

Type 5

Lowland



This landscape type includes extensive areas of lowland agricultural pasture. It has five sub types that reflect topographical and other changes.

These cover the ridges and dissecting valleys, lowland and undulating rolling farmland, drained mosses and agricultural land influenced by urban fringe development. In parts of the sub types 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.

Sub types:

5a Ridge and Valley

5b Low Farmland

5c Rolling Lowland

5d Urban Fringe

5e Drained Mosses

Ridge and Valley

Location

This 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.

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

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

The landscape rises gently to high wide ridges with long views or falls to small, narrow valleys. The Ellen Valley forms a distinctive feature.

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.

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.

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.

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.

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

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

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

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

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. 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. 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

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.

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 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 continued need to support renewable energy schemes is likely to result in an increase in large scale wind 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.
- Upgrades to the national grid to provide energy security and support new power generation could result in larger pylons and sub stations.
- 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.
- Current farm stewardship grants provide the opportunity to develop more public access in the countryside. Future grant or other programmes may continue to support this.

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 Features

- Maintain and enhance the aquatic interest of rivers and floodplain environments.
- Use appropriate large scale new planting to integrate settlements and associated industrial development with the surrounding countryside and provide landscape frameworks for development expansion.
- Manage existing Plantation and Ancient Woodland sites to allow regeneration of broadleaved woodland.
- 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.

Cultural Features

- 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 the permanent introduction of fences to replace or 'gap up' hedgerows.
- 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.

Development

- Discourage the further nucleation of the settlement pattern.
- Improve visual awareness of the individual settlement, land uses, and cultural landmarks along each road and provide locations for stopping, viewing and picnicking.
- 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.

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 farm stewardship 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

This sub type can be found in several parts of the county – north, east and west of Carlisle, south of Whitehaven and north of Barrow. The sub type continues into the Lake District national park east of Seascale and is classified as Type D1 – Low Farmland in the Lake District National Park Landscape Character Assessment.

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

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

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.

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.

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.

Pylons and telegraph poles are generally subtle elements, but pylons can sometimes dominate, especially where there is more than one line of them.

Ecology

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. 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, linnet and tree sparrow. This landscape is also important for barn owl to the north and east.

Historic and cultural character

In the north of the county 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.

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

Perceptual character

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

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. 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.

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

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.

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.
- New nuclear power generation adjacent to Sellafield could come forward towards the end of the decade along with associated infrastructure which could change the character of the landscape.
- Upgrades to the national grid to provide energy security and support new power generation could result in larger pylons and sub stations.
- The continued need to support renewable energy schemes could likely result in an increase in large scale 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.
- 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.

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.
- Current farm stewardship grants provide the opportunity to develop more public access in the countryside. Future grant or other programmes may continue to support this.

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 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
- Manage and enhance areas of semi natural and ancient woodland.

- Create 'linked networks' of vegetation using native trees and shrubs to form 'ecological corridors' as well as emphasise valleys.
- 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.
- Manage raised bogs, wetlands and grazing marsh to improve wildlife diversity and provide contrasts in texture and colour to improved farmland.
- Restore wetland or unimproved grassland in particular around existing areas of moss. This may include 'blocking' of drainage systems, restricting grazing, appropriate wetland planting or seeding, removal of hedgerows, scrub and woodland.
- 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.

Cultural Features

- 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 affects.
- 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.

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 farm stewardship or other schemes.

Rolling Lowland

Location

This sub type is found in 3 parts of the county - east of Wetheral, west of Cockermouth and north east of Barrow. The sub type continues into the Lake District national park east of Seascale and is classified as Type D2– Rolling Lowland in the Lake District National Park Landscape Character Assessment.

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

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

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.

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.

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

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

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.

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

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

Sensitive characteristics or features

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. Tranquility is greatest along rivers and is sensitive to development or farming intensification. 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. 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

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.

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.
- Upgrades to the national grid to provide energy security and support new power generation could result in larger pylons and sub stations.
- The continued need to support renewable energy schemes could likely result in an increase in large scale 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.
- Current farm stewardship grants provide the opportunity to develop more public access in the countryside. Future grant or other programmes may continue to support this.

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 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, 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.

Cultural Features

- 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 affects.
- 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 farm stewardship or other schemes.

Urban Fringe

Location

This landscape 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

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

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.

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.

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

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

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

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

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. 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

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.

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.

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.
- Current farm stewardship grants provide the opportunity to develop more public access in the countryside. Future grant or other programmes may continue to support this.

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 Features

- Establish new woodlands or tree groups on prominent skylines in order to soften their windswept appearance and provide screening where climatic conditions allow.
- Manage and restore existing semi-natural woodlands.
- 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.
- Unimproved grassland or wetlands should be restored where possible.
- Seek opportunities to restore piped watercourses to enhance ecological corridors.
- 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.

Cultural Features

- 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

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 farm stewardship or other schemes.

Drained Mosses

Location

This 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

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

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.

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

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

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

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

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 tranquility 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. 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

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.

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 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.
- Encourage schemes for the sensitive management of the mosses and surrounding agricultural land including maintenance of a high water table, phased cutting of heather, preventing damage to moss growth by overgrazing and poaching, control of scrub encroachment, restricting liming, fertiliser herbicide and pesticide treatments.
- Consider the potential for interpretation, controlled access and additional facilities in consultation with Natural England.

Cultural Features

- 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.