancient woodland and parkland. On the higher ground limestone pavement, scars and grasslands are present; these have high ecological and conservation value. Carboniferous Limestone forms the dominant geology in this area with a small intrusion of Shap Granite near Shap.

3.13.2 Sub types:

- 12a Limestone Farmland
- 12b Rolling Fringe
- 12c Limestone Foothills
- 12d Moorland and Commons

Sub type 12a: Limestone Farmland

Location

- 3.13.3 This Limestone Farmland sub type is found between Shap and Kirkby Stephen. In some places, it is adjacent to the Lake District and Yorkshire Dales National Parks.
- 3.13.4 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Lake District National Park and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Rolling upland farmed landscape
- Distinctive limestone characteristics in the form of strong field patterns with high stone walls
- Land cover is dominated by improved or semi- improved pasture
- Small broad leaved, coniferous or mixed plantations provide variety and interest
- Historic features are often obvious and evoke a strong sensory response

Physical character

- 3.13.5 This sub type is dominated by Carboniferous limestone overlain by glacial till. In places outcrops provide high geological interest. This is a rolling upland farmed landscape found between 250-300m AOD. The area is intersected by small streams and rivers and has distinctive limestone characteristics. The area forms a transitional area with the higher Lakeland and Howgill Fells.

Land cover and land use

- 3.13.6 The underlying limestone geology is present through the strong pattern of fields bounded by high stone walls and other built stone features, such as lime kilns and traditional farm buildings. The matrix of walls emphasise the rolling landform.
- 3.13.7 Land cover is dominated by improved or semi-improved pasture. Tree clumps and small broadleaved, coniferous or mixed plantations often near farmhouses are typical features. -Around some of the villages and hamlets there is smaller scale pasture with some long, narrow fields. At lower levels the patchwork of walls give way to hedges with some field boundary trees.
- 3.13.8 The local building vernacular is dominated by limestone with a mixture of discrete nucleated villages and dispersed farms. These are mainly connected by small roads that often follow the grain of the landscape.

- 3.13.9 In the western parts the M6 motorway, rail line, pylons and large quarries contrast with the pastoral characteristics and introduce discordant manmade features in the landscape.

Ecology

- 3.13.10 This landscape supports some of the most species-rich hay meadows in Cumbria and is also notable for broad species-rich roadside verges. Where the limestone outcrop areas of limestone grassland are present and in places there are extensive species-rich springs and flushes with alpine bartsia and black bog-rush. Stands of upland ash woodland are present along gills and river valleys. The many small rivers that dissect this landscape support both otter and white-clawed crayfish.

Historic and cultural character

- 3.13.11 A landscape of nucleated villages with a variety of early and late enclosed fields all bounded by dry stone walls containing features such as hog holes and bee boles. The villages often have traditional village greens and traditional limestone-built farm buildings within them. Isolated field barns also feature. The landscape has a variety of well-preserved earthwork remains including ridge and furrow and lynchets. The boundaries of former late medieval deer parks are preserved within the modern field pattern. Archaeological remains include prehistoric stone circles and cairns, and early medieval settlement remains. The historic legacy is rich and discernible.

Perceptual character

- 3.13.12 This is a farmed landscape with a pastoral character. The bright greens of improved fields contrast with darker unimproved and more open land. At lower levels there is a sense of enclosure, which changes to a more open and expansive, feeling on more exposed areas. There are long, open views and mainly uncluttered views of the Lakeland Fells, the Howgills and the Northern Pennines. There is a strong sense of history derived from a wealth of historic features and a sense of remoteness in many parts. Changes in the weather can give an elemental feeling and accentuate feelings of exposure and remoteness.

Sensitive characteristics or features

- 3.13.13 The limestone vernacular from field walls, lime kilns and traditional farm and village buildings is sensitive to changes in land management and new development patterns and materials. Species rich hay meadows and roadside verges, and the matrix of walls that reinforce the rolling landscape grain and varied historic field patterns are sensitive to changes in land management. Small, traditional villages, with a rural character and village greens are sensitive to village expansion. Discrete rural roads winding along contours are sensitive to highway improvements. Archaeological remains and historic farm buildings and features are sensitive to changes in landscape management and village/farmstead expansion. Long open

views to the Fells, Pennines and Howgills are sensitive to large scale and prominent development that could significantly interrupt views.

Vision

This landscape will be conserved and enhanced.

3.13.14 This well managed landscape will be fostered while the historic field and settlement pattern will be conserved and maintained retaining the open character of this landscape. Historic earthworks and other archaeological and features of historic interest will be conserved. Wildlife interest will be increased to help enhance this landscape. This will be achieved through conserving, restoring and extending small woods, flower-rich grassland and field boundary trees, increasing habitat diversity and enriching the less diverse areas. Farm buildings, roads and quarry extensions will be carefully controlled and designed. Development will be of high quality and complement the local vernacular in this sensitive landscape.

Changes in the Landscape

3.13.15 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.

3.13.16 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Management Practices:

- Farming practices are the primary influence on the character of this distinctive landscape and changes in policy or grant funding regimes could affect the future management of landscape features both positively and negatively.
- Over the past few decades the tendency towards intensively managed grassland and silage production has produced 'clean' well-managed fields.
- A lack of grant money available to farmers and the terrain may influence their capability to diversify and, therefore, farm incomes could suffer significantly.
- Current grant regimes can help prevent the loss and neglect of stone walls, decline in botanical interest, neglect of woods and field boundary trees.
- Intensive grazing regimes and field improvements have reduced biodiversity and caused harm to historic features in the past.

Development:

- These 'transitional' landscapes are traditionally fragile in nature and new development may further exaggerate this trend eroding distinctive characteristics.
- The Government's commitment to renewable energy could see an interest in large scale wind energy schemes in this open area which could change key open views and the feeling of remoteness felt in parts of this area.

- The planned upgrade of the national grid during the next decade (Great Grid Upgrade launched in 2023) could see changes in character where pylons already exist along the M6 corridor.
- The M6 corridor as an element in the landscape could have the potential to attract new large scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.
- As agricultural practices shift there has been a move towards the erection of large-scale farm buildings which – depending on their design - can be particularly intrusive in the higher open parts of this landscape.
- Planned and incremental expansions to villages may be needed to support the rural economy and agricultural diversification. This needs to be sensitive to the historic form, local topography and vernacular to prevent erosion of the landscape character.

Access and Recreation:

- Public rights of way provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.13.17 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Plant new field boundary trees or tagging selected saplings to replace maturing stock using indigenous or locally established species.

- Establish new small to medium scale native broad-leaved, mixed plantations woods on improved farmland and along beck sides.
- Avoid new planting on species rich grassland, wetland and higher open landscapes or where it might obscure distinctive field patterns.
- Discourage field enlargement and 'ranching' that result in the loss of traditional field patterns and boundaries.
- Manage and restore walls and hedgerows in a traditional way
- Restrict introduction of fences to replace or 'gap-up' walls and hedgerows.
- Restore fenced boundaries to traditional walls and hedgerows
- Conserve historic artefacts including burial mounds, cairns, settlement earthworks, standing stones, through avoidance of damaging agricultural activities such as disturbance and removal of stones, levelling and excavation, planting trees, poaching, ploughing and tipping.
- Conserve and enhance historic structures such as limekilns and stone barns. This may include protection from stock, removal of trees or scrub or carrying out structural repairs with archaeological advice.
- Protect features such as long fields behind villages and funnel shaped intakes.

Development:

- Avoid development in the transitional, fragile and exposed areas that will degrade their character, specifically tall or vertical energy infrastructure developments such as large-scale wind turbines and pylons.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where it could degrade the rural character of the area.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.
- Protect settlement fringes from unsympathetic development.
- Ensure new development respects the scale, form and distinctive character of villages.
- Enhance through sensitive environmental improvements to entrances, village greens and planting etc.
- Conserve and maintain traditional farm buildings.
- New farm buildings, structures, tracks and access ways should be sympathetic to their surroundings. This can be achieved by careful siting; integration with existing buildings, breaking down mass, choice of sympathetic colours and non-reflective finishes and appropriate planting.

Access and Recreation:

- Public rights of way should be well maintained, and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.

- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

Sub type 12b Rolling Fringe

Location

- 3.13.18 This Rolling Fringe sub type is found around Ullock in the west, Tallentire to Caldbeck in the north and around Stainton to Reagill in the east. In some places, it is adjacent to the Lake District and Yorkshire Dales National Parks.
- 3.13.19 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Lake District National Park and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Large-scale undulating topography
- Large fields of improved pasture
- Stone walls mainly in the east, occasional hedges and fence boundaries
- Very sparse tree cover
- Some large-scale conifer plantations
- Small streams and rivers cut through the rolling topography

Physical character

- 3.13.20 This sub type is dominated by Carboniferous limestone overlain by glacial till. In the east this type is transitional between the true limestone landscape and the glacial and valley types. In the north it forms the fringe of the northern Lake District fells. It mainly comprises large scale, rolling or undulating topography at altitudes of 150-300m AOD with some high points reaching around 380m AOD. Small streams and rivers provide variation in topography.

Land cover and land use

- 3.13.21 Although a limestone landscape, limestone features are mostly absent, with limestone crags be found in just a few places. Land cover consists of large, often rectangular, fields of improved pasture divided by stone walls, fences or occasional hedges. Walls are a strong feature in the east, but sparse in the north. Here hedges criss-cross the landscape and form a strong feature. Areas of rough pasture with moorland and moss can be found at higher elevations and add interest to the area.
- 3.13.22 Tree cover is generally sparse, apart from extensive, but isolated coniferous plantations in the north, and occasional woodland clumps in lower areas and on knolls.
- 3.13.23 Settlements are generally nucleated with dispersed farms throughout the landscape. Roads often cut across the topography, and are often enclosed by strong hedge and wall boundaries.

3.13.24 Included in the sub type is an area further to the south at a slightly lower elevation (100-200m AOD). The northern part of this has some natural limestone features, which are absent elsewhere. This is a fairly simple landscape, with clear views to the Lakeland Fells.

Ecology

3.13.25 This is a landscape of improved grassland with only occasional hedgerows. Areas of semi-natural vegetation are scarce, but include occasional areas of limestone grassland and small upland ash woods. A few species-rich roadside verges are also present. The main feature of ecological interest in this landscape is a disused quarry which hosts a large great crested newt population of international importance.

Historic and cultural character

Features of historical interest abound. In the east the landscape features nucleated villages surrounded by early enclosed field systems featuring fossilised strips. There is a variety of well-preserved earthwork remains including ridge and furrow and lynchets. In the north it is still a discrete village landscape but with fewer fossilised strips in the surrounding field pattern. Here late enclosed outfielders are a feature of the field system. Archaeological remains include Viking Age artefacts and in all areas there is widespread evidence of quarrying, lime kilns and lime burning.

Perceptual character

3.13.26 This is largely a simple, open landscape, with a more intimate feel in the valleys, and a contrasting feel of wildness in the moorland areas. This can be accentuated in poor and stormy weather. Views are often expansive across to the Lakeland Fells, but on the eastern side are dominated by television transmission masts. Otherwise, the landscape has a pastoral feel with some tranquillity and a sense of peacefulness.

Sensitive characteristics or features

3.13.27 Walls and hedge mosaics to improved pasture are sensitive to changes in land management. Nucleated and discrete vernacular villages reinforce the farmland character and are sensitive to village expansion. Scarce limestone outcrops, features and grassland provide important interest and biodiversity and are sensitive to changes in land management. Open, uninterrupted views across moorland to a backdrop of hills are sensitive to large prominent infrastructure or other development.

Vision

This landscape will be enhanced through restoring and creating new features.

3.13.28 Hard edges of conifer plantations will be softened to reflect the topography. New planting with a diversity of tree species will take place. Field boundaries will be strengthened while retaining the open and unfenced character of this landscape. Historic and ecological features will be restored and enhanced. In order to avoid intrusion into this landscape, development will be strictly controlled particularly where it could affect key views into the Lake District National Park.

Changes in the Landscape

3.13.29 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Increases in tourism-related development, such as static caravans at Great Strickland and at Clea Hall Holiday Park
- Expansion of residential development on the edge of settlements, for example at the villages of Hackthorpe and Bothel
- Changes (both increase and decrease) in some areas of woodland cover, such as at Powhead Plantation and Hard Bank

3.13.30 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- The Cumbria Community Forest Plan for significantly increasing the extent and health of trees and woodlands over the next 25 years has the potential to make a major contribution to combatting and adapting to climate change

Management Practices:

- The loss of tree cover and similar features.
- The neglect of hedgerows leading to the loss of traditional characteristics.
- Farming practices are the primary influence on the character of this distinctive landscape and changes in policy or grant funding regimes could affect the future management of landscape features both positively and negatively.
- A lack of grant money available to farmers and the terrain may influence their capability to diversify and, therefore, farm incomes could suffer significantly.
- Current grant regimes can help prevent the loss and neglect of stone walls, decline in botanical interest, and neglect of hedges.
- Intensive grazing regimes and field improvements have reduced biodiversity and need to be better managed in the future.

Development:

- These 'transitional' landscapes are traditionally fragile in nature and new development may further exaggerate this trend eroding distinctive characteristics.
- The Government's commitment to renewable energy could see an interest in large scale wind energy schemes in this open area which could change key open views and the feeling of wildness felt in parts of this area.
- The M6 corridor as an element in the landscape could have the potential to attract new large scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.
- The need to upgrade the national grid during the next decade could see changes in character where pylons already exist along the M6 corridor.
- As agricultural practices shift they have been a more towards the erection of large-scale farm buildings which – depending on their design - can be particularly intrusive in the higher open parts of this landscape.
- Planned and incremental expansions to villages may be needed to support the rural economy and agricultural diversification. This needs to be sensitive to the historic form, local topography and vernacular to prevent erosion of the landscape character.

Access and Recreation:

- Public rights of way and open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.13.31 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS,

with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Ameliorative measures to help integrate conifer plantations into the landscape and aid in the re-wooding of areas that have lost tree cover.
- Planting of mixed woods on improved agricultural land, avoiding areas of mossland and moor.
- Introduce more small woodlands, tree groups and feature trees using typical limestone species e.g. Ash while maintaining essential openness.
- Encourage the restoration of fenced boundaries to traditional walls or hedgerows.
- Encourage the planting of new hedgerows in more sheltered locations and traditional management.
- Encourage the management and restoration of stone walls and other field boundary features.
- Discourage the expansion of well-preserved traditional settlements. Where development is necessary to support viable communities, expansion should be discrete and respect the preserved character.

Development:

- Avoid development in the transitional, fragile and exposed areas that will degrade their character, specifically tall or vertical energy infrastructure developments such as large-scale wind turbines and pylons.
- Avoid siting large scale wind energy, other vertical structures such as telecommunications masts, pylons and overhead transmission lines in open and prominent areas where they could degrade the rural character of the area.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.
- Protect settlement fringes from unsympathetic development.
- Ensure new development respects scale, form and distinctive character of villages.
- Enhance through sensitive environmental improvements to entrances, village greens and planting etc.
- Conserve and maintain traditional farm buildings.
- New farm buildings, structures, tracks and access ways should be sympathetic to their surroundings. This can be achieved by careful siting; integration with existing buildings, breaking down mass, choice of sympathetic colours and non-reflective finishes and appropriate planting.

Access and Recreation:

- Public rights of way and access to open access land should be well maintained and quiet recreational areas and facilities should be improved and developed to be compatible with the pastoral character of this sub type.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.
- Create focal points within woodland and encourage informal recreation.

Sub type 12c: Limestone Foothills

Location

- 3.13.32 This Limestone Foothills sub type is found around Greystoke. In some places, it is adjacent to the Lake District National Park.
- 3.13.33 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Rolling undulating topography with occasional plateaus
- Limestone pavements, crags and other rock outcrops are rare
- Areas of unimproved and improved pasture
- Stone walls and hedges reinforce the pastoral features
- In the south, small pasture fields with the presence of both disused and active quarries
- Ancient woodland and parkland
- Large forestry plantations

Physical character

- 3.13.34 This sub type is dominated by Carboniferous limestone overlain by glacial till. Some rocky outcrops form notable local features. The land rises to the adjacent Lakeland fells at an elevation of 220-360m AOD. The rolling undulating topography is occasionally steep and sometimes appears plateau-like.

Land cover and land use

- 3.13.35 The sub type is dominated by large forestry plantations around Greystoke and Johnby. The large blocks of forest and other woodland are the main features in this type. Elsewhere the land cover is largely characterised by unimproved pasture, areas of ancient woodland and parkland. Deciduous shelterbelts often edge coniferous plantations and help integrate them better with the rolling topography.
- 3.13.36 Field sizes are a mixture of large allotments and smaller fields. These are mainly bounded by stone walls or hedgerows. These can be tall and strong alongside roads. Pavements, crags and other rock outcrops are rare. In the southern part of this sub type, the dominant characteristics come from small pasture fields, bounded by stone walls. The fields are interspersed with the pockmarks of old and active quarries. This contrasts with the large-scale features found elsewhere.
- 3.13.37 Settlements are generally dispersed with a mixture of limestone and sandstone vernacular.

Ecology

3.13.38 One of the most notable features of this landscape are the broad roadside verges which support species-rich stands of tall herbs, neutral grassland, limestone grassland and rush pasture. Small areas of limestone grassland are also found around small outcrops of limestone and species-rich springs and flushes are also occasionally present. Small areas of upland ash woodland are sometimes present, but one of the main woodland features is the wood pasture and veteran trees of Greystoke Park. The landscape also supports barn owls and red squirrels.

Historic and cultural character

3.13.39 The settlement pattern features nucleated villages with limestone built traditional buildings. The field systems are mainly planned enclosure on former medieval wastes and feature dry stone walls and fossilised strips. Evidence of deer parks as at Greystoke Castle, are preserved within existing boundaries. Earthwork remains relating to medieval habitation and farming are associated with the villages, but many have been removed in recent years.

Perceptual character

3.13.40 This is a large scale, open landscape which becomes smaller and more intimate in the wooded areas and in the southern part. This landscape is tranquil and peaceful and has a strong relationship with the Lake District fells and national park. The changes in characteristics provide interest and the Parkland (eg Greystoke Park) is considered beautiful by many. In the more open parts of the west and north there are clear views of the Lake District fells which reinforce a sense of remoteness. Changes to the weather can accentuate the feeling of remoteness, especially when windswept and wet, or the feeling of tranquility on dry and still days.

Sensitive characteristics or features

3.13.41 Ancient woodland and parkland landscapes are sensitive to large scale development or significant plantation expansion. The matrix of walls and hedges reinforcing farmland and enclosing rural roads are sensitive to changes in land management. Ecologically sensitive roadside verges are vulnerable to road improvements and access to development. Small scale vernacular villages of limestone and sandstone and medieval earthworks and remains around settlements are sensitive to settlement expansion and new building design and materials' use. The sense of remoteness that is reinforced by the proximity to Lakeland Fells is sensitive to large scale agricultural, tourism or wind energy development.

Vision

The high-quality elements of this landscape will be conserved and enhanced.

3.13.42 Key components such as the strong pattern of limestone walls and hedgerows will be conserved and enhanced. Rare components such as species rich meadows, hay meadows and historic features such as lime kilns especially where associated with limestone pavement will be conserved, enhanced or extended. The extensive blankets of coniferous forest will be improved so that they relate more closely to the rolling topography while scattered patterns of woodland copses associated with hill tops and farm buildings will be developed to enrich the landscape and provide a diverse array of habitats. Intrusive development will be mitigated where possible while inappropriate development and residential extensions to villages will be strictly controlled.

Changes in the Landscape

3.13.43 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Increases in tourism-related development, such as static caravans at Ullswater Heights and at Hopkinson Caravan Park
- Changes (both increase and decrease) in some areas of woodland cover, such as at Greystoke Forest

3.13.44 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Climate Change could result in agricultural practices moving towards mixed farming and ploughing up pasture in order to plant crops e.g. vegetables to biofuels. Climate Change could also lead to increased storm events and summer droughts impacting on trees and woodland.

Management Practices:

- Farming and forestry practices are the primary influence on the character of this distinctive landscape and changes in policy or grant funding regimes could affect the future management of landscape features both positively and negatively.
- A lack of grant money available to farmers and the terrain may influence their capability to diversify and, therefore, farm incomes could suffer significantly.
- The loss of native and ancient tree cover and similar features through changes in farming practices.

- Current grant regimes can help prevent the loss and neglect of stone walls and the decline in botanical interest. The replacement of walls with wire fences has begun to erode the distinctive character of the area.

Development:

- These 'transitional' landscapes are traditionally fragile in nature and new development may further exaggerate this trend eroding distinctive characteristics.
- The Government's commitment to renewable energy could see an interest in large scale wind energy schemes in this open area which could change key open views and the feeling of remoteness felt in parts of this area.
- As agricultural practices shift there has been a move towards the erection of large-scale farm buildings which – depending on their design - can be particularly intrusive in the higher open parts of this landscape.
- Planned and incremental expansions to villages may be needed to support the rural economy and agricultural diversification. This needs to be sensitive to the historic form, local topography and vernacular to prevent erosion of the landscape character.
- Mineral or other industrial development could take place where there are mineral resources in the southern part, and closer to large settlements.

Access and Recreation:

- Public rights of way and open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.
- The Environmental Land Management Scheme provides the opportunity to develop more public access in the countryside. Future grant or other programmes could continue to support this.

Guidelines

3.13.45 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Ameliorate existing coniferous stands taking account of the impact of forestry practices from surrounding viewpoints.
- Adopt rotational cropping of forested areas in coupe sizes and shapes that generate a pattern of cleared areas, open spaces and newly planted areas and identify suitable species for long term retention, thereby creating a more natural appearance harmonious with the landform.
- Use of broadleaf native species to enhance landscape value.
- Establish woodland copses in association with hill tops or new farm and residential developments to soften their impact and remain in character with traditional buildings.
- Restrict field enlargement or major change to the existing pattern of field boundaries.
- Conserve and restore existing walls and hedgerows.
- Restrict introduction of fences to replace or 'gap-up' walls and hedgerows.
- Reinststate roadside walls to strengthen the traditional interdependent pattern of roads and field boundaries.
- Plant new field boundary and feature trees to replace maturing stock using indigenous stock typically Ash.

Development:

- Avoid development in the transitional, fragile and exposed areas that will degrade their character, specifically tall or vertical energy infrastructure developments such as large-scale wind turbines and pylons.
- Ensure new development associated with villages and farmsteads respects scale, form and distinctive character of villages.
- Enhance through sensitive environmental improvements to entrances, village greens and planting etc.
- Conserve and maintain traditional farm buildings.
- New farm buildings, structures, tracks and access ways should be sympathetic to their surroundings. This can be achieved by careful siting; integration with existing buildings, breaking down mass, choice of sympathetic colours and non-reflective finishes and appropriate planting.
- Minimise the impact of minerals or other development by careful siting, design and high standard of landscape treatment, particularly where public views are affected.
- Use traditional materials to define site boundaries, roads and access points.

Access and Recreation:

- Public rights of way and access to open access land should be well maintained to allow quiet enjoyment and appreciation of the areas.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.
- Ensure any recreational developments are contained within a robust landscape structure to ensure the character of the existing landscape is not harmed.

Sub type 12d: Moorland and Commons

Location

- 3.13.46 This Moorland and Commons sub type is found south of Shap, broadly following the M6 corridor. In some places, it is adjacent to the Lake District and Yorkshire Dales National Parks.
- 3.13.47 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the Lake District National Park and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Broad, open grazing common with heather moorland
- Limestone pavement, scars and screes
- Western intrusion of granite
- Some large coniferous plantations
- Wide views of the Lake District and Howgill Fells

Physical character

- 3.13.48 This sub type is mainly Carboniferous limestone, but the western fringe is underlain by Shap granite. Glacial erosion and weathering has exposed limestone pavements, scars and screes.

Land cover and land use

- 3.13.49 Land cover is dominated by open common grassland or remnant heather moorland with some coniferous woodland and occasional tree clumps. Although streams and rivers are limited, sink holes and springs can be found throughout.
- 3.13.50 The edges of the open commons and lower fields are bounded by strong limestone walls. These, along with the exposed rocks, pavements and scars form distinctive features in the area. The walls and outcrops often form rectilinear and linear patterns across the landscape. The stone walls which form the boundary of the commons are of historic interest. The area is an important limestone habitat and a number of the scars, pavements and grasslands have been designated.
- 3.13.51 Much of the area is affected by industrial and urban influences, including the M6 motorway and mineral extraction and processing.

Ecology

3.13.52 This landscape is dominated by internationally and nationally important and protected limestone pavements, upland heathland and acid grassland moorland. Associated with these are species-rich springs and flushes, roadside verges, purple moor- grass and limestone grassland. The distinctive clints and grykes of the pavements support interesting flora. The limestone grasslands and flushes support a range of rare and uncommon species, including Geyer's whorl snail, bird's-foot sedge, bird's-eye primrose and slender green feather-moss. Birds of interest include Lapwing, Reed Bunting, Curlew and Skylarks.

Historic and cultural character

3.13.53 There is relatively limited settlement and much unenclosed common land. What enclosure exists is late. The few settlements that date from the first half of the 19th century are situated in either planned enclosure or the edge of assarts.

Perceptual character

3.13.54 The landscape is largely open and exposed with expansive panoramic views to the Lakeland and Howgill Fells and the North Pennines. There is tangible sense of remoteness away from the transport routes because of the lack of settlements and development. Its open character has a strong relationship with the adjacent higher fells whose uncluttered skyline contributes to a sense of tranquillity and relative wildness. This can be accentuated by changes in the weather. Pockets of heathland and limestone outcrops provide added interest to the open moorland and seasonal contrasts. The sense of tranquillity is largely intact despite the busier developed edges around Shap.

Sensitive characteristics or features

3.13.55 Extensive areas of unenclosed commons bounded by limestone walls, the linear grain of walls and rock exposures and prehistoric remains and distinctive historic land use patterns could be sensitive to agricultural or other development. Open uncluttered skylines and rough untamed commons provide a sense of remoteness and wildness and are sensitive to large scale energy and infrastructure development. Limestone pavements, screes and scars expose the underlying geology and, along with a mosaic of limestone grassland and heathland, are sensitive habitats that could be vulnerable to unsympathetic changes in land management.

Vision

The open rough, unspoilt limestone pavement and moorland character and its ecological and historic interest will be conserved and enhanced.

3.13.56 The heather and species rich grassland of the commons, limestone and other natural features will be conserved and enhanced to reinforce landscape distinctiveness and improve ecological interest. The commons boundary walls will be maintained to maintain the distinction between common and enclosed land. Historical features will be protected and managed. New infrastructure or other development will only be supported if it does not erode the intrinsic character of the area. Large conifer plantations will be better integrated in the landscape through the introduction of more diverse tree species and through a softening of straight edges. Large extensions will be resisted if they are likely to detract from local characteristics.

Changes in the Landscape

3.13.57 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Some reduction in woodland cover, between the M6 and the Lake District National Park boundary south of Shap

3.13.58 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Management Practices:

- Farming practices are the primary influence on the character of this distinctive landscape and changes in policy or grant funding regimes could affect the future management of landscape features both positively and negatively.
- A lack of grant money available to farmers and the terrain may influence their capability to diversify and, therefore, farm incomes could suffer significantly.
- The erosion of distinctive character in some areas due to losses of heather moorland and species rich grassland.
- Blocks of conifer planting have interrupted the openness and rough uniformity of the commons.
- An increase in improved and semi-improved pasture has changed the character of some fringe areas.
- Overgrazing can affect limestone pavement, grassland and wet flushes, and under grazing can result in scrub encroachment and the reduction in ecological interest.

Development:

- The M6 corridor as an element in the landscape could have the potential to attract new large-scale minerals, industrial, infrastructure or other commercial development, particularly on the western fringes around Shap due to the relationship of the M6 and several quarries. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.
- Energy infrastructure developments and associated vertical structures such as, communication masts, pylons or large scale wind turbines could erode the open and remote character of the landscape.

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.

Guidelines

3.13.59 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Avoid planting of coniferous blocks on the open moorland and consider restoration of moorland on clearance and felling of existing blocks.
- Help retain the landscape's open and unspoiled qualities by reducing existing blocks of coniferous plantations and discouraging additional plantation blocks.
- Reinforce existing tree clumps on the fringes of the commons in field corners and next to farmsteads and tarns by appropriate management, natural regeneration, restocking with indigenous species and exclusion of stock.
- Discourage introduction of permanent fences on the Commons; temporary fencing may be acceptable in order to assist heather regeneration and to improve the condition of SSSIs.

- Manage common and allotment boundary walls in a traditional way.
- Conserve historic sites such as burial mounds, cairns and settlement earthworks avoiding damaging agricultural or other activities.
- Conserve the geological, historic or ecological importance of disused quarries.

Development:

- Avoid development in remote, undeveloped, prominent and exposed areas that would degrade the landscape character. Particular developments that could cause harm include telecommunications masts, pylons, large scale wind turbines, and overhead transmission lines and telephone lines. Small scale wind turbines may be accommodated if visually and functionally related to and in proportion with existing used buildings.
- Resist the construction of new access tracks and roads that compromise the relative wildness of the landscape.
- Resist expansion of major developments such as quarrying and industry. Where this is unavoidable minimise the impact by careful siting, design and high standards of landscape treatment.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.

Access and Recreation:

- Public rights of way and access to open access land should be well maintained to allow quiet enjoyment and appreciation of the areas.
- Seek opportunities to enhance access to farmland through Environmental Land Management or other schemes.
- Promote and enhance existing recreation routes by improving waymarking, providing appropriate surfacing, gates and gaps and interpretation.

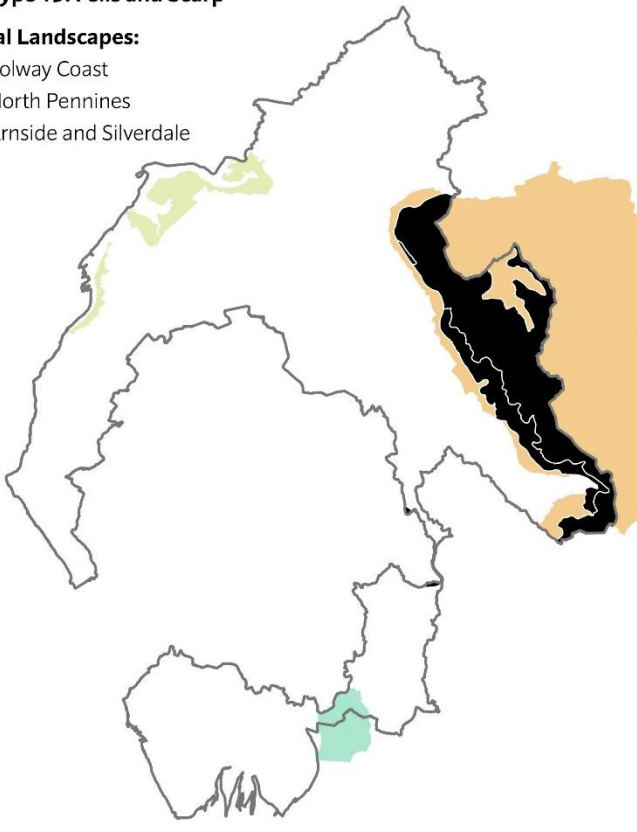
Type 13: Fells and Scarp



Type 13: Fells and Scarp

National Landscapes:

- Solway Coast
- North Pennines
- Arnside and Silverdale



3.14 Type 13: Fells and Scarp

3.14.1 This is an open extensive landscape between 500-900m AOD comprising moorland, plateaus, fells and scarps. It incorporates areas of the North Pennines, Howgill, Shap and Middleton Fells. There are few settlements. Upland raised bog and open moorland are distinctive. Woodland vegetation is minimal creating very open environments, which tend to be heavily grazed. The contours of the land are smooth and domed, and although steep sided, are sometimes interrupted by stone walls or fences.

3.14.2 Landscape sub types:

- 13a Scarps
- 13b Moorland, High Plateau
- 13c Fells

Sub type 13a: Scarps

Location

- 3.14.3 This Scarps sub type is found along the western edge of the North Pennines, and lies mainly within the North Pennines National Landscape. In some places, it is close to the Yorkshire Dales National Park.
- 3.14.4 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the North Pennines National Landscape and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Horizontal outcrops of limestone and volcanic rock form distinct features
- Unimproved grassland dominates
- Steep slopes often filled with bracken and scrub
- Ghylls and gullies intersect the scar and moorland
- Improved pasture on lower slopes
- Small fields bounded by stone walls

Physical character

- 3.14.5 This landscape is found predominantly on Carboniferous limestone with exposures of horizontal limestone outcrops. The limestone scarp is found in a small area between Cumrew to Newbiggin in the north and more extensively from Melmerby to Helbeck in the south. Around Dufton and Knock the Cross Fell Inlier forms distinctive conical pike features against the scarp. These are unique to this part of Cumbria.

Land cover and land use

- 3.14.6 North of Cumrew the scarp slopes rise gently from the limestone foothills. Most of the slopes are covered with unimproved grassland and wet and dry heath. In parts there is a matrix of small fields enclosed by stone walls. Outside the enclosures, slopes are sometimes heath-like with scrub and bracken. The slopes are sharply incised by streams and rivers and gully or ghyll features frequently break the scar and run down from the moorland top.
- 3.14.7 Woodland is generally scarce, but there are some areas of upland ash woodland around Brough. Small clumps of trees can also be found sheltering in ghylls or at the bottom of the slopes. There are some small areas of conifer plantations.
- 3.14.8 Rocky features are common including limestone pavements and scars and Whin Sill cliffs (eg High Cup Nick).

3.14.9 There is virtually no settlement, and the landscape retains the open and undeveloped character of the rest of the sub type.

Ecology

3.14.10 The western scarp slopes of the Pennines are covered by large areas of limestone grassland, acid grassland, wet and dry heathland and bracken. Along the scarp edge there are exposures of both limestone and volcanic rock and scree and these, together with the associated areas of limestone grassland, support rare species such as alpine saxifrage and Teesdale violet. Species-rich springs and flushes are locally frequent on these steep slopes, as are areas of rush pasture. Small areas of peat bog are found in the northern areas.

Historic and cultural character

3.14.11 There is little modern settlement but there are some abandoned post-medieval farmsteads. The field system features intakes and parliamentary enclosure. There is evidence of coal and lead mining with surviving bell pits indicative of early coal mining on Stainmore. Archaeological interest also includes relict prehistoric field systems and settlements.

Perceptual character

3.14.12 This landscape has an open, expansive and undeveloped character that gives a sense of remoteness. The open moorland and vast, uninterrupted skies add a sense of wildness. Changes to stormy and unsettled weather can bring a feeling of exposure and a greater sense of wildness and remoteness. Still, dry days can bring a feeling of tranquillity in these undeveloped and natural feeling landscapes. Pockets of heather moorland and seasonal colour changes provide interest to the broad open moorland areas.

Sensitive characteristics or features

3.14.13 Steep limestone grassland slopes intersected by streams and ghylls and ghyll woodland and low-lying wooded areas, and extensive areas of exposed geology are sensitive ecological areas that could be vulnerable to development. The tranquil character arising from the distinct lack of settlement and farms could be undermined by isolated developments. The open and expansive slopes are remote with a sense of wildness and character that is vulnerable to any forms of development.

Vision

The remote and diverse qualities of these upland landscapes will be conserved and enhanced.

3.14.14 The heath and species rich grassland will be enhanced, and sympathetic moorland management will be re-established. The remaining areas of semi- natural woodland will be conserved and enhanced, with ghyll side planting increased. Further coniferous planting on open moorland and slopes will be discouraged. Wetland areas will be conserved and enhanced. Traditional features such as patterns of stone walls, meadows and former 'miner-farmer' landscapes will be conserved. With regard to recreation and tourism, improved facilities for low key activities in selected locations will be provided offering good accessibility, protection of sensitive habitats and minimal intrusion on the landscape. The open, unspoilt, uncluttered and wild qualities and characteristics of these landscapes will be maintained through resisting inappropriate and intrusive development; this could include vertical energy developments such as large wind turbines or pylons.

Changes in the Landscape

3.14.15 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.

3.14.16 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Management Practices:

- A fragile farming system subject to changing markets
- Over intensive grazing and agricultural improvement leading to loss of moorland vegetation to the detriment of wildlife.
- There could be further interest in afforestation if farming becomes more marginal and incentives are provided to support short rotation forestry.

Development:

- Energy infrastructure developments and associated vertical structures such as, communication masts, pylons or large scale wind turbines could erode the open and remote character of the landscape.
- Small scale mining or quarrying has continued in a few places. Any further development could have major implications on landscape character particular if scarp slopes are affected.

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.

Guidelines

3.14.17 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features

- Improve the appearance of existing coniferous plantations including softening of geometric outlines, introduction of open space and increasing species diversity.
- Remove intrusive conifer blocks from open fell land as opportunities arise and resist new or significant extensions to coniferous plantations, especially in the moorland zone and on valley sides and scarps.
- Prevent infilling of minor gullies or sinkholes.
- Protect rocky outcrops, limestone pavement, scree and other rocky areas as open features by discouraging damage or removal and encouraging management of invading scrub.
- Encourage joint measures for the sustainable management of common land.
- Encourage the conservation and repair of boundary walls to fields or large allotments where significant in historic or landscape terms
- The erection of fencing on open moorland should normally be avoided.
- Conserve and maintain historic structures such as field barns, farmhouses, mining structures and lime kilns. This may include protection from stock, removal of trees or scrub and carrying out structural repairs with archaeological advice.
- Conserve important spoil heaps and other earthworks.

Development:

- Avoid development in remote, undeveloped, prominent and exposed areas that would degrade the landscape character. Particular developments that could cause harm include telecommunications masts, pylons, large scale wind turbines, and overhead transmission lines and telephone lines. Small scale wind turbines may be accommodated if visually and functionally related to and in proportion with existing used buildings.
- Resist major developments such as minerals or those involving permanent built structures including roads, embankments or dams that would erode the remote, undeveloped character.

Access and Recreation:

- Improvements to the Pennine Way and other footpath or bridleway networks should be encouraged, including the laying of flags where necessary, better waymarking, improved gates and gaps and improved interpretation. All such work should use natural materials that harmonise with the landscape.
- Provision of sensitively designed small scale parking facilities for cars and buses in appropriate locations.
- Provide safety advice to those wishing to walk in remote areas, explore caves or old mines.
- Interpret the landscape, history and wildlife of the area to help promote its care and conservation.

Sub type 13b: Moorland, High Plateau

Location

- 3.14.18 This Moorland, High Plateau sub type is found to the east of Kendal along the western edge of the North Pennines, and lies within the North Pennines National Landscape. In some places, it is adjacent to the Yorkshire Dales National Park.
- 3.14.19 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessments for the North Pennines National Landscape and the Yorkshire Dales National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Fells, summits and moorland plateau
- Incised by deep valleys and ghylls
- Extensive areas of blanket bog
- Acid grassland and dwarf heath shrub provide contrast to bog
- Valley slopes have varied land cover

Physical character

- 3.14.20 This area is predominantly Carboniferous limestone which forms an extensive area of upland moorlands. Much of the moorland is plateau-like with numerous deep valleys and ghylls. There are several high fells and summits that are generally over 500m, rising to around 900m at places like Cross Fell. The summits in the west central section are the highest in the Pennine chain and dominate the adjacent scarp.

Land cover and land use

- 3.14.21 The majority of the area is covered in blanket bog and is interspersed with a mosaic of other vegetation. To the north dry dwarf shrub heath dominates, in the centre fen, marsh and swamp features abound. On the lower valley slopes limestone and acid grassland can be found. Where heather survives, managed grouse moors are a rare feature; otherwise the majority of the area is used for extensive sheep grazing with some ponies and hill cattle. The area is largely devoid of tree cover. A major civil aircraft radar installation at Great Dunn Fell is the only intrusive man-made feature which is visible from a wide area.

Ecology

- 3.14.22 These high Pennine moorlands are of international importance for their extensive blanket bogs and the breeding populations of moorland birds they support, including species such as golden plover, dunlin and hen harrier. These moors also support areas of upland heathland and acid grassland, together with limestone

grasslands, species-rich springs and flushes with rare species such as marsh saxifrage, spring gentian and alpine forget-me-not. Several of the summits support montane heath communities and a range of rock and scree vegetation is present. On former lead mines, the spoil often supports a unique lead tolerant flora including alpine penny-wort and spring sandwort. Along the moorland edge there are large areas of rough pasture, including expanses of rush pasture. These moorland edges provide important habitat for black grouse. Further north, Geltsdale and Glendue SSSI is noted for its upland bird communities and moorland vegetation.

Historic and cultural character

- 3.14.23 This remains an unenclosed area, with no settlements or field systems and little of archaeological interest. Nineteenth century grouse pits occasionally feature in some areas. The southern part of the landscape contains extensive areas of common land including Ousby, Dutton and Murton fells, Stainmore, Winton and Kaber fells. Large parts of these commons are included within Sites of Special Scientific Interest.

Perceptual character

- 3.14.24 This landscape has a strong feeling of remoteness due to the lack of settlement and development. Its sweeping topography provides wide expansive views and uninterrupted skylines providing a sense of wildness. Changes in weather can reinforce the feeling of wildness, especially on stormy and unsettled days. In contrast on still, dry days there can be a feeling of tranquillity.

Sensitive features or characteristics

- 3.14.25 Extensive areas of blanket bog interspersed by heather, fen, marsh and swamp are ecologically sensitive to some changes in land management. Grouse moors are a rare feature also sensitive to changes in land management. Wide, expansive views within the Pennines and almost total lack of man-made structures and uninterrupted skylines are sensitive to vertical structures and other large-scale development.

Vision

The remote and diverse qualities of these upland landscapes will be conserved and enhanced.

- 3.14.26 The heath and species rich acidic grassland, natural features and habitats are all key features within this landscape and will be conserved and enhanced to improve landscape interest and ecological diversity. Sympathetic management of moorland areas will be re-established, grips will be blocked and natural processes will be left to develop where possible to retain the remote wild qualities. The remaining areas of semi-natural woodland will be conserved and enhanced while further coniferous

planting on open moorland and slopes will be discouraged. With regard to recreation and tourism, improved facilities for low key activities in selected locations will be provided offering good accessibility, protection of sensitive habitats and minimal intrusion on the landscape. The open, unspoilt, uncluttered and wild qualities and characteristics of these landscapes will be conserved through resisting intrusive development which may impinge on these unique features; this could include vertical energy developments such as large scale wind turbines or pylons.

Changes in the Landscape

3.14.27 This landscape has experienced limited significant land cover/land use changes over the last 10–15 years.

3.14.28 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- Blanket bog has a high carbon sequestration potential. Good condition bog can help mitigate against adverse effects of climate change. Management practices might need to change to improve the condition of blanket bog and enhance its carbon sequestration potential.
- This area is heavily influenced by natural erosion processes. These could intensify with increased rainfall and extreme weather events. Land cover and management practices could be changed to make the landscape more robust to effects of climate change.

Management Practices:

- A fragile farming system subject to changing markets.
- Over intensive grazing and agricultural improvement leading to loss of moorland and heathland vegetation and limestone grassland to the detriment of wildlife.
- There could be further interest in afforestation if farming becomes more marginal and incentives are provided for short rotation forestry in the future.
- An increase in moorland tracks for shooting activities has been seen in the North Pennines. These can sometimes create visually intrusive features and affect peatland conservation.
- Sound grouse management can contribute to the landscape character. Well managed peat burning can form part of the management regime. However, some burning practices could damage the hydrological integrity of the peat and its vegetative cover.

Development:

- Energy infrastructure developments and associated vertical structures such as, communication masts, pylons, large scale wind turbines or overhead

transmission or telephone lines, and associated transport infrastructure could harm the open, undeveloped and wild character of the landscape.

- The further intensification of training at the Warcop Training Area could introduce incongruous features and threaten the remote, unspoiled character
- Small scale mining or quarrying has continued in a few places. Any further development could have major implications on landscape character particularly if scarp slopes are affected

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside. Ongoing maintenance is needed to support this network in the future.

Guidelines

3.14.29 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Built Environment
- Grasslands and Limestone Pavement
- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Encourage joint measures for the sustainable management of common land.
- Conserve and maintain historic structures such as field barns, farmhouses, mining structures and lime kilns. This may include protection from stock, removal of trees or scrub and carrying out structural repairs with archaeological advice.
- Encourage the removal of eyesores and derelict sites of no historic interest. Conserve important spoil heaps and other earthworks.
- Encourage the conservation and repair of boundary walls to fields or large allotments where significant in historic or landscape terms
- The erection of fencing on open moorland is normally to be avoided.

Development:

- Avoid development in remote, open, prominent and exposed areas that would degrade the landscape character. Particular developments that could cause harm include telecommunications masts, pylons, large scale wind turbines, and overhead transmission lines and telephone lines. Domestic scale wind turbines may be accommodated if visually and functionally related to and in proportion with existing used buildings.
- Resist major developments such as minerals or those involving permanent built structures including roads, embankments or dams.

Access and Recreation:

- Improvements to the Pennine Way and other footpath or bridleway networks should be encouraged, including the laying of flags where necessary, better waymarking, improved gates and gaps and improved interpretation. All such work should use natural materials that harmonise with the landscape.
- Provision of sensitively designed small scale parking facilities for cars and buses in appropriate locations.
- Interpret the landscape, history and wildlife of the area and thus promote its care and conservation. Provide safety advice to those wishing to walk in remote areas, explore caves or old mines.

Sub type 13c: Fells

Location

- 3.14.30 The Fells sub type is found in two locations to the south of Shap, adjacent to the Lake District National Park.
- 3.14.31 This sub type profile should be read in conjunction with the description and guidance provided in the Landscape Character Assessment for the Lake District National Park with regards to the relevant landscape character types/areas identified in **Appendix D**.

Key Characteristics

- Rugged, steep sided, round topped hills and ridges
- Deeply incised valleys and ghylls
- Rocky cliffs, scree and outcrops
- Open expansive rough grass, heath and bracken
- Enclosed pasture at lower levels
- Complex network of streams
- Some wooded ghylls and remnant broadleaved woodlands
- Lower lying edges of the central Lakeland High Fells
- Panoramic views

Physical character

Geologically, these fells and ridges are extensions of either the Lake District Fells or the Pennines and rise to around 700m AOD within the Lake District and Yorkshire Dales National Parks. They are developed on Silurian grey sandstones and siltstones (Coniston Grit). The rocks have eroded to form steep sided rounded hills with deeply incised valleys and gills. There are occasional rocky crags, waterfalls and dramatic steep slopes with scree and boulders

Land cover and land use

- 3.14.32 The fells are mainly covered by moorland, rough grass, bracken and wet rushes. Remnant patches of heather survive on some fells. Generally, there is little or no tree cover. A few lower slopes and fells include areas of coniferous plantations. These often reflect the landscape form and leave craggy rocks exposed on upper slopes.
- 3.14.33 Lower slopes tend to be enclosed by stone walls as large fields or allotments of semi-improved pasture. Tree cover is more extensive here, largely found as clumps around scattered farms and boundaries and in remnant broadleaved woodlands on the fellside.

3.14.34 The area is lightly settled with many vernacular farm buildings with boundary trees, scrub gorse and thorn. Farmsteads tend to be strung out along the base of the fells. Local gritstone and limestone are used widely in walls and buildings. Man-made infrastructure is limited to transmission stations, pylons and overhead lines associated with the M6 motorway. This intrudes in the relatively natural moorland landscape. Away from the M6 corridor road access is limited and characterised by small roads that follow valleys and the grain of the landscape.

Ecology

3.14.35 Much of this moorland is covered by acid grassland, with areas of upland heathland and blanket bog. Rush pasture is frequent along the unenclosed valley bottoms. On lower ground there are species-rich hay meadows along some of the remote valleys. Species-rich springs and flushes are present locally. Upland oak woodland is present along some ghylls and valley sides on lower ground.

Historic and cultural character

3.14.36 The area is dominated by unenclosed uplands. There are some ancient fields and intakes. The occasional isolated farmsteads are often on ancient sites and in the valleys some of the farms are located on medieval vaccary sites. Only the lower slopes are enclosed by often large, though not always regular, fields bounded by dry stone walls with hog holes. The landscape retains many historic features including droveways, pennings and bields.

Perceptual character

3.14.37 These are generally unpretentious fells and lonely valleys which are dwarfed by the adjacent higher fells. The higher slopes and summits afford extensive and panoramic views. The fells are tranquil and have a sense of remoteness due to the lack of development and abundance of natural features. Changes in weather conditions can accentuate the sense of remoteness as views are enclosed and experiences become more elemental. In contrast to the Lakeland Fells these areas are little visited.

Sensitive features or characteristics

3.14.38 Areas of open, uninterrupted upland, sometimes with dramatic sweeping and soaring fell sides, with a lack of roads and development provide a sense of tranquillity and isolation that is sensitive to development.

Vision

The high-quality elements present within this landscape will be conserved and enhanced.

3.14.39 The moorland will be sympathetically managed. The grassland and grazing levels will be managed to enhance land cover and species diversity. At lower levels the landscape will benefit from strong patterns of limestone walls and hedgerows which will be conserved and enhanced over time. Rare features, such as species rich hay meadows, will be expanded and conserved. The areas of coniferous forest will be improved and will relate more closely to the rolling landform, while patterns of woodland copses associated with hill tops and farm buildings will enrich the landscape where they exist and provide diversity of habitats. The open, unspoilt, uncluttered and wild qualities and characteristics of these landscapes will be conserved through resisting intrusive development which may impinge on these unique features; this could include vertical energy developments such as large-scale wind turbines or pylons.

Changes in the Landscape

3.14.40 Significant land cover/land use changes over the last 10–15 years that have shaped the character of this landscape include:

- Changes (both increase and decrease) in some areas of woodland cover east of the A6

3.14.41 Over the next 10–20 years this landscape could be subject to the following changes or issues.

Climate Change:

- This area is heavily influenced by natural erosion processes. These could intensify with increased rainfall and extreme weather events. Land cover and management practices could change to make the landscape more robust to effects of climate change
- An increase in invasive species, however, could affect key landscape characteristics.
- Blanket bog has become degraded. This effects its carbon sequestration potential. Good condition bog can help mitigate against adverse effects of climate change.

Management Practices:

- Grazing pressures continue to degrade heather cover, limestone and other grassland and wildlife diversity.
- As farm incomes reduce, the loss of farm labour could be contributing to localised neglect of traditional features including occasional derelict walls and buildings, under-grazed woodlands and over mature farm copses.
- Coniferous afforestation pressures have abated in recent years however interest could increase if incentives are provided to support short rotation forestry.

Development:

- Energy infrastructure developments and other vertical structures such as, communication masts, pylons, transmission lines, telephone lines and transport infrastructure could erode the open, undeveloped and wild character of the landscape, and such development could also have a negative effect on the settings of the National Parks.
- The M6 corridor, as an element in the landscape, could have the potential to attract new large scale commercial development. Improvements to surfacing, lighting and information systems along the motorway could affect its appearance and people's awareness of it in the landscape.

Access and Recreation:

- Public rights of way and areas of open access land provide a network of routes that enable quiet appreciation and enjoyment of the countryside.
- Ongoing maintenance is needed to support this network in the future.

Guidelines

3.14.42 Guidelines for managing the potential changes in the landscape identified for this sub type are set out below.

Nature Recovery Network – Local Habitat Map Themes:

- Moorland, Heathland and Montane
- Wetland and Freshwater
- Woodland Trees and Scrub

Proposals for change in the landscape should be informed by the potential measures for addressing the biodiversity priorities identified by the Cumbria LNRS, with regards to opportunities for improving, restoring or creating the above habitats. The LNRS measures are supported by the following landscape guidelines.

Natural and Cultural Features:

- Protect rocky outcrops, scree, potholes and caves by preventing removal, infilling or disturbance and controlling scrub encroachment.
- Reinforce existing tree clumps that accentuate farmsteads as visual islands at the base of fells.
- Develop small to medium scale deciduous and locally native planting on suitable sites, and in particular on the lower slopes, valleys and ghylls.
- Ameliorate existing coniferous plantations including softening geometric outlines, introduction of open spaces and species diversification.
- Manage the existing pattern of stone walls and repair derelict walls in a traditional way.

- Maintain and repair traditional farm buildings where they are significant landscape features.

Development:

- Avoid development in remote, open, prominent and exposed areas that would degrade the landscape character. Development that could cause harm includes telecommunications masts, pylons, large scale wind turbines, and overhead transmission lines and telephone lines.
- Retain the rural character of the M6 corridor by resisting large scale commercial development and ensuring new motorway infrastructure such as information signs and necessary lighting is sited to minimise adverse effects on open parts of the landscape. Noise pollution should be mitigated against through careful selection of surface materials.

Access and Recreation:

- Any parking facilities should be sensitively sited and well designed to minimise the impact on the landscape.
- Manage public access so as to avoid landscape damage and disturbance to sensitive habitats including sensitively designed waymarking, improved gates and gaps, bridges, boundary maintenance, appropriate surfaces and better interpretation

Appendices



Appendix A

Cumbria Landscape Character Assessment Reviews

2009 Review

Background

A county-wide review of the existing Cumbria Landscape Classification, Technical Paper 5 and Cumbria Landscape Strategy took place in 2009. This was undertaken by staff at Cumbria County Council with the support of officers from local planning authorities. It involved a review of existing information, consideration of the findings of surveys and workshops and field assessments. The work followed national guidance²⁷ and contemporaneous approaches taken by other local authorities.

Landscape Classification Review

In carrying out the review consideration was given to the information contained in the Lake District National Park Landscape Character Assessment and Guidelines, Yorkshire Dales National Park Landscape Character Assessment and Natural England's National Park boundary review landscape character assessment, particularly for areas adjacent to the national parks. It also considered Natural England's NW Landscape Character Framework.

The 2011 updated assessment identified, mapped, classified and described the elements and features that make up Cumbria's landscape character. It considered both the physical components of the landscape and the relationships between people, place and nature. It acknowledged that landscapes are shaped by natural and man-made forces and actions, and recognised historic and cultural associations, wildlife and habitats and how the landscape might be regarded by people. These were generally defined as:

- Visible physical components – e.g. landform, vegetation, buildings and structures
- Visible spatial components – e.g. scale, pattern, colour and texture
- Non-visible components – e.g. sense of tranquillity/wildness and cultural associations

Generic landscape types were originally developed in the Cumbria Landscape Classification. These are defined units of landscape that occur across Cumbria and that have the same distinct and recognisable pattern of elements. There were 13 broad landscape types and 37 sub types in the original landscape assessment. These were all reviewed.

The review confirmed that the landscape types were still largely appropriate for Cumbria. However, some boundary changes were made to better reflect the character now and to better align with the Lake District National Park Landscape Character Assessment. No new types were proposed. Type 1 Estuary and Marsh was renamed to Bay and Estuary to better

²⁷ Landscape Character Assessment – Guidance for England and Scotland (Countryside Agency /Scottish National Heritage, 2002.)

reflect coastal characteristics, and Type 6 Intermediate Land was renamed to Intermediate Farmland to better reflect its farming characteristics.

The updated 2011 assessment only identified landscape character types. It did not identify landscape character areas. This area of work was not carried out as part of the review due to the scale of the work and resource restrictions. It was anticipated that landscape character areas would be defined through any district scale landscape character assessments. These would reflect the character areas that have already been defined for the National Parks and the Areas of Outstanding Natural Beauty.

Main urban areas were not included in the assessment due to resource limitations, with further work necessary to characterise Cumbria's urban areas.

Landscape Guidelines Review

Once the landscape character is understood, judgements can be made on how sensitive landscapes are to change, the landscape's condition and issues that might influence change. This helps determine what guidelines might be appropriate to help manage landscape change in the future. This information was contained in the original Cumbria Landscape Classification and the Cumbria Landscape Strategy.

When reconsidering these issues, it was recognised that landscapes are dynamic and always have and will change. Human activities along with natural forces and processes are major influences on the environment and landscapes.

The review concluded that many of the original guidelines were still appropriate but new issues, such as changes in agricultural policy and approaches to climate change adaptation and mitigation, needed to be better reflected.

Stakeholder Engagement

In 2009 a range of organisations and individuals with an interest in landscapes were involved in the review work. A survey was carried out in spring 2009 and workshops were held in summer 2009 with a range of interest groups and technical staff. The feedback from these helped to shape the updated 2011 landscape character assessment and guidelines.

Following this a working draft of the updated document was published for consultation in summer 2010, prior to the adoption of the Cumbria Landscape Character Guidance & Toolkit in March 2011 by the Cumbrian Local Authorities.

2025 Review

Background

As the new Local Planning Authorities for the areas outside the National Park Authorities in Cumbria, Cumberland Council and Westmorland & Furness Council commissioned CBA in 2025 to undertake a “light touch” desk-based review of the 2011 Cumbria Landscape Character Guidance & Toolkit, and produce an updated Landscape Character Assessment for Cumbria in line with Natural England current best practice guidance (2014).

Landscape Classification and Descriptions/Guidelines Review

Part 1 of the 2011 Cumbria Landscape Character Guidance & Toolkit provided a “county-level” classification of Landscape Character Types/Sub-Types outside the Lake District and Yorkshire Dales National Parks defined at 1:50,000 scale, which predated the 2016 extensions to the National Parks.

The relationship between the 2011 Cumbria landscape classification and the classifications for the National Landscapes and National Parks were reviewed to inform the updated Cumbria Landscape Character Assessment.

The key findings/observations from the review are outlined below:

- Commensurate with the purpose and scale of the 2011 Cumbria LCA, only Landscape Character Types/Sub-Types are defined and described (no Landscape Character Areas)
- Commensurate with their purpose and more detailed scale of assessment, the LCAs for the National Landscapes and National Parks provide more local level detail on landscape character types, landscape character areas and guidelines for managing change within and adjacent to their boundaries
- In principle it is considered appropriate to retain the 2011 Landscape Character Type/Sub-Type names and boundaries, subject to minor boundary amendments where necessary
- Commensurate with the purpose and scale of the 2011 Cumbria LCA, the main urban areas within the Study Area are excluded from the assessment (these appear to include settlements with a population exceeding 5000 plus the extensive industrial area at Sellafield). For consistency, two additional settlements (Wigton and Seaton) that now exceed the 5000-population threshold based on the 2021 census would also need to be included in the mapping of urban areas excluded from the updated Cumbria LCA
- Where relevant, consistency of fit between the updated Cumbria LCA and the existing/emerging LCAs for the National Landscapes and National Parks that overlap with, or are adjacent to, the Study Area will be important

- The existing Cumbria Landscape Character Types/Sub-Types mapping and descriptions need amending to exclude those parts within the 2016 Lake District and Yorkshire Dales National Park Extension Areas

The landscape character typology, descriptions and guidelines for managing landscape change contained in Part 1 of the 2011 Cumbria Landscape Character Guidance & Toolkit were reviewed, and updated to reflect the following:

- Recent forces for change that have shaped the landscape since 2011
- Forces for change that are likely to shape the landscape over the next 10-20 years
- Removal of descriptions and guidelines for areas within the National Park extensions
- Where necessary/appropriate, amendments to the landscape typology mapping to align with updated National Landscape/National Park LCAs produced since 2011

The review concluded that many of the guidelines were still appropriate but new issues, such as changes in approaches to climate change adaptation, needed to be reflected.

For each Landscape Character Type, signposts were also provided to more detailed character descriptions/guidance in the Landscape Character Assessment for the relevant National Landscape within the Study Area, or to guidance in Landscape Character Assessments for the relevant adjoining National Park.

Stakeholder Engagement

A draft of the updated Cumbria Landscape Character Assessment was shared informally with the following key stakeholders to check consistency with their respective Landscape Character Assessments:

- Solway Coast National Landscape
- Arnside & Silverdale National Landscape
- North Pennines National Landscape
- Lake District National Park Authority
- Yorkshire Dales National Park Authority

Feedback from these stakeholders helped shape the final version of the updated Cumbria Landscape Character Assessment document, alongside feedback from Cumberland Council and Westmorland & Furness Council officers.

Appendix B

Policy Context

National Planning Policy Framework

The National Planning Policy Framework (NPPF)²⁸ is clear that strategic natural environment planning policies should provide for the protection and enhancement of valued landscapes, recognise the intrinsic character and beauty of the countryside, and maintain the character of the undeveloped coast (para 187).

The supporting Planning Practice Guidance (PPG) on the Natural Environment²⁹ advises that where landscapes have a particular local value, it is important for policies to identify their special characteristics and be supported by proportionate evidence (para 036).

With regards to designated Protected Landscapes, para 189 of the NPPF requires that great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks and National Landscapes, which have the highest status of protection in relation to these issues. The NPPF makes it clear that the scale and extent of development within these designated areas should be limited, while development within their setting should be sensitively located and designed.

National Landscapes are still referred to as Areas of Outstanding Natural Beauty (AONBs) in terms of their legal status.

Statutory Framework for Protected Landscapes

National Parks and AONBs (National Landscapes) in England are designated under the National Parks and Access to the Countryside Act 1949, with enhanced protection and management duties provided by subsequent legislation.

As amended by Section 61 of the Environment Act 1995, the two statutory purposes for National Parks are to (i) conserve and enhance the natural beauty, wildlife and cultural heritage and (ii) promote opportunities for the understanding and enjoyment of the special qualities of National Parks by the public. In carrying out these purposes, National Park Authorities have a duty to seek to foster the economic and social well-being of local communities within the National Parks. As amended by Section 82 of the Countryside and Rights of Way Act 2000 (CRoW Act), the statutory purpose for AONBs is to conserve and enhance natural beauty.

²⁸ www.gov.uk/government/publications/national-planning-policy-framework--2

²⁹ <https://www.gov.uk/guidance/natural-environment#landscape>

Section 245 of the Levelling Up and Regeneration Act 2023 introduced a new duty on all Local Planning Authorities to further the statutory purposes of National Parks and National Landscapes in exercising or performing any functions in relation to or affecting land in these designated National Parks and National Landscapes. This duty applies to all local planning authorities, not just National Park authorities, and is relevant in considering development proposals that are situated outside National Park or National Landscape boundaries, but which might have an impact on their setting or protection³⁰.

Statutory Framework for Nature and Environmental Improvement

The Environment Act 2021 introduced a new system of spatial strategies in England for nature and environmental improvement.

Local Nature Recovery Strategies identify locations to create or improve habitats that are most likely to provide the greatest benefit for nature and the wider environment (known as nature-based solutions), thereby supporting delivery of the Environmental Improvement Plan³¹ for England under the Environment Act 2021.

Each Local Nature Recovery Strategy (LNRS) must include agreed priorities for nature recovery; map the most valuable existing areas for nature; and map specific proposals for creating or improving habitat for nature and wider environmental goals. There are 48 strategy areas covering the whole of England, with a responsible authority appointed to lead the preparation, publication and review of each LNRS. Every LNRS must contain a local habitat map and a written statement of biodiversity priorities prepared in accordance with statutory guidance³².

To support the delivery of Local Nature Recovery Strategies, the Environment Act 2021 introduced a strengthened “biodiversity duty” requiring that public authorities in England must consider what they can do to conserve and enhance biodiversity, and in complying with this duty to have regard to any relevant LNRS.

The Environment Act 2021 also introduced mandatory Biodiversity Net Gain (BNG) requiring that developers must deliver a BNG of at least 10% to ensure that it will result in more or better-quality natural habitat than there was before development. Local Nature Recovery Strategies play a key role in identifying where creating and improving habitats to achieve BNG would provide the greatest benefits, and encouraging action in these locations through the way BNG is calculated.

³⁰ Para 039 – Planning Practice Guidance on the Natural Environment

³¹ [Environmental Improvement Plan \(Defra, 2025\)](#)

³² [Local Nature Recovery Strategy Statutory Guidance \(Defra, March 2023\)](#)

Appendix C

Overview of National Landscapes in Cumbria

Solway Coast National Landscape

The Solway Coast was designated as an Area of Outstanding Natural Beauty in 1964. It is located along the southern shore of the Solway Firth with wide vistas across the estuary towards Scotland. One of the smaller National Landscapes covering 115 square kilometres, the Solway Coast National Landscape lies entirely within Cumberland on the north coast of Cumbria. The Solway Coast is a lowland landscape of large flat expanses of coastal terrain and a dynamic intertidal estuary, with extensive areas of saltmarsh, exposed sand and mud, coastal dunes, lowland raised mire bogs and farmland.

Arnside & Silverdale National Landscape

Designated as an Area of Outstanding Natural Beauty in 1972, the Arnside & Silverdale National Landscape lies on the coastline of Morecambe Bay along the southern edge of Cumbria, south of the Lake District National Park. It covers 75 square kilometres and is the fourth smallest of the National Landscapes. The Arnside & Silverdale National Landscape straddles the boundary of Cumbria and Lancashire, partly extending into Westmorland & Furness. Arnside & Silverdale is a lowland landscape of limestone pavements, low limestone hills, ancient woodlands, mosses, orchards and meadows, which, along with an impressive coastline, make this area one of England's finest landscapes.

North Pennines National Landscape

The North Pennines was designated as an Area of Outstanding Natural Beauty in 1988. It is the second largest of the National Landscapes, covering almost 2000 square kilometres across Cumbria, Northumberland and County Durham. The North Pennines National Landscape partly extends into both Cumberland and Westmorland & Furness in the north-east of Cumbria. The North Pennines is an upland landscape of open heather moors, hay meadows, attractive dales, tumbling rivers and waterfalls, with imprints of the area's rich lead-mining heritage across the landscape. The North Pennines National Landscape is also designated as a UNESCO Global Geopark.

Appendix D

Relationship with other Landscape Character Assessments

The Cumbria Landscape Character Assessment is part of a hierarchy of assessments undertaken at a variety of scales, levels of detail and ages, with information cascading down from the national to local level. All the landscape character assessments provide important information and evidence, but the more localised the assessment the more specific it becomes, and the more relevant it might be to local decision making.

The following assessments form Cumbria's evidence base for landscape character (hyperlinks to the documents can be found in **Appendix E**).

National Level

England is divided into 159 National Character Areas (NCAs) by Natural England, which provide a spatial framework for decision-making and planning future change. Each NCA represents an area of distinct and recognisable character at the national scale (1:250,000). Online Profiles for all 159 NCAs were updated in 2025.

There are 10 NCAs wholly or partly within the Study Area:

- NCA 5: Border Moors and Forests
- NCA 6: Solway Basin
- NCA 7: West Cumbria Coastal Plain
- NCA 8: Cumbria High Fells
- NCA 9: Eden Valley
- NCA 10: North Pennines
- NCA 11: Tyne Gap and Hadrian's Wall
- NCA 17: Orton Fells
- NCA 19: South Cumbria Low Fells
- NCA 20: Morecambe Bay Limestones

Regional Level

The Natural England North West Landscape Character Framework (2009) defines regional landscape character types and areas at 1:100,000 scale, providing a stepping stone between national and local perspectives. While this regional assessment has been superseded by the current National Character Area framework, it contains useful evidence that may be relevant for local assessments.

The Seascape Character Assessment for the North West Inshore and Offshore Marine Plan Areas maps and describes Marine Character Areas (MCAs) for the Cumbrian coast between the Solway Firth and Morecambe Bay.

Local Level

The Study Area includes the following National Landscapes, which all have landscape character assessments defined at 1:25,000 scale:

- Solway Coast Landscape & Seascape Character Assessment (2010)
- Arnside & Silverdale Landscape & Seascape Character Assessment (2015)
- North Pennines Landscape Character Framework (in preparation)

The following National Parks adjacent to the Study Area all have recent Landscape Character Assessments defined at 1:25,000 scale:

- Lake District National Park Landscape Character Assessment (2021)
- Yorkshire Dales National Park Landscape Character Assessment (2020)
- Northumberland National Park Landscape Character Assessment (2019)

The above assessments provide more local level detail on landscape character types, landscape character areas and guidelines for managing change within their boundaries.

The Lake District National Park Landscape Character Assessment Includes guidelines for landscape character types/areas adjacent to the boundary of the National Park, which are consistent with the updated Cumbria Landscape Character Guidance.

The relationship between the Cumbria Landscape Character Assessment classification (see **Table 3.1** in **Section 3.0**) and the classifications from the landscape character assessments for the National Landscapes and National Parks are set out in the following tables.

Table A1: Relationship to emerging North Pennines NL Landscape Character Framework (NPNL LCF)

2026 Cumbria Landscape Character Types	2026 Cumbria Landscape Character Sub-Types	Locations within Cumbria	NPNL LCF Landscape Character Types within Cumbria
Type 8: Main Valleys	Sub type 8d: Dales	South Tyne Valley	<ul style="list-style-type: none"> • Upper Dale • Middle Dale • Moorland Fringe
Type 11: Upland Fringes	Sub type 11a: Foothills	North Pennines fringe	<ul style="list-style-type: none"> • Moorland Fringe Pikes • Moorland Fringe • Upland Fringe Foothills • Moorland Scarp • Moorland Ridge • Moorland Plateau Edge • Middle Dale
Type 13: Fells and Scarp	Sub type 13a: Scarps	North Pennines	<ul style="list-style-type: none"> • Moorland Fringe • Moorland Fringe Pikes • Moorland Plateau • Moorland Plateau Edge • Moorland Ridge • Moorland Scarp • Upland Fringe Foothills
Blank cell	Sub type 13b: Moorland, High Plateau	North Pennines	<ul style="list-style-type: none"> • Moorland Ridge • Moorland Summit • Moorland Plateau Edge • Moorland Plateau • Moorland Fringe Pikes • Moorland Fringe • Upland Fringe Foothills • Upper Dale • Middle Dale

Table A2: Relationship to 2015 Arnside & Silverdale NL Landscape & Seascape Character Assessment (ASNL LSCA)

2026 Cumbria Landscape Character Types	2026 Cumbria Landscape Character Sub-Types	Locations within Cumbria	2015 ASNL Landscape & Character Types (LCTs) within Cumbria
Type 1: Bay and Estuary	Sub type 1a: Intertidal Flats	Kent Estuary	<ul style="list-style-type: none"> Seascape LCT A: Intertidal Flats
	Sub type 1b: Coastal Marsh	Kent Estuary	<ul style="list-style-type: none"> Seascape LCT A: Intertidal Flats
Type 2: Coastal Margins	Sub type 2c: Coastal Plain	Leven and Duddon Estuaries	<ul style="list-style-type: none"> Transitional & Lowland LCT C: Lowland Moss
Type 3: Coastal Limestone	Sub type 3a: Open Farmland and Pavements	Farleton Knott	<ul style="list-style-type: none"> NL Setting LCT G: Drumlin Farmland
Blank cell	Sub type 3b: Wooded Hills and Pavements	Arnside and Silverdale	<ul style="list-style-type: none"> Transitional & Lowland LCT C: Lowland Moss Transitional & Lowland LCT D: Coastal Limestone Pasture Transitional & Lowland LCT E: Inland Pasture & Parkland Wooded Limestone Hills LCT F: Wooded Limestone Hills & Pavements
Type 7: Drumlins	Sub type 7a: Low Drumlins	Milnthorpe/Holme	<ul style="list-style-type: none"> NL Setting LCT G: Drumlin Farmland
Blank cell	Sub type 7b: Drumlin Field	South of Kendal	<ul style="list-style-type: none"> NL Setting LCT G: Drumlin Farmland
Type 8: Main Valleys	Sub type 8b: Broad Valleys	Kent Valley	<ul style="list-style-type: none"> NL Setting LCT I: Lowland Valley & Coastal Margins

Table A3: Relationship to 2010 Solway Coast NL Landscape & Seascape Character Assessment (SCNL LSCA)

2026 Cumbria Landscape Character Types	2026 Cumbria Landscape Character Sub-Types	Locations within Cumbria	2010 SCNL Landscape Character Types (LCTs)
Type 1: Bay and Estuary	Sub type 1a: Intertidal Flats	Solway Firth, Maryport	<ul style="list-style-type: none"> Seascape/intertidal LCT A: Inner Firth Intertidal Flats & Saltmarsh Seascape/intertidal LCT B: Outer Firth Beaches & Dunes
Blank cell	Sub type 1b: Coastal Marsh	Solway Coast	<ul style="list-style-type: none"> Seascape/intertidal LCT A: Inner Firth Intertidal Flats & Saltmarsh
Type 2: Coastal Margins	Sub type 2a: Dunes and Beaches	Solway Coast	<ul style="list-style-type: none"> Seascape/intertidal LCT B: Outer Firth Beaches & Dunes
Blank cell	Sub type 2b: Coastal Mosses	Solway Coast	<ul style="list-style-type: none"> Lowland LCT D: Coastal Mosses
Blank cell	Sub type 2c: Coastal Plain	Solway Coast	<ul style="list-style-type: none"> Lowland LCT C: River Floodplain & Marshy Grassland Lowland LCT E: Coastal Plain
Blank cell	Sub type 2d: Coastal Urban Fringe	Silloth	<ul style="list-style-type: none"> Lowland LCT H: Coastal Town & Urban Fringe
Type 5: Lowland	Sub type 5b: Low Farmland	Solway Coast	<ul style="list-style-type: none"> Lowland LCT C: River Floodplain & Marshy Grassland Lowland LCT F: Drumlinised Lowland Farmland Lowland LCT G: Undulating Coastal Farmland

Table A4: Relationship to 2021 Lake District National Park Landscape Character Assessment & Guidelines (LDNP LCAG)

2026 Cumbria Landscape Character Types	Locations within Cumbria adjacent to LDNP	Adjacent 2021 LDNP Landscape Character Types (LCTs)
Type 1: Bay and Estuary	<ul style="list-style-type: none"> Southern fringes of LDNP 	<ul style="list-style-type: none"> LCT A: Estuary and Marsh LCT B: Coastal Margins LCT M: Lowland Valley LCT F: Rugged/Craggy Volcanic High Fell
Type 2: Coastal Margins	<ul style="list-style-type: none"> Southern fringes of LDNP 	<ul style="list-style-type: none"> LCT B: Coastal Margins LCT F: Rugged/Craggy Volcanic High Fell
Type 3: Coastal Limestone	<ul style="list-style-type: none"> South-eastern fringes of LDNP 	<ul style="list-style-type: none"> LCT A: Estuary and Marsh LCT C: Coastal Limestone
Type 5: Lowland	<ul style="list-style-type: none"> Western fringes of LDNP 	<ul style="list-style-type: none"> LCT D: Lowland LCT E: Coastal Sandstone LCT J: High Fell Fringe LCT H: Upland Valley
Type 7: Drumlins	<ul style="list-style-type: none"> Eastern fringes of LDNP 	<ul style="list-style-type: none"> LCT C: Coastal Limestone LCT K: Low Fell
Type 8: Main Valleys	<ul style="list-style-type: none"> Western fringes of LDNP Eastern fringes of LDNP 	<ul style="list-style-type: none"> LCT C: Coastal Limestone LCT H: Upland Valley LCT J: High Fell Fringe LCT M: Lowland Valley
Type 9: Intermediate Moorland and Plateau	<ul style="list-style-type: none"> Southern fringes of LDNP 	<ul style="list-style-type: none"> LCT K: Low Fell
Type 11: Upland Fringes	<ul style="list-style-type: none"> Western fringes of LDNP Southern fringes of LDNP Eastern fringes of LDNP 	<ul style="list-style-type: none"> LCT J: High Fell Fringe LCT L: Low Fell Fringe LCT F: Rugged/Craggy Volcanic High Fell LCT G: Rugged Angular Slate High Fell LCT H: Upland Valley LCT M: Lowland Valley
Type 12: Higher Limestone	<ul style="list-style-type: none"> Northern fringes of LDNP Eastern fringes of LDNP 	<ul style="list-style-type: none"> LCT F: Rugged/Craggy Volcanic High Fell LCT H: Upland Valley LCT I: Upland Limestone Farmland LCT J: High Fell Fringe

Table A5: Relationship to 2020 Yorkshire Dales National Park Landscape Character Assessment (YDNP LCA)

2026 Cumbria Landscape Character Types	Locations within Cumbria adjacent to YDNP	Adjacent 2020 YDNP Landscape Character Areas (LCAs)
Type 6: Intermediate Farmland	<ul style="list-style-type: none"> Northern fringes of YDNP 	<ul style="list-style-type: none"> LCA 1: Eden Valley Fringe LCA 2: Orton Fells LCA 9: North Gritstone Uplands
Type 8: Main Valleys	<ul style="list-style-type: none"> Western fringes of YDNP 	<ul style="list-style-type: none"> LCA 4: Lune Valley
Type 9: Intermediate Moorland and Plateau	<ul style="list-style-type: none"> Western fringes of YDNP Northern fringes of YDNP 	<ul style="list-style-type: none"> LCA 1: Eden Valley Fringe LCA 2: Orton Fells
Type 11: Upland Fringes	<ul style="list-style-type: none"> Northern fringes of YDNP Western fringes of YDNP 	<ul style="list-style-type: none"> LCA 9: North Gritstone Uplands LCA 4: Lune Valley
Type 12: Higher Limestone	<ul style="list-style-type: none"> Northern fringes of YDNP Western fringes of YDNP 	<ul style="list-style-type: none"> LCA 1: Eden Valley Fringe LCA 4: Lune Valley
Type 13: Fells and Scarp	<ul style="list-style-type: none"> Northern fringes of YDNP 	<ul style="list-style-type: none"> LCA 9: North Gritstone Uplands

Table A6: Relationship to 2019 Northumberland National Park Landscape Character Assessment (NNP LCA)

2026 Cumbria Landscape Character Types	Locations within Cumbria adjacent to NNP	Adjacent 2019 NNP Landscape Character Types (LCTs)
Type 9: Intermediate Moorland and Plateau	<ul style="list-style-type: none"> Western fringes of NNP 	<ul style="list-style-type: none"> LCT 6. Moorland Forestry Mosaic LCT 18. Basic Valley and Fringes

Appendix E

Sources of Information and Data

Landscape Character Assessment Evidence
<p>National Character Areas</p> <p>England has been divided into 159 National Character Areas (NCAs) by Natural England, which provide a spatial framework for decision-making and planning future change. Online NCA Profiles (updated 2025) provide the following information that can be used to inform land management and other activities for strengthening the character of each NCA:</p> <ul style="list-style-type: none"> • Summary & Headline Statements of Environmental Opportunity (see Appendix G) • Context Map • Key Characteristics • Description • Key Facts & Data • Natural Capital & Key Ecosystem Services • Landscape Change • Detailed Statements of Environmental Opportunity • Analysis: Landscape Attributes & Opportunities • Analysis: Ecosystem Services <p>Profiles for the NCAs wholly or partly within the Study Area:</p> <p><u>NCA 5: Border Moors and Forests</u></p> <p><u>NCA 6: Solway Basin</u></p> <p><u>NCA 7: West Cumbria Coastal Plain</u></p> <p><u>NCA 8: Cumbria High Fells</u></p> <p><u>NCA 9: Eden Valley</u></p> <p><u>NCA 10: North Pennines</u></p> <p><u>NCA 11: Tyne Gap and Hadrian's Wall</u></p> <p><u>NCA 17: Orton Fells</u></p> <p><u>NCA 19: South Cumbria Low Fells</u></p> <p><u>NCA 20: Morecambe Bay Limestones</u></p>
<p>North West Seascape Character Assessment</p> <p>The Marine Management Organisation's <u>Seascape Character Assessment for the North West Inshore and Offshore Marine Plan Areas (2018)</u> includes the Cumbrian coast between the Solway Firth and Morecambe Bay.</p>
<p>Landscape Character Assessments for National Landscapes</p> <p><u>Arnside & Silverdale Landscape & Seascape Character Assessment (2015)</u></p> <p><u>Solway Coast Landscape & Seascape Character Assessment (2010)</u></p> <p>North Pennines Landscape Character Framework (currently in preparation)</p>
<p>Landscape Character Assessments for National Parks</p> <p><u>Lake District National Park Landscape Character Assessment (2021)</u></p> <p><u>Yorkshire Dales National Park Landscape Character Assessment (2020)</u></p> <p><u>Northumberland National Park Landscape Character Assessment (2019)</u></p>

<p>Protected Landscapes Management Plans</p> <p>Arnside & Silverdale National Landscape Management Plan Solway Coast National Landscape Management Plan North Pennines National Landscape Management Plan Lake District National Park Management Plan Yorkshire Dales National Park Management Plan Northumberland National Park Management Plan</p>
<p>Historic Environment Evidence</p> <p>Cumbria Historic Landscape Characterisation GIS database of Historic Landscape Types & Historic Character Areas in Cumbria (outside of the Lake District and Yorkshire Dales National Parks) developed by the former Cumbria County Council in 2009. This information can be used to provide an understanding of a place's historic character, distinctiveness and identity to inform and shape proposals for landscape change. GIS data available on request from Westmorland & Furness and Cumberland Councils. A Guide to using the Cumbria Historic Landscape Characterisation Database for Cumbria's Planning Authorities</p>
<p>Historic Environment Record for Westmorland & Furness and Cumberland</p> <p>An online GIS database holding records on known archaeological sites, finds, landscapes, buildings and other aspects of the historic environment, and past research and investigations. Includes information on site type, period, description of known history and condition.</p>
<p>Cumbria Extensive Urban Surveys</p> <p>Reports on the historical development and known archaeology of 23 towns in Cumbria (excluding the City of Carlisle), including recommended management actions, undertaken by the former Cumbria County Council between 2000 and 2002</p>
<p>Carlisle Urban Archaeological Database</p> <p>Report on the historical development and known archaeology of Carlisle, including recommended management actions, undertaken by Oxford Archaeology North for the former Carlisle City Council in 2007</p>
<p>National Heritage List for England</p> <p>An online database of national heritage sites held by Historic England including:</p> <ul style="list-style-type: none"> • Listed Buildings • Scheduled Monuments • Registered Parks and Gardens • Protected Wreck Sites • Registered Battlefields
<p>Local Historic Environment Data</p> <p>GIS data for the following local heritage sites available on request from Westmorland & Furness and Cumberland Councils:</p> <ul style="list-style-type: none"> • Conservation Areas • Locally Listed Buildings • Local List of Historic Parks & Gardens • Commons & Village Greens

Natural Environment Evidence
<p><u>Cumbria Local Nature Recovery Strategy</u></p> <p>The Cumbria Local Nature Recovery Strategy published in November 2025 Includes a Statement of Biodiversity Priorities and Local Habitat Map. This information can be used to inform actions and proposals for the conservation, enhancement and/or restoration of valued natural and semi-natural features that contribute to the distinctiveness of Cumbria’s landscapes.</p>
<p><u>Cumbria Biodiversity Evidence Base</u></p> <p>The Cumbria Biodiversity Evidence Base (CBEB) provided by the Cumbria Biodiversity Data Centre comprises data/advice on habitats and species that should be considered by Local Planning Authorities to meet their statutory biodiversity duties. It includes information on distribution, conservation issues, planning considerations and enhancement opportunities for coastal, grassland, upland, water/wetlands, woodland and other UK priority habitats in Cumbria.</p>
Other Relevant Data
<p><u>Ordnance Survey Digital Mapping</u></p> <p>OS 1:50,000 Scale Raster (Landranger Map Series) OS 1:25,000 Scale Raster (Explorer Map Series)</p>
<p><u>Aerial Imagery</u></p> <p>Google Earth Pro Historical Aerial Imagery</p>

Appendix F

Glossary

Ancient Trees: Ancient trees are exceptionally valuable for their great age, size, condition, biodiversity value (because of significant wood decay and the habitat created from the ageing process), cultural and heritage value

Ancient Woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites. (source: National Planning Policy Framework, December 2024)

Biodiversity Net Gain (BNG): BNG is a way of creating and improving natural habitats. BNG makes sure development has a measurably positive impact ('net gain') on biodiversity, compared to what was there before development.

Conservation Area: A designation applied to areas of special architectural or historic interest, in accordance with the Planning (Listed Buildings and Conservation Areas) Act 1990, with the intent of preserving or enhancing their character or appearance.

Coppicing: The traditional method of woodland management in which trees are cut down near the ground to encourage production of long, straight shoots, which can subsequently be harvested and used for making charcoal.

Enclosure: The placing in private hands of land to which there were previously common rights; the merging of commonly held strip fields to form a block surrounded by hedges.

European Landscape Convention: The aim of the 2004 Council of Europe Landscape Convention (known as the European Landscape Convention), as amended by the 2021 Protocol, is the protection, management and planning of landscape, and promoting public awareness and participation., through co-operation between State parties. Among other measures, the Convention promotes the identification and assessment of landscape, and improved recognition of landscape in sectoral/spatial policy and law.

Farmstead: A place where the farmhouse and working buildings of a farm are located, with some farms having field barns or outfarms sited away from the main steading to house and process harvested crops and shelter farm animals.

Geographical Information Systems (GIS): Computer-based mapping systems which are used to map spatial data, and analyse patterns. Because it has powerful analytical capabilities it is a very valuable tool in landscape character assessment.

Habitat: A place where plants or animals normally live, characterized primarily by its physical features (topography, plant or animal physiognomy, soil characteristics, climate, water quality, etc) and secondarily by the species of plants and animals that live there (source: CIEEM).

Landmark: An object or feature of a landscape or town that is easily seen and recognized from a distance, especially one that enables someone to establish their location.

Landscape: An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors that can include natural, rural, urban and urban fringe areas; land, inland water and marine areas; and landscapes that might be considered outstanding as well as everyday or degraded landscapes. (source: Council of Europe Landscape Convention, 2000)

Landscape Characteristics: Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its distinctive sense of place (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Capacity: The amount of specified development or change which a particular landscape and the associated visual resource is able to accommodate without undue negative effects on its character and qualities. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Character: The distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Character Areas: These are single unique areas which are the discrete geographical areas of a particular landscape type. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Character Type: These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation, and historical land use and settlement pattern, and perceptual and aesthetic attributes. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Condition: The physical state of the landscape from a visual, functional and ecological perspective. Landscape condition reflects the state of repair or intactness of individual features or elements.

Landscape Elements: The individual parts which make up the landscape, such as, for example, trees, hedges and buildings. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Features: The particularly prominent or eye-catching elements in the landscape, such as tree clumps, church towers or wooded skylines or a particular aspect of the project proposal. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Sensitivity: Within the context of spatial planning and land management, landscape sensitivity is a term applied to landscape character and the associated visual resource, combining judgements of their susceptibility to the specific development type/development scenario or other change being considered together with the value(s) related to that landscape and visual resource. Landscape sensitivity may be regarded as a measure of the resilience, or robustness, of a landscape to withstand specified change arising from development types or land management practices, without undue negative effects on the landscape and visual baseline and their value. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Susceptibility: Within the context of spatial planning and land management, landscape susceptibility is the degree to which a defined landscape and its associated visual qualities and attributes might respond to the specific development type/development scenario or other change without undue negative effects on landscape character and the visual resource. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Landscape Value: The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. (source: An Approach to Landscape Sensitivity Assessment, Natural England, 2019)

Listed Building: A listed building is one that has been placed on the Statutory List of Buildings of Special Architectural or Historic Interest. Grade I buildings are of exceptional interest. Grade II* buildings are particularly important buildings of more than special interest. Grade II buildings are of special interest.

National Landscape: One of 46 areas within England, Wales and Northern Ireland safeguarded in the national interest for its distinctive character and beauty. National Landscapes are designated as Areas of Outstanding Natural Beauty (AONBs), with the statutory purpose to conserve and enhance the beauty of the area. AONBs were officially renamed as National Landscapes in 2023 as part of a rebranding of all AONBs.

Nature-based Solutions: Actions which support and draw on nature to provide wider environmental/societal benefits. Local Nature Recovery Strategies identify actions for both nature recovery and nature-based solutions to help join up work to improve how land is managed for different environmental reasons and find activities that have multiple benefits.

Nature Recovery: Expanding, creating, managing or restoring nature-rich habitats to reverse the decline of native species, reintroducing native species that have been lost, and controlling invasive non-native species (source: Cumbria Local Nature Recovery Strategy)

Open Access Land: Land mapped as 'open country' (mountain, moor, heath and down) or registered common land, and land along the King Charles III England Coast Path, with public right of access on foot under the Countryside and Rights of Way Act 2000, subject to certain restrictions for public safety or conservation purposes.

Peri-urban (urban fringe): the interface between urban and rural or coastal areas.

Perceptual/Experiential Qualities: Aspects of landscape character which may be more subjective, as responses to them are more personal and coloured by the experience of the individual. Such factors can include a sense of wildness, sense of tranquillity, sense of place and perceptions of beauty or scenic attractiveness.

Priority Habitat: Habitats identified in the UK Biodiversity Action Plan as the most threatened, rare or vulnerable, requiring urgent conservation action; and listed as being of principal importance for the purpose of conserving or enhancing biodiversity under Section 41 of the 2006 Natural Environment and Rural Communities Act.

Public Rights of Way: Routes over which, even where in private ownership, the public has a right of passage. They comprise byways, which are open to any user; restricted byways, open to any user other than mechanically propelled vehicles; bridleways, which can be used by those on foot, horse or bicycle; and footpaths which are open to those on foot only.

Registered Park & Garden: Designed landscapes included on the Register of Parks and Gardens of Special Historic Interest in England assessed to be of particular significance. Like listed buildings, registered parks and gardens can be registered at Grade I, II, II*

Scheduled Monument: 'Scheduling' is the selection of nationally important archaeological sites. These can include standing stones, burial mounds, the remains of monastic buildings and more. They can be above or below ground and can consist of remains as well as structures that are still in use.

Site of Special Scientific Interest: An area designated by Natural England under Section 28 of the Wildlife and Countryside Act 1981 which, by reason of their flora, fauna or geological or physiographic features, it is in the national interest to conserve.

Special Area of Conservation: Areas given special protection under the European Union Habitats Directive (transposed into UK law by the Habitats and Conservation of Species Regulations 2010).

Special Protection Area: Areas which have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds under the European Union Birds Directive (transposed into UK law by the Habitats and Conservation of Species Regulations 2010).

Strip Fields: Associated with the Medieval system of farming, strip fields are areas of farmland enclosed by banks and ditches divided into unfenced cultivation strips that allowed distribution of different grades of land between lord and villagers for arable cultivation and pastoral farming.

Townscape: The character and composition of the built environment including the buildings and the relationships between them, different types of urban open space, including green spaces, and the relationship between buildings and open space (source: Townscape Character Assessment TIN 05/2017, Landscape Institute)

Time depth: The time period expressed in the landscape, or the extent to which the landscape reflects a certain time period (a landscape with greater time depth will comprise older elements than a landscape with lesser time depth).

Appendix G

National Character Area Headline Statements of Environmental Opportunity

National Character Area (NCA) Headline Statements of Environmental Opportunity (SEO)
<p><u>NCA 5: Border Moors and Forests</u></p> <p>SEO 1: Protect the range of internationally important blanket bog habitats in the Border Mires, increasing the ability of the landscape to store carbon and enhancing the biological value of the many streams and rivers, and their role in regulating water supply, flow and quality.</p> <p>SEO 2: Work with the farming community to retain the character of the upland farmed landscape and increase the value of local produce, while employing sustainable land management practices to increase biodiversity value associated with a range of grassland habitats.</p> <p>SEO 3: Enhance broadleaved and coniferous woodlands for their biodiversity and landscape value, their role in regulating climate change and soil erosion, and for the provision of timber and biomass, and ensure that planting occurs in appropriate locations.</p> <p>SEO 4: Protect, and provide opportunities to access and enjoy, the inspirational qualities of the uplands including the wide views, dramatic landscape features such as Kielder Water, and the sense of remoteness and tranquillity.</p> <p>The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:</p> <p>9: Intermediate Moorland and Plateau 6: Intermediate Farmland 8: Main Valleys</p>
<p><u>NCA 6: Solway Basin</u></p> <p>SEO 1: Conserve and enhance the designated coastal landscapes and the diverse range of habitats of the Solway coast, managing the internationally important coastal and estuary systems, including the intertidal flats, salt marshes and sand dunes, for the species they support, their geomorphology, recreation and tranquillity value and the flood risk protection they provide, in order to aid adaptation to the effects of climate change and enhance their importance in the local economy.</p> <p>SEO 2: Manage and restore the freshwater wetland landscape of the Solway Basin, including internationally important raised bogs and rivers with their associated fens, lakes,</p>

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)**

riparian woodlands and channels, for the important habitats they provide, their contribution to landscape character, the environmental record and historical assets they hold, and to manage flood risk and maintain water quality.

SEO 3: Work with landowners and land managers to protect, enhance and strengthen the network of farmland features; create and expand farmland habitats to enhance biodiversity and improve soil and water quality; strengthen the resilience of habitats to climate change; enhance landscape character; and support a diverse rural economy.

SEO 4: Conserve and promote the historic landscape and settlement character, including the many heritage assets linked to the area's history as a disputed boundary zone, such as the World Heritage Site of Hadrian's Wall, promote education and understanding through interpretation, enhance recreation opportunities and ensure that the design of new development enhances the character of the area.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

1: Bay and Estuary

2: Coastal Margins

5: Lowland

6: Intermediate Farmland

8: Main Valleys

NCA 7: West Cumbria Coastal Plain

SEO 1: Conserve and enhance the unique open coast and estuarine landscapes with their distinct geology, improving and connecting habitats and their species, and enabling natural coastal processes to occur to enhance and improve the coast's ability to adapt to and mitigate the impact of climate change.

SEO 2: Manage and enhance the farmed environment to secure viable and sustainable farming, improving water quality of the rivers and coast, reducing soil erosion, strengthening historic landscape character, conserving heritage features and archaeology, supporting species populations that are dependent on this area, and improving habitat connectivity.

SEO 3: Improve and enhance sustainable recreation, enabling people to experience the peace and beauty of the area and learn more about its biological, geological and heritage assets and natural processes, while managing visitor pressure to conserve the highly valued tranquillity and protect the sensitive semi-natural habitats and species found there.

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)**

SEO 4: Manage industrial and former industrial sites to accommodate both their economic and environmental potential by managing new energy industries, growth areas and their associated infrastructure to provide social and environmental gain while minimising pollution and disturbance and to improve ecological connectivity in the landscape, particularly in urban-fringe areas.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

5: Lowland

1: Bay and Estuary

2: Coastal Margins

3: Coastal Limestone

4: Coastal Sandstone

7: Drumlins

8: Main Valleys

9: Intermediate Moorland and Plateau

11: Upland Fringes

12: Higher Limestone

NCA 8: Cumbria High Fells

SEO 1: Manage and enhance the expansive areas of fell and fell edge, for their world renowned sense of place, the internationally important habitats and species they support, their historical and cultural heritage, and to protect soils, carbon stores and water resources.

SEO 2: Manage and enhance the valleys, to improve the habitat network of pastures, meadows, wetlands and woodlands, within a matrix of improved pasture, and to protect traditional buildings and field patterns of dry stone walls, hedges and boundary trees.

SEO 3: Manage and enhance the water catchments, rivers, lakes, tarns and reservoirs for nature conservation, public enjoyment, recreation, water supply and flood management.

SEO 4: Manage existing woodlands, restore and expand native woodlands, trees and shrubs, for their nationally and internationally important habitats and species, cultural and historical heritage, and to help deliver climate change adaptation and mitigation, protect soils, improve water quality and supply wood fuel and other wood products.

SEO 5: Improve opportunities for enjoyment and understanding of the landscape and promote local involvement in the planning and management of the Cumbria High Fells.

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)**

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

12: Higher Limestone

11: Upland Fringes

NCA 9: Eden Valley

SEO 1: Work at landscape scale to protect the soils and water quality of the Eden Valley catchment, thereby ensuring a sustainable future for farming, contributing towards Water Framework Directive objectives by improving the condition of the internationally important River Eden Special Area of Conservation and associated wetland and woodland habitats within the flood plain, increasing their capacity to regulate peak water flows, and enhancing a key feature of this tranquil rural landscape.

SEO 2: Manage, restore and expand the area of woodland within the Eden Valley and its tributaries, restoring a network of woodland habitat to enhance timber supply, biodiversity, water quality, carbon storage and tranquillity, while regulating soil erosion and peak water flow.

SEO 3: Protect and enhance the geodiversity and historic landscape of the Eden Valley, its geological exposures and river processes, and history of human occupation and innovation, optimise their contribution to delivering wider environmental benefits and raise public awareness, understanding and enjoyment of this heritage.

SEO 4: Protect and enhance the cultural heritage of the Eden Valley, reinforcing the vernacular building style and settlement pattern in the design and location of new developments, protecting tranquillity, enhancing green infrastructure and habitat networks, and improving opportunities for public enjoyment of the area.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

5: Lowland

6: Intermediate Farmland

7: Drumlins

8: Main Valleys

9: Intermediate Moorland and Plateau

10: Sandstone Ridge

11: Upland Fringes

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)****NCA 10: North Pennines**

SEO 1: Protect, manage and enhance the moorlands and moorland fringes of the North Pennines, with their internationally important habitats and wildlife, their sense of wildness and remoteness, and the contribution they make to climate mitigation, water quality and availability, and water flow.

SEO 2: Protect, manage and conserve the distinctive historic and geological environment and features of this area, providing access and recreation along with imaginative interpretation, to improve understanding of the landscape and its cultural development.

SEO 3: Manage and enhance the pastoral character of the broad dales, with their patchworks of pastures and meadows, their strong field patterns defined by drystone walls, and their stone-built field barns, farmsteads and small villages – to strengthen local distinctiveness, and to contribute to food provision, climate change mitigation, the conservation and connectivity of important habitats and the sense of history.

SEO 4: Manage the diverse streams, becks, rivers and reservoirs to maintain their high water quality, enhance their biodiversity interest, and strengthen their contribution to the landscape character and recreational opportunities of the North Pennines, while managing water flows and maintaining water supplies.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

13: Fells and Scarp

8: Main Valleys

11: Upland Fringes

NCA 11: Tyne Gap and Hadrian's Wall

SEO 1: Manage and protect the extensive cultural heritage and geology of the area, while providing opportunities for visitors and communities to learn about the connections between the landscape and our past.

SEO 2: Encourage sustainable ways of producing food, while managing rare habitats such as loughs and mires, Whin Sill and Calaminarian grasslands, to reduce the impact of climate change on biodiversity, soils, water and food provision.

SEO 3: Manage and extend broadleaved woodlands and coniferous plantations in the Tyne valleys to strengthen landscape character and enhance biodiversity, while contributing to flood risk management, improving water quality and providing areas of recreation and tranquillity.

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)**

SEO 4: Develop sustainable tourism and recreation opportunities while conserving and protecting the cultural, natural heritage and dark skies of the area.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

6: Intermediate Farmland

8: Main Valleys

NCA 17: Orton Fells

SEO 1: Conserve, manage and enhance the open fells on the limestone plateau, with their mix of karst features, upland heath, and calcareous and acid grasslands, for their inspirational and recreational values and their international biodiversity and geodiversity interest, improving water quality and mitigating climate change effects.

SEO 2: Manage and enhance the enclosed farmland with its diverse pastures, leys and meadows, dispersed farmsteads and quiet villages, strong field patterns and drystone walls, and species-rich road verges, to maintain livestock and dairy farming, the soils, and the sense of place and history, and to enhance its landscape character and biodiversity value.

SEO 3: Manage farmed land and semi-natural habitats to protect and improve the condition of the streams and rivers, enhancing their ecological value and water quality, strengthening the contribution they make to the local landscape and providing high-quality angling and wildlife-watching opportunities.

SEO 4: Identify, protect and interpret geological and historic features and encourage quiet recreation focused on enjoyment and appreciation of these features within the landscape.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

12: Higher Limestone

6: Intermediate Farmland

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)****NCA 19: South Cumbria Low Fells**

SEO 1: Manage and enhance the combination of open low fells, commons and valleys, with their mosaic of heathlands, species-rich meadows, wetlands and native woodlands among the matrix of pastures, to create a coherent and resilient ecological network and to strengthen the distinctive landscape character.

SEO 2: Conserve the distinctive landscape character of the South Cumbria Low Fells, including the wealth of natural, geological and cultural heritage, and the internationally renowned Lake District National Park. Sustainably manage and improve opportunities for the enjoyment and understanding of this popular area.

SEO 3: Safeguard and manage woodlands to retain them as important landscape features, and for their national and international biodiversity interest, along with their cultural and historical heritage. Seek ways to increase woodland cover in appropriate locations to mitigate the effects of climate change, address water quality and soil erosion, and supply timber products.

SEO 4: Manage and enhance the wetlands, rivers, lakes, tarns, watercourses, raised bogs and mires for the benefit of water quality, biodiversity and recreation, and to mitigate flood risk and the effects of climate change.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

7: Drumlins

9: Intermediate Moorland and Plateau

11: Upland Fringes

NCA 20: Morecambe Bay Limestones

SEO 1: Protect and enhance the extensive mosaic of high-quality limestone habitats, including pavement, woodland, scrub and grassland, to create a coherent and resilient ecological network, retain a sense of place and maintain the strong relationship between the landscape and its underlying geology.

SEO 2: Ensure the long-term sustainable management of the nationally and internationally designated coastal zone by conserving and managing its habitats, including the extensive sand flats, salt marshes, estuarine landscapes and limestone cliffs, for their wildlife, strong sense of place, inspiration and tranquillity, their diverse range of

National Character Area (NCA)**Headline Statements of Environmental Opportunity (SEO)**

species, their traditional fisheries, and for their ability to mitigate the effects of climate change through carbon sequestration and coastal flood mitigation.

SEO 3: Ensure the long-term sustainable management of the nationally and internationally designated wetland landscape and its linking, non-designated, habitats by conserving and restoring the lowland raised bogs, fens, rivers and reedbeds for their strong sense of inspiration and tranquillity, their diverse range of species, and for their ability to mitigate the effects of climate change through carbon sequestration.

SEO 4: Conserve and enhance the wider landscape of the NCA as the supporting framework to its distinctive attributes, including features of the drumlin landscape, the settlement character, orchards, recreational identity and heritage features, for their individual importance and the complementary role they play in supporting the local visitor economy and providing enjoyment and education to visitors and residents alike.

The above opportunities are particularly relevant to the following Cumbria Landscape Character Types:

- 1: Bay and Estuary**
- 2: Coastal Margins**
- 3: Coastal Limestone**
- 7: Drumlins**
- 8: Main Valleys**



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