Northumberland County Council

Great Northumberland Forest
Landscape Research Project

Final report
Prepared by LUC and The Research Box
September 2023

Northumberland County Council

Great Northumberland Forest
Landscape Research Project

Version	Status	Prepared	Checked	Approved	Date
1.	Draft report	M Grant	M Grant	Click to enter initial + surname.	15.08.2023
2.	Final report	M Grant	M Grant	K Davies	12.09.2023

bsi. ISO 9001:2015 Quality Management
FS566056

bsi. ISO 14001:2015 Environmental Management
EMS566057

bsi. OHSAS 18001 Occupational Health and Safety Management
OHS627041

IEMA Transforming the world to sustainability · EIA ·

Landscape Institute Registered Practice

Contents

Chapter 1
Introduction

Introduction to this research

1.1   LUC and The Research Box were commissioned by Northumberland County Council in December 2022 to undertake research on woodland creation in the Great Northumberland Forest area.

Background and purpose of the research

The Great Northumberland Forest

1.2   The Great Northumberland Forest is a plan to plant millions of trees, creating more wooded landscapes across the county by 2030. The vision for the Great Northumberland Forest states that *"The idea is inspired by our determination to leave a better, more diverse, and more productive natural environment for the benefit of future generations. By planting more trees, we will create new, natural environments that our children, communities, and businesses will benefit from for decades to come."*

1.3   The Northumberland Woodland Creation Partnership is made up of 14 organisations. The partners include: DEFRA, Northumberland County Council, Forestry Commission, Natural England, the Woodland Trust, Northumberland National Park Authority, the Environment Agency, the Country Land and Business Association, Forestry England, the MOD, Confederation of Forest Industries, Northumberland CAN (Community Action Northumberland), the National Farmers' Union, and the Northumberland Wildlife Trust.

1.4   The Partnership's mission is to empower and support communities, landowners and farmers to create and to expand woodland areas across the county. The aim is to promote the creation of a variety of different woodland types and sizes, from individual trees, orchards, agroforestry, and small community woodlands to larger-scale schemes. The term 'forest' in this sense does not mean new, continuous, large, planted areas, but rather a generally more wooded or tree-covered landscape.

1.5   The Partnership have created a StoryMap[1] to highlight areas with potential for tree planting and woodland creation.

---

[1]
https://storymaps.arcgis.com/stories/e06f03103c364e17b895c6e133e7b03c

The StoryMap uses a range of data to show constraints to and opportunities for woodland at a strategic scale. The maps are supplemented by explanatory text. However, illustrating landscape issues/opportunities relating to woodland is challenging, particularly given the varying landscape effects of different woodland planting scenarios.

1.6 Similarly, Northumberland National Park have created a StoryMap[2] to illustrate constraints and opportunities for woodland creation within the protected landscape. The Northumberland National Park StoryMap does not include constraints and opportunities related to landscape character but rather notes that '*this mapping is provided as a desk based tool to help inform decision making at an early stage but it should be remembered that not all woodland constraints can be mapped, for example assessing the effect of a creation scheme on the landscape character, views and sense of place of a particular location should be done in the field.*'

Purpose of the research

1.7 This research aims to supplement the work completed by the GNF Partnership to date to date by viewing tree and woodland creation in Northumberland through the lens of landscape. This is intended to be forward thinking and highlight opportunities, rather than focusing on constraints.

1.8 This research is comprised of four main elements:

■ A review of existing literature

– A review of existing information on trees/woodland and landscape across Northumberland. The review also identifies existing evidence gaps and geographical differences within the literature.

■ Stakeholder interviews

– Qualitative research involving various stakeholders in the Great Northumberland Forest Partnership which gathered opinions on woodland creation and landscape character.

■ Visualisations

– The production of conceptual photomontages showing the change over time resulting from the introduction of different types of woodland creation, across a range of landscapes considered typical of Northumberland.

■ National Character Area profiles

– Aggregating the location-specific information from the literature review and proving a summary and

recommendations for woodland creation within the NCA.

– Noting any differences in the ability of the landscape to accommodate woodland creation.

1.9 The outputs will be used to facilitate communication and engagement with communities, landowners and farmers to encourage them to consider whether woodland/tree planting is appropriate on the land that they own/manage.

1.10 The research project involved regular meetings with the Steering Group, which comprised individuals representing the following organisations:

■ Northumberland County Council

■ Forestry Commission

■ Woodland Trust

■ Natural England

■ Northumberland National Park Authority

---

[2] Beta version:
https://storymaps.arcgis.com/stories/d82d8c065c204330b6c20a853189a05f

Chapter 2
Methodology

This chapter describes the research methodology developed for the project.

2.1 The project comprised three distinct stages:

- Stage 1: Review of existing evidence
- Stage 2: Stakeholder interviews
- Stage 3: Production of visualisations
- Stage 4: National Character Area profiles

Stage 1: Review of existing evidence

2.2 The first stage of the project was a literature review, which focused on establishing what existing evidence says about woodland creation opportunities and the implications on landscape character .

2.3 The literature included location specific documents (e.g. National Character Area profiles, Landscape Character Assessments) as well as general guidance for various types of woodland creation.

2.4 As part of this process, a number of woodland typologies were defined (see paragraph 2.18). These have been used to help structure the information in the outputs of the project recognising the spectrum of landscape impacts of a variety of woodland creation scenarios. These definitions were also used in the stakeholder interviews and to help the steering group define the scenarios shown in the visualisations.

2.5 A summary of the literature review findings is included in Chapter 3 of this report, while the more detailed location specific information is replicated in the relevant NCA profile.

Stage 2: Stakeholder interviews

2.6 Stakeholder interviews were conducted by The Research Box, a specialist market research agency. This element of the project comprised one-to-one qualitative interviews with nine stakeholders identified in the project brief and through discussions with the client team.

2.7 The detailed methodology and full report of findings of this element of the research is included in Appendix B of this report.

Stage 3: Creating visualisations

2.8 A suite of visualisations were created to illustrate various types of woodland creation and tree planting across a range of landscapes typical of Northumberland. This was inspired by a series of visualisations produced for Exmoor National Park[3]. The visualisations illustrated changes in the landscape resulting from woodland creation over time.

2.9 The source photographs were taken by the Great Northumberland Forest team. The project team and Steering Group collaborated to decide the type and placement of tree planting that would be illustrated in each image.

2.10 The images were digitally manipulated in Adobe Photoshop to illustrate various types of woodland and tree planting at intervals of 5 years, 15 years and 40 years.

2.11 The visualisations are intended to be conceptual, rather than accurate woodland plans for the locations shown in the images. The visualisations provide a tool for communication and engagement amongst landowners, communities and farmers.

2.12 Low resolution copies of the visualisations are included in Appendix C.

Stage 4: National Character Area profiles

2.13 A profile has been created for the ten National Character Areas that cover the project area. These aggregate the relevant information in the existing literature against the defined 'woodland typologies'.

2.14 A very small part of NCA 14: Tyne and Wear Lowlands extends into Northumberland, however this area has been included within NCA 11: Tyne Gap and Hadrian's Wall (LCAs 30c: Corbridge to Wylam, 31e: Stocksfield to Prudhoe and 31g: Ovington to Wylam) and NCA 12: Mid Northumberland (LCA 38e: North Tyne Ridge).

2.15 The profiles are structured as follows:

- List of component Landscape Character Types and Areas[4]

- A summary of existing tree and woodland coverage

- Woodland creation opportunity description: A table containing the information gleaned from the literature review.

- Summary of woodland creation opportunities

- Recommendations

2.16 These profiles enable interested parties to view the detail of existing literature about a given area, providing a 'one-stop shop' for relevant information. The recommendation section provides more detail on tree and woodland creation that may be appropriate within a given landscape, supplementing or expanding on information provided in existing literature(e.g. recent thinking about trees in the landscape such as agroforestry).

2.17 The National Character Area profiles are located in Appendix D.

Woodland typologies

Existing woodland management/extension

Natural regeneration or colonisation of native species/scrub

2.18 A land management approach which allows natural restocking of existing native woodland/areas of scrub and colonisation on its edges without external intervention.

2.19 Natural regeneration/colonisation occurs when trees develop naturally from seeds that have fallen from nearby woodland. New trees can also establish next to existing woodland by suckering or layering. Trees established by colonisation/regeneration are more likely to be better adapted to local conditions and will result in a more natural composition suited to the conditions and providing a habitat for a variety of wildlife.

Additional Planting / Woodland expansion

2.20 There are many instances where additional planting or the gradual replacement of existing woodland might help bring woodland into UKFS compliance with consequent positive implications for landscape character.

2.21 This woodland/tree type includes:

- Changing the forest structure of existing blocks at rotation age, or a wider-scale "estate-scale remodelling".

- changes to a PAWS[5] site over time, in line with that site's management plan.

- management around Ancient Woodland sites where woodland expansion through natural regeneration and/or

---

[3] https://storymaps.arcgis.com/stories/659ee8bece0e4ec28ab462a662cb0c54

[4] Some landscape character areas are located within more than one National Character Area. Where this is the case, the information has been placed within the NCA profile which best fits the character of the LCA.

[5] Plantations on Ancient Woodland Sites

planting of scrub/native broadleaves might be encouraged – as identified in the pilot LNRS.

Trees outside woodlands

Hedgerows (including hedgerow standard trees)

2.22 New hedgerows, gapping up existing and making wider hedgerows, including with or without standard trees (depending on the landscape of the local area), as part of a "trees outside of woodlands". Hedgerows with trees are likely to be unsuitable in some landscapes such as the open uplands.

In-field trees – parkland style and wood pasture style

2.23 Parkland/wood pasture often have a mixture of habitats, from scrub and dense woodland groves, to more open grassland or heathland with scattered trees. Some originated as medieval hunting forests or wooded commons, and others are designed landscapes associated with large estates.

2.24 This scenario considers both more 'modern' and more historical 'parkland style' and 'wood pasture style' with animals grazing under an almost closed canopy. This can be both a historical approach to restoring, managing, or buffering old/remnant features and a more modern "trees in field" or "animals grazing under trees" approach. The GNF project team are engaging with the farming community to consider farming with trees, woodland, and forestry. Many farmers may favour the parkland style "trees in cages" option, with the benefits of shade and timber that they bring. This type could also include orchards, but these are not currently widespread in the county, nor have they been funded recently through Countryside Stewardship.

Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')

2.25 Agroforestry is a land management approach that combines trees and shrubs with crop and livestock farming systems. This may comprise:

- Rows or alleys of trees in arable fields, e.g., fruit trees alongside cereals
- Trees alongside chicken (poultry and eggs) farming
- Trees alongside grazing animals (including pigs) – potential for an overlap here with trees in parkland-style fields or wood pasture style.

2.26 Agroforestry can be applied in both upland and lowland landscapes and the landscape effect of agroforestry will vary significantly depending on the specific context of the scheme (e.g. existing landscape character, species used, adjacent land uses etc.). Large areas of agroforestry spanning several fields could produce a 'patchwork' visual effect.

'Wild edges'

2.27 Tree/scrub establishment on arable land (field corners difficult to farm or to access) and small pockets of land difficult to farm, under 1 ha, (potentially up to 5 ha) on any type of farmland. This would include scrub to buffer field edges on farmland, or to buffer ponds etc. This would also include the creation of wet woodland on areas of land that lie wet. In landscape terms, 'wild edges' could vary significantly depending on the type of woodland (i.e. scrub and wet woodland are very different within the landscape).

Woodlands (native/mixed)

Riparian woodlands

2.28 This tree /woodland type includes riparian woodlands in a lowland landscape as well as gill / cleugh / sike planting in an upland valley/moorland landscape. This type would include low density planting in the right places, but also higher densities where riparian shading is an aim.

Shelterbelts/trees as screening

2.29 Shelterbelts are planted in distinct rows, often in open areas. Species vary but include non-native species (e.g. poplars or certain coniferous species including pines and spruce). This type includes shelterbelts both in arable and livestock settings with the aim of sheltering soil or animals from the weather. Shelterbelts may also be used to provide a windbreak or screening for farmsteads/housing/camping-caravan-chalet parks. Fields on flatter, exposed landscapes close to the coast may also benefit from shelterbelts.

2.30 Planting to visually screen quarrying/camping-caravan-chalet parks/overhead lines is also considered within this type.

Small to medium size native woodland (2-10 ha)

2.31 This type may be the largest-scale woodland opportunity that the majority of landowners might consider. Native woodland could include three species of conifer considered native to Northumberland; Scots Pine, Juniper, and Yew (in the right places/setting). Farmers might normally look to create woodland on poorer land or land more difficult to farm, such as steeply sloping land. Wet woodland could be created on inundated land.

Larger-scale mixed or native woodland (above 10 ha)

2.32 Given the scale of farming in the area, "larger scale" opportunities to plant woodland will ultimately be constrained by the size of any holding, so this is more likely to be at the

'Estate' level than the individual farm level. Larger schemes of mixed or native woodland may also be delivered through partnership working between landowners (e.g. Countryside Stewardship Facilitation Fund or the Farming in Protected Landscapes programme (relevant to the National Park and AONBs).

2.33 Opportunities for this type will be set against a backdrop of changes in the farming industry as well as concerns about food production and land use change (e.g. rewilding, carbon offsetting). It should also be considered how larger-scale native woodland creation might interact with the riparian corridor system and small to medium woodland opportunities across the area.

Urban Fringe / Green Space / Parks / Amenity Planting

2.34 This type comprises community forest style, trees and woods as "green infrastructure" in or around the main settlements in Northumberland. Landscape impact may vary significantly depending on the landscape design and species composition of the planting. Trees will generally comprise hardy, low-maintenance species.

Scrub

2.35 This type comprises scrub woodland which is not necessarily connected to existing woodland or hedgerows as 'wild edges'. This may cover larger areas of scrub than those associated with existing woodland, for example, alder scrub in upland landscapes.

Commercial plantations

Biomass and short rotation coppice

2.36 Short rotation coppice (SRC) can comprise a variety of different species, which has implications for the landscape impact. The regular layout of SRC with trees in neat rows can appear crop-like in the landscape. Common species include willow and poplar. Native broadleaves including ash, hazel and sweet chestnut can also be used for SRC, often as part of a mixed woodland. Native species grown for coppice are likely to fit better within the landscape.

Small to medium size conifer (5-10 ha)

2.37 There may be opportunities for small to medium size commercial conifer woodland on a farm (UKFS compliant – see below for details). Carbon offsetting may be a driver for this woodland type as well as larger-scale conifer plantations.

Larger scale conifer, above 10 ha[6]

2.38 This type comprises plantation forests of non-native coniferous species. The UK's plantation forests are predominantly made up of non-native coniferous species, often planted on economically marginal agricultural land and in some cases, on previously cleared ancient semi-natural woodlands (PAWS). The commercial base of the UK forest industry relies heavily on Sitka spruce (*Picea sitchensis*) from North America. Scots pine (*Pinus sylvestris*) is the only native conifer of economic significance.

2.39 In order to be UKFS compliant, a maximum of 75% of the plantation can be a single species. There must be a minimum of 10% open ground or ground managed for the conservation and enhancement of biodiversity as the primary objective, 10% of other species and 5% native broadleaved trees or shrubs. The UKFS also contains guidance on how to design schemes for certain landscapes.

---

[6] Schemes in the Northumberland pipeline may be up to 300 ha, or 3 km^2

Chapter 3
Literature review summary

This chapter summarises the primary findings of the literature review.

Introduction

3.1   The literature review included information specific to Northumberland (e.g. National Character Area profiles, Landscape Character Assessments) as well as more generic guidance.

3.2   Relevant location-specific information from the National Character Areas and Landscape Character Assessments is replicated in the NCA profiles (Appendix D).

3.3   A full list of the literature reviewed is included in Appendix A of this report.

3.4   Four main types of woodland are covered extensively in the existing literature (ancient woodland, plantation, riparian woodland and upland woodland) and are detailed in the following paragraphs. This section also considers evidence gaps and geographical differences in the literature.

Main woodland types covered by existing literature

Ancient woodland

3.5   The NCA profiles note that coverage of ancient woodland in Northumberland is low compared to the average across England. The literature notes that opportunities to extend and buffer existing ancient woodland sites or restore PAWS sites are encouraged across the majority of NCAs within the GNF area.

3.6   NCA 1 and NCA 4 do not include references to ancient woodland or PAWS restoration, likely due to the limited ancient woodland resource in these areas.

3.7   Many of the documents examined as part of the literature review relate to the planning system. Within the planning system, categorisation of land as ancient woodland does not provide any statutory protection and it is therefore important to include references to the protection of ancient woodland to be included within local policy.

Plantation woodland

3.8 Most existing literature relating to coniferous plantations relates to the restructuring or replacement of existing plantations with broadleaved or native species. There is limited information on the establishment of new coniferous plantations.

3.9 Landscape guidance within the National Character Area profiles and Landscape Character Assessments often advise that plantations which are to be retained in the landscape should be restructured in order to soften outlines to better integrate them with the landscape, as well as incorporating more open space and native species to make them UKFS compliant.

Riparian woodland

3.10 Within the NCA profiles, Landscape Character Assessments and Countryside Stewardship Statement of Priorities there is plenty of information on opportunities to create and expand existing riparian woodlands. Riparian woodlands are highly important for habitat connectivity and have the potential to deliver multiple benefits for landscape, biodiversity, flood alleviation, soil stabilisation and erosion prevention and agricultural run-off. Trees and woodland along watercourses are often identified as having the most potential for the delivery of multifunctional benefits in the Countryside Stewardship statement of priorities.

Upland woodland

3.11 In the upland areas, the main woodland opportunities referenced in the literature include the creation or expansion of native woodlands along the gills and cleughs, as opposed to the more open moorland areas.

3.12 Existing literature often refers to the constraints of creating upland woodland within Northumberland, particularly in areas defined as habitat for waders or where peatland is present.

3.13 There have been a number of recent publications to guide new woodland establishment where these features are present, including:

- Decision support framework for peatland protection, the establishment of new woodland and re-establishment of existing woodland on peatland in England[7] (July 2023)

- Guidance on when an upland breeding wader survey is needed and when woodland creation is likely to be appropriate[8] (July 2023)

- Priority open habitats and woodland creation: A field guide (2020)[9]

3.14 Publications by Forest Research[10] indicate that '*natural colonisation (the natural regeneration of trees on land adjacent to existing woodland) is the preferred means of achieving upland native woodland expansion.*'

Evidence gaps

3.15 There is limited information on incorporating biomass/short rotation coppice into the Northumberland landscape. This scenario was included in the Landscape Sensitivity Study produced as part of the 2010 Northumberland Landscape Character Assessment, however the definition of biomass planting for this study includes both short rotation coppice and miscanthus (which is not included within the scope of this research). Some of the National Character Area profiles highlight opportunities for short rotation coppice.

3.16 Existing literature on the landscape seldom refers to urban fringe/parks/amenity planting. The Notes on Tree Planting and the Use of Native Species in North East England (2012) provides advice on the planning of woodland planting schemes for nature conservation/amenity purposes in Northumberland, but does not explicitly talk about the impacts on landscape. Generally, native species are preferable in landscape terms ('right tree'), although they also need to be planted in the 'right place'.

3.17 Information on opportunities relating to wood pasture/parklands tends to be limited to landscapes where this type of woodland is characteristic or has been present in the past, reflecting the historic nature of this type of planting. There is potential to introduce this type of woodland to other landscapes (where it might not have been historically present) as part of agroforestry systems.

3.18 Related to the above point, information on agroforestry is also limited, and there is not much information specific to the landscapes of Northumberland. The information contained in more general publications on agroforestry can be applied to some of Northumberland's landscapes. For example, the principles within the Agroforestry Handbook by the Soil

---

[7] https://www.gov.uk/government/publications/decision-support-framework-for-peatland-protection-the-establishment-of-new-woodland-and-re-establishment-of-existing-woodland-on-peatland-in-england

[8] https://www.gov.uk/government/publications/guidance-for-afforestation-proposed-on-or-near-nationally-important-upland-breeding-wader-areas

[9] https://www.gov.uk/government/publications/priority-open-habitats-and-woodland-creation-a-field-guide

[10] https://www.forestresearch.gov.uk/research/ecology-of-upland-native-woodlands/

Association. Agroforestry is becoming more widespread and the landscape implications of the introduction of agroforestry systems will likely be better reflected in future updates of key evidence documents.

3.19 There is also limited information on the establishment of 'wild edges' of trees/scrub with agricultural land (e.g. on less productive land or difficult to access field corners). While these woodland/scrub areas tend be small individually, there is potential for cumulative landscape effects from multiple areas of 'wild edge' establishment.

Geographical differences in the evidence

3.20 Within the existing literature there is a lot of information on opportunities for woodland creation in river valleys, river catchments, and on sloping land due to the multiple benefits that can be delivered for landscape, flood alleviation, soil stabilisation and erosion prevention, and agricultural run-off in these locations.

3.21 Information for the upland areas in Northumberland primarily relates to the restructuring of plantation woodland or establishing native woodland in gills/cleughs. There are also references to opportunities for localised woodland regeneration on craggy outcrops.

3.22 Opportunities for woodland on the coast are generally less well-defined, with the open character of the coastal plain recognised as a key characteristic of the landscape, particularly within the Northumberland Coast AONB. The main woodland/tree type in coastal landscapes are hedgerow/boundary trees and most opportunities discussed in the literature refer to the creation of this type of woodland. There is also reference to the introduction of shelterbelt planting to screen caravan parks in specific locations within the AONB[11].

3.23 There is often more evidence in existing literature for characteristically wooded landscapes. However, the opportunities highlighted in the literature often focus on protecting and managing existing woodland rather than planning for new tree planting and woodland creation. This is likely due to the age of some of the documents.

3.24 Updated versions of the landscape evidence base need to be more ambitious and work out the role of landscapes that are characteristically less wooded in delivering for the Great Northumberland Forest.

Nationally protected landscapes

3.25 Three protected landscapes occur within Northumberland; Northumberland National Park,

Northumberland Coast AONB, and the northern part of the North Pennines AONB. The protected landscapes have a statutory purpose to conserve and enhance the natural beauty of the landscapes. There tends to be more information on the impact of tree planting and woodland creation in these landscapes, including studies commissioned specifically for the protected landscapes due to their national significance and therefore the importance of getting tree and woodland creation correct in landscape terms.

Northumberland National Park

3.26 The Northumberland National Park is generally an open, upland moorland landscape, with significant areas of peatland. The vast majority of existing woodland is commercial plantations, although there is also semi-natural broadleaved woodland located within the gills/cleughs.

3.27 The Management Plan for the National Park (2022) contains the following objectives relevant to woodland creation:

- Promote the expansion of broadleaved and native woodland and enhanced woodland management to achieve a more diverse, nature-rich wooded landscape.

- Conserve and enhance existing ancient woodland and notable trees to stop the loss of irreplaceable habitat and carbon stores.

3.28 Achieving these objectives should not be detrimental to other valued landscape features in the National Park, including open semi-natural habitats such as peatland and cultural heritage features.

3.29 The Natural Environment Vision for the Northumberland National Park[12] states the following:

- Native Woodland

  – *Existing areas of native woodland will be protected and managed to improve condition, enable regeneration and prevent the spread of disease.*

  – *Woodlands will be varied and will include dead wood, open space and varied ground flora.*

  – *Areas of new native woodland will be planted particularly in areas that expand and join up existing fragments, but not at the expense of other important habitats or valuable farmland.*

  – *The species planted will be those that occur now including oaks, birches, willows, rowan, alder, aspen, hazel, hawthorn and other shrubs.*

---

[11] https://www.northumberlandcoastaonb.org/files/Downloads/6882-Sensitivity-Capacity-Study.compressed.pdf

[12] www.northumberlandnationalpark.org.uk/wp-content/uploads/2017/06/Nat-E-Vision-2014-Small-1.pdf

- *Connected and large areas of woodland will be prioritised, together with planting that protects water and soil resources.*

- *There will be more woodlands that are over 20 hectares in extent.*

- *New native woodland will be planted along the river valleys as well as ascending up hillsides in larger plantings with associated scrub.*

- *In many areas (particularly developing woodland) animals will be excluded, but grazing animals in woodlands and scrub will be considered and used in suitable locations to benefit habitat diversity and to aid natural regeneration.*

■ Plantation Woodlands and Forestry

- *There will be economically viable managed, productive forests and woodland in the National Park, providing woodland products such as timber and woodfuel or shelter for livestock.*

- *Management options such as continuous cover forestry and re-siting of unsuitable plantations that will help conserve soil, biodiversity and provide an economic return will be undertaken.*

- *Areas will include mixed broadleaved and conifer woodlands as well as conifer plantations and will range from small woodlands managed for local use to larger commercial productive forest.*

- *These woodlands and forests will in the main have a mix of species suited to the site to help combat the spread of disease and to provide wood for a variety of uses.*

- *New woodland and plantations will not be located in areas at the expense of existing good quality habitats, landscape or archaeology.*

- *Existing plantations will be remodelled to provide benefit for the natural environment as well as being productive.*

Northumberland Coast AONB

3.30 The Northumberland Coast AONB occupies the north-eastern edge of the county. The landscape is characterised by a low lying open coastal plain and a dramatic coastline of rocky headlands and cliffs punctuated by sweeping sandy beaches which are backed by dynamic sand dune systems.

3.31 The AONB is not a wooded landscape - tree cover is sparse and forestry and commercial woodland management is limited.

3.32 The Northumberland Coast AONB Management Plan 2020-24 states that:

■ *The openness of the North Northumberland coastal plain is one of its defining characteristics, but this does not mean that trees and woodlands are not important in the AONB; hedgerow trees are a very important component of the landscape. Small woodlands beside watercourses can play a valuable role in tackling diffuse pollution. The Forestry Commission has identified areas in the AONB suitable for the creation of small woodlands to improve water quality, mainly through reductions in phosphorus levels, but also nitrates and sediment.*

■ *Allowing scrub to develop in field corners greatly increases the value of those fields to a range of wildlife, and by locating such areas on less productive land and in places that it is difficult for large farm machinery to reach, the economic impact of such actions can be minimised.*

North Pennines AONB

3.33 The south-western part of Northumberland falls within the North Pennines AONB, which extends southwards into County Durham and North Yorkshire and westwards into Cumberland and Westmorland & Furness (the two new Cumbrian authorities). The section of the AONB within Northumberland is characterised by open upland moors, carved by several broad dales.

3.34 The North Pennines AONB Management Plan 2019-2024 contains the following actions for trees and woodlands:

■ *Expand the area of woodland cover, with a primary focus on native broadleaves. Encourage natural regeneration wherever possible.*

■ *Trees should be planted following the principle of the 'right tree, in the right place', avoiding peatland, species-rich grassland, important areas for wading birds and historic features; the potential cumulative impact of each new plantation should be recognised.*

■ *Bring management back to neglected woodlands.*

■ *Restore plantation on ancient woodland sites through conversion to native broadleaves.*

■ *Promote diversity in existing conifer plantations by restructuring and restocking with native broadleaves.*

■ *Encourage markets for wood and wood products to foster woodland management.*

■ *End grazing in over-grazed woods and exclude stock from ASNW unless specifically managed as wood pasture; manage neglected wood pasture to promote structural/biodiversity.*

- *Manage veteran trees to ensure they can complete their full life cycle and ensure recruitment of new veterans.*

- *Control the spread of non-native species.*

- *Promote the planting of single field trees for their future landscape and biodiversity value.*

- *Promote hedgerow restoration where these are neglected or lost, including support through ELMS.*

Conclusions

3.35 Chapter 4 of this report contains the conclusions from the literature review and the other components of this research project.

Chapter 4
Overall headlines and recommendations

This chapter presents the headlines from this research, with recommendations for the GNF Partnership to consider informing future strategy and work with local communities

Existing literature

4.1 Within the existing literature, there tends to be a greater volume of information on woodland management and creation for areas characterised by existing woodland (e.g. NCA 5: Border Moors and Forests) , compared to less wooded areas (e.g. NCA 1: North Northumberland Coastal Plain).

4.2 There are some significant gaps in the literature regarding certain woodland types, particularly 'trees outside of woodlands'. Some more general documents could be used to help inform the delivery of this type of woodland within the Northumberland landscape.

The age of the existing literature, including the NCA profiles and Landscape Character Assessments, may explain the limited information on some woodland typologies and the delivery of ambitious woodland creation. A need for more radical thinking is required to deliver the woodland targets, while recognising that the cumulative impact of woodland creation schemes will alter the character of some landscapes. Future updates of these landscape evidence documents should reflect this.

4.3 As well as the landscape impacts of new woodland, the literature often references the need for improvements to existing woodland in landscape terms – e.g. making plantation woodlands compliant with UKFS or bringing neglected areas of semi-natural woodland back into active management.

4.4 The nationally protected landscapes located within Northumberland have a statutory duty to conserve and enhance the natural beauty of the landscapes. The Management Plans of the National Park and AONBs make reference to the creation of woodland and tree planting, and the need for this to be positive in landscape terms.

4.5 Mapping of woodland creation opportunities and constraints can provide a useful guiding tool. However, it is hard to map landscape related issues and the mapping of opportunities and constraints is highly dependent on the quality of the data.

These strategic-level studies do not replace the need for qualitative guidance as well as bespoke site-level surveys and design.

Stakeholder research

4.6 Stakeholders generally have high levels of support for the work of the Great Northumberland Forest partnership and positive attitudes are expressed towards its aims and objectives.

4.7 Stakeholders generally agreed that National Character Area profiles and Landscape Character Assessments provide a useful broad-brush tool for desk-based planning, but that landscape issues are extremely site-specific (including varying from field-to-field).

Most stakeholders are particularly interested in the disparate, mosaic-style approach to woodland creation that is being suggested and are supportive that continuous forest is not an end goal.

Visualisations

4.8 A project undertaken by Research Box for the Forestry Commission[13] examining 'Perceptions of Woodland and Landscape Change' used visualisations of the Northumberland landscape to engage with the public as one of the project's case studies.

4.9 The project highlighted a breadth of opinion on tree planting in Northumberland's landscapes, with less support for new tree planting at scale in uplands and on agricultural land. There may be concerns from some landowners and communities about conflicting land uses (e.g. taking agricultural land out of cultivation).

The use of visualisation material can increase the understanding of woodland expansion amongst the general public, which is often mistaken for tree-covered landscapes, rather than a landscape containing more trees and woodland. The visualisations created for this project can be used for further communication with the public and stakeholders, to help understanding of what tree planting or woodland creation may entail within a given landscape and to start conversations about woodland creation.

Next steps

4.10 The National Character Area profiles produced as part of this report should be published online and publicised to provide a synthesis of the relevant existing landscape information for communities, landowners, farmers and other interested parties.

4.11 The Great Northumberland Forest Partnership should continue to build positive relationships between partners and promote tree planting. The Partnership should continue to work together to facilitate tree planting and make the process easier for applicants by guiding them through the process.

4.12 The existing guidance and evidence from the GNF partnership could be supplemented with the creation of a tree and woodland design guide, similar to that produced for the Yorkshire Dales National Park Authority.

4.13 The visualisations should be hosted on the Great Northumberland Forest website or a StoryMap (similar to the Exmoor visualisations) to increase the accessibility of the project aims and increase engagement with the public. There is potential for an exhibition on woodland creation, including the visualisations, at the Sill Landscape Discovery Visitor Centre in the future.

4.14 There may be a need to present and disseminate information in different ways depending on the desired audience (e.g. landscape professionals, landowners, or the wider public).

4.15 The Great Northumberland Forest Partnership should promote the need for radical thinking regarding woodland creation and tree planting when landscape evidence documents are updated, focusing on actions to plan for tree and woodland planting in addition to protecting and managing existing trees and woodland.

---

[13]
http://www.researchbox.co.uk/documents/13_forestry_commission_perceptions_of_woodland_change_report.pdf

Appendix A
List of literature

A.1 The following list of documents, articles and websites were reviewed under Stage 1 of the project.

- National Character Area Profile 1: North Northumberland Coastal Plain[14]

- National Character Area Profile 2 - Northumberland Sandstone Hills[14]

- National Character Area Profile 3 - Cheviot Fringe[14]

- National Character Area Profile 4 - Cheviots[14]

- National Character Area Profile 5 - Border Moors and Forests[14]

- National Character Area Profile 10 - North Pennines[14]

- National Character Area Profile 11 - Tyne Gap and Hadrian's Wall[14]

- National Character Area Profile 12 - Mid Northumberland[14]

- National Character Area Profile 13 - S E Northumberland Coastal Plain[14]

- National Character Area Profile 14 - Tyne and Wear Lowlands (small part)[14]

- National Character Area Profile 16 - Durham Coalfield Pennine Fringe (small part)[14]

- Countryside Stewardship statement of priorities: North Northumberland Coastal Plain (NCA001)[15]

- Countryside Stewardship statement of priorities: Northumberland Sandstone Hills (NCA002)[15]

- Countryside Stewardship statement of priorities: Cheviot Fringe (NCA003)[15]

- Countryside Stewardship statement of priorities: Cheviots (NCA004)[15]

- Countryside Stewardship statement of priorities: Border Moors and Forests (NCA005)[15]

---

[14] https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles

[15] https://www.gov.uk/government/collections/countryside-stewardship-statements-of-priorities

- Countryside Stewardship statement of priorities: North Pennines (NCA010)[15]

- Countryside Stewardship statement of priorities: Tyne Gap and Hadrian's Wall (NCA011)[15]

- Countryside Stewardship statement of priorities: Tyne Gap and Hadrian's Wall (NCA012)[15]

- Countryside Stewardship statement of priorities: Tyne Gap and Hadrian's Wall (NCA013)[15]

- Countryside Stewardship statement of priorities: Tyne Gap and Hadrian's Wall (NCA014)[15]

- Countryside Stewardship statement of priorities: Tyne Gap and Hadrian's Wall (NCA016)[15]

- Northumberland National Park Landscape Character Assessment Update (2019)[16]

- Northumberland Landscape Character Assessment Parts A and B (2010) [17]

- Northumberland Key Land Use Impact Study Parts A and C (2010)[17]

- NNPA National Park Management Plan 2022-2027 (2022)[18]

- Woodland Creation - Opportunities and Constraints in Northumberland National Park[19]

- North Pennines AONB Management Plan 2019-2024[20]

- Northumberland Coast AONB Management Plan[21]

- Northumberland Coast AONB Landscape Sensitivity and Capacity Study August 2013[22]

- Agroforestry Handbook by the Soil Association (2019)[23]

- Forestry Commission (March 2022) "Perceptions of Landscape Change", Final research report by Research Box (researchbox.co.uk)[24]

- Perceptions of Woodland and Landscape Change Research Report A Northumbrian Case Study (April 2023). Final research report by Research Box (researchbox.co.uk)[25]

- Great Northumberland Forest StoryMap (https://storymaps.arcgis.com/stories/e06f03103c364e17b895c6e133e7b03c) and Website pages (including four 'examples from Northumberland' case studies) Northumberland County Council - Great Northumberland Forest[26]

- NNPA's Natural Environment Vision[27] www.northumberlandnationalpark.org.uk/wp-content/uploads/2017/06/Nat-E-Vision-2014-Small-1.pdf

- The UK Forestry Standard (UKFS), Fourth edition (2017). (www.gov.uk)

- Guidance on cultivation and UKFS compliance for application in England: operations note 53 – August 2021[28]

- Priority open habitats and woodland creation: A field guide - GOV.UK (www.gov.uk) - 2020[29]

- Decision support framework for peatland protection, the establishment of new woodland and re-establishment of existing woodland on peatland in England - July 2023[30]

- Guidance for afforestation proposed on or near nationally important upland breeding wader areas –- August 2022[31]

- Creating upland native woodland - Forest Research[32]

---

[16] https://www.northumberlandnationalpark.org.uk/wp-content/uploads/2020/07/NNPA-022-Landscape-Character-Assessment.pdf
[17] https://www.northumberland.gov.uk/Planning/Reports.aspx
[18] https://www.northumberlandnationalpark.org.uk/about-us/committees-and-plans/management-plan/
[19] Beta version: https://storymaps.arcgis.com/stories/d82d8c065c204330b6c20a853189a05f
[20] https://www.northpennines.org.uk/what_we_do/management-plan/
[21] https://www.northumberlandcoastaonb.org/management-plan/
[22] https://www.northumberlandcoastaonb.org/files/Downloads/6882-Sensitivity-Capacity-Study.compressed.pdf
[23] https://www.soilassociation.org/media/19141/the-agroforestry-handbook.pdf
[24] http://www.researchbox.co.uk/publications
[25] http://www.researchbox.co.uk/publications

[26] https://www.northumberland.gov.uk/Economy-Regeneration/Programmes/Rural-Growth-and-Innovation/Great-Northumberland-Forest.aspx
[27] www.northumberlandnationalpark.org.uk/wp-content/uploads/2017/06/Nat-E-Vision-2014-Small-1.pdf
[28] https://www.gov.uk/government/publications/guidance-on-cultivation-and-ukfs-compliance-for-application-in-england-operations-note-53
[29] https://www.gov.uk/government/publications/priority-open-habitats-and-woodland-creation-a-field-guide
[30] https://www.gov.uk/government/publications/decision-support-framework-for-peatland-protection-the-establishment-of-new-woodland-and-re-establishment-of-existing-woodland-on-peatland-in-england
[31] https://www.gov.uk/government/publications/guidance-for-afforestation-proposed-on-or-near-nationally-important-upland-breeding-wader-areas
[32] https://www.forestresearch.gov.uk/research/ecology-of-upland-native-woodlands/

- EWCO grant manual (England Woodland Creation Offer. Appendix 2: Design guide - GOV.UK (www.gov.uk)[33]

- Yorkshire Dales National Park Authority Woodland Siting and Design Guide (2013)[34]

- Notes on Tree Planting and the Use of Native Species in the North East of England (2012) by Steve Lowe et al for Northumberland Wildlife Trust[35]

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020). Northumberland Wildlife Trust. Unpublished.

[33] https://www.gov.uk/government/publications/england-woodland-creation-offer-application-form
[34] https://www.yorkshiredales.org.uk/park-authority/living-and-working/trees-and-woodlands/creating-new-woodlands/
[35] https://www.nwt.org.uk/sites/default/files/2019-01/Notes on Tree Planting And The Use of Native Species In North East England.pdf

Appendix B
Stakeholder interviews report

This chapter contains the findings of the stakeholder interviews conducted as part of the project by the Research Box.

Introduction and methodology

B.1 A range of County stakeholders were interviewed from a supplied list including:

■ Woodland Trust

■ Northumberland National Park Authority

■ Forestry Commission

■ Northumberland Coast AONB Partnership

■ North Pennines AONB Partnership

■ Confederation of Forest Industries (ConFor)

■ Northumberland County Council.

B.2 During February and March 2023, nine interviews were completed in total using qualitative research techniques. The research method was through confidential online interviews lasting up to an hour each and recorded. Interviews were analysed using 'grounded theory' approaches where the content is organised according to emerging themes and hypotheses generated by stakeholders.

B.3 Stakeholders responded based on their current job role and remit within the County. The questions asked came from the brief to consultants and subsequent verbal briefings. Topics were built around individuals' particular expertise and specialisms. The findings represent the views of stakeholders.

Research findings

General outlook

B.4 The research shows high levels of stakeholder engagement with the GNF programme and positive attitudes are expressed towards its aims and objectives. Although there is a spread of opinion about forestry and woodland creation within the stakeholder group, they all agree with the partnership approach and believe there are opportunities to be had. This includes for GNF to be a 'broker' between the

various stakeholder interests in the County as a whole, starting conversations and raising awareness. Most stakeholders are particularly interested in the disparate, mosaic-style approach to woodland creation that is being suggested and are supportive that continuous forest is not an end goal.

B.5   However, stakeholders do not believe that there is much consensus amongst professionals within the County as to how to proceed with woodland creation. Some see it as a polarisation of view simply because there are "people who like trees and people who don't." Others see tensions caused through the existence of processing plants in the County. Some stakeholders experience a professional consensus about planting trees but say there is disagreement on the 'how' and that it boiled down to how dynamic professionals believe landscape character to be.

General attitudes towards planting

B.6   Most stakeholders are in favour of increased tree planting given the 'menu' of different definitions of woodland available. However, across the spectrum of stakeholders, there are a few who question whether Northumberland is particularly 'treeless' in the first place, compared to the national average. Some stakeholders counter the perceived high amount of existing cover by not including the percentage of coniferous forest within the total amount. Different stakeholders pick different points in history highlighting varying levels of tree cover in order to make their point one way or another for increased woodland cover or not.

B.7   Differences occur on the scale of planting needed but there is agreement on the complex nature of the sensitivities involved and, on the mantra, 'right tree right place, right reason'. According to some the interpretation of this can be too subjective and needs definition, whilst others believe it allows for a multiplicity of views. Most stakeholders want to see a bespoke approach to planting depending on the surrounding landscape and with the aims of furthering ecosystem services. A few stakeholders push back on planting per se in their patch, seeing a need to protect habitat, peat, wading birds or landscape character. Others, prefer a 'casting of the net wide' philosophy and working back from there.

"There is broad agreement that right tree, right place, right purpose. That is a very broad statement. If you put me in a room with 10 Foresters, we would probably all disagree on what species we would want to put in! because it is that subjective and we want to plant the trees. Down to the detail is always going to be different."

"Right tree, right place, right reason…but to a forester, Sitka Spruce is the right tree."

B.8   There is stakeholder buy-in to and support for UKFS as an improvement generally. A few are concerned that the minimum percentage of 'open space' is too low. Tree densities could be too high when the number of plants is a target rather than hectarage. Some stakeholders expressed that planting should be more 'in natural clumps' rather than in 'geometric' shapes across the County.

B.9   The location of commercial forestry should be appropriate, for example not on deep peat or on the coast. Most stakeholders take a pragmatic view about the existence of coniferous plantations but a few are more vocal in their criticism. Those with a forestry background want to point out that commercial forestry can work with nature, for example because animals use it for shelter. Curlew breeding sites and forests are not necessarily mutually exclusive with one example of curlews breeding next to coniferous being given. Another stakeholder posited that the national guidelines make it difficult to plant even broadleaf in priority habitats, especially regarding curlew breeding grounds but that local knowledge can have a more sophisticated understanding.

"It shouldn't be a blanket ban on planting trees where there are curlew, it is more subtle than that and the (local) RSPB feel the same."

B.10 The majority of stakeholders want woodland that is in keeping with the landscape, following character and landform. However, a few argue that sometimes landscape character acts as too much of a block on planting for a couple of reasons (1) the argument was made by a few that woods as a crop were going to be removed and so may only have a temporary effect (2) landscape is 'dynamic' in its essence and so should evolve. This latter point does not mean that planting should not be in keeping with character and form, just that planting could be more ambitious, rather than restricting itself to being very limited.

B.11 The general stakeholder view is relatively cautious with sensitivities being key even outside of protected landscapes. Several stakeholders wanted planting to be as site-specific as possible. Finding niche pockets and ways to introduce trees is important for example in the AONBs and the National Park rather than having expectations of high increases in tree cover. Species such as Rowan, Willow and Alder are more likely here.

B.12 A more comprehensive, larger-scale approach could be taken closer to the conurbations. The opportunity for woodland to improve air quality near towns, deal with carbon offsetting for new settlement and development shelter is regarded as important. The large area of green belt is felt to be a potential focus as openness is not defined by trees but spatially by lack of housing. Accessible community forests, woodlands, country parks and orchards are worthy of promotion especially in the South East of the County, to further local government

objectives for wellbeing and access to nature, especially since the pandemic. Small groups of trees in peri-urban environments should also be promoted. The key land use study also sometimes recommends where the edge of settlements 'would benefit from shelterbelt planting.' Haydon Bridge was mentioned.

B.13 Regarding the location of woodland on farmland and agroforestry, a great deal of stakeholder concern is around the difficulties of encouraging farmers and landowners to come forward in the first place. A discussion of these barriers is dealt with later in the report but several stakeholders believe that the conversation with farmers and landowners needs to start much earlier than talking about actual scheme detail to just open up the thinking. Farmers/landowners that have already approached stakeholders are of a more enlightened mindset, motivated by eco-system services and will naturally come forward. However, stakeholder experience is that the environment is not the primary motivation for tree planting.

B.14 A stakeholder recommendation is for the planting of riparian corridors as a basic network which works with landform and other character features. This appears to be more relatable to many farmers being often easier for farmers to contemplate initially, sometimes also with wilded edges, as a starting point. Similarly, ghyll planting is regarded as appropriate in upland areas and moorland fringe.

B.15 A 'shade and shelter' approach is also an easier target for farmland, especially the more coastal, as is the use of rare unproductive land as a starting point although this can also be where the unknown archaeology exists. A few stakeholders also feel that landowners will now look at more resilient shelterbelts, in the wake of Storm Arwen and that more farms might now consider installing them from scratch in exposed situations for storm protection generally.

B.16 Where there are 'no mappable constraints' a few stakeholders would prefer that the interests of biodiversity, ecosystem services and nature recovery should be prioritised over how the landscape looked visually. Land on the designation fringes was a possibility to consider for planting for example along the Tyne Valley up to the National Park.

B.17 Stakeholders are invested in trying to find places to introduce trees, and to enable applicants where possible. However, having targets for 'plants in the ground' is not helpful; it is more about instilling a positivity around tree planting and having conversations. Over time, embedding the idea that tree planting is a long-term land use change is suggested by some stakeholders. However, those dealing with farmers, push 'farming' trees for profit as a more immediate way of keeping their motivation going. One argument made for

harvesting trees was that there is a finite period in which a tree does capture carbon anyway.

B.18 Figure 1 summarises where stakeholders lie on a continuum of tree planting types. From their current remits and the territory they cover, there was a spread of those who are only looking at the natural regeneration side, those who are mainly commercial and those who want all types to be considered. It shows the different angles that stakeholders come from.

"Nature first is the way to go"

"The natural regeneration will fall foul in years to come. We end up with all birch or all willow scrub. We can't replicate what nature did over 100s of years. Mother nature hasn't read UKFS. If I let Sitka spruce regenerate it would out compete everything. It sounds fantastic but it won't achieve what people want it to achieve."

"Monocultures of sitka spruce[36]; you should take a different approach to that. It is a commercial crop and it is no different to talking about a field of barley or oil-seed rape ."

---

[36] Monocultures of 100% Sitka spruce are not permitted within the UKFS (a maximum of 75% of a forest unit may be allocated to a single species). Existing sites with monocultures will be restocked to meet UKFS.

Figure 1: The planting continuum
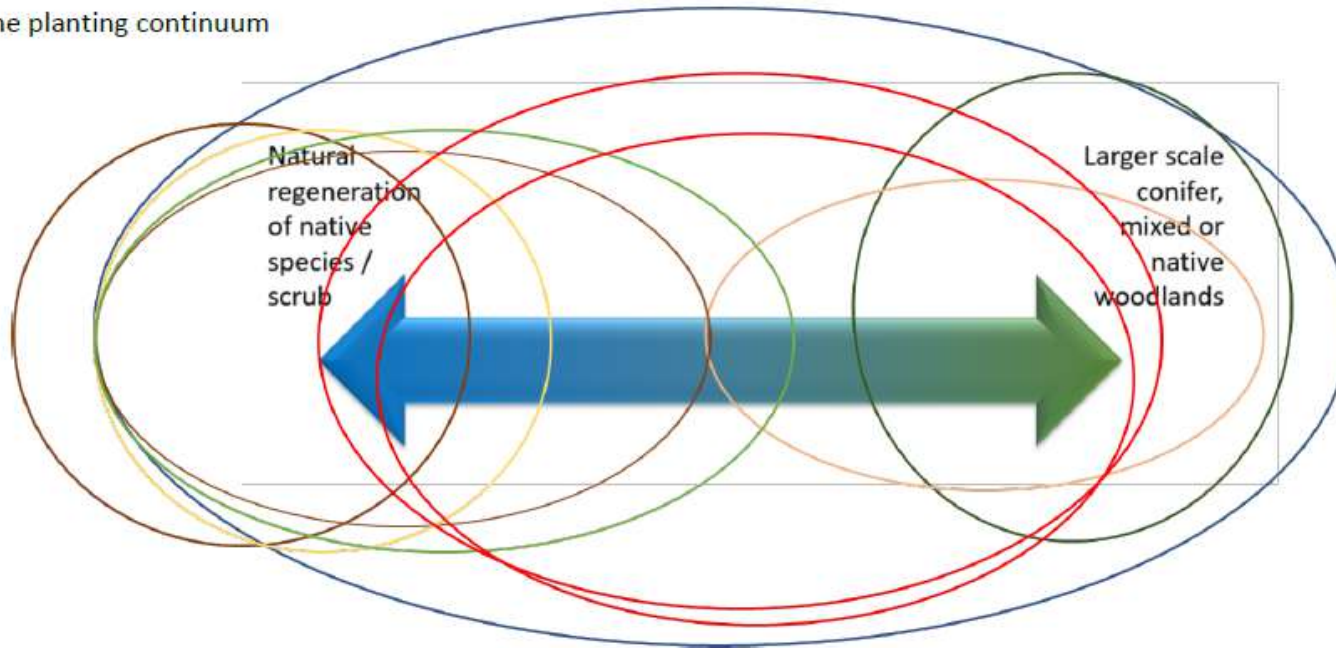
A landscape-led approach

B.19 Stakeholder recommendations are mostly for a landscape-led approach, allowing the landscape 'to point you towards the sort of planting you should be doing.' Those who wanted ecology or nature to be the key driver acknowledge that the landscape might lead to the same outcome:

"See the landscape as a palette and do what is appropriate in landscape management terms, minimising the risks that tree planting can do."

"If it is landscape versus nature recovery, I am nature recovery all the way. If it is appropriate to plant trees for biodiversity but it will significantly change the look of the landscape that is fine with me."

B.20 There is a concern expressed by some stakeholders that current grants could be too prescriptive and this did not help to design with landscape in mind. They called for more flexibility on % scrub and % open space allowed. Being too prescriptive could also deter people from applying.

B.21 As previously mentioned, a few stakeholders prefer to see landscape character as fluid believing that 'spirit of place' just evolves with the changes that are introduced. Others were more conservative in wishing for landscape character to take the lead. Using the landscape character assessments is useful, especially with an analysis of the 'Protect, Manage and Plan' descriptions that can help to identify locations for tree planting.

"If it says 'plan,' you can pretty much change things. If it says 'manage' you might be more just adding more incrementally to things. if it says 'protect' then you are really talking about not changing very much."

Landscape impacts

B.22 The key enhancing effects of woodland creation that stakeholders put forward were in the various eco-systems services of biodiversity, nature recovery, flood alleviation and soil protection. In addition to this are the economic and social benefits of farmed trees and community woodlands giving employment and amenity value respectively.

"It is about putting trees back into the landscape in such a way that they benefit society and ecosystem services are maximised."

B.23 There were enhancing opportunities in restoring hedgerows and hedgerow trees. Woodland creation could enhance field patterns and potentially enhance landform.

B.24 Enhancing the 'nativeness and naturalness' of the wooded landscape could result when replacing and maintaining existing woodland plantation, for example when making reparations after Storm Arwen. Enhancing the

landscape will also occur when increasing existing ancient woodland and connecting them to other isolated 'islands' of tree cover. Although it would need to be recognised that, to some members of the public, the islands might be part of the character perceived.

B.25 Most stakeholders feel that the enhancement potential for biodiversity of increased native/mixed woodland cover is enormous, especially if it was about 'fewer trees more woodland.' Some stakeholders say any type of tree cover would be beneficial to wildlife, enhancing the movement of animals generally.

B.26 It is agreed that increased tree cover would have an impact on the landscape visually and that there should be more communication to the public about this potentiality. Most stakeholders would like a balance to be struck between protecting key views/vistas and appreciating that some views/vistas will change. If some views/vistas are avoided for tree planting, then trees would have to be planted elsewhere anyway.

B.27 Stakeholders with a more purely ecological viewpoint and those with a forestry background are less concerned about protecting views/vistas, although there was recognition that Northumberland relies heavily on tourists who expect certain views/vistas. The landscape sometimes would dictate the views anyway insofar as, summits, ridges and crags would not be appropriate for planting due to having blanket bog or not supporting most tree species. Likewise, areas on the coast and islands would not easily support many types of tree planting, especially on the Whin Sill.

"There are some views which are worthy of protection but there is room in Northumberland for an awful lot more trees that would improve our quality and perception of the landscape."

B.28 Views or vistas should be protected where communities were passionate about them and where they contribute to the character of Northumberland as being 'the land of far horizons'. The ability to see from one end of an open landscape to another is important and potentially part of its natural beauty e.g.:

- from key upland high points
- from one end of The Commons to the other
- along the coast from north to south and vice versa.

B.29 The impact therefore of many types of tree planting could be quite negative if it is regarded as an open landscape. For example, when the landscape character assessment states that there is an open treeless character. Therefore, the landscapes with an open character would be impacted in terms of their perceived 'sense of place' and for this reason the stakeholders responsible for such landscapes are mindful

of keeping planting to a minimum and using low impact tree types. It might be that some protected landscape characters could evolve over time with a recognition that a slow introduction of tree cover would be 'accommodated' by people, but that seemed a long way off.

B.30 Stakeholders highlighted various views that are important:

- Peel crags and Sycamore Gap
- Steel Rigg
- Cheviot
- Yeavering Bell
- The Whin Sill
- Heritage Coast
- Islands
- Parts of Hadrian's Wall
- Lead mining
- Views into and out of the approaches to historic towns and villages
- Allendale Common vista from one end to the other
- View of Coquetdale
- HW across Kielder tree Canopy
- Pre-historic sites on the Kyloe Hills
- Views from the A1 to the Sea
- Views from the rolling hills just inland from the coast to the sea
- The Castles.

B.31 On private land, where there is not public access, some viewpoints would not necessarily need protecting. Scheduled Ancient Monuments would be protected themselves but would views across to them. Views from significant rights of way would need protecting.

B.32 A survey or report on key vistas could be commissioned to allow schemes to identify any important views/vistas. At a smaller scale, this is done on a case-by-case basis anyway but it may not account for cumulative effects on a larger scale over time. There was some existing material on this in the Local Plan although designed to help with development planning could still be useful. (Part A of the Key Land Use Study done for visual impact of the wind farms from service centres of Wooler, Rothbury etc)

B.33 Key heritage features would need to be seen from a distance but also, in some cases, being able to look out from the feature would be important. Where people stood in the

past surveying the land can be important for people to experience now unless it is already obliterated e.g. by a motorway.

B.34 On a site-specific basis, the County historic environment officers could help with examining where viewpoints are important. The visual interpretation of any site historically relies on understanding hidden features, e.g. through LIDAR in order to gauge what else might be significant more widely than the obvious feature.

B.35 According to some stakeholders, there is leeway around planting near or on unprotected historic features, where they are significantly degraded, or where the roots of the species planted would not damage it or woodland might act to preserve the site.

Combining NCA/LCA mapping

B.36 There is a reluctance amongst stakeholders to combine LCAs or NCAs beyond some of the current shaded categorisations. This is because there was only so far that plans should be made from a desk-based scenario and that the tasks were often so site specific that that was important to bear in mind. Others feel that too much categorisation might put constraints or targets at too large a scale when everything should be considered. Despite this, one stakeholder suggested that moorland fringe and upland fringe could be treated in a very similar way and that is what they were starting to do. Another thought that the Green Belt could be treated in one way.

B.37 Otherwise, sensitivities could be at a very local level, even field by field, especially regarding breeding birds where desk research data did often not reflect the reality. Also, experts in hidden historic features could spot where trees can and cannot be planted more subtly on site than what might at first appear with high level mapping data.

"There's room for lots more trees in Northumberland. Try and get them in where you can. You shouldn't focus on areas."

"It's a useful layer but it all needs ground-truthing anyway."

"I don't take a lot of notice of NCAs. If I am doing a scheme I would expect NE to tell me what I should be doing and shouldn't be doing."

Woodland types

B.38 Some stakeholders have 'no go' areas, for example, with commercial forestry and would often not go much beyond natural regeneration or 'assisted' natural regeneration in:

- Blanket bog
- Deep peat
- Wading bird habitats

■ Protected landscapes.

B.39 Although most of the above were mapped with constraints that stakeholders tended to agree on in an ideal world, occasionally there might be some 'wriggle-room'.

B.40 The larger scale native or conifer woodland was preferred by those in the forestry world, looking for a product. Some of these land-use interests were felt to be too large-scale to be within GNF's remit, although they could play a partnership role.

B.41 Coastal and coastal plain sensitivities were high according to stakeholders with some differentiation being made between the coastline itself and the agricultural plain behind it. Despite restrictions there is still a need to reach nature recovery targets and look at furthering a mosaic of habitats. 'Within' Coast AONB options might be:

■ wooded denes

■ Howick and Embleton

■ shelterbelts

■ riparian scrub

■ orchards, early pollinators

■ hedgerow trees

■ 'shrublands' (scrub)

■ visual intrusion planting (caravan parks).

■ field corners

■ replacement trees

■ up-catchment planting

■ nutrient run-off planting

■ short rotation coppice for wood fuel.

B.42 Non-AONB opportunities for woodlands were, north of the Coast AONB towards the Scottish Border, and south of the Coast AONB in Druridge Bay or for amenity woods generally.

B.43 Moorland and upland opportunities were in assisted scrub regeneration, ghyll planting and wood pasture. Ghyll planting was beneficial but would still need ground truthing e.g. for water voles and ring ouzel. Even scrub on scree could be considered to improve soil quality perhaps. The users of some moorland or upland for grouse shooting would not favour any tree cover to a height where flight patterns would be affected or the sport would be disabled through lack of visibility of the target. Ancient hefting patterns for upland sheep farming could also potentially be disrupted.

B.44 Agricultural land being highly valued is discussed elsewhere with not much beyond the 'trees outside woods and existing woodland extension' being considered (1-6). Some of

the highly fertile areas on the plain were particularly hard to imagine with woodland because of the heritage. It was pointed out that some coastal areas were experiencing soil erosion particularly on arable land which could be planted to slow this down.

"Where conditions are less, that is some of the most valuable agricultural land in the County so it would never be profitable or suitable for woodland planting. You wouldn't take that land out of production if you were a farmer and we probably wouldn't support that either in term of landscape."

B.45 Some stakeholders found that the food security argument was used as a 'wall to hide behind' and pointed to research indicating that a certain % reduction in grazing would have minimal impact on food security. Differences in agricultural land in Northumberland are noted between East and West.

B.46 The development of a South East Northumberland Wildlife Network would benefit from trees for increased green infrastructure plans between areas of population.

Scheme design and toolkits

B.47 Stakeholders state that, outside of those who had already come forward for woodland creation projects, landowners and farmers need warming up with general awareness raising, myth-busting and engagement campaigns/strategies.

B.48 They see barriers to planting coming from the farming community which need overcoming. There should be messaging to overcome farmer concerns, including the financial motive as a key driver. Little is known about the upcoming agri-environment scheme changes and this is compounding reticence. Uncertainty re ELMs and in the policy framework generally is a factor in encouraging doubts.

B.49 Eco-system services as a motive for planting is not regarded as a primary selling point for all famers but it can be more for general landowners. Whilst younger generations of farmers are more interested there is often a multi-generational structure meaning that practices do not move on.

"The ones who approach us do understand, and they are often the younger generation whose parents wouldn't necessarily. Mostly when landowners talk to us, they define it as environmental, some might define it as biodiversity then add on a sort of amenity for the kids to walk through."

B.50 The language used in any toolkit should be careful because the older generations can see some of the ideas as counterintuitive to their understanding of land 'management'. Planting trees or adding scrub where they had been cleared previously goes against the grain when memories of childhood tasks on the land are called to mind. The sense of farming

identity can be lost unless the 'new activities'; are re-framed in language that links them so, farming trees, wood pasture instead of woodland creation, even 'shrublands' instead of 'scrub'. The term 'rewilding' is not popular amongst the community, although younger generations were getting inspired by The Knepp Estate book. Some stakeholders use 'regenerative agriculture' instead. Others say 'it is a way of staying on the land".

"Net gain is aimed at the next generation. The average farmer owner is 50/60 and at that point they are not looking at Net Zero or what their carbon footprint is. Farmers are very traditional. The progressive ones are coming forward. We need to look at their children and grandchildren Look at the age demographic of extinction rebellion. Talking to a 60-year old farmer about 2050 that is a hard sell."

"The trouble is that the farmers want everything neat and tidy so we need a PR campaign for scrub. Someone suggested we shouldn't call it scrub we should call it shrublands. Shrubland sounds nicer. Farmers associate scrub with neglect: Oh, they've allowed the land to scrub up and it is now messy!"

B.51 Framing the activity of tree planting positively for farm owners had helped some stakeholders to overcome the more negative view that it is perceived to be taking land out of production. Riparian planting has been the way through here.

B.52 Stakeholders would like any advice to be user-friendly, aiming to de-jargonise some of the DEFRA and Forestry Commission language. Even some intermediaries, who would likely be consulted, find the processes difficult. "We haven't done woodland creation for years and now it's all go!" Whilst UKFS is a useful document and helps good practice, stakeholders say it is not for the layperson. They asked for the headings and strands to be 'decoded,' setting them out clearly for farmers and landowners.

"If I put UKFS in front of a farmer, it would blow their mind!"

"It would be really useful if there was a single place that told you about all the schemes that are available because the FC want to lead you through the process by the bullring but actually it shouldn't be like that. Really, really basic and it needs to be in one place. There is nothing worse than navigating the gov.uk website to find CS schemes!"

B.53 Therefore, there is a need not to frighten prospective applicants off. Giving lots of signposting to data and information would be good for the intermediaries but some landowners, farmers might not see the subtleties of their sites and reject the idea based on the data they saw. If landowners have historic features or wading birds they might just discount tree planting per se when there could actually be ways around it. Seeking personal advice was a clear recommendation from stakeholders to farmers and landowners through woodland

officers, land agents or historic environment specialists. A list of such people should be provided.

B.54 Stakeholders providing advice to farmers and landowners find that tree planting needs to fit into the 'whole farm model' taking a step back to understand that first is important. Then ultimately the farmer/landowner needs to be clear about why they are planting, living a clear rationale and using key buzzwords for example tying it in with the Local Nature Recovery Strategy. Seeing tree planting as part of the farming business is important to achieve buy-in. This can be difficult if the financial incentive is not there for tree planting in the long term as well for maintenance eg cf wildflower meadows where the payment continues.

B.55 But the profit motive was strong, especially amongst the more affluent owner-famers. For example, looking at the tourism angle, many farmers have holiday lets which could use logs for the wood burners or the woodland might provide additional holiday appeal, when close to the cottages for amenity or foraging. Fruit trees could provide fruit or jam. Shelterbelts might extend the season. Emphasising the fact that the 'tree crop' can be harvested by them at a profit, or by their children for more can be an appealing motive.

B.56 Other motivational factors are to do with land and livestock such as promoting the benefits of trees providing soil improvement, shade and shelter, leaf fodder or reducing wind speed.

B.57 "We have found that farmers are more interested in trees when you stop talking about it in terms of woodland but you talk about it in terms of wood pasture. So, trees with grazing. There is good research out there that says tree fodder is good for cattle it introduced minerals and nutrients that they wouldn't get through grass."

B.58 Species choice was another barrier to farmers who need some guidance here. Many now discount Ash, know that Oak is poisonous to livestock (even when they farmed arable) and realise that Beech would not grow in Northumberland. Applicants would benefit from a greater understanding of this element, stakeholders thought.

B.59 Several stakeholders thought that some of the current requirements e.g. to produce formal 'Woodland Creation Plans' or a 'Forestry Management Plan' were too onerous for lay farmers and land owners, especially for those who wouldn't be paying someone to do it on their behalf. A management plan, for example, could just be ensuring good health and safety. There is a need to explain the basics e.g. of spacing and straightening tree guards later on but that it is all manageable:

"If the purpose is for diversity, biodiversity, just leave it."

"They are refuges for wildlife. People can manage a small woodland. It requires a lot less management than people think. It is scalable to what people can manage kind of message."

"In my view, and it doesn't matter if it is only 2 sides of A4 start drafting a woodland creation plan. Capture your thoughts."

B.60 It was felt there was a need for any proposed toolkit to handhold and demystify. To this end, stakeholders suggested various potential 'how to' guides for GNF to think about publishing, how to:

- Brief a land agent
- Write a woodland creation plan
- Write a forestry management plan
- Create a photomontage, visualisation
- Navigate the FC process
- Desk-based research versus site-specific
- Do a whole farm audit
- Check wader zonal map and evaluate
- Do fencing for trees
- Get through a constraints check (MAGIC).

"Make sure the objectives are there, you've done your research and your data gathering then hopefully the landscape will point you towards the sort of planting you should be doing."

"What are their objectives, what are they wanting from it and secondly it would be a case of helping them to understand some of the constraints and opportunities process. When you talk to most landowners, they aren't aware of the forestry EIA process. Probably a general thought that you can put a tree anywhere without getting permission for it. Helping them to understand why they can't do what they want to do."

"I say remain flexible. You may start with a xxx hectare plan but someone will take a chunk out of it there and another chunk will go somewhere else but you WILL end up with something."

B.61 In order for schemes to be accepted they need to have a number of hooks in them linked to government policy, as one stakeholder said: "points mean prizes" but often farmers just want to know "how much am I going to get?" or "is it going to make me richer?"

B.62 A few could be motivated by the 'rewarding public goods' model such as flood alleviation but without decent remuneration this is derided as helping 'other people' rather than themselves. Simply, pointing out that a mixed approach can be taken i.e. some as tree crop and some for biodiversity

helps to encourage consideration. Mostly though, it needs to be a business decision:

"They are making a business decision. If we are talking private landowners, people seeing a benefit to their bottom line, hard numbers. A benefit in his or her pocket."

B.63 A number of key points are important to those stakeholders reviewing schemes:

- Don't follow existing field boundaries
- Combined schemes with an element of natural regeneration
- Mixed planting, species diversity and open space
- Planting which takes the landform in mind
- Follow the contours, position open space where appropriate
- Surrounding conifers with broadleaf
- Remain flexible
- Use photomontage or visualisations
- Design and mitigation regarding historic features.

B.64 A few stakeholders are against funding schemes with plastic tree guards and have themselves trialled various options with deer fencing, companion planting, willow pegging and increasing plant densities.

B.65 Another aspect of the design guide and the communication around tree planting was to normalise it, thus giving farmers or landowners' 'permission' to step out from the crowd. Stakeholders believe that peer-to-peer word of mouth is incredibly important in preventing or triggering behavioural change and finding advocates with experience that other farmers could relate to in the form of case studies or meet-and-greet-type events could work.

Future changes and activity

B.66 Some information is out-of-date here and there, for example, the National Character assessments. A few stakeholders would like them updated in an ideal world. Several stakeholders think they are workable as each case need 'ground truthing' anyway and in a way, it allows for the arguments to be made about the current state of play. A 'light-touch' updating could be valued.

B.67 Some current landscape material needed additions on:

- Resilience to climate change, storm, wind, wildfire, flood
- Resilience to disease
- Protection of soil.

B.68 Some information was now inaccurate e.g.:

- Priority habitats

- Coastline change, habitats, placement of dunes, retreat

- Water catchments

- Ancient woodland

- Keys to the Past incomplete data set

- FC mapping tool sometimes too high level.

"The only thing we have got is the PHI it has a lot of errors in it. It would be great if we could have an upgrade. It's the quality of the data, not that it's outdated."

B.69 Some in-progress research is relevant:

- Visual character document from North Pennines AONB Partnership

- Map of Ancient woodland is being updated (to include woods under two hectares)

- SE Northumberland Wildlife Network.

B.70 Fresh spatial research could be conducted where there are gaps on:

- Key viewpoints, valued vistas map, borrow from settlements

- Eyesores map

- Maiden trees or copses

- Treeline studies like the Dumfries and Galloway pollen research.

B.71 Stakeholders need further time to think about how to assess the cumulative effect of woodland creation on the landscape over time. If it concerned visual effect, some fixed-point, time-lapse photography could be conducted at key points at 10-year intervals.

B.72 Other assessment ideas were:

- Community engagement feedback on the benefits of woodland creation

- Link in with other monitoring of ecosystem services

- Link with the county council on blue/green infrastructure monitoring

- Future character assessments.

B.73 A few stakeholders were reticent for metrics on tree planting to be used favouring a monitor of GNF engagement with partners, landowners, and farmers instead. It was also mooted that the percentage of tree cover should be broken down into coniferous versus native to allow for comparison with other Counties.

B.74 There is a view that GNF was already making great strides with communication and 'more of the same' in terms of events held to talk to farmers and landowners is suggested. In terms of the public, in some rural parts of the county, the public and farming were almost the same, so the less populated areas could be done through the parish network. A different network might be needed for the more populated South East of the County. Community engagement has general support amongst stakeholders although a few find that it needs careful handling. A few would also want to include a schools' outreach programme to instil a love of trees for the future.

B.75 A farmers' and landowners' survey would identify current attitudes and levels of awareness, as suggested by one stakeholder. As previously stated, a peer-to-peer advocacy programme is considered desirable. Developing some sort of segmentation of landowners would help to define the messaging and marketing strategy, recognising that there is a broad range of people in different financial situations. Some stakeholders favoured a stronger selling approach, treating potential applicants as customers, although the more subtle 'broker'/promoter of trees was also liked.

"Be brave, bold, pre-empt, pre-sell and manage expectations!"

Appendix C

Visualisations

This appendix contains low resolution versions of the photomontages

C.1 The baseline image and visualisations for the three time frames (year 5, year 15 and year 40) are presented for the six selected locations:

- East Kielder
- Liberty Hill
- North Middleton
- Red Row
- Stobswood
- West Sleekburn

East Kielder – Baseline Image

East Kielder - Baseline Photograph

East Kielder – Year 5

East Kielder - Year 5

East Kielder – Year 15

East Kielder - Year 15

East Kielder – Year 40

East Kielder - Year 40

Liberty Hill – Baseline Image

Liberty Hill – Year 5

Liberty Hill – Year 15

Liberty Hill – Year 40

North Middleton – Baseline Image

North Middleton – Year 5

North Middleton – Year 15

North Middleton – Year 40

Red Row – Baseline Image

Red Row - Baseline Photograph

Red Row – Year 5

Red Row - Year 5

Red Row – Year 15

Red Row - Year 15

Red Row – Year 40

Red Row - Year 40

Stobswood – Baseline Image

Stobswood - Baseline Photograph

Stobswood – Year 5

Stobswood - Year 5

Stobswood – Year 15

Stobswood - Year 15

Stobswood – Year 40

Stobswood - Year 40

West Sleekburn – Baseline Image

West Sleekburn - Baseline Photograph

West Sleekburn – Year 5

West Sleekburn - Year 5

West Sleekburn – Year 15

West Sleekburn - Year 15

West Sleekburn – Year 40

West Sleekburn – Year 40

Appendix D

National Character Area profiles

This Appendix contains the ten detailed NCA profiles

National Character Area 1: North Northumberland Coastal Plain

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

Landscape Character Type	Landscape Character Areas
■ 1 Broad River Mouth	■ 1a Tweed River Mouth
■ 2 Coastal Incised Valley	■ 2a Lower Aln ■ 2b Lower Coquet
■ 3 Farmed Coastal Plain	■ 3a Haggerston ■ 3b Lucker ■ 3c Rock
■ 4 Rocky Coastline	■ 4a North Tweed Coast ■ 4b Farne Islands Coast ■ 4c Craster Coast
■ 5 Sandy Coastline	■ 5a Holy Island Coast ■ 5b Beadnell and Embleton Bays ■ 5c Aln and Coquet Estuaries

Existing tree/woodland coverage

Woodland cover is generally sparse and is limited to mixed coniferous shelterbelts and clumps adjacent to farmsteads and settlements. There are few hedgerow trees. Some remnant ancient semi-natural woodland can be found in the sheltered bends of the incised river valley along the lower reaches of the Coquet. The woodland resource elsewhere is limited to areas of broadleaved woodland found in the Aln and Coquet Valley, around the Howick Estate and along the Waren Burn valley.

Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Broadleaved	851.6	2.3
Coniferous	511.1	1.4
Mixed	178.0	0.5
Other	329.5	0.9

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.1% of NCA
48.8 ha

0.3% of NCA
110.3 ha

■ Ancient replanted woodland (PAWS)   ■ Ancient semi natural woodland (ASNW)

---

[1] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/north-northumberland-coastal-plain/

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 2: Coastal Incised Valley:* ■ *Encourage improved management and planting of deciduous woodlands which presently receive little active management.*
	2. Additional Planting / Woodland expansion	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Conserve and enhance semi-natural inland habitats such as Whin grassland, native woodland and wetlands, improving their connectivity and resilience to climate change, benefiting climate regulation, water quality and soil quality and reinforcing sense of place.* *For example, by:* ■ *Seeking opportunities to expand and link woodland fragments, particularly restoring woodland along watercourses, including enhancing the wooded character of the Aln and Coquet river valleys, and within the area around Howick.* ■ *Bringing existing woodland under management and seeking opportunities for small-scale planting of deciduous species to generate a local supply of wood fuel.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The Northumberland Coast AONB Management Plan 2020-2024 states that: ■ *The openness of the North Northumberland coastal plain is one of its defining characteristics, but this does not mean that trees and woodlands are not important in the AONB; hedgerow trees are a very important component of the landscape.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 1 Broad River Mouth:* ■ *Encourage tree and hedgerow planting to reinforce and repair the landscape pattern of the field boundaries.* *LCT 3. Farmed Coastal Plain and LCT 5.Sandy Coastline:* ■ *Seek to facilitate the retention, restoration, and reinstatement of historic field boundaries, such as species-rich hedgerows.* The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 4: *Manage and enhance the farmed environment to secure viable and sustainable farming, improving the water quality of the rivers, coast and Fell Sandstone aquifer, reducing soil erosion, strengthening landscape character, conserving archaeology and historic buildings, supporting the farmland birds and overwintering shorebird populations that are dependent on this area, and improving the connectivity and heterogeneity of this landscape.* *For example, by:*

		■ *Encouraging the restoration and reinstatement of hedgerows to enhance biodiversity value, improve landscape permeability, reduce wind erosion of soils, and reinforce landscape character.* The NCA document also contains the following text under 'Landscape Opportunities': ■ *Enhance the permeability of the arable landscape by restoring hedgerows and improving the network of arable margins and unimproved grassland which support invertebrates and farmland birds, improving connections between arable areas and more extensive areas of semi-natural habitat which supports pollinators in the Northumberland Sandstone Hills and other adjacent NCAs.*
NCA.	4. In-field trees – parkland style and wood pasture style	The Countryside Stewardship Statement of Priorities identifies in-field trees as a top priority for landscape in this NCA.
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature
	6. 'Wild edges'	The Northumberland Coast AONB Management Plan 2020-2024 states that: ■ *Allowing scrub to develop in field corners greatly increases the value of those fields to a range of wildlife, and by locating such areas on less productive land and in places that it is difficult for large farm machinery to reach, the economic impact of such actions can be minimised.*
Woodlands (native/mixed)	7. Riparian woodlands	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 4: *Manage and enhance the farmed environment to secure viable and sustainable farming, improving the water quality of the rivers, coast and Fell Sandstone aquifer, reducing soil erosion, strengthening landscape character, conserving archaeology and historic buildings, supporting the farmland birds and overwintering shorebird populations that are dependent on this area, and improving the connectivity and heterogeneity of this landscape.* *For example, by:* ■ *Establishing and managing areas of permanent grassland, scrub and woodland along watercourses; the area inland of Holy Island has been identified as a priority area in the Woodland for Water Opportunity Mapping where woodland planting should significantly benefit water quality.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: LCT 1 Broad River Mouth: ■ *Seek opportunities for additional riparian planting to enhance the river corridor, to help protect river banks against erosion, and potentially to mitigate the effects of new flood defences.* The NCA document also includes the following 'Landscape Opportunities':

		■ *Manage and enhance broadleaved woodland cover, particularly along rivers and streams and around the Howick area, creating an ecological network more resilient to climate change, helping to regulate water flow and strengthening landscape character.*
	8. Shelterbelts/trees as screening	The Northumberland County Council Landscape Character Assessment (2010) states that: ■ *The distinctive mature beech and pine shelterbelts found in this area generally consist of single age stock which will have a finite lifespan. Give consideration to promotion of re-planting so that a succession can be achieved.* The Northumberland Coast AONB Management Plan 2020-2024 includes the following text in relation to shelterbelts: ■ *Shelterbelts are another form of woodland habitat on farms. They tend to be even-aged conifer plantations, but as they reach a harvestable age, there are opportunities to improve their value to wildlife and landscape by increasing the proportion of locally native tree and shrub species.* The Northumberland AONB Landscape Sensitivity and Capacity Study (2013) notes some specific opportunities for shelterbelt planting within the NCA, including the following locations: ■ Longhoughton - *Provision of new shelterbelt planting to the east of the village would be particularly effective in reducing the impact of recent or further housing on the landscape. This should be of appropriate scale and species common to the locality to reflect existing plantations such as those around the Howick Hall Estate.* ■ LCT 3: Farmed Coastal Plain: *Well-designed screening, reflecting shelterbelts characteristic of the LCT's farmsteads, and strengthening of field hedgerows can serve to reduce the potential for visual prominence of caravan/camping sites within the LCT whilst serving to reinforce its established landscape character.*
	9. Small to medium size native woodland (2-10 ha)	The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery: ■ *Arable reversion, where appropriate, could allow the expansion of key habitats like fen or woodland.*
	10. Larger-scale mixed or native woodland (above 10 ha)	No specific information in the current literature
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature
	12. Scrub	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Conserve and enhance semi-natural inland habitats such as Whin grassland, native woodland and wetlands, improving their connectivity and resilience to climate change, benefiting climate regulation, water quality and soil quality and reinforcing sense of place.* *For example by:* ■ *Seeking opportunities to restore and expand semi-natural grasslands, heathlands, wetlands and scrub habitats, aiming to re-establish a fringe of semi-natural vegetation to buffer the coastal habitats from the effects of cultivation and creating links to the larger areas of semi-natural habitat in the Northumberland Sandstone Hills.*

Commercial plantation	13.　　Biomass and short rotation coppice	No specific information in the current literature
	14.　　Small to medium size conifer (5-10 ha)	No specific information in the current literature
	15.　　Larger scale conifer, above 10 ha	No specific information in the current literature

- The NCA profile also notes the following drivers of change for the landscape which relate to trees and woodland:

  - *The spread of tree diseases which poses a significant threat to native species such as ash and consequently has landscape-scale implications where species are common in field boundaries and woodlands.*

  - *Change in species composition within woodlands and damage to or loss of veteran trees within managed parklands.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

- The Countryside Stewardship Statement of Priorities for this NCA states:

  - *enhancing existing woodlands and expanding woodland cover in locations where well-managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include:*

    - *the area between Belford and Berwick*

    - *the River Coquet catchment*

- Opportunities in the characteristically open Farmed Coastal Plain LCT are generally limited to the restoration and creation of hedgerows (including appropriate hedgerow trees).

- There are opportunities within the valley LCTs to create riparian woodland to deliver multi-functional benefits including for landscape, biodiversity and flood alleviation.

- The Northumberland Coast AONB Management Plan identifies the following elements as characteristics of the protected landscape:

  - *Feeling of exposure and tranquillity on the flat, low-lying open coastal plain and windswept coast, with sparse tree cover, huge skies and wide seascape views.*

  - *Fragmented woodland and plantations.*

  - *The AONB is not a wooded landscape - tree cover is sparse and forestry and commercial woodland management is limited.*

Summary of woodland creation opportunities

- There are opportunities to expand and link woodland fragments, particularly restoring woodland along watercourses, including enhancing the wooded character of the Aln and Coquet river valleys, and within the area around Howick.

- Within the farmed landscape, there are opportunities to expand trees outside of woodlands, including through hedgerow creation and the introduction of 'wild edges' to fields.

- There is limited scope for the creation of commercial-scale forestry (of any scale) within this NCA.

- There are opportunities to improve the landscape impact of existing shelterbelts by restructuring them to include more native species. New shelterbelts using locally appropriate species can help to reduce the impact of housing and tourism development.

- The establishment of scrub (as part of habitat mosaic) can be targeted to buffer important coastal habitats and provide linkages between areas of coastal habitats and larger areas of inland habitat.

- The AONB Management Plan also includes the following Aims and Objectives in relation to woodland:

  - Aim 1: To ensure that the natural beauty and special qualities of the AONB are conserved and enhanced

    - *Small woodlands beside watercourses can play a valuable role in tackling diffuse pollution.*

    - *The Forestry Commission has identified areas in the AONB suitable for the creation of small woodlands[2].*

Recommendations

- Promote the creation, restoration, and improved management of native woodlands along water courses, focusing on linking woodlands and other semi-natural habitats and providing multi-functional benefits.

- Little existing information exists in the literature on the implications of agroforestry in this NCA. However, agroforestry could be introduced alongside arable farming, a characteristic feature of the North Northumberland Coastal Plain (while retaining key views/open areas on the flat/low-lying coastal plain).

- There is a lack of management of some existing woodlands. The Northumberland County Council LCA notes the need to '*promote improved management of woodlands and habitats, including through uptake of appropriate agri-environment schemes',* particularly within coastal LCTs.

- Plan for the implications of tree pests and diseases when creating new woodland and bringing existing woodlands into management. Ash is a common species in the NCA and plans should take into account the likely loss of these specimens due to ash dieback.

- The loss of veteran trees in parklands as a result of climate change is identified as a driver of change in the National Character Area profile. Successional planting within ornamental and designed parklands and wood pasture areas should consider the impacts of climate change. Although it is desirable for replacement ancient/veteran trees to replicate the species/cultivar of the original specimen[3], it should be considered on a site-specific basis whether this is practical due to the impacts of climate change and pests and diseases which may impact on the suitability of a given tree species.

- Promote the restoration and recreation of hedgerows in the farmed landscape using native species composition and local techniques. Target hedgerow restoration and recreation in areas where field boundaries have been lost to past agricultural intensification.

References

- Northumberland County Council Landscape Character Assessment (2010)

[2] Yorkshire & North East England Woodland for Water Project Phase 1: Opportunity Mapping Final Report. Forest Research. Accessible at: https://cdn.forestresearch.gov.uk/2022/02/om_yandne_final_report.pdf
[3] https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

- Northumberland Coast AONB Management Plan.

- National Character Area Profile: 1. North Northumberland Coastal Plain

- Countryside Stewardship Statement of Priorities: NCA 1: North Northumberland Coastal Plain

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

- Northumberland AONB Landscape Sensitivity and Capacity Study (2013)

National Character Area 2: Northumberland Sandstone Hills

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

Landscape Character Type	Landscape Character Areas
■ 6 Broad Sandstone Valley	■ 6a Whittingham Vale
■ 7 Estate Valley	■ 7a Hulne Park
■ 8 Outcrop Hills and Escarpments	■ 8a Doddington Ridge ■ 8b Kyloe and Chillingham Hills ■ 8c Charlton Ridge ■ 8d Beanley Moor ■ 8e Rothbury Forest ■ 8f Harwood Forest ■ 8g Sweethope and Blackdown
■ 9 Sandstone Upland Valleys	■ 9a Coquetdale
■ 10 Smooth Moorland	■ 10a Rosebrough Moor ■ 10b Alnwick Moor
■ 11 Sandstone Fringe Farmland	■ 11a Belford Hills ■ 11b Buteland and Colt Crag ■ 11c Hetton

Landscape Character Type	Landscape Character Areas
■ 8. Outcrop Hills and Escarpment	■ NSH8a. Harbottle Hills ■ NSH8c. Simonside Hills
■ 9. Sandstone Upland Valleys	■ NSH9a. Coquet Valley (Harbottle-Harehaugh) ■ NSH9b. Grasslees Valley ■ NSH9c. Coquet Valley (Rothbury)

Existing tree/woodland coverage

Woodland cover is significant, a large proportion of which is coniferous plantations within the Forestry Commission estate. Broadleaved woodland is associated with rivers, burns, loughs, scarp slopes and the country house estates that fringe the lower fellside slopes such as Chillingham, Cragside and Alnwick Castle

Notable areas of ancient semi-natural woodland comprising oak, ash, rowan and birch occur on steeper slopes below the scarp face, along incised burns, and on the dip slopes. Nationally important relict stands of juniper are found in a few locations such as Bewick and Beanley Moors, Harbottle Moors and Simonside Hills SSSI.

Storm Arwen[1] caused damage to several forests within the NCA, including Harwood Forest, Thrunton Wood and Ros Hill Wood near Chillingham.

Woodland type	Area (ha) 2020[2]	Percent of NCA (2020)
Broadleaved	1,578.5	2.2
Coniferous	7,755.0	10.7
Mixed	435.1	0.6
Other	4,694.1	6.5

[1] A map showing the impact of Storm Arwen on woodlands is available to view here: https://experience.arcgis.com/experience/2df27ce217fd4bada220e81485f1c616
[2] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/northumberland-sandstone-hills/

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.4% of NCA
281.2 ha

0.4% of NCA
277.3 ha

■ Ancient replanted woodland (PAWS) ■ Ancient semi natural woodland (ASNW)

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Enhance the connecting corridors of streams, rivers and waterbodies, expanding and linking fragmented habitats such as wet pastures, meadows and native woodland, improving water quality, restoring natural river morphology, promoting natural flood management and exploring the possibility of establishing flood storage areas. This should help to protect nationally and internationally important species, ensure that the rivers and waterbodies retain their reputation as renowned game fisheries, and help to reduce the risk of settlements flooding in this and downstream NCAs.* *For example by:* ■ *Managing stock grazing levels by fencing where necessary and controlling invasive species such as rhododendron and bracken to encourage natural regeneration of semi-natural woodland and gorse scrub,*

		particularly on wooded bluffs and along burns, in order to diversify age structure and retain the characteristic pattern of the woodlands. This will also help to stabilise banks, reduce soil erosion and regulate water flow. ■ *Encouraging the re-coppicing of areas of alder woodland, particularly in the Grasslees Valley where this management regime was historically significant, to encourage longevity of the woodland and increase age structure.*
	2. Additional Planting / Woodland expansion	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 8. Outcrop Hills and Escarpments:* ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect.* *LCT 9. Sandstone Upland Valleys* ■ *Promote improved management of semi-natural woodland on wooded bluffs and along burns, including through uptake of HLS and other agri-environment schemes, in order to diversify the age structure of the woodlands and retain characteristic patterns of woodland in the landscape.* *11. Sandstone Fringe Farming* ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect, particularly along gills and ravines.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 2: *Manage and enhance the farmed environment, providing a mosaic of grassland types and structures to benefit wildlife such as breeding waders and hen harrier, supporting the long tradition of rearing hardy livestock in this area, including preserving the rare breed of Chillingham wild cattle, strengthening landscape character, contributing to food provision and managing cropped areas to minimise soil erosion.* *For example by:* ■ *Restoring or reinstating hedgerows in the valley bottoms to slow water flow, aid infiltration, improve habitat connectivity and strengthen landscape character.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 6. Broad Sandstone Valley* ■ *Encourage landowners to improve management of existing hedgerows and woodlands through agri-environment funding schemes.* ■ *Encourage restoration and improved management of hedgerows and existing woodlands in sympathy with the local conditions, using suitable native species and local techniques where relevant e.g. hedge laying.*

		LCT 11. Sandstone Fringe Farming ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect, particularly along gills and ravines.* ■ *Seek to enhance field boundaries through hedgerow and tree planting, maintaining existing structure and pattern within the landscape.* The Countryside Stewardship Statement of Priorities for this NCA state the top priorities for landscape in this area are: ■ *hedgerows* ■ *hedgerow trees*
	4. In-field trees – parkland style and wood pasture style	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 4: *Protect, manage and conserve the area's distinctive historic and geological environment with its wealth of archaeological and built heritage assets from 'cup and ring' marked rocks to Alnwick Castle, and the distinctive geological features including the iconic Simonside crags, providing access to these valuable resources and encouraging their use in research and education to improve understanding and enjoyment of the landscape and its cultural development.* *For example by:* ■ *Managing, conserving and restoring the parklands associated with large estates such as Alnwick Castle, Cragside and Chillingham* The NCA profile contains the following under the 'Landscape Opportunities' part of the document: ■ *Conserve and restore key features of the designed parklands and gardens associated with the large country houses and castles which are an integral component of this landscape and which draw large numbers of visitors to the area.* The Countryside Stewardship Statement of Priorities for this NCA state the top priorities for landscape in this area are: ■ *in-field trees*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)	7. Riparian woodlands	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Enhance the connecting corridors of streams, rivers and waterbodies, expanding and linking fragmented habitats such as wet pastures, meadows and native woodland, improving water quality, restoring natural river morphology, promoting natural flood management and exploring the possibility of establishing flood storage areas.*

		This should help to protect nationally and internationally important species, ensure that the rivers and waterbodies retain their reputation as renowned game fisheries, and help to reduce the risk of settlements flooding in this and downstream NCAs. *For example by:* ■ *Managing, expanding and connecting the fragmented woodland and scrub along river corridors and in the flood plain of the Coquet, creating more ecologically robust habitat networks, re-establishing important wildlife corridors, strengthening the character of these key landscape features, improving water infiltration, stabilising banks, reducing soil erosion and slowing water flow to alleviate flooding of settlements downstream.*
	8. Shelterbelts/trees as screening	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *8. Outcrop Hills and Escarpment* ■ *Where plantation restructuring takes place encourage softer plantation outlines with shapes designed to integrate with local topography and with a relatively high proportion of broadleaves suited to the acid ground conditions found here.* *9. Sandstone Upland Valleys* ■ *Where the removal of coniferous shelterbelts and uncharacteristic woodland planting is not possible, opportunities should be sought to soften the impact of these woodlands by replanting with native species or by linking the woodlands to those within the tributary valleys.*
	9. Small to medium size native woodland (2-10 ha)	The NCA profile contains the following under the 'Landscape Opportunities' part of the document: ■ *Manage and expand broadleaved woodland cover, particularly along watercourses, on scarp slopes and in steep-sided valleys, enhancing the fragmented network of ancient semi-natural woodland and using trees of local provenance where possible.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 6. Broad Sandstone Valley* ■ *New woodlands should be designed with reference to the appropriate native woodland zone and the national vegetation classification* The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery: ■ *The creation of native woodland at appropriate locations would be beneficial for wildlife, particularly where it expands or links existing habitats.*

	10. Larger-scale mixed or native woodland (above 10 ha)	No specific information in the current literature.
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature.
	12. Scrub	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Enhance the connecting corridors of streams, rivers and waterbodies, expanding and linking fragmented habitats such as wet pastures, meadows and native woodland, improving water quality, restoring natural river morphology, promoting natural flood management and exploring the possibility of establishing flood storage areas. This should help to protect nationally and internationally important species, ensure that the rivers and waterbodies retain their reputation as renowned game fisheries, and help to reduce the risk of settlements flooding in this and downstream NCAs.* *For example by:* ■ *Encouraging natural regeneration of stands of juniper scrub by excluding stock and controlling rhododendron, supplemented by planting juniper of local provenance.* The NCA Landscape Opportunities state that : ■ *Protect, manage and expand stands of juniper scrub by fencing to exclude grazing and controlling rhododendron, to encourage natural regeneration augmented by supplementary planting of juniper of local provenance.*
Commercial plantation	13. Biomass and short rotation coppice	No specific information in the current literature.
	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 1: *Conserve, restore and significantly expand the moorlands, for the habitats, the strong sense of tranquillity and landscape character, and recreational opportunities that they provide. Reduce the visual impact of conifer plantations and enhance their biodiversity value, ensuring that the moorland habitats provide a well-functioning ecosystem that will be more resilient to climate change, will continue to support nationally and internationally important species of wildlife, and will facilitate groundwater recharge of the Fell Sandstone Aquifer, while enhancing their ability to store and sequester carbon and regulate water quality and flow.* *For example by:* ■ *Where plantations are to be retained, encouraging their restructuring, softening outlines to integrate them better with the local topography, increasing the amount of open space and structural diversity and adding to the broadleaved component using species suited to the acid ground conditions of the Sandstone Hills, all*

consistent with the UK Forestry Standard. Continuing to manage designated reserves (Kyloe, Harwood and Raylees) and buffering areas for red squirrels, and ensuring that there is suitable habitat for nightjar.

- Taking opportunities provided by the restructuring of conifer plantations to remove trees from areas of deep peat, blanket bog, mire and wet heath.

The NCA profile also contains the following 'Landscape Opportunities':

- Manage conifer plantations to 'soften' the impact on the landscape, restructuring to include more open space and rides and increasing the broadleaved component especially along rides and watercourses. Where appropriate, increase access provision and recreational facilities.

- Utilise opportunities presented by the felling of mature conifer plantations to recreate large areas of heathland on the upper slopes and ridgetops, with compensatory broadleaved woodland planting in more suitable locations such as in the valleys and scarp slopes.

- Manage plantations designated as red squirrel reserves with this species in mind, avoiding clear-felling or diversifying with large-seeded tree species and controlling grey squirrels in these and buffering areas, and manage for other key species such as nightjar where appropriate.

The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:

LCT 7. Estate Valley

- Changes to the large-scale forestry plantations should be undertaken with consideration for the historic woodland pattern, and the parkland setting of historic buildings

LCT 8. Outcrop Hills and Escarpments

- Where restructuring of forestry takes place, encourage softer plantation outlines with shapes designed to integrate with local topography. Encourage greater diversity of species, including broadleaves, where this coincides with good silvicultural practice.

LCT 10. Smooth Moorland and 11. Sandstone Fringe Farming

- Felling and restructuring of coniferous plantations may present opportunities to soften the edges of larger plantations. Seek to retain semi-natural Scots pine copses.

- Ensure that proposed new plantations accord with the aims of relevant forestry policy, and seek to retain the open nature of views.

The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within this NCA:

LCT 8. Outcrop Hills and Escarpment

		■ *Where plantation restructuring takes place encourage softer plantation outlines with shapes designed to integrate with local topography and with a relatively high proportion of broadleaves suited to the acid ground conditions found here.*
		LCT 9. Sandstone Upland Valleys
		■ *Where the removal of coniferous shelterbelts and uncharacteristic woodland planting is not possible, opportunities should be sought to soften the impact of these woodlands by replanting with native species or by linking the woodlands to those within the tributary valleys.*
		The Local Nature Recovery Strategy Biodiversity Statement notes the following as a threat for nature recovery:
		■ *The expansion of inappropriately-located plantation woodland onto peatland could result to damage to the habitat, and expansion into wader habitat would reduce the suitability for the waders.*

■ The NCA profile also notes the following drivers of change for the landscape which relate to trees and woodland:

  – *Change in species composition within woodlands and damage to or loss of veteran trees within managed parklands.*

  – *The spread of tree diseases which poses a significant threat to native species such as ash and consequently has landscape-scale implications where species are common in field boundaries and woodlands.*

  – *Scope for new species to be used for crops and timber, but risk of increase in pests and diseases. These will require modification of silviculture systems to adapt to the changing climate, some commercial species becoming less suitable in the future.*

  – *Invasive rhododendron which has 'escaped' from parklands is progressively dominating the understory of surrounding woodlands.*

  – *A number of the Forestry Commission plantations have reached maturity and are being felled and replanted. There has been some reduction in the impact of conifer plantations on the landscape through restructuring and replanting with deciduous species.*

  – *Three of the large conifer plantations (Kyloe, Harwood and Raylees) have been designated as red squirrel reserves and are being managed with the conservation of this species in mind. Landowners and managers of several of the large estates are now controlling grey squirrels to buffer the red squirrel strongholds.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

■ Long open views and expansive vistas are key characteristics of this NCA and these elements of the landscape should be considered in the siting and design of new woodland/tree planting. Opportunities for woodland creation in the Outcrop Hills and Escarpments and Smooth Moorland LCTs are likely to be limited compared to the valley and Sandstone Fringe Farmland LCTs.

■ Opportunities for the establishment of native woodlands/riparian woodland are primarily focused within the valley LCTs.

Summary of woodland creation opportunities

■ There are opportunities to establish and restore native riparian woodlands within valleys to deliver multifunctional benefits including for landscape, biodiversity, flood alleviation and carbon capture.

- The restructuring of coniferous plantations. Coniferous shelterbelts on the upper valley slopes are uncharacteristic, and opportunities should be sought to soften the impact of these woodlands by replanting with native species or by linking the woodlands to those within the tributary valleys.

- There are opportunities to improve the landscape impact of existing shelterbelts by restructuring them to include more native species.

- The establishment and regeneration of scrub (as part of a habitat mosaic) to link coastal habitats to areas of semi-natural habitat inland.

- The Countryside Stewardship Statement of Priorities for this NCA notes that the greatest opportunity to achieve multiple objectives within this NCA is by:

  - enhancing existing woodlands and expanding woodland cover in locations where well-managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include:

    - riparian zones within the Till and Coquet river catchments

    - juniper scrub woodland in Sandyford, Bewick & Beanley and Simonside moorland

Recommendations

- Ash is noted as an important species, particularly within the areas of ancient semi-natural woodlands. Ash dieback is likely to cause the loss of many of these trees and impacted woodlands should be managed with this in mind.

- Natural regeneration of scrub should be encouraged, particularly in the moor, hill, and escarpment landscapes of the NCA. Consider the impact of establishing scrub in areas with archaeological features (or that have a high potential for undiscovered archaeology) and in areas that are characteristically open.

- The literature focuses on the restructuring of existing plantation woodland as opposed to the creation of new plantations. Plantations can be 'softened' with broadleaved planting and there is also the opportunity to introduce linkages between plantation woodlands.

- Successional planting within ornamental and designed parklands and wood pasture areas should consider the impacts of climate change. Although it is desirable for replacement ancient/veteran trees to replicate the species/cultivar of the original specimen[3], it should be considered on a site-specific basis whether this is practical due to the impacts of climate change and pests and diseases that may impact on the suitability of a given tree species.

- Promote improved management of existing woodlands, targeting invasive species and promoting a diverse age and species mix. Utilise traditional management techniques including coppicing (including within alder woodlands).

- Little existing information exists in the literature on the implications of agro-forestry in this NCA. However, there is potential to introduce trees as part of farming systems and as wild edges within the pastoral and arable farmed areas of the NCA.

References

- National Character Area Profile: 2. Northumberland Sandstone Hills

- Countryside Stewardship Statement of Priorities for NCA 2. Northumberland Sandstone Hills

---

[3]https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

- Northumberland National Park Landscape Character Assessment Update (2019)

- Northumberland County Council Landscape Character Assessment (2010)

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

National Character Area 3: Cheviot Fringe

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

Landscape Character Type	Landscape Character Areas
■ 12 Broad Farmed Vale	■ 12a Breamish Vale
■ 13 Broad Floodplain Valley	■ 13a Till and Glen Valleys
■ 14 Igneous Foothills	■ 14a Moneylaws and Coldside ■ 14b Wooler Foothills ■ 14c Old Fawdon
■ 15 Upland Fringe Farmland	■ 15a Lilburn and Roddam ■ 15b Upper Coquet
■ 16 Open Rolling Farmland	■ 16a Halidon ■ 16b Duddo and Lowick ■ 16c East Learmouth
■ 17 Upland Fringe Ridges	■ 17a Horse Rigg
■ 18 Upland Fringe Valley	■ 18a Bowmont Valley ■ 18b Wooler Vale ■ 18c Upper Breamish ■ 18d Upper Aln

Landscape Character Type	Landscape Character Areas
■ 3. Foothills and Fringe Valleys	■ CF3a. Northern Hills, Bowmont Water and Glendale ■ CF3d. Ingram Hills and Breamish Valley ■ CF3e. Upper Coquetdale (Alwinton)

Existing tree/woodland coverage

Rivers and streams are often tree lined and ancient riverine woodland cover is particularly apparent along the northern stretches of the River Till and along the Aln to the south and east of Powburn. In places there is a very strong pattern of conifer shelterbelts associated with large estates, and small coniferous and mixed plantations are prominent features of the valleys. Fragments of broadleaved woodland are found on steep banks alongside the rivers Tweed, Till and Coquet. The River Tweed has a mix of deciduous woodland and estate landscape. Around this area, there is a rectangular pattern of small coniferous woodland blocks and shelterbelts

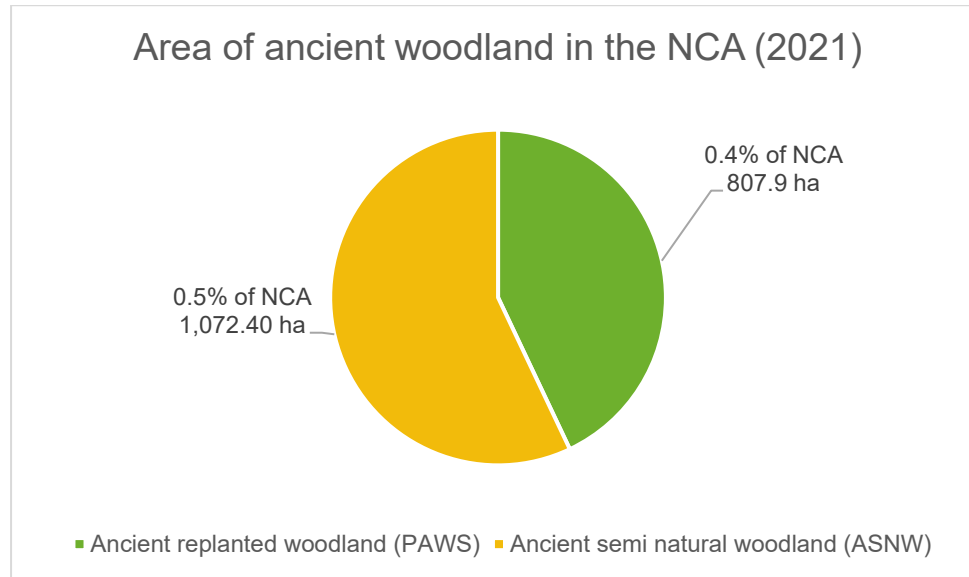Storm Arwen resulted in some damage to woodlands in the NCA including Floddenford Plantation and Highcairn Plantation[1].

Woodland type	Area (ha) 2020[2]	Percent of NCA (2020)
Broadleaved	1,454.1	2.8
Coniferous	1,500.1	2.9
Mixed	293.8	0.6
Other	743.9	1.4

---

[1] A map showing the impact of Storm Arwen on woodlands is available to view here: https://experience.arcgis.com/experience/2df27ce217fd4bada220e81485f1c616
[2] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/cheviot-fringe/

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.4% of NCA
807.9 ha

0.5% of NCA
1,072.40 ha

■ Ancient replanted woodland (PAWS) ■ Ancient semi natural woodland (ASNW)

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 3. Foothills and Fringe Valleys* ■ *There is a need for management to encourage regeneration of semi-natural woodland on the wooded bluffs and along burns, to reinforce these characteristic vegetation patterns.*
	2. Additional Planting / Woodland expansion	No specific information in the current literature.
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 1: *Manage the agricultural landscape to secure viable and sustainable farming, strengthening historic landscape character and protecting heritage assets, protecting soils and water quality in the rivers and Fell Sandstone aquifer, supporting the farmland birds and wintering wildfowl that are dependent on this area, and enhancing biodiversity*

through improved connectivity of semi-natural habitats, creating ecological networks that are resilient to environmental change.

For example by:

- ■ *Managing and restoring hedgerows, particularly in the vales, to reduce cross-land flows of water during peak floods and create a network across the agricultural landscape which enhances sense of place and creates wildlife corridors, benefiting pollination and pest regulation services.*

The NCA Landscape Opportunities state that:

- ■ *There are opportunities to increase sense of place by protecting the open and rural feel of the NCA through retention of the field patterns and improved management and restoration of the hedgerow network.*

The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:

LCT 12. Broad Farmed Vale:

- ■ *Encourage landowners to improve management and carry out replacement of hedgerows and hedgerow trees through agri-environment funding schemes.*

LCT 13. Broad Floodplain Valley

- ■ *Planting of field trees and replacement hedgerows would restore the pattern of field boundaries, which is so distinctive within the valley landscape.*

LCT 14. Igneous Foothills

- ■ *Encourage the planting and replacement of hedges and hedgerow trees, and of stone walls, where they are characteristic features. Encourage less close trimming of hedges and retention of hedgerow trees in order to retain and strengthen the historic field enclosure pattern.*

LCT 15. Upland Fringe Farmland

- ■ *Encourage landowners to improve management and carry out replacement of hedgerows and hedgerow trees through agri-environment funding schemes.*

LCT 16. Open Rolling Farmland

- ■ *Encourage landowners to improve management and carry out replacement of hedgerows and hedgerow trees through agri-environment funding schemes.*

LCT 17. Upland Fringe Ridges

- ■ *Encourage the planting and replacement of hedges and hedgerow trees, and of stone walls, where they are characteristic features.*

The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA:

		3. Foothills and Fringe Valleys ■ *Encourage the planting of new hedges and hedgerow trees where they have been lost and the 'gapping-up' of existing hedges with native species such as hawthorn and blackthorn.*
	4. In-field trees – parkland style and wood pasture style	Parkland landscapes are a key characteristic of the NCA, particularly in the south of the NCA within the Upland Fringe Farmland LCT. In-field trees are noted as a top priority for landscape in the Countryside Stewardship Statement of Priorities. The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 4: *Protect and sustainably manage the wealth of geodiversity and heritage assets, such as the nationally important glacial and archaeological landscape of the Milfield Plain; recognising the value they provide in contributing to our understanding of the landscape and its history, local distinctiveness and sense of place, and promoting knowledge and understanding of these important resources.* *For example by:* ■ *Conserving and managing historic parklands, including establishing new generations of trees in a way that is sensitive to their historic character, appropriately managing ancient and veteran trees and retaining deadwood fauna and flora, and where possible improving public access to increase understanding and amenity.*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)	7. Riparian woodlands	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 2: *Manage and enhance the network of streams and rivers, improving water quality, restoring natural river morphology, promoting natural flood management and assisted natural recovery, and extending semi-natural habitat to increase flood storage capacity, protect nationally and internationally important species, create more resilient ecological networks, and strengthen landscape character while ensuring rivers maintain the international recognition they have attracted as important game fisheries.* *For example by:* ■ *Restoring and creating woodland along riverbanks to connect existing fragments, stabilise banks, increase water infiltration and strengthen landscape character. Where appropriate, short rotation coppice could be planted, increasing the area's biomass provision and providing some of the advantages of semi-natural woodland.* The NCA Landscape Opportunities state: ■ *Manage and significantly enhance broadleaved woodland cover, particularly along rivers and streams, creating an ecological network more resilient to climate change, helping to regulate water flow and strengthening landscape character* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:

<table>
<tr><td></td><td></td><td>

LCT 13. Broad Floodplain Valley:

- *Encourage a greater uptake of woodland grants to bring semi-natural riparian woodlands back into active management where they have suffered from neglect, and to create new stretches of woodland to enhance the visual prominence of the river course.*

LCT 16. Open Rolling Farmland

- *Promote improved management of semi-natural woodland along incised river valleys, including through uptake of HLS and other agri-environment schemes, in order to reinforce characteristic vegetation patterns. Seek to maintain the diverse species mix and age structure.*

LCT 18. Upland Fringe Valley

- *Planting new broadleaved woodland would be appropriate along many river valleys and other watercourses.*

</td></tr>
<tr><td></td><td>

8.   Shelterbelts/trees as screening

</td><td>

The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:

LCT 12. Broad Farmed Vale and LCT 13. Broad Floodplain Valley:

- *Seek to encourage species diversity in any proposed coniferous plantations or shelterbelts*

14. Igneous Foothills

- *Management of Scots pine and mixed shelterbelts should be encouraged to ensure longevity, and design of any new shelterbelt planting should fit with the landscape to reinforce the existing enclosure pattern.*

The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA:

3. Foothills and Fringe Valleys

- *Management of Scots pine and mixed shelterbelts should be encouraged to ensure longevity and any new shelterbelt planting should be carefully designed to ensure it fits with the landscape and reinforces the existing enclosure pattern to form overlapping lines of vegetation.*

</td></tr>
<tr><td></td><td>

9.   Small to medium size native woodland (2-10 ha)

</td><td>

The NCA Landscape Opportunities state:

- *Expand native woodland cover through small-scale planting in locations appropriate to local landscape and biodiversity, particularly along river corridors. This could contribute to local provision of wood fuel while strengthening habitat networks, stabilising soil, reducing soil erosion and potentially assisting with water quality along watercourses.*

The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:

LCT 12. Broad Farmed Vale:

- *Encourage a greater uptake of woodland grants to introduce new native broadleaf woodlands, enhancing the landscape and improving biodiversity. Woodland could relate particularly well to the river course.*

</td></tr>
</table>

		The Local Nature Recovery Strategy Biodiversity Statement notes the following opportunity for nature recovery:
		■ *There is opportunity for woodland creation at the appropriate location, as well as restoration and augmentation of existing woodland.*
	10. Larger-scale mixed or native woodland (above 10 ha)	No specific information in the current literature.
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature.
	12. Scrub	No specific information in the current literature.
Commercial plantation	13. Biomass and short rotation coppice	The NCA profile notes the following opportunities relating to short rotation coppice: ■ *Tree planting in the form of small shelterbelts, hedgerow restoration, and woodland and short-rotation coppice along riverbanks (with appropriate buffers) will help to stabilise soils and reduce wind erosion.* ■ *Work with the farming community to identify suitable opportunities to increase the net yield of SRC, seeking to locate these where they may be accommodated within local landscape character and realise multiple objectives for the environment, particularly along river corridors but with appropriate buffers.*
	14. Small to medium size conifer (5-10 ha)	The 'analysis' section of the National Character Area profile states that: *The open character and limited woodland cover will restrict suitable opportunities for expanding commercial timber production.* *However, small scale planting for timber products, if appropriately sited, has the potential to provide environmental benefits such as restoring, expanding and linking woodland habitat and stabilising soils, while providing social and economic benefits.*
	15. Larger scale conifer, above 10 ha	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *15. Upland Fringe Farmland* ■ *Promote improved management of plantation woodland, including through uptake of HLS and other agri-environment schemes, in order to reinforce characteristic vegetation patterns. Seek to maintain the diverse species mix and age structure.* *17. Upland Fringe Ridges* ■ *There is opportunity to seek to reduce the blocky pattern of the existing plantations through new woodland planting connecting areas and linking to landform features.* *18. Upland Fringe Valley* ■ *Future felling of coniferous shelterbelts should seek to reduce their visual dominance, either through removal or through restructuring with broadleaved planting to reflect local topography and soften woodland edges. New*

| | | *planting should seek to link existing areas of broadleaved woodland and break down the current blocky character that prevails.* |

- The NCA profile also notes the following drivers of change for the landscape which relate to trees and woodland:

  – *Increased pressures for renewable energy development and a growing demand for bio-energy crops through timber production may result in changes to cropping types and patterns. This may provide opportunities for new species to be introduced but also increases the risk of the introduction of pests and diseases.*

  – *The NCA has 7.5 per cent woodland cover of which 3 per cent is coniferous (1,672 ha) and 3 per cent is broadleaved (1,566 ha). Between 1999 and 2003 uptake of the Woodland Grant Scheme for managing existing woodlands was limited. Between 2005 and 2012 Higher Level Stewardship agreements have been set up which include management options to maintain 115 ha of woodland. Generally, however, the lack of woodland management has resulted in over-mature woodlands that lack the appropriate age structure and diversity for long term survival.*

  – *During the 20th century increased agricultural production led to loss and neglect of hedgerows and soil loss through wind erosion. Since 2005 and 2006 there has been widespread participation in the Catchment Sensitive Farming initiative and uptake of Environmental Stewardship agreements with particular emphasis on hedgerow management and resource protection, as well as options to enhance and diversify the cultivated environment such as buffer strips, wild bird seed mix plots, floristically enhanced margins and over-wintered stubble.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

- On the Upland Fringes, most opportunities relate to the restructuring and softening of existing coniferous plantations.

- Within the Farmland LCTs, there are opportunities relating to the establishment of hedgerows including restoration of lost or degraded field boundaries.

- The primary opportunities for woodland creation in the Valley LCTs relate to riparian woodland and small-scale native woodlands, as well as potential for short rotation coppice.

- The Countryside Stewardship Statement of Priorities for this NCA highlights the following locations which would benefit from woodland creation:

  – *establishing new wet woodland between Rothbury and Alwinton on the floodplain of the River Coquet in locations where this will benefit biodiversity, landscape character, water quality, flood risk management and carbon storage*

  – *restoring hedgerows within the Coquet, Till and Tweed river catchments to manage water flow, decrease soil erosion, increase soil infiltration rates, enhance habitat connectivity and benefit water quality, flood risk management, landscape character and biodiversity*

  – *enhancing existing woodlands and expanding woodland cover in locations where well-managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include the Glen, Till, Breamish and Coquet river catchments.*

Summary of woodland creation opportunities

- The restructuring of coniferous plantations through softening with broadleaved planting to better assimilate the existing 'block' shapes with landscape features and create linkages with existing areas of broadleaved woodland.

- There are opportunities for the restoration and creation of hedgerows within most landscapes of the NCA.

- The existing literature notes that there are opportunities to improve the relationship of existing shelterbelts with the landscape.

- There are opportunities for the creation of small-scale native woodlands, particularly in the Broad Vale LCT.

- The existing literature often refers to the creation of woodlands to help regulate the flow of water.

Recommendations

- Plan for the re-structuring of plantation woodland as part of felling cycles or through new planting to soften the edges of plantations and link to existing areas of broadleaved woodland. Promote a diverse species mix and age structure.

- There is little information in the existing literature on the establishment of scrub within this landscape, although the NCA profile does note that there are remnant areas of juniper scrub scattered within the agricultural landscape. There could be opportunities for the extension or establishment of scrub, particularly where the landscape transitions to the Cheviot Hills (NCA 4), which would be in keeping with the landscape character of the area.

- Promote the restoration and recreation of hedgerows in the agricultural landscape (particularly in the more open arable areas), including native species such as hawthorn and blackthorn. Target hedgerow restoration and recreation in areas where field boundaries have been lost to past agricultural intensification.

- Seek opportunities to create new small-scale native woodlands, particularly along river corridors, which can contribute positively to landscape character and other environmental objectives. Link woodlands to the hedgerow network to provide habitat connectivity and landscape structure.

- Parklands are a key characteristic feature interspersed within the agricultural landscape. Successional planting within ornamental and designed parklands and wood pasture areas should consider the impacts of climate change. Although it is desirable for replacement ancient/veteran trees to replicate the species/cultivar of the original specimen[3], it should be considered on a site-specific basis whether this is practical due to the impacts of climate change and pests and diseases which may impact on the suitability of a given tree species.

- Promote tree planting and creation of wet woodland habitats in appropriate locations, and restore and enhance hedgerows, to reduce cross-land flows of water during floods, improve soil permeability and increase the holding capacity within the wider catchment for flood water before reaching main watercourses.

- Little existing information exists in the literature on the implications of agro-forestry in this NCA. However, there is potential to introduce trees as part of farming systems and as wild edges within the pastoral and arable farmed areas of the NCA.

References

- National Character Area Profile: 3. Cheviot Fringe

- Countryside Stewardship Statement of Priorities for NCA 3. Cheviot Fringe

- Northumberland National Park Landscape Character Assessment Update (2019)

- Northumberland County Council Landscape Character Assessment (2010)

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

---

[3] https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

National Character Area 4: Cheviots

Component Landscape Character Areas and Landscape Character Types

Northumberland National Park Landscape Character Assessment (2019)

Landscape Character Type	Landscape Character Areas
■ 1. Upland Burn Valleys	■ C1a College Valley ■ C1b: Harthorpe Valley ■ C1c: Breamish Valley ■ C1d: Upper Coquet Valley
■ 2. Rounded Hills	■ C2a: Cheviot rounded hills

Existing tree/woodland coverage

Large blocks of coniferous woodland are found on moorland sides and upper valley reaches. Remnant patches of native oak, birch, alder, juniper and hazel woodland are found in the valley bottoms. Significant areas of coniferous woodland were lost to wind blow as a result of Storm Arwen[1], including areas of Kidland Forest, Uswayford and Carshope Plantation.
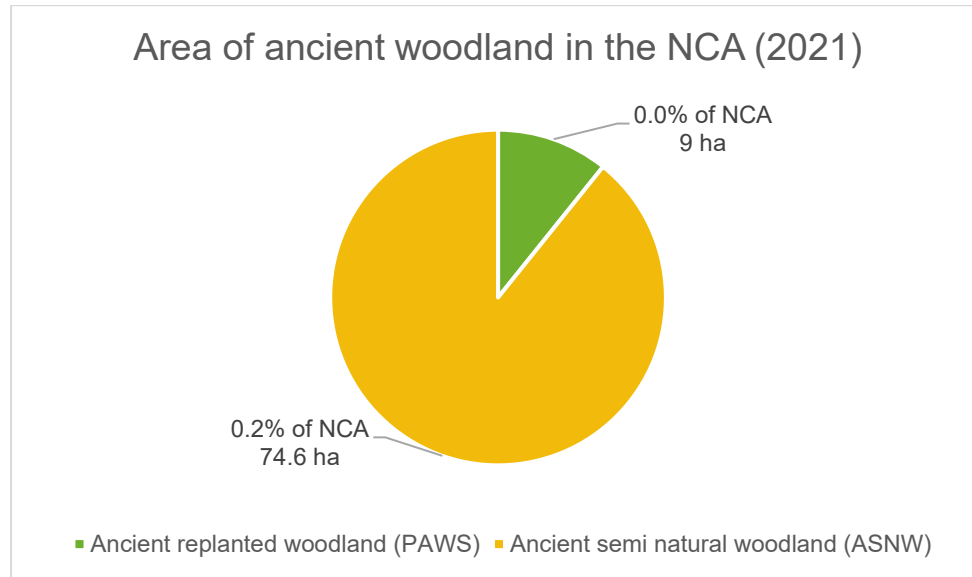
Woodland type	Area (ha) 2020[2]	Percent of NCA (2020)
Broadleaved	277.3	0.8
Coniferous	1,934.6	5.3
Mixed	26.9	0.1
Other	3,500.1	9.6

---

[1] A map showing the impact of Storm Arwen on woodlands is available to view here: https://experience.arcgis.com/experience/2df27ce217fd4bada220e81485f1c616
[2] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/cheviots/

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.0% of NCA
9 ha

0.2% of NCA
74.6 ha

■ Ancient replanted woodland (PAWS) ■ Ancient semi natural woodland (ASNW)

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings in existing literature
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 4: *Protect, restore and extend native woodland cover by managing existing woodland, restructuring and increasing the broadleaved component of conifer plantations, and restoring woodland in the cleughs.* *For example by:* ■ *Managing, expanding and connecting the fragmented relict woodland and scrub in the steep-sided valleys, particularly alder, ash, oak, hazel and juniper woodland and gorse scrub.* The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 2. Rounded Hills:* ■ *Encourage the growth of birch and rowan regeneration, particularly where it accentuates craggy outcrops. Protect from overgrazing where necessary.*

	2. Additional Planting / Woodland expansion	The Countryside Stewardship Statement of Priorities for this National Character Area states the following objectives for woodland planting: *High priority objectives for new woodland planting include:* ■ *biodiversity – planting to buffer and link existing woodlands and other semi-natural open habitats within priority woodland habitat networks*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The NCA profile notes the following in the 'Landscape change' section of the document: ■ *There has been some decline in the management of (stone wall and hedges) over recent years and an increase in the use of post and wire fencing for new boundaries.*
	4. In-field trees – parkland style and wood pasture style	No specific information in the current literature
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature
	6. 'Wild edges'	No specific information in the current literature
Woodlands (native/mixed)	7. Riparian woodlands	The Countryside Stewardship Statement of Priorities for this National Character Area states that: ■ *Enhancing existing woodlands and expanding woodland cover in locations where well managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include the upper reaches of the Glen, Brandon and Coquet river catchments.* The NCA profile notes the following in the 'Analysis' section of the document: ■ *Encourage woodland management and planting in appropriate areas such as in the cleughs (and avoiding areas of deep peat) where it would also benefit water quality, flood alleviation and biodiversity without detracting from the landscape, historic environment and recreation opportunities.* The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 1. Upland burn valleys:* ■ *Encourage the regeneration of semi-natural woodland and wood pasture on valley slopes and tributary valleys, in order to diversify the age structure of the woodlands and retain characteristic patterns of woodland in the landscape.* ■ *Manage alder woodland and wet woodland/scrub adjacent to and along watercourses through rotational coppice, select felling and replanting where necessary.*
	8. Shelterbelts/trees as screening	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 1. Upland burn valleys:*

		■ *Removal of uncharacteristic woodland planting, particularly coniferous shelterbelts on the valley floor and lower valley slopes, is also desirable in the long term. Where removal is not possible, opportunities should be sought to soften the impact of these woodlands by replanting with native species or by linking the woodlands to those within the tributary valleys.*
	9. Small to medium size native woodland (2-10 ha)	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 1. Upland burn valleys:* ■ *Ensure that new deciduous woodland (oak/ash) planting focuses on tributary valleys and along burns (alder) and follows the natural flow of contours.* The Local Nature Recovery Strategy Biodiversity Statement notes the following as opportunity for nature recovery: ■ *There is opportunity to create native woodlands at the appropriate location, and restore and augment existing woodland.*
	10. Larger-scale mixed or native woodland (above 10 ha)	The National Character Area profile includes the following 'Landscape opportunities': ■ *Manage and significantly increase broadleaved woodland cover, particularly along rivers and streams and taking opportunities for large-scale planting from valleys up onto hillsides where this avoids historic ground features, creating an ecological network more resilient to climate change, helping to regulate water flow and strengthening sense of place.* ■ *Planting new woodland on slopes elsewhere in the area, on a large scale where appropriate to landscape character, would maximise benefits in flood control and prevention of erosion in this and downstream NCAs.*
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature
	12. Scrub	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Manage and enhance the important upland and sheltered valley habitats associated with the Till and Coquet rivers and tributaries to ensure good water quality, improve habitat connectivity and resilience to climate change, protect the nationally and internationally important species of wildlife that they support, strengthen landscape character and contribute to the regulation of water flow.* *For example by:* ■ *Managing, expanding and connecting the fragmented relict woodland and scrub in the steep-sided valleys, particularly alder, ash, oak, hazel and juniper woodland and gorse scrub, creating more ecologically robust habitat networks, re-establishing important wildlife corridors, strengthening the character of these key landscape features, improving water infiltration, stabilising banks and reducing soil erosion.* The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 1. Upland burn valleys:*

		■ *Planting should avoid masking areas of downy birch and juniper scrub or rocky outcrops and scree slopes which are local focal points and important for nature conservation.*
Commercial plantation	13. Biomass and short rotation coppice	No specific information in the current literature
	14. Small to medium size conifer (5-10 ha)	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 1. Upland burn valleys:* ■ *Future felling of coniferous plantations should seek to reduce their visual dominance on the valley slopes, either through removal or through restructuring with broadleaved planting.*
	15. Larger scale conifer, above 10 ha	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 4: *Protect, restore and extend native woodland cover by managing existing woodland, restructuring and increasing the broadleaved component of conifer plantations, and restoring woodland in the cleughs.* *For example by:* ■ *Encouraging further restructuring of conifer plantations, 'softening' their outlines to make them less obtrusive in the landscape, increasing the proportion of broadleaf trees and improving heterogeneity by introducing open spaces. However, manage key plantations for red squirrels: in areas designated as red squirrel reserves (Kidland and Uswayford) or that buffer these reserves, the clear-felling of areas and replanting with large-seeded deciduous species should be avoided.* The National Character Area profile also includes the following 'Landscape opportunities': ■ *Manage and restructure conifer plantations to 'soften' the landscape impact and increase biodiversity interest. But manage any large, key blocks that support red squirrel populations as refuges, avoiding clear-felling or diversifying with large-seeded tree species and controlling grey squirrels in these and buffering areas.* ■ *Utilise opportunities presented by the felling of mature conifer plantations on upper slopes to restore heathland and grassland habitats, reinstating the smooth lines of the landscape, with compensatory broadleaved woodland planting in more suitable locations such as in the valleys and on lower slopes.* The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 1. Upland burn valleys:* ■ *Future felling of coniferous plantations should seek to reduce their visual dominance on the valley slopes, either through removal or through restructuring with broadleaved planting.* *LCT 2. Rounded Hills:* ■ *Future felling of coniferous plantations should seek to reduce their visual dominance on open moorland areas and upper reaches of valleys, by removal or replacement with broadleaved planting. New planting should reflect landform and contours.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

■ The smooth open landforms of the NCA (including the Cheviot) are characteristically open and are important in views (represented by the Rounded Hills LCT). Opportunities for woodland creation in these parts of the NCA are limited and mostly relate to the establishment of scrub woodland (including via natural regeneration) and the restructuring of existing plantation woodland.

■ Within the Upland Burn Valleys LCT, there are opportunities for the creation of riparian woodland and the extension of existing native woodland (either through natural regeneration or planting.

■ The CS Statement of Priorities highlights the following locations in the NCA where woodland creation could be targeted to deliver multiple benefits: *Enhancing existing woodlands and expanding woodland cover in locations where well managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – **key locations include the upper reaches of the Glen, Brandon and Coquet river catchments.***

Summary of woodland creation opportunities

■ Much of the literature highlights the opportunity for the creation of native woodland within the cleughs (where this would not impact deep peat) for the benefit of landscape, biodiversity, water quality and flood risk.

■ Coniferous shelterbelts are noted as incongruous landscape features and there may be opportunities to restructure these to more desirable species.

■ Large-scale coniferous plantations are distinct features of the landscape and in some cases provide valued habitat for red squirrels. Existing literature notes the potential for improving the integration of plantations within the landscape through the softening of edges and a gradual reversion to mixed woodland following felling cycles.

■ The LNRS pilot notes that the lower valley slopes are characterised by bracken (*Pteridium aquilinum*), grassland, and areas of woodland comprised mainly of alder (Alnus glutinosa) and downy birch (Betula pubescens). There are opportunities to create native woodlands at the appropriate location and restore and augment existing woodland.

■ Opportunities for the restoration of hedgerows are mostly limited to the valley bottoms where these features occur (as opposed to the upland hills). The restoration of hedgerows would positively impact landscape character in these locations and the NCA profile notes the decline of these landscape features.

Recommendations

■ Work with landowners and managers to promote the natural regeneration of scrub within the Rounded Hills LCT, where this does not conflict with other environmental objectives (e.g. habitat for waders).

■ The literature has little reference to woodland typologies associated with agriculture (e.g. wild edges, in-field trees). There are some potential (albeit small-scale) opportunities for the creation of this type of woodland on agricultural land, particularly within the Upland Burn Valleys LCT.

■ Plan for the long-term restructuring of coniferous plantations including the softening of plantation edges with broadleaved/native conifer species and increased levels of mixed woodland.

■ Create native woodland within the cleughs, targeting areas where multi-functional benefits can be delivered.

References

- Cheviots (NCA004): Countryside Stewardship statement of priorities (2021)[3]

- Northumberland National Park Landscape Character Assessment (2019)

- Northumberland National Park Management Plan

- National Character Area Profile – NCA 4: Cheviots

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

---

[3] https://www.gov.uk/government/publications/countryside-stewardship-statement-of-priorities-cheviots-nca004/cheviots-nca004-countryside-stewardship-statement-of-priorities#landscape-top-priorities

National Character Area 5: Border Moors and Forests[1]

Component Landscape Character Areas and Landscape Character Types

Northumberland National Park Landscape Character Assessment (2019)

Landscape Character Type	Landscape Character Areas
■ 5. Rolling Uplands	■ BMF5a. Otterburn Plateau ■ BMF5b. Cottonshope Valley ■ BMF5c. Kelly's Pike to Callerhues Crag ■ BMF5d. Shitlington and Ealinghamrigg Commons
■ 6. Moorland Forestry Mosaic	■ BMF6a. Kielder, Wark and Redesdale Forest
■ 7. Rolling Upland Valleys	■ BMF7a. Redesdale ■ BMF7b. Otterburn and Elsdon Valley ■ BMF7c. Bellingham and Woodburn Valleys ■ BMF7d. Upper North Tyne Valley

Northumberland County Council Landscape Character Assessment (2010)

Landscape Character Type	Landscape Character Areas
■ 19 Moorland and Forest Mosaic	■ 19a Kielder and Redesdale Forests ■ 19b Kielder Reservoir
■ 20 Rolling Upland Valleys	■ 20a Otterburn and Elsdon Valley ■ 20b Bellingham and Woodburn Valley ■ 20c Upper North Tyne Valley

---

[1] Note that the westernmost part of this NCA is outside of Northumberland.

Landscape Character Type	Landscape Character Areas
■ 21 Rolling Uplands	■ 21a Corsenside Common
	■ 21b Ealingham Rigg
	■ 21c Otterburn Plateau

Existing tree/woodland coverage

Conifer plantations comprise the principle woodland cover of the area and mainly consist of Norway and Sitka spruce with pine and larch in various stages of management with maturing stands, areas of clear fell and replanting. Areas of broadleaved planting, open strips along watercourses and open areas of mire and craggy outcrops within the forests, add to the variety of structure and enclosure locally. The extensive areas of tree cover are also divided by forest tracks and linear firebreaks. The largest area of afforestation is located at the head of the North Tyne valley, in Kielder Forest. This forest incorporates Kielder Reservoir. Other major areas of extensive coniferous forest are Kershope Forest, Redesdale Forest, Spadeadam and Wark Forest. Elsewhere in the uplands, trees are few, largely limited to sheltering clumps around isolated farmsteads. Ancient woodland is largely restricted to river valleys – the Rede and North Tyne and its tributaries in the central and northern sections of the NCA and the River Lyne and Irthing in the south-west where there are valley woodlands of national significance.

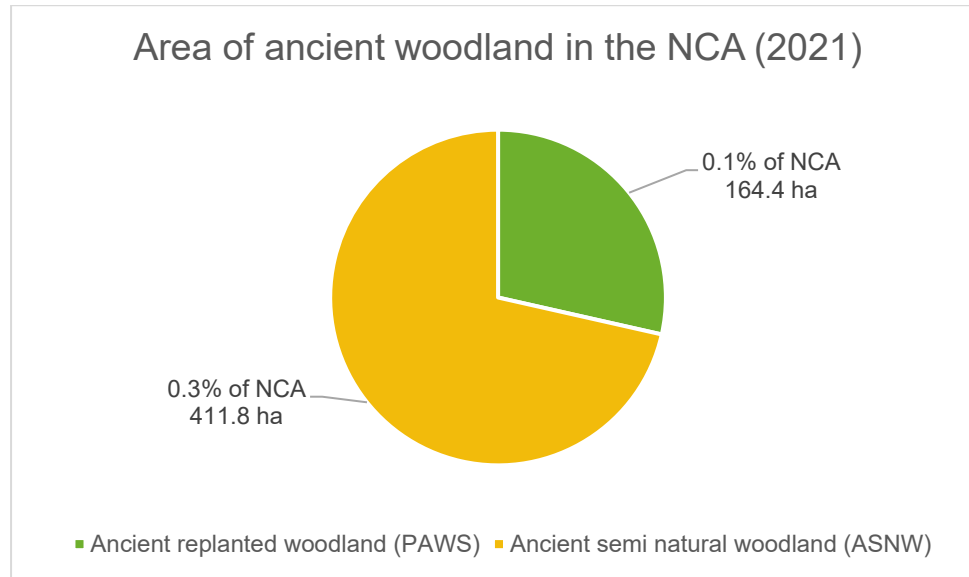Storm Arwen caused damage to areas of Kielder Forest, Wark Forest and Redesdale Forest[2].

Woodland type	Area (ha) 2020[3]	Percent of NCA (2020)
Broadleaved	1,245.8	1.0
Coniferous	22,242.6	17.5
Mixed	223.8	0.2
Other	31,767.4	25.0

---

[2] A map showing the impact of Storm Arwen on woodlands is available to view here: https://experience.arcgis.com/experience/2df27ce217fd4bada220e81485f1c616
[3] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/border-moors-and-forests/

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.1% of NCA
164.4 ha

0.3% of NCA
411.8 ha

■ Ancient replanted woodland (PAWS)   ■ Ancient semi natural woodland (ASNW)

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *5. Rolling Uplands* ■ *Planting of new native woodland should focus on natural depressions in the landform and along burns, and should avoid masking rocky outcrops which act as local landmarks and a valuable habitat. Natural regeneration of semi-natural woodland along burn valleys (particularly semi-natural birch and oak-birch and hazel woodland) should be encouraged through the protection of these areas from stock grazing.* *7. Rolling Upland Valleys* ■ *There is a need for management to encourage regeneration of semi-natural woodland in wooded bluffs and along burns, in order to diversify the age structure of the woodlands and retain characteristic patterns of woodland in the landscape. Appropriate protection from overgrazing is paramount.*

3:		The National Character Area profile includes the following text under Statement of Environment Opportunity (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.* ■ *For example, by:* – *Restoring native tree species to broadleaved woodlands, using natural regeneration where possible.* – *Re-establishing traditional management practices such as coppicing in deciduous woodland where appropriate, to provide a sustainable harvest of biomass and timber.*
	2. Additional Planting / Woodland expansion	The National Character Area profile includes the following 'Landscape opportunities': ■ *Conserve existing ancient semi-natural woodland and seek opportunities to expand the area of native broadleaved woodland.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	No specific information in the current literature.
	4. In-field trees – parkland style and wood pasture style	The Countryside Stewardship Statement of Priorities notes that the *"top priority in the area is the maintenance and restoration of features that will enhance the pattern and scale of the landscape and add to the area's 'sense of place'."* *In-field trees are noted as one of the top priorities for landscape in this NCA.*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)		The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *7. Rolling Upland Valleys* ■ *Encourage the planting of new woodland on the valley floor where it adds visual interest, enhances landscape structure and complements existing woods on steep side bluffs.* The National Character Area profile includes the following text under Statement of Environment Opportunity (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.* ■ *For example, by:* – *Conserving alder-dominated wet woodland, especially in the Lyne and Irthing valleys.* The NCA profile also notes the following within the 'Landscape opportunities' section of the document:
	7. Riparian woodlands	

		■ *Encourage woodland planting on lower valley slopes where it complements and enhances landscape character.* ■ *Conserve and extend riparian habitats, in particular alder-dominated wet woodland.*
	8. Shelterbelts/trees as screening	No specific information in the current literature.
	9. Small to medium size native woodland (2-10 ha)	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *6. Moorland Forestry Mosaic* ■ *Encourage new native planting (oak, ash and alder) along burn valleys and plantation margins.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *19. Moorland and Forest Mosaic* ■ *Encourage retention of native species, such as stands of Scots pine, and the planting of new semi-natural woodland which relates to local topography, in areas such as along burn valleys and plantation margins.* *21. Rolling Uplands* ■ *Planting of new native woodland should focus on natural depressions in the landform and along burns, and should avoid masking rocky outcrops which act as local landmarks and a valuable habitat.* ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect, particularly in wooded bluffs and along burns.* The National Character Area profile includes the following text under Statement of Environment Opportunity (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.* ■ *For example, by:* – *Protecting remaining areas of semi-natural woodland and seeking opportunities to expand them where appropriate, using native broadleaved species, and where woodlands are fragmented, linking them where possible to make them more resilient and to enable species movement.*
	10. Larger-scale mixed or native woodland (above 10 ha)	The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery: ■ *Existing native woodland planting in Kielder is ongoing, with the opportunity to establish a network of broadleaved corridors. There are further opportunities through a strategic approach to afforestation and restocking in the area.*
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature.

	12. Scrub	The National Character Area profile includes the following text under Statement of Environment Opportunity (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.* *For example by:* ■ *Establishing marginal riparian habitats of scrub, wet woodland and permanent grassland strips.*
Commercial plantation	13. Biomass and short rotation coppice	No specific information in the current literature.
	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The National Character Area profile includes the following text under Statement of Environment Opportunity (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.* ■ *For example, by:* – *Increasing the range of species in conifer plantations, thereby improving resilience to disease and potentially to the impacts of climate change, as well as enhancing the landscape value of plantations and benefiting biodiversity.* – *Controlling the spread of self-seeded conifers, and finding compensation planting sites in more appropriate locations, such as valley slopes.* The NCA profile also notes the following within the 'Landscape opportunities' section of the document: ■ *Enhance the biodiversity and landscape value of conifer plantations by increasing the number of species and age range of trees, including small seed species to benefit red squirrels and including areas of broadleaf planting and open land, especially alongside watercourses.* The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 5. Rolling Uplands* ■ *Existing coniferous plantations should be felled before wind throw damage occurs and be replanted with mixed native species to soften their outlines.* *LCT 6. Moorland Forestry Mosaic* ■ *Encourage the ongoing restructuring of existing coniferous woodlands in order to diversify their structure, soften their outlines and enhance nature conservation value through the retention of stands of Scots pine where appropriate and the planting of new semi-natural woodland which relates to local topography.*

		The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:
		LCT 20. Rolling Upland Valleys
		■ *Encourage restructuring of coniferous plantations where these are visually dominant. Discourage planting on the skyline.*

NCA Landscape change

- The NCA profile also notes the following drivers of change for the landscape which relate to trees and woodland:
  - There has been significant restructuring of coniferous plantations, with an increase in planting of broadleaved trees and open areas created along watercourses.
  - There are agreements in place for expansion of upland oak and ash woodland, and exclusion of stock from wooded areas.
  - Native broadleaved woodland is being encouraged through natural regeneration, the promotion of scrub growth and specific planting schemes.
  - Climate change may result in changes in commercially viable species used in conifer plantations.
  - There is also a drive for increasing connectivity of semi-natural habitats. In Kielder Forest and other plantations managed by Forest Enterprise, steps are being taken to further open up the forest along watercourses as well as increasing the amount of broadleaf planting.

Summary of any variation in woodland creation opportunities at LCT/LCA scale

- The CS Statement of Priorities highlights the following locations in the NCA where woodland creation could be targeted to deliver multiple benefits: *enhancing existing woodlands and expanding woodland cover in locations where well managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits - key locations include the **North Tyne and Rede river catchments and the south-west extent of this NCA.***
- The Northumberland National Park Landscape Character Assessment for LCT 6. Moorland Forestry Mosaic notes that *new woodland planting should avoid areas of nature conservation value such as meadow grassland and should not mask landmark features such as distinctive skyline ridges*
- The Northumberland County Landscape Character Assessment identifies the need for new woodland planting to avoid rocky outcrops in the Rolling Uplands LCT*: Planting of new native woodland should focus on natural depressions in the landform and along burns, and should avoid masking rocky outcrops which act as local landmarks and a valuable habitat.*

Summary of woodland creation opportunities

- The main opportunities in this NCA are for the creation, restoration and extension of riparian woodlands, including characteristic wet alder woodland.
- Large-scale coniferous plantations are distinct features of the landscape and in some cases provide valued habitat for red squirrels. Existing literature notes the potential for improving the integration of plantations within the landscape through the softening of edges and a gradual reversion to mixed woodland following felling. The opportunity for creating linkages to existing native woodlands should also be explored.
- The establishment of scrub can make an important contribution to the mosaic of semi-natural habitats in the NCA and provide linkages between other habitat types include wet woodland and semi-natural grassland.

- The literature notes that there are opportunities for the improved management of existing woodlands to improve the diversity and species of age structure, as well as encouraging the natural regeneration of woodland.

Recommendations

- Plan for the long-term restructuring of coniferous plantations including the softening of plantation edges with broadleaved/native conifer species and increased levels of mixed woodland.

- Explore opportunities for the establishment of scrub habitat, where this is not conflicting with other environmental objectives.

- Create native woodlands along the upland valleys, particularly where multi-functional benefits can be achieved.

- Target the improved and active management of existing woodlands to improve their condition and encourage natural regeneration.

- Although not mentioned in the literature, there are opportunities for the restoration of hedgerows that are limited to the valley bottoms where these features occur (as opposed to the upland hills).

- Within the NCA profile, SEO 3 notes the need for '*Managing woodland appropriately for the benefit of priority species, such as planting small seed tree species for red squirrel and maintaining small areas of woodland on the moorland fringe for black grouse.*'

References

- National Character Area Profile: 5. Border Moors and Forests

- Countryside Stewardship Statement of Priorities for NCA 5. Border Moors and Forests

- Northumberland National Park Landscape Character Assessment Update (2019)

- Northumberland County Council Landscape Character Assessment (2010)

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

National Character Area 10: North Pennines[1]

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)[2]

For maps of these Landscape Character Types and Landscape Character Areas, see pages 9 and 10.

Landscape Character Type	Landscape Character Areas
■ 22 Farmed River Valleys	■ 22a Devil's Water and Hinterland ■ 22b Dipton Wood and Slaley
■ 23 Lower Dale	■ 23a Lower South Tyne ■ 23b Lower Allenheads ■ 23c Lower Derwent
■ 24 Middle Dale	■ 24a Middle South Tyne ■ 24b Middle West Allen ■ 24c Middle East Allen ■ 24d Middle Devil's Water ■ 24e Middle Derwent
■ 25 Moorland Ridges	■ 25a Blenkinsopp Common ■ 25b Hartleyburn and Knarsdale Commons ■ 25c Whitfield Moor ■ 25d Allen Common and Mohope/Acton Moors ■ 25e Hexhamshire and Bulbeck Commons
■ 26 Upland Farmland and Plantations	■ 26a Healey

---

[1] Note that only the northern part of this National Character Area extends into Northumberland.
[2] In 2009 Local Authority reorganisation resulted in the creation of a single unitary authority, Northumberland County, which encompassed six districts including Tyndale. Subsequently a study to consolidate existing landscape character assessments for the new unitary authority was commissioned in 2010 and drew heavily on the former Tyndale District and Northumberland National Park assessment and assessments for the other relevant districts. This 2010 document is that work.

Landscape Character Type	Landscape Character Areas
■ 27 Upper Dale	■ 27a Upper West Allen ■ 27b Upper East Allen

Existing tree/woodland coverage

Tree cover is generally sparse. In places, there are extensive coniferous plantations on the moorland ridges. Semi-natural woodland is largely restricted to riverbanks, watercourses and minor valleys and gills mainly of the Tees, South Tyne, Allens, Devil's Water and Derwent in the middle/upper reaches of the dales. Ash and alder-ash woodlands are found on the limestones, and oak/birch woodlands on acidic soils. Hedgerow trees are abundant, and the lower dales landscape is well-wooded with semi-natural woodlands in ravines, gorges, scattered farm woodlands, shelter belts and coniferous plantations. Wet woodland occurs on poorly drained or seasonally waterlogged soils, often along streams and flushes, in peaty hollows, and as successional habitat on fens and bogs.

Woodland type	Area (ha) 2020[3]	Percent of NCA (2020)
Broadleaved	2,811.6	1.3
Coniferous	4,675.2	2.2
Mixed	414.9	0.2
Other	4,722.1	2.2

Note: These statistics refer to the whole character area, not just the part inside Northumberland.

---

[3] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/north-pennines/

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.4% of NCA
807.9 ha

0.5% of NCA
1,072.40 ha

■ Ancient replanted woodland (PAWS) ■ Ancient semi natural woodland (ASNW)

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The NCA Landscape Opportunities state: ■ *Protect existing broadleaved woodlands and bring them into effective management, and encourage natural regeneration of native broadleaved species by fencing to prevent grazing, to make them resilient and ensure their long-term survival.*
	2. Additional Planting / Woodland expansion	The NCA Landscape Opportunities state: ■ *Extend and buffer existing woodlands, especially ancient woodlands, and seek opportunities and to create new small woodlands, wood pastures and scrub in suitable locations such as on steep slopes, gill sides and valleys, linking them with other semi-natural habitats where possible.* The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery: ■ *The linkage of native woodland will create wildlife corridors and extend the habitat available for wildlife. New woodland creation in appropriate locations.*

Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 22. Farmed River Valleys, LCT 23. Lower Dale, LCT 24. Middle Dale and LCT 26. Upland Farmland and Plantations* ■ *Encourage landowners to improve management and carry out replacement of hedgerows, hedgerow trees, and field trees, through agri-environment funding schemes.*
	4. In-field trees – parkland style and wood pasture style	The NCA profile contains an Additional opportunity to *Protect and restore ancient and important woodlands, manage existing woodlands and plantations, and expand the area of broadleaved woodland, to enhance the landscape and biodiversity value, provide timber and wood fuel, and contribute further to climate change mitigation, water and soil quality, and managing water flow.* *For example, by:* ■ *Finding opportunities to create open woodlands, wood pasture and scrub (using native broadleaved species) in gills and on the moorland fringes, in particular to support the black grouse population.*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)	7. Riparian woodlands	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 22. Farmed River Valleys* ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect, particularly in the denes, ravines and along watercourse.* *LCT 23. Lower Dale* ■ *Promote improved management of semi-natural woodland along gills, ravines and riversides, including through uptake of HLS and other agri-environment schemes, in order to reinforce characteristic vegetation patterns. Seek to maintain characteristic species mixes.* *LCT 24. Middle Dale and LCT 25. Moorland Ridges* ■ *Promote improved management and extension of semi-natural woodland along gills, ravines and valley bottoms, including through uptake of HLS and other Agri-environment schemes, in order to reinforce characteristic vegetation patterns. Seek to maintain characteristic species mixes.* *LCT 27. Upper Dale* ■ *Promote improved management and extension of semi-natural woodland along gills, ravines and riversides, including through uptake of HLS and other agri-environment schemes, in order to reinforce characteristic vegetation patterns. Seek to maintain characteristic species mixes, particularly juniper scrub.*

		The NCA profile contains an Additional opportunity to *Protect and restore ancient and important woodlands, manage existing woodlands and plantations, and expand the area of broadleaved woodland, to enhance the landscape and biodiversity value, provide timber and wood fuel, and contribute further to climate change mitigation, water and soil quality, and managing water flow.*
		■ *Expanding the area of upland ash and oak woodlands in gills, on valley sides and on moorland fringes, and wet alder woodlands on valley bottoms.*
		The 'analysis' section of the NCA profile outlines the following opportunities:
		■ *Manage and extend areas of permanent grassland, scrub and woodland, along watercourses.*
		■ *Seek opportunities to expand areas of wetland habitats, in particular wet pastures along the valley bottoms, through creation of more washlands and flood storage areas.*
	8. Shelterbelts/trees as screening	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:
		LCT 26. Upland Farmland and Plantations
		■ *Retain areas of Scots pine and beech shelterbelt where they form visually significant skyline features.*
		LCT 27. Upper Dale
		■ *Encourage ongoing appropriate management of traditional shelterbelts and stands of shelter trees around isolated farmsteads, where they contribute to landscape pattern.*
	9. Small to medium size native woodland (2-10 ha)	The NCA Landscape Opportunities state:
		Extend and buffer existing woodlands, especially ancient woodlands, and seek opportunities and to create new small woodlands, wood pastures and scrub in suitable locations such as on steep slopes, gill sides and valleys, linking them with other semi-natural habitats where possible.
	10. Larger-scale mixed or native woodland (above 10 ha)	No specific information in the current literature.
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature.
	12. Scrub	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:
		LCT 24. Middle Dale and LCT 27. Upper Dale
		■ *Promote improved management and extension of semi-natural woodland along gills, ravines and riversides, including through uptake of HLS and other agri-environment schemes, in order to reinforce characteristic vegetation patterns. Seek to maintain characteristic species mixes, particularly juniper scrub.*
		The NCA Landscape Opportunities state:

		■ *Restore or create small areas of open woodland and scrub on moorland fringes and in gills, in particular to encourage black grouse.* ■ *Protect, manage and expand stands of juniper scrub, by fencing to exclude grazing, to encourage its natural regeneration and improve its condition so that it is more resistant to disease, and by supplementary planting of juniper of local provenance to augment existing stands, and following guidance on disease control.*
Commercial plantation	13. Biomass and short rotation coppice	No specific information in the current literature.
	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 22. Farmed River Valleys* ■ *Encourage the ongoing restructuring of existing coniferous woodlands in order to diversify their structure, soften their outlines and enhance nature conservation value.* ■ *New woodland or plantation planting should not extend over the edge of the denes into the wider landscape and should have soft edges comprising broadleaved species.* *LCT 24. Middle Dale* ■ *Encourage the felling and restocking of coniferous plantations with an increase in native species. Focus replanting on steepest slopes, extending areas of existing seminatural woodland and sensitivity to local topography variations and edge treatment.* *LCT 25. Moorland Ridges* ■ *Encourage the felling and restocking of coniferous plantations with an increase in native species* *LCT 26. Upland Farmland and Plantations* ■ *Encourage the ongoing restructuring of existing coniferous woodlands in order to diversify their structure, soften their outlines and enhance nature conservation value.* *LCT 27. Upper Dale* ■ *Encourage the felling and restocking of coniferous plantations with an increase in native species. Focus replanting on steepest slopes, extending areas of existing seminatural woodland and sensitivity to local topography variations and edge treatment.* The NCA Landscape Opportunities state: ■ *Encourage the further restructuring of conifer forests to ensure that woodlands make a more positive contribution to the landscape, through re-shaping geometric plantations to fit more sympathetically into local landform, and improving the range of habitats by increasing the proportion of broadleaved species and open space.*

- The NCA profile also notes the following drivers of change for the landscape which relate to trees and woodland:

  - *There has been some significant re-structuring of coniferous plantations in recent years involving both restoration of moorland habitats and restocking with broadleaved species, notably in upper Weardale and on the public forest estate at Hamsterley and Slaley.*

  - *Trees and woodlands will be vulnerable to extreme weather events, especially strong winds, in such an open and exposed landscape.*

  - *Development of carbon credits/biodiversity offsetting/sequestration schemes may open up opportunities for the further restoration of blanket bog habitats, and also woodland creation.*

  - *Changes in government policy and demands for local wood fuel may promote both improved management of existing woodlands and an increase in woodland cover.*

  - *Ash is an important component of upland woodlands, especially on limestone where it can be the dominant canopy tree, and it comprises over 60 per cent of hedgerow trees. If ash dieback takes hold, it could pose a major threat to the landscape and woodland biodiversity.*

  - *There is anecdotal evidence that some non-native species are increasing, notably Himalayan balsam and grey squirrel.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

- The creation of hedgerows and riparian woodland is more appropriate in the valleys and lower lying land of the NCA, as opposed to the Upper Dale and Moorland Ridge LCTs.

- The Countryside Stewardship Statement of Priorities for this NCA states:

  - *In this area, the greatest opportunity to achieve multiple objectives is by:*

    - *restoring hedgerows and stone walls within Weardale, Teesdale and Allendale to manage water flow, decrease soil erosion, improve water quality, create wildlife habitats and corridors, encourage wild pollinators, and strengthen the local landscape character*

    - *enhancing woodland in Weardale and Teesdale to support juniper and locally native broad-leaved species where this will benefit biodiversity, flood risk and landscape character*

    - *enhancing existing woodlands and expanding woodland cover in locations where well managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include:*

      - *the area bordering the Eden Valley*

      - *the area around Brough*

Summary of woodland creation opportunities

- Most of the literature references the opportunity for woodland creation on valley slopes and along watercourses which has the potential to deliver multiple benefits including flood alleviation, the reduction of soil erosion, and the prevention of agricultural run-off in addition to delivering for landscape and biodiversity. These woodlands can also provide important habitat linkages between lowland and upland areas.

- Within lower-lying parts of the landscape, there are opportunities related to the restoration and creation of hedgerows, in addition to the improved management of the existing hedgerow network. This includes the establishment of new hedgerow trees. At present, hedgerow trees are mainly ash and many of the existing hedgerow trees may be lost to tree disease, with negative implications for landscape character.

- The establishment of scrub can make an important contribution to the mosaic of semi-natural habitats in the NCA and provide linkages between other habitat types include wet woodland and semi-natural grassland.

- Existing coniferous woodland in the NCA could be restructured or have their edges softened to increase the proportion of native species for the benefit of biodiversity and landscape.

- There are opportunities to extend existing areas of native woodland, including important ancient woodlands (in addition to the improved management of existing areas of woodland).

- The North Pennines AONB Management Plan states the following actions for trees and woodland:

  - Expand the area of woodland cover, with a primary focus on native broadleaves. Encourage natural regeneration wherever possible.

  - Trees should be planted following the principle of the 'right tree, in the right place', avoiding peatland, species-rich grassland, important areas for wading birds and historic features; the potential cumulative impact of each new plantation should be recognised.

  - Bring management back to neglected woodlands.

  - Restore plantation on ancient woodland sites through conversion to native broadleaves.

  - Promote diversity in existing conifer plantations by restructuring and restocking with native broadleaves

  - End grazing in over-grazed woods and exclude stock from ASNW unless specifically managed as wood pasture; manage neglected wood pasture to promote structural/biodiversity

  - Manage veteran trees to ensure they can complete their full life cycle and ensure recruitment of new veterans

  - Promote the planting of single field trees for their future landscape and biodiversity value

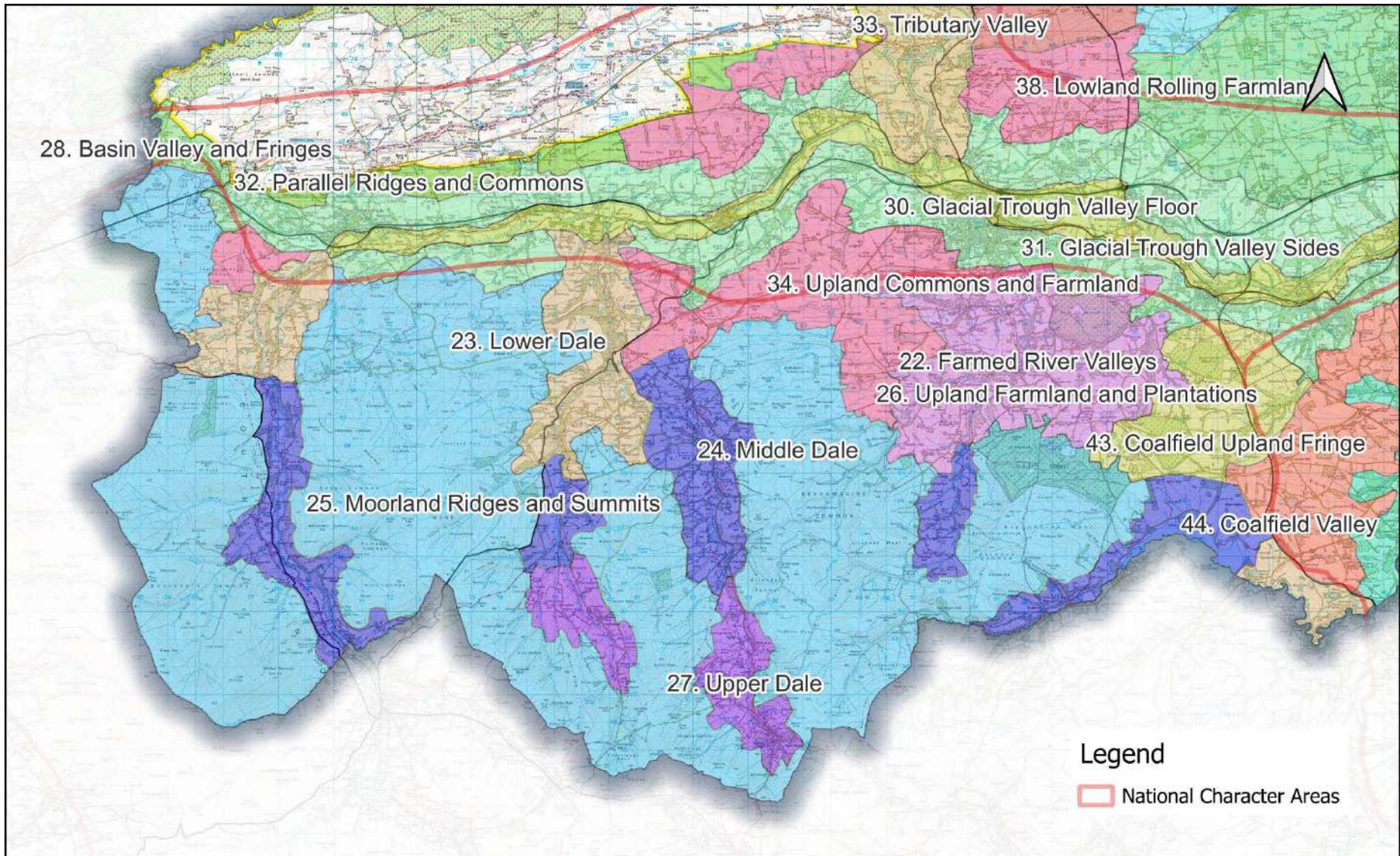 - Promote hedgerow restoration where these are neglected or lost, including support through ELMS

Recommendations

- Establish and extend areas of riparian woodland and woodland along valley slopes, targeting areas where multi-functional benefits can be achieved. Encourage riparian tree planting to prevent erosion and create habitats and shade.

- The existing literature notes that tree diseases including ash dieback are likely to have a significant impact in this NCA, as ash forms a dominant tree in hedgerows and in native woodland. New schemes should consider the likely impact of these diseases at the design phase and the impact of disease on existing woodlands should also be considered as part of their management.

- Sensitively expand the area of native and mixed woodland, including important areas of ancient woodland.

- Establish a programme of planting individual trees as important landscape features of the future.

- Plan for the long-term restructuring of coniferous plantations including the softening of plantation edges with broadleaved/native conifer species and increased levels of mixed woodland.

- Explore opportunities for the establishment of scrub habitat, where this is not conflicting with other environmental objectives.

- The literature notes the need to improve the management of existing woodlands to increase the diversity of species and age structure for the benefit of landscape and biodiversity.

- Within the valleys and lower-lying landscapes, restore and create new hedgerows, including hedgerow trees where appropriate in terms of landscape character.

- Similarly, explore the introduction of in-field trees within the farmed landscape where appropriate to landscape character.

References

- National Character Area Profile: 10. North Pennines National Character Area profiles - GOV.UK (www.gov.uk)

- Countryside Stewardship Statement of Priorities for NCA 10. North Pennines Statements of priorities: Countryside Stewardship - GOV.UK (www.gov.uk)

- Northumberland County Council Landscape Character Assessment (2010) https://www.northumberland.gov.uk/Planning/Reports.aspx

- North Pennines AONB Management Plan 2019-2024 Management Plan – North Pennines AONB

- Data from https://nationalcharacterareas.co.uk/north-pennines/

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

Landscape Character Types in the N Pennines Character Area

33. Tributary Valley
38. Lowland Rolling Farmland
28. Basin Valley and Fringes
32. Parallel Ridges and Commons
30. Glacial Trough Valley Floor
31. Glacial Trough Valley Sides
34. Upland Commons and Farmland
23. Lower Dale
22. Farmed River Valleys
26. Upland Farmland and Plantations
24. Middle Dale
43. Coalfield Upland Fringe
25. Moorland Ridges and Summits
44. Coalfield Valley
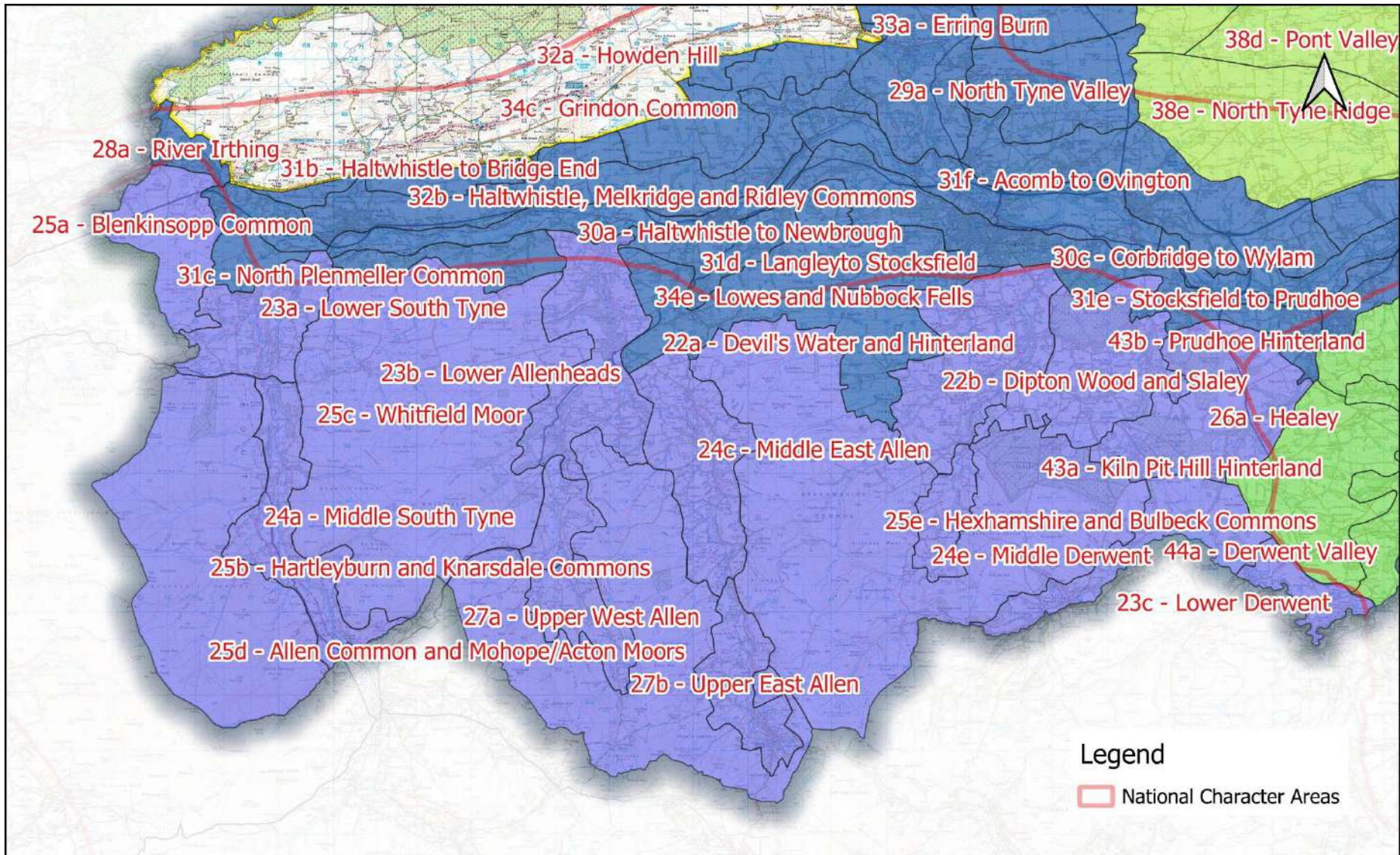27. Upper Dale

Legend
National Character Areas

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of HMSO. Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence no. 0100049048 (2023).

1:170,000

Northumberland County Council

Landscape Character Areas in the N Pennines Character Area

33a - Erring Burn
38d - Pont Valley
32a - Howden Hill
29a - North Tyne Valley
38e - North Tyne Ridge
34c - Grindon Common
28a - River Irthing
31b - Haltwhistle to Bridge End
31f - Acomb to Ovington
32b - Haltwhistle, Melkridge and Ridley Commons
25a - Blenkinsopp Common
30a - Haltwhistle to Newbrough
31c - North Plenmeller Common
31d - Langley to Stocksfield
30c - Corbridge to Wylam
23a - Lower South Tyne
34e - Lowes and Nubbock Fells
31e - Stocksfield to Prudhoe
22a - Devil's Water and Hinterland
43b - Prudhoe Hinterland
23b - Lower Allenheads
22b - Dipton Wood and Slaley
25c - Whitfield Moor
26a - Healey
24c - Middle East Allen
43a - Kiln Pit Hill Hinterland
24a - Middle South Tyne
25e - Hexhamshire and Bulbeck Commons
25b - Hartleyburn and Knarsdale Commons
24e - Middle Derwent 44a - Derwent Valley
27a - Upper West Allen
23c - Lower Derwent
25d - Allen Common and Mohope/Acton Moors
27b - Upper East Allen

Legend

☐ National Character Areas

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of HMSO. Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence no. 0100049048 (2023).

1:170,000

Northumberland County Council

National Character Area 11: Tyne Gap and Hadrian's Wall (and most of NCA 14: Tyne and Wear Lowlands)

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

For maps of these Landscape Character Types and Landscape Character Areas, see page 11.

Landscape Character Type	Landscape Character Areas
■ 28 Basin Valley and Fringes	■ 28a River Irthing
■ 29 Broad Wooded Valley	■ 29a North Tyne Valley
■ 30 Glacial Trough Valley Floor	■ 30a Haltwhistle to Newbrough ■ 30b Newbrough to Corbridge ■ 30c Corbridge to Wylam
■ 31 Glacial Trough Valley Sides	■ 31a Tipalt Burn ■ 31b Haltwhistle to Bridge End ■ 31c North Plenmeller Common ■ 31d Langley to Stocksfield ■ 31e Stocksfield to Prudhoe ■ 31f Acomb to Ovington ■ 31g Ovington to Wylam
■ 32 Parallel Ridges and Commons	■ 32a Howden Hill ■ 32b Haltwhistle, Melkridge and Ridley Commons
■ 33 Tributary Valley	■ 33a Erring Burn
■ 34 Upland Commons and Farmland	■ 34a Acomb Ridge ■ 34b Broadpool Common ■ 34c Grindon Common

Landscape Character Type	Landscape Character Areas
	■ 34d Featherstone Common ■ 34e Lowes and Nubbock Fells

Northumberland National Park Landscape Character Assessment (2019)

Landscape Character Type	Landscape Character Areas
■ 14. Parallel Ridges and Commons	■ TGHW14a. Thirlwall Common ■ TGHW14b. Haltwhistle, Melkridge and Ridley Commons ■ TGHW14c. Haughton and Simonburn Commons
■ 15. Upland Commons and Farmland	■ TGHW15a. Eastern North Tyne Slopes TGHW 15b. Grindon Common
■ 17. Glacial Trough - valley sides	■ TGHW 17b. Haltwistle to Bridge End
■ 18. Basin Valley and Fringes	■ TGHW 18a. River Irthing

Existing tree/woodland coverage

Broadleaved woodland occurs on the steeper side slopes of the river valleys, with some conifer plantations and shelterbelts, in particular towards the east end of the valley. There are few hedgerow trees and those that occur are mainly ash, with some sycamore. Parklands with mature trees spaced out in pastures, avenues and woodlands are characteristic of the middle reaches of the Tyne valley.
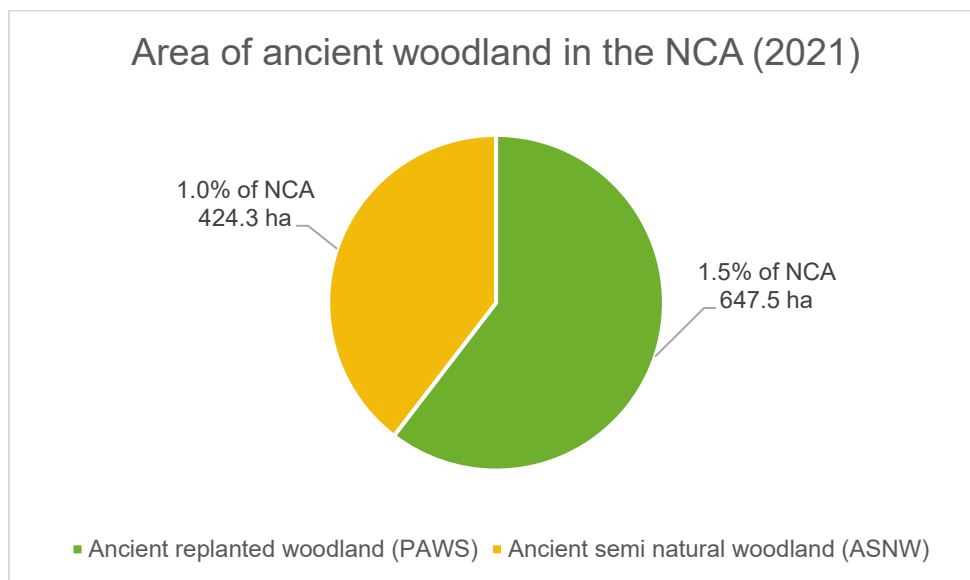
Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Broadleaved	1,955.9	4.5

---

[1] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/tyne-gap-and-hadrians-wall/

Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Coniferous	1,483.6	3.4
Mixed	395.4	0.9
Other	777.7	1.8

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

1.0% of NCA
424.3 ha

1.5% of NCA
647.5 ha

- Ancient replanted woodland (PAWS) ▪ Ancient semi natural woodland (ASNW)

Woodland creation opportunity summary

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 29. Broad Wooded Valley*

		■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect.* The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 15. Upland Commons and Farmland* ■ *Protect incised burns and ravines from stock to encourage regeneration of semi-natural vegetation* *LCT 17. Glacial Trough - valley sides* ■ *Manage existing semi-natural woodland through selective felling (to create clearings and encourage understorey and ground floor vegetation), natural regeneration, coppicing and replanting in order to retain a diversity of woodland character. Appropriate protection from livestock is important particularly in the western part of this type where grazing is more prevalent.* *LCT 18. Basin Valley and Fringes* ■ *There is a need to manage existing semi-natural woodland through selective felling, natural regeneration, coppicing, and replanting.*
	2. Additional Planting / Woodland expansion	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 31. Glacial trough valley sides* ■ *Promote improved management and extension of semi-natural woodland, including through uptake of HLS and other agri-environment schemes, in order to diversify the age structure of the woodlands and retain characteristic patterns of woodland in the landscape. Appropriate protection from overgrazing is paramount.* The National Character Area profile includes the following text under Statement of Environment Opportunity (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.* *For example by:* ■ *Managing existing woodlands and seeking opportunities to extend, buffer and link, introducing more native broadleaved species and increasing the age range, to strengthen landscape character, increase tranquillity and improve biodiversity.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	Under 'landscape opportunities' the NCA document states to: ■ *Create a network of habitats that provide nectar sources by increasing hedgerows in appropriate areas and creating more broadleaved woodland.* ■ *Maintain existing stone walls and field patterns while restoring and creating hedgerows where they are gappy to strengthen wildlife corridors and habitat networks.*

		The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:
		LCT 28. Basin Valley and Fringes 29. Broad Wooded Valley and 33. Tributary Valley
		■ *Encourage landowners to improve management and carry out replacement of hedgerows and hedgerow trees through agri-environment funding schemes.*
		LCT 31. Glacial trough valley sides
		■ *Encourage landowners to improve management and carry out replacement of hedgerows, hedgerow trees, and field trees, through agri-environment funding schemes.*
		The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA:
		LCT 17. Glacial Trough - valley sides
		■ *The planting of new hedgerow trees of oak and ash and the encouragement of tree development as part of hedgerow management is desirable. Action should also be taken to encourage the planting of new field trees of ash, oak and sycamore in areas where existing field trees occur, in order to replace maturing trees and retain the wooded and parkland character of these areas. This is particularly desirable in areas adjacent to settlements.*
		■ *Where hedges have become gappy ensure replanting and 'gapping-up' with species typical of surrounding hedges. Ensure all new planting is suitably protected from grazing stock during establishment.*
	4. In-field trees – parkland style and wood pasture style	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:
		LCT 29. Broad Wooded Valley
		■ *Encourage landowners to improve management and carry out replacement of hedgerows, hedgerow trees, and field trees through agri-environment funding schemes.*
		The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA:
		LCT 17. Glacial Trough - valley sides
		■ *The planting of new hedgerow trees of oak and ash and the encouragement of tree development as part of hedgerow management is desirable. Action should also be taken to encourage the planting of new field trees of ash, oak and sycamore in areas where existing field trees occur, in order to replace maturing trees and retain the wooded and parkland character of these areas. This is particularly desirable in areas adjacent to settlements.*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.

Woodlands (native/mixed)		The National Character Area profile includes the following text under Statement of Environment Opportunity (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.*
		For example, by:
		■ *Planting broadleaved woodland on valley slopes to improve infiltration of water and to reduce soil erosion and leaching of pollutants into surface water and groundwater.*
		Under 'landscape opportunities' the document states to:
		■ *Increase broadleaved woodland on valley sides, moorland fringes and alongside watercourses to improve water quality and manage flood risk, avoiding important ecological, heritage and geological sites and areas where panoramic views occur.*
		■ *Extend riparian habitats, to act as buffers along river banks, providing habitats for mammals and contributing visually to sense of place.*
	7. Riparian woodlands	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA:
		LCT 28. Basin Valley and Fringes
		■ *Promote improved management and extension of semi-natural woodland along gills, ravines and riversides, including through uptake of HLS and other agri-environment schemes, in order to reinforce characteristic vegetation patterns.*
		LCT 30. Glacial trough valley floor
		■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect and lack of age diversity, particularly in wooded bluffs and along the rivers.*
		The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA:
		LCT 17. Glacial Trough - valley sides
		■ *Encourage the extension of tributary valley woods through new planting focusing on the steepest slopes and bluffs and expansion of existing woodland areas.*
	8. Shelterbelts/trees as screening	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA:
		LCT 14. Parallel Ridges and Commons
		■ *Restock shelterbelts with an increase in native species. Seek softer plantation outlines with shapes designed to integrate with local topography.*
		LCT 17. Glacial Trough - valley sides

		■ *Removal of uncharacteristic woodland planting, particularly coniferous shelterbelts, is desirable in the long term. Where removal is not possible, opportunities should be sought to soften the impact of these woodlands by replanting with native species or by linking the woodlands to those within the tributary valleys.*
	9. Small to medium size native woodland (2-10 ha)	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 18. Basin Valley and Fringes* ■ *Encourage the extension of valley woods through new planting on the steepest slopes, bluffs and through the extension of existing woodland areas.*
	10. Larger-scale mixed or native woodland (above 10 ha)	The NCA document includes the following 'Landscape Opportunities': ■ *Manage broadleaved woodlands to ensure their continuation as features in the landscape. enhancing their biodiversity interest by increasing the proportion of native, broadleaved species, softening outlines and integrating conifers with mixed plantations.* The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery: ■ *Woodland restoration/creation, in the appropriate areas, would be beneficial.*
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature.
	12. Scrub	The NCA profile states the following under Statement of Environment Opportunity (SEO) 2: *Establish and maintain buffers of permanent grassland, scrub and woodland along watercourses to reduce sediment and nutrient run-off; creating links between other semi-natural habitats; and reconnecting rivers with their flood plain, to enhance biodiversity.*
Commercial plantation	13. Biomass and short rotation coppice	No specific information in the current literature.
	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The Northumberland National Park Landscape Character Assessment (2019) states the following for LCTs within the NCA: *LCT 15. Upland Commons and Farmland* ■ *Minimise the impact of plantation and shelterbelt re-structuring. Encourage the felling and restocking of coniferous plantations with an increase in native species, ensuring that species such as Scots pine and larch – typical of the older shelter plantings – are included. Seek softer plantation outlines with shapes designed to integrate with local topography* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 29. Broad Wooded Valley*

		Encourage the ongoing restructuring of existing coniferous woodlands in order to diversify their structure, soften their outlines and enhance nature conservation value. New woodland or plantation planting should not extend over the skyline, and should have soft edges comprising broadleaved species. *LCT 32. Parallel Ridges and Commons* *Encourage the felling and restocking of coniferous plantations and shelterbelts. Seek softer plantation outlines with an increase in native species and shapes designed to integrate with local topography.* *LCT 33. Tributary Valley* *Encourage the felling and restocking of coniferous plantations and shelterbelts. Seek softer plantation outlines with an increase in native species and shapes designed to integrate with local topography.* *LCT 34. Upland Commons and Farmland* *Encourage the felling and restocking of coniferous plantations and shelterbelts. Seek softer plantation outlines with an increase in native and locally typical species and shapes designed to integrate with local topography.* The NCA document includes the following 'Landscape Opportunities': *Manage coniferous plantations and other woodlands as habitat for red squirrels and woodland birds.* The Local Nature Recovery Strategy Biodiversity Statement notes the following as a threat to nature recovery: *Inappropriate conifer plantation/restocking has the potential to reduce suitable habitat available for breeding waders.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

- The Northumberland County Landscape Character Assessment notes the following for LCT 32. Parallel Ridges and Commons:
  - *Discourage any large-scale planting of new woodland and ensure that any new planting minimises damage or masking of significant archaeological sites.*
- The Countryside Stewardship Statement of Priorities for this NCA states:
  - *In this area, the greatest opportunity to achieve multiple objectives is by:*
    - *restoring hedgerows along the Tyne valleys to manage water flow, reduce soil erosion, create wildlife habitats and corridors, and strengthen the local landscape.*
    - *enhancing existing woodlands and expanding woodland cover in locations where well managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include the River Tyne catchment*

Summary of woodland creation opportunities

- Most of the literature references the opportunity for woodland creation on valley slopes and along watercourses which has the potential to deliver multiple benefits including flood alleviation, the reduction of soil erosion, and the prevention of agricultural run-off in addition to delivering for landscape and biodiversity. These woodlands can also provide important habitat linkages between lowland and upland areas.

- Existing coniferous woodland in the NCA could be restructured or have their edges softened to increase the proportion of native species for the benefit of biodiversity and landscape.

- Scrub could be established on slopes and along watercourses as part of a habitat mosaic.

- There are opportunities to improve the landscape impact of existing shelterbelts by restructuring them to include more native species.

- Parklands with mature trees spaced out in pastures, avenues and woodlands are characteristic of the middle reaches of the Tyne valley. There are opportunities to reintroduce these features where they have been lost and improve the linkages of these woodlands to the wider habitat network.

- There are opportunities related to the restoration and creation of hedgerows, in addition to the improved management of the existing hedgerow network. This includes the establishment of new hedgerow trees. At present, there are few hedgerow trees and those that occur are mainly ash, with some sycamore. Many of the existing hedgerow trees may be lost to tree disease, with negative implications for landscape character.

Recommendations

- Establish and extend areas of riparian woodland and woodland along valley slopes, targeting areas where multi-functional benefits can be achieved.

- Plan for the long-term restructuring of coniferous plantations including the softening of plantation edges with broadleaved/native conifer species and increased levels of mixed woodland.

- Restore and create new hedgerows, including hedgerow trees where appropriate in terms of landscape character. Plan for the loss of existing hedgerow tree species (e.g. ash) to disease and the impacts of climate change.

- The NCA profile notes that the incidence of tree diseases may increase or spread, including ash dieback disease (Chalara fraxinea): *Manage the occurrence of tree diseases such as ash dieback Chalara fraxinea, where it may significantly impact on woodland, hedgerow and parkland trees and instigate biosecurity measures where appropriate.* New schemes should consider the likely impact of these diseases at the design phase and the impact of disease on existing woodlands should also be considered as part of their management.

- Successional planting within ornamental and designed parklands and wood pasture areas should consider the impacts of climate change. Although it is desirable for replacement ancient/veteran trees to replicate the species/cultivar of the original specimen[2], it should be considered on a site-specific basis whether this is practical due to the impacts of climate change and pests and diseases that may impact on the suitability of a given tree species.

- There is potential for the establishment of scrub habitat close to the boundary with NCA 5: Border Moors and Forests, where the landscape transitions to a more upland character. However, this should not be at odds with other environmental objectives, and the NCA profile notes that there is a requirement for *scrub removal on earthworks/monument and scrub invasion on purple moor grass and rush pasture habitat.*

- The literature notes the need to improve the management of existing woodlands to increase the diversity of species and age structure for the benefit of landscape and biodiversity.

- Urban fringe and amenity woodland is not explicitly mentioned within the existing literature, although there may be opportunities for woodland creation schemes of this nature close to the towns within the NCA including Hexham, Prudhoe and Haltwhistle.

---

[2] https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

- Similarly, there is little mention of agroforestry or 'wild edge' type planting in the existing literature, although there is likely to be opportunities for this type of woodland creation as part of the existing pasture and arable agricultural activity in the NCA.

References

- Northumberland County Council Landscape Character Assessment (2010) https://www.northumberland.gov.uk/Planning/Reports.aspx

- Northumberland National Park Landscape Character Assessment Update (2019) 1 (northumberlandnationalpark.org.uk)

- National Character Area Profile: 11. Tyne Gap and Hadrian's Wall National Character Area profiles - GOV.UK (www.gov.uk)

- Countryside Stewardship Statement of Priorities: NCA 11: Tyne Gap and Hadrian's Wall Statements of priorities: Countryside Stewardship - GOV.UK (www.gov.uk)

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

Maps
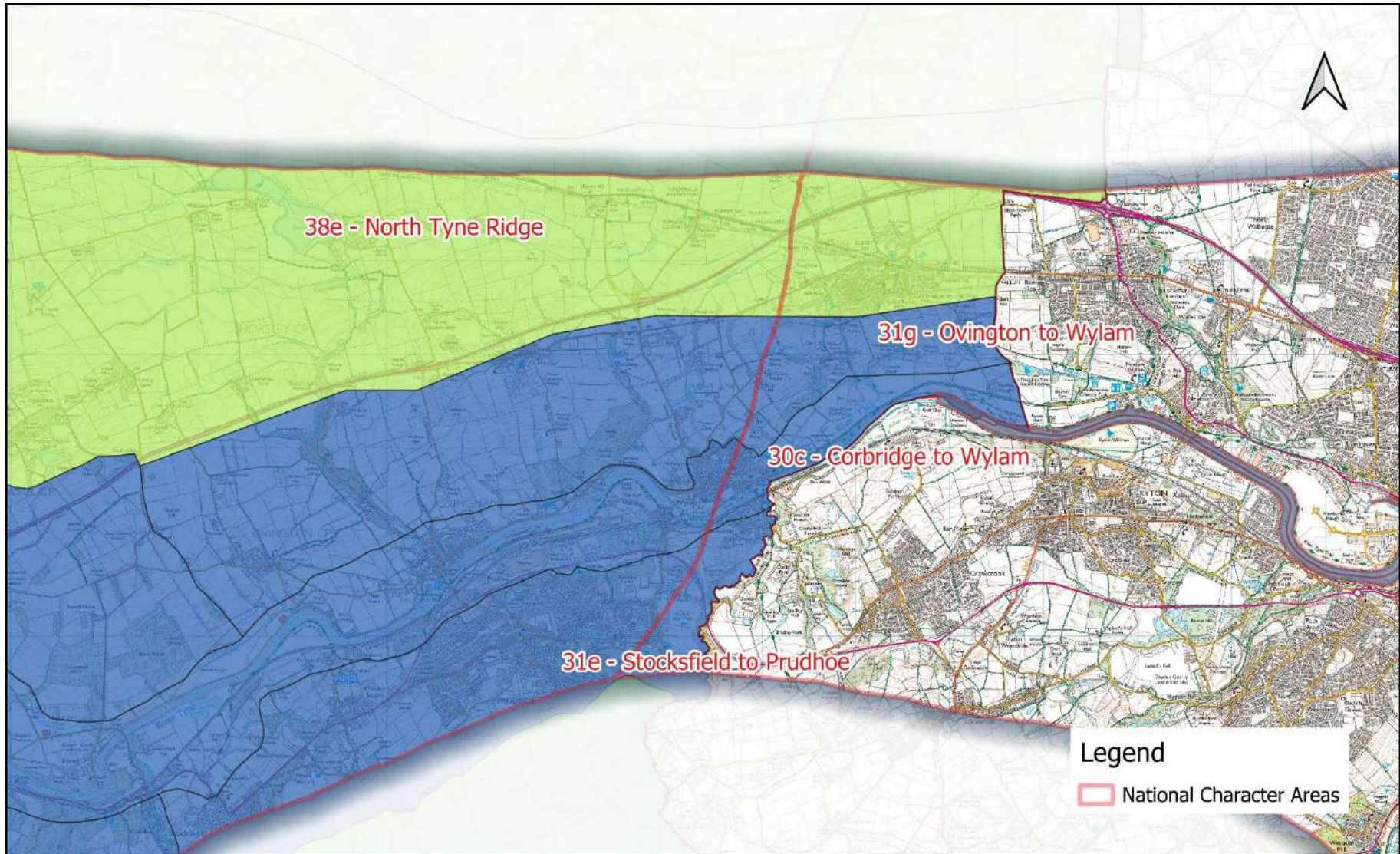
Landscape Character Areas in the Tyne & Wear Lowlands part of Northumberland

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of HMSO. Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence no. 0100049048 (2023).

1:50,000

Northumberland County Council

National Character Area 12: Mid Northumberland (and small part of 14: Tyne & Wear Lowlands)

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

Landscape Character Type	Landscape Character Areas
■ 35 Broad Lowland Valleys	■ 35a Coquet Valley ■ 35b Font and Wansbeck Valleys
■ 36 Lowland Farmed Moor	■ 36a Ingoe Moor
■ 37 Lowland Farmed Ridges	■ 37a Wingates Ridge ■ 37b Longwitton Ridge
■ 38 Lowland Rolling Farmland	■ 38a Longframlington ■ 38b Longhorsley ■ 38c Whalton and Belsay ■ 38d Pont Valley ■ 38e North Tyne Ridge

Existing tree/woodland coverage

There are scattered small farm woodlands throughout the area, together with some larger coniferous plantations on the ridges. The valleys of the rivers Font, Wansbeck and Coquet are well-wooded. In addition, there are mixed and ornamental woodlands and parklands within the country estates. Small coniferous blocks and belts of trees occur on the more open farmland to the south. Hedgerow trees are generally few, and are usually ash with some sycamore and oak.

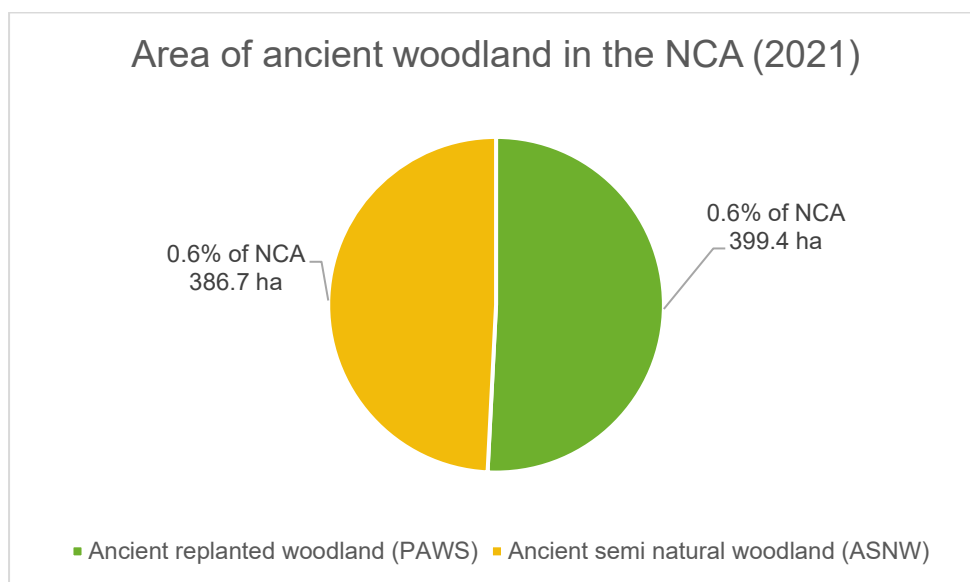| Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Broadleaved	2,151.0	3.4

---

[1] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/mid-northumberland/

Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Coniferous	1,343.1	2.1
Mixed	318.8	0.5
Other	1,798.3	2.8

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.6% of NCA
399.4 ha

0.6% of NCA
386.7 ha

■ Ancient replanted woodland (PAWS) ■ Ancient semi natural woodland (ASNW)

Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The NCA document states the following in the 'analysis' section: ■ *Conserve the farmed upland fringe plateau landscape, seeking to expand, buffer and link the fragmented areas of semi-natural habitat including valley woodlands and transitional scrub, into a coherent ecological network, to provide*

		increased resilience to environmental change for its native flora and fauna, safeguarding strongholds for red squirrels, and habitats for salmonids, otter and bats.
	2. Additional Planting / Woodland expansion	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 2: *Secure sustainable management of the woodland within the NCA, including ancient semi-natural woodlands, coniferous plantations and designed parklands, increasing woodland cover to form a coherent habitat network which provides an extensive range of benefits including carbon storage and reducing diffuse pollution, and enhancing sense of place, recreation and tranquillity. Design new woodland to ensure that it supports strongholds of the red squirrel population and other woodland wildlife.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The NCA document states the following in the 'analysis' section: ■ *Manage and restore the network of hedgerows.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 35. Broad Lowland Valley:* ■ *Encourage landowners to improve management and carry out replacement of hedgerows and hedgerow trees through agri-environment funding schemes.* *LCT 36. Lowland Farmed Moor:* ■ *Seek to enhance field boundaries through hedgerow and tree planting, maintaining existing structure and pattern within the landscape.* *LCT 37. Lowland Farmed Ridges and 38. Lowland Rolling Farmland:* ■ *Encourage landowners to improve management of existing hedgerows and hedgerow trees through agri-environment funding schemes.*
	4. In-field trees – parkland style and wood pasture style	The NCA profile notes within SEO 2 that there are opportunities for *managing trees and woodland within parklands such as Wallington and Belsay, retaining key features of their historic design, restoring wood pasture and managing specimen and veteran trees, and linking these sites within a wider woodland network including hedgerows and hedgerow trees, enhancing local sense of place and tranquillity.*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)	7. Riparian woodlands	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 35. Broad Lowland Valley:* ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect, particularly riparian woodlands.*

	8. Shelterbelts/trees as screening	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 37. Lowland Farmed Ridges and LCT 38. Lowland Rolling Farmland:* ■ *Encourage a greater uptake of woodland grants to bring semi-natural woodlands back into active management where they have suffered from neglect, particularly beech and pine shelterbelts.*
	9. Small to medium size native woodland (2-10 ha)	The NCA profile notes within SEO 2 that there are opportunities for *'Increasing native woodland and scrub cover in appropriate locations such as on steep slopes and in valleys to reduce run-off, erosion and sedimentation, and also helping to regulate water flow, ensuring that this does not replace valuable wetland or grassland habitat or damage archaeological ground features.'* The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery: ■ *Arable reversion, where appropriate, could allow the expansion of key habitats like fen or woodland.*
	10. Larger-scale mixed or native woodland (above 10 ha)	No specific information in the current literature.
	11. Urban Fringe / Green Space / Parks / Amenity Planting	No specific information in the current literature.
	12. Scrub	The NCA profile notes within SEO 2 that there are opportunities for *'Increasing native woodland and scrub cover in appropriate locations such as on steep slopes and in valleys to reduce run-off, erosion and sedimentation, and also helping to regulate water flow, ensuring that this does not replace valuable wetland or grassland habitat or damage archaeological ground features.'*
Commercial plantation	13. Biomass and short rotation coppice	The NCA profile notes within SEO 2 that there are opportunities for '*Working with the farming community to identify suitable opportunities for short rotation coppice or miscanthus biocrops, where these may be accommodated within local landscape character without impacting on biodiversity or the many archaeological ground features, and provide enhanced regulation of soil erosion, water flow and water quality.'*
	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 37. Lowland Farmed Ridges and LCT 38. Lowland Rolling Farmland:* ■ *Encourage the felling and restocking of coniferous plantations and shelterbelts. Seek softer plantation outlines with an increase in native and locally typical species and shapes designed to integrate with local topography.* The NCA profile notes within SEO 2 that there are opportunities for *restructuring conifer woodlands by increasing the proportion of broadleaved species to enhance landscape character and woodland wildlife; in red squirrel strongholds, blocks of conifer woodland should be retained to help to sustain the population* and *managing ancient woodlands and restoring native broadleaved species in Plantations on Ancient Woodland Sites.*

- The NCA profile also notes the following drivers of change for the landscape which relate to trees and woodland:

  - *Reduced river flows and increased temperature could result in loss of important habitats such as wet woodland, and thermal stress to fish, with increased mortality and reduced breeding impacting on the coarse fishing industry with potential implications for local tourism.*

  - *There are a number of historic parklands in this area designed by Capability Brown with veteran trees that are likely to suffer in drier summers as they are not very drought tolerant. The ornamental lakes here are also likely to experience increased incidence of eutrophic blue algal blooms in warmer weather, the effects of which will be especially marked where there are no other wetlands.*

  - *Incidence of tree diseases may increase or spread – ash dieback disease, Chalara fraxinea, is the latest in a number of pathogens to attack native tree species.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

- The Northumberland County Council Landscape Character Assessment (2010) states the following for LCT 36. Lowland Farmed Moor: *New tree and hedge planting may not be appropriate where it does not currently exist, or where there is no evidence of its previous existence, as this could diminish the sense of openness.*

- The NCA profile states the following within SEO 2: *Secure sustainable management of the woodland within the NCA, including ancient semi-natural woodlands, coniferous plantations and designed parklands, increasing woodland cover to form a coherent habitat network which provides an extensive range of benefits including carbon storage and reducing diffuse pollution, and enhancing sense of place, recreation and tranquillity.*

- *For example by:*

  - *Seeking opportunities to restore or create woodland and scrub within the Coquet, Font, Blyth and Wansbeck valleys, in locations which will extend, buffer or link fragmented woodland into a coherent and robust ecological network which can regulate soil erosion and water quality and strengthen landscape character.*

- The NCA profile also notes the following in the 'Landscape Opportunities' section of the document:

  - *Protect and extend semi-natural woodland in the area as a functioning habitat network, enhance wet woodland along the Coquet, Font, Blyth and Wansbeck valleys. Manage ancient woodland sites, restoring those which have been overplanted with non-native timber species, and manage and restore the landscape parkland associated with country houses, as part of a coherent woodland habitat network.*

Summary of woodland creation opportunities

- There are opportunities related to the restoration and creation of hedgerows, in addition to the improved management of the existing hedgerow network. This includes the replacement and establishment of hedgerow trees.

- There are opportunities for the restructuring of existing coniferous plantations, including through softening of plantations with native broadleaved species and increasing the proportion of native woodland through felling cycles, for the benefit of biodiversity and landscape.

- Parkland trees and wood pasture are characteristic of historic designed landscapes within the NCA. There are opportunities to link these areas with other woodland in the landscape to improve the landscape structure and enhance the local sense of place.

- There are opportunities for the establishment or extension of transitional scrub habitat, particularly on land at higher altitudes adjacent to NCA 2: Northumberland Sandstone Hills.

- Existing native woodlands could be expanded where appropriate, including on steep slopes to reduce run-off, erosion, and sedimentation.

- There are opportunities to improve the landscape impact of existing shelterbelts by improving their management where they have suffered from past neglect.

- The literature notes that there is a need for improved management of existing woodland, particularly riparian woodlands which have not been actively managed.

Recommendations

- Encourage the restoration and creation of hedgerows (including trees) as identified in the literature which can make a significant contribution to the delivery of woodland creation in this agricultural landscape.

- Plan for the long-term restructuring of coniferous plantations including the softening of plantation edges with broadleaved/native conifer species and increased levels of mixed woodland

- The loss of veteran trees in parklands as a result of climate change is identified as a driver of change in the National Character Area profile. Successional planting within ornamental and designed parklands and wood pasture areas should consider the impacts of climate change. Although it is desirable for replacement ancient/veteran trees to replicate the species/cultivar of the original specimen[2], it should be considered on a site-specific basis whether this is practical due to the impacts of climate change and pests and diseases that may impact on the suitability of a given tree species.

- The NCA profile notes that the incidence of tree diseases may increase or spread, including ash dieback disease (*Chalara fraxinea*). Although hedgerow trees are not a frequent landscape feature, ash trees are one of the main tree species located within hedgerows in this NCA. Trees lost to disease should be replaced by disease-resistant specimens with a similar profile to ash trees where feasible.

- Although woodland is not explicitly mentioned the establishment of woodland for amenity purposes could contribute to the landscape opportunity identified in the NCA profile: *Encourage engagement with the natural environment amongst local communities in and close to Morpeth, together with the nearby larger conurbation of Newcastle, increasing opportunities for educational access, volunteering, and health activities such as walking for health, together with nature-based tourism that deliver benefits to the local economy. Promote sustainable and responsible access and recreation, particularly around sensitive sites, ensuring that suitable provision is made for people of all abilities where appropriate.*

- There is little mention of agroforestry or wild edges in the literature, although the landscape of the NCA is characterised by fertile soils supporting intensive arable farming and improved pasture (primarily in the south and east of the NCA). There is potential for agroforestry systems to be introduced alongside the existing farming regimes.

- Target the improved and active management of existing woodlands to improve their condition and encourage natural regeneration.

References

- National Character Area Profile: 12. Mid Northumberland

- Countryside Stewardship Statement of Priorities: NCA 12: Mid Northumberland.

- Northumberland County Council Landscape Character Assessment (2010)

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

---

[2] https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

National Character Area 13: South East Northumberland Coastal Plain

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

Landscape Character Type	Landscape Character Areas
■ 39 Coalfield Farmland	■ 39a - Coastal Coalfields ■ 39b - Seaton Delaval ■ 39c - Stannington
■ 40 Broad Bays and Dunes	■ 40a - Druridge Bay ■ 40b - Seaton Dunes
■ 41 Developed Coast	■ 41a - Blyth and Wansbeck Estuaries
■ 42 Urban and Urban Fringe	■ 42a - Ashington, Blyth and Cramlington

Existing tree/woodland coverage

Broadleaved woodland cover is largely limited to the incised valleys of the rivers Blyth and Wansbeck and Seaton Burn. Blocks of mixed or coniferous woodland are scattered within farmland and prominent in mining reclamation schemes, where some are now developed as country parks for example Druridge Bay and Queen Elizabeth II. Native hedgerows with standard trees are also a feature of former mining restoration sites. Plantation woodlands and parkland trees are a feature of several country houses such as Seaton Delaval, Gosforth Park, Woolsington and Blagdon.

Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Broadleaved	1,553.6	3.6
Coniferous	787.9	1.8

---

[1] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/south-east-northumberland-coastal-plain/

Woodland type	Area (ha) 2020[1]	Percent of NCA (2020)
Mixed	379.7	0.9
Other	885.2	2.0

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

0.6% of NCA
386.7 ha

0.6% of NCA
399.4 ha

■ Ancient replanted woodland (PAWS)   ■ Ancient semi natural woodland (ASNW)
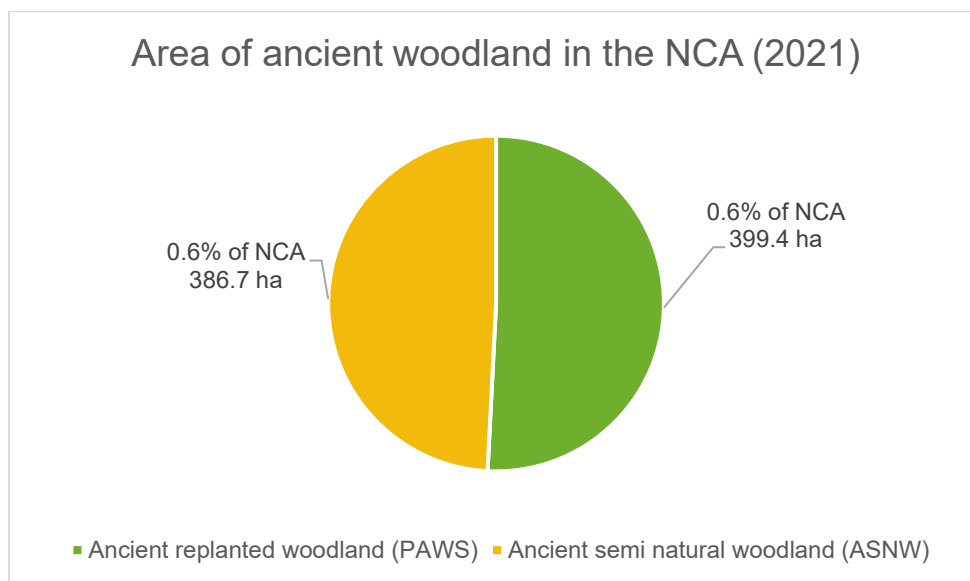
Woodland creation opportunity description

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	No specific information in the current literature.

	2. Additional Planting / Woodland expansion	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 39. Coalfield Farmland:* *Encourage a greater uptake of woodland grants to increase woodland cover, and to bring semi-natural woodlands back into active management where they have suffered from neglect.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 39. Coalfield Farmland:* ■ *Seek to facilitate the retention, restoration and reinstatement of historic field boundaries, such as species-rich hedgerows.* *LCT 42. Urban and Urban Fringe:* ■ *The replanting of hedgerows and hedgerow trees should be encouraged, as well as maintenance of woodlands.* The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Improve the connectivity and resilience of semi-natural inland habitats, particularly wetlands and native woodland, and enhance the management of agricultural land to deliver benefits for wildlife, climate regulation, water quality, soil quality, food production, sense of place, sense of history and flood alleviation.* *For example by:* ■ *Protecting and restoring hedgerows and encouraging less frequent cutting to allow greater flowering.* ■ *Encouraging farmers to provide habitat and food sources for pollinators and predators of pest species (such as hedges which are not cut every year, flower-rich field margins, beetle banks, and pollen and nectar mixes) using agri-environment schemes where possible.* ■ *Retaining the historic field boundary network, ensuring that hedgerows are sympathetically managed, and encouraging the restoration of hedgerows to strengthen field patterns.* ■ *Enhancing features that act as wildlife movement corridors or stepping stones in urban areas, such as river corridors, green routes, parks and gardens.* The National Character Area profile notes the following in the 'Analysis' section of the document: ■ *Hedges, particularly where long established, are recognised as important habitats in their own right and wildlife movement corridors in a landscape with low coverage of semi-natural habitats and low permeability to wildlife.*
	4. In-field trees – parkland style and wood pasture style	The National Character Area profile notes the following in the 'Analysis' section of the document: ■ *Plantation woodlands and parkland trees are a feature of the estates of several country houses, such as Gosforth Park, High Gosforth, Seaton Delaval, Woolsington and Blagdon. Planned landscapes, both recent and long-established, and amenity and recreational landscapes have a widespread influence. In particular, the designed parkland of the historic Gosforth Park estate on the northern boundary of Newcastle.*

		The NCA profile includes the following 'Landscape opportunity': ■ *Encourage tree planting and woodland creation in locations that will help with adaptation to climate change (such as in new developments, on reclaimed land, as scattered trees on livestock grazing land and along watercourses) while increasing carbon sequestration and storage.*
	5.　　　Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6.　　　'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)	7.　　　Riparian woodlands	The NCA document states the following in the 'analysis' section: ■ *Plan for tree planting and creation of new native woodlands where they will contribute to restoring, expanding and linking existing semi-natural ancient woodlands, and where they can contribute to flood alleviation and water quality, such as willow and alder in wet riparian areas.*
	8.　　　Shelterbelts/trees as screening	No specific information in the current literature.
	9.　　　Small to medium size native woodland (2-10 ha)	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Improve the connectivity and resilience of semi-natural inland habitats, particularly wetlands and native woodland, and enhance the management of agricultural land to deliver benefits for wildlife, climate regulation, water quality, soil quality, food production, sense of place, sense of history and flood alleviation.* *For example by:* ■ *Seeking opportunities for native tree, scrub and woodland planting where this will help to slow run-off into rivers, enhance landscape features such as parkland, and contribute to climate change adaptation (for example, shade and/or shelterbelts in new developments, as scattered infield trees on livestock grazing land and in strips along watercourses) and carbon sequestration and/or storage.* The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 41. Developed Coast* ■ *Encourage a greater uptake of woodland grants to establish new broadleaf woodlands, and to enhance those already present, introducing landscape structure around estuary corridors.* *LCT 42. Urban and Urban Fringe* ■ *Encourage a greater uptake of woodland grants to establish new broadleaf woodlands, and to enhance those already present, introducing and improving landscape structure and recreational opportunities.* The Local Nature Recovery Strategy Biodiversity Statement notes the following as an opportunity for nature recovery:

		■ *Woodland creation and/or restoration at the appropriate locations.*
	10. Larger-scale mixed or native woodland (above 10 ha)	No specific information in the current literature.
	11. Urban Fringe / Green Space / Parks / Amenity Planting	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 1: *Ensure that mining and development sites are managed and restored so as to minimise pollution and disturbance while contributing to flood alleviation, ecological networks, sense of place and recreational opportunities, particularly alongside Druridge Bay and in growth areas around Ashington, Ellington, Blyth and Cramlington.* *For example by:* ■ *Encouraging strategic tree-planting within urban and industrial areas and in new developments to shade and cool buildings and public greenspace, slow rainwater run-off and provide wildlife habitat/movement corridors.* The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Improve the connectivity and resilience of semi-natural inland habitats, particularly wetlands and native woodland, and enhance the management of agricultural land to deliver benefits for wildlife, climate regulation, water quality, soil quality, food production, sense of place, sense of history and flood alleviation.* *For example by:* ■ *Enhancing features that act as wildlife movement corridors or stepping stones in urban areas, such as river corridors, green routes, parks and gardens.* The NCA document states the following in the 'analysis' section: ■ *Plan sustainably for the creation of new landscapes associated with planned expansion around towns such as Cambois, Blyth and Cramlington, taking account of the cumulative impacts of new development.* The NCA profile states the following in relation to landscape changes: ■ *Community woodlands, such as in Ashington, have recently been used to provide opportunities for environmental education through Forest Schools programmes, conservation volunteering and informal recreation.*
	12. Scrub	No specific information in the current literature.
Commercial plantation	13. Biomass and short rotation coppice	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 1: *Ensure that mining and development sites are managed and restored so as to minimise pollution and disturbance while contributing to flood alleviation, ecological networks, sense of place and recreational opportunities, particularly alongside Druridge Bay and in growth areas around Ashington, Ellington, Blyth and Cramlington.* *For example by:* ■ *Exploring opportunities for timber production from woodland planted on restoration sites, where this is compatible with recreation and nature conservation objectives.*

		The NCA Opportunities also state the following: *Encourage the use of short rotation coppice to screen new development and for incorporation into restored mining sites.*
	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The NCA document states the following in the 'analysis' section: ■ *Manage coniferous woodlands to incorporate broadleaved tree species and achieve a more diverse age structure. Removal of inappropriately planted trees is also needed from brownfield sites of value for their open mosaic habitats and associated species such as dingy skipper.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

■ The NCA profile states that: *Broadleaved woodland cover, partly semi-natural, is a feature of the incised river valleys of the Blyth and Wansbeck, and Seaton Burn.*

■ The Countryside Stewardship Statement of Priorities for this NCA states that the greatest opportunity to achieve multiple objectives is by:

– *enhancing existing woodlands and expanding woodland cover in locations where well managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include:*

■ *the northern extent of this NCA*

■ *the Coquet, Pont, Blyth and Lyne river catchments*

Summary of woodland creation opportunities

■ In the southern parts of the NCA (on the northern edge of Newcastle) and adjacent to towns along the coast (e.g. Blyth) the landscape has an urban fringe character, resulting in many opportunities for the introduction of parkland and amenity-style planting.

■ There are opportunities for the creation and management of hedgerows within the NCA, including gapping up of existing lengths, improved cutting regimes, and the establishment of standard trees.

■ There are opportunities for the creation of woodland as part of the restoration of former industrial sites.

■ There are opportunities for the introduction of new native woodlands, including the expansion of existing woodland through natural regeneration.

■ There are some opportunities for the creation of riparian woodlands along watercourses, where woodland could contribute to the delivery of multi-functional benefits including flood alleviation, the reduction of soil erosion, and the prevention of agricultural run-off.

■ Parkland trees and wood pasture are characteristic of historic designed landscapes within the NCA. There are opportunities to link these areas with other woodland in the landscape to improve the landscape structure and enhance the local sense of place.

■ The literature identifies opportunities for short rotation coppice, particularly associated with the screening of new development and restored former mining sites.

■ Existing coniferous woodland in the NCA could be restructured or have their edges softened to increase the proportion of native species for the benefit of biodiversity and landscape.

Recommendations

- Restore and create new hedgerows, including hedgerow trees where appropriate in terms of landscape character. Plan for the loss of existing hedgerow tree species (e.g. ash) to disease and the impacts of climate change.

- The literature notes the need to improve the management of existing woodlands to increase the diversity of species and age structure for the benefit of landscape and biodiversity. The NCA profile notes that *Himalayan balsam, Japanese knotweed and giant hogweed are invading river banks at the expense of the local vegetation*.

- Successional planting within ornamental and designed parklands and wood pasture areas should consider the impacts of climate change. Although it is desirable for replacement ancient/veteran trees to replicate the species/cultivar of the original specimen[2], it should be considered on a site-specific basis whether this is practical due to the impacts of climate change and pests and diseases that may impact on the suitability of a given tree species.

- Plan for the implications of tree pests and diseases when creating new woodland and bringing existing woodlands into management. Ash is a common species in the NCA and plans should take into account the likely loss of these specimens due to ash dieback.

- The literature notes the potential for community and amenity woodlands, including those introduced as part of new development on the edges of existing settlements. These woodlands should be designed and sited to provide multi-functional benefits including for landscape, biodiversity, habitat connectivity, carbon storage, flood alleviation and the local community.

- Former industrial sites in the NCA provide opportunities for woodland creation as part of the restoration of these areas. Woodland in these areas should aim to deliver multiple benefits, including amenity woodland where appropriate.

References

- National Character Area Profile: 13. South East Northumberland Coastal Plain

- Countryside Stewardship Statement of Priorities for NCA 13. South East Northumberland Coastal Plain

- Northumberland County Council Landscape Character Assessment (2010)

- Northumberland Local Nature Recovery Strategy Pilot: Biodiversity Statement (2020)

---

[2] https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

National Character Area 16: Durham Coalfield Pennine Fringe[1]

Component Landscape Character Areas and Landscape Character Types

Northumberland County Council Landscape Character Assessment (2010)

For maps of these Landscape Character Types and Landscape Character Areas, see page 7.

Landscape Character Type	Landscape Character Areas
■ 43 Coalfield Upland Fringe	■ 43a Kiln Pit Hill Hinterland ■ 43b Prudhoe Hinterland
■ 44 Coalfield Valley	■ 44a Derwent Valley

Existing tree/woodland coverage

Coniferous plantations and mixed woodland are found on the higher valley sides and ridges planted as blocks or shelterbelts, or as at Hamsterley and Chopwell Woods where there is more extensive afforestation. Ancient oak woods are found in more sheltered, narrow steep-sided valleys or denes and along the banks of rivers and streams, particularly the tributaries of the Wear and Derwent, grading into mixed ash woods and wet woodlands on the valley sides and bottoms. Estate and farm woodlands, occasional parklands and wooded estates surrounding small country houses are a feature of the lower lying land in the north and south of the area. Wet woodland particularly along riversides is often characterised by alder and willows, occur on poorly drained or seasonally waterlogged soils. The Derwent Valley contains the highest concentration of Planted Ancient Woodland Sites (PAWS) in the north-east.

Woodland type	Area (ha) 2020[2]	Percent of NCA (2020)
Broadleaved	3,775.3	5.7
Coniferous	3,413.3	5.2
Mixed	630.9	1.0
Other	2,083.0	3.2

---

[1]The north-western corner of the NCA is located within Northumberland. Most of this NCA is outside of Northumberland.
[2] Source of figures: The "Key facts and data" section on the following web page https://nationalcharacterareas.co.uk/durham-coalfield-pennine-fringe/

Ancient woodland coverage

The chart below shows the area of ancient woodland in the NCA and the proportion of the NCA covered by each type of ancient woodland classification. Note: during 2023 / 2024, the map of Ancient Woodland will change. The Inventory is being revised, including areas smaller than 2 ha for the first time, following a national methodology.

Area of ancient woodland in the NCA (2021)

1.7% of NCA
1,094.30 ha

2.2% of NCA
1,463.20 ha

■ Ancient replanted woodland (PAWS) ■ Ancient semi natural woodland (ASNW)
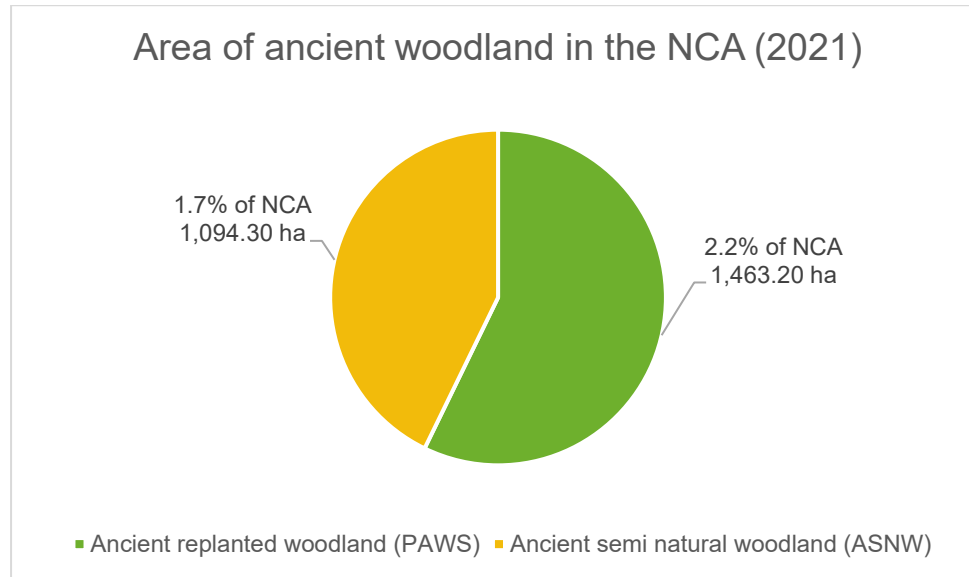
Woodland creation opportunity rating

Broad typology	Woodland scenario	Description of relevant findings
Existing woodland management/extension	1. Natural regeneration or colonisation of native species/scrub	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 44. Coalfield Valley:* ■ *Encourage a greater uptake of woodland grants to enhance and expand native oakbirch woodlands along denes, valley floors, and steep valley side bluffs and alder woods along stream sides.*
	2. Additional Planting / Woodland expansion	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 2: *Protect, expand and connect semi-natural habitats, particularly heathland, and enhance the management of agricultural land to provide a range of benefits to people, wildlife and the wider environment.* *For example by:* ■ *Expanding and buffering existing heathland, woodland, grassland and wetland sites, particularly where this will help to protect them from negative influences from surrounding land, such as nutrient run-off.*

		■ *Seeking opportunities to link existing heathland, woodland, grassland and wetland sites, where this will increase the permeability of the landscape for native species.* The NCA document also includes the following text under 'Landscape opportunities': ■ *Expand and connect semi-natural habitats, particularly native woodland, grassland, heathland and wetland, to create more resilient ecosystems and allow native species to move through the landscape.*
Trees outside woodlands	3. Hedgerows (including hedgerow standard trees)	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 43. Coalfield Upland Fringe* ■ *Protect and maintain existing hedgerow trees and plant new field boundary trees using ash, oak and rowan. Conserve roadside trees and gorse scrub along rural lanes, particularly those associated with enclosure.*
	4. In-field trees – parkland style and wood pasture style	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Protect, enhance and connect trees and woodland in the area to improve their wildlife value, climate regulation capacity, biomass production and potential for access and recreation.* *For example by:* ■ *Protecting and maintaining mature and veteran trees, particularly in parklands and hedgerows, by carrying out sympathetic management (such as avoiding compaction or cultivation of ground around tree roots) and by planting or encouraging regeneration of new trees to replace veteran trees as they die.*
	5. Agroforestry ('silvoarable', 'silvopoultry', and 'silvopasture')	No specific information in the current literature.
	6. 'Wild edges'	No specific information in the current literature.
Woodlands (native/mixed)	7. Riparian woodlands	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Protect, enhance and connect trees and woodland in the area to improve their wildlife value, climate regulation capacity, biomass production and potential for access and recreation.* *For example, by:* ■ *Creating buffer strips of woodland, scrub and permanent grassland along rivers and streams, where appropriate, to support riparian wildlife and reduce soil erosion and run-off of agricultural chemicals and nutrients.* The NCA profile notes the following Landscape Opportunities: ■ *Create buffer strips of grassland and woodland along watercourses to strengthen the natural character of watercourses, while improving the value of riparian habitat for wildlife and protecting water quality.*
	8. Shelterbelts/trees as screening	Northumberland County Council Landscape Character Assessment (2010) LCT 43: Coalfield Upland Fringe:

		■ *Encourage a greater uptake of woodland grants to re-establish active management of clumps of shelter planting associated with farmsteads.*
	9.　　Small to medium size native woodland (2-10 ha)	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Protect, enhance and connect trees and woodland in the area to improve their wildlife value, climate regulation capacity, biomass production and potential for access and recreation.* *For example, by:* ■ *Creating new woodlands, using native broadleaved species, where they will link existing native woodlands.*
	10.　　Larger-scale mixed or native woodland (above 10 ha)	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 3: *Protect, enhance and connect trees and woodland in the area to improve their wildlife value, climate regulation capacity, biomass production and potential for access and recreation.* *For example by:* ■ *Reinstating native broadleaved species on Plantations on Ancient Woodland Sites (PAWS), especially along the Derwent valley, to provide timber and woody biomass, restore native woodland, enhance the landscape and improve the value of the sites for wildlife.*
	11.　　Urban Fringe / Green Space / Parks / Amenity Planting	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 5: *Seek to ensure that where there is new development it retains tranquil areas, is appropriate in a changing climate, provides high-quality green infrastructure and improves quality of life for local residents.* *For example, by:* ■ *Encouraging incorporation of features into new development that will help communities to adapt to a changing climate (such as strategic tree planting for shade/shelter, permeable ground surfaces to reduce run-off, and sustainable drainage and rainwater harvesting systems).* ■ *Seeking to ensure that new development is designed and sited so that it protects and enhances existing wildlife sites, access routes and other elements of green infrastructure.* ■ *Protecting the tranquillity of the denes, woodlands and heathlands, while providing appropriate opportunities for informal recreational activities such as walking and bird/wildlife watching.*
	12.　　Scrub	No specific information in the current literature.
Commercial plantation	13.　　Biomass and short rotation coppice	The National Character Area profile includes the following text under Statement of Environment Opportunity (SEO) 5: *Seek to ensure that where there is new development it retains tranquil areas, is appropriate in a changing climate, provides high-quality green infrastructure and improves quality of life for local residents.* *For example, by:* ■ *Exploring opportunities for using biomass planting to help to assimilate new development into the landscape and provide local wood fuel.*

	14. Small to medium size conifer (5-10 ha)	No specific information in the current literature.
	15. Larger scale conifer, above 10 ha	The Northumberland County Landscape Character Assessment (2010) states the following for LCTs within the NCA: *LCT 43. Coalfield Upland Fringe* ■ *Encourage the felling and restocking of coniferous plantations and shelterbelts with an increase in native species. Focus replanting on steepest slopes, extending areas of existing semi-natural woodland in a way that is sensitive to local topographic variations and edge treatments* *LCT 44. Coalfield Valley* ■ *Encourage the felling and restocking of coniferous plantations (particularly those within and adjacent to denes) with an increase in native species. Focus replanting on steepest slopes associated with the denes, extending areas of existing semi-natural woodland with sensitivity to local topographic variations and edge treatment.* The NCA profile notes the following Landscape Opportunities: ■ *Increase the broadleaved component of coniferous plantations.*

Summary of any variation in woodland creation opportunities at LCT/LCA scale

■ The Countryside Stewardship Statement of Priorities states the following for this NCA:

  – *In this area, the greatest opportunity to achieve multiple objectives is by:*

    ■ *establishing new wet woodland and permanent grassland within the floodplains of the rivers Browney, Gaunless, Derwent and Wear to benefit biodiversity, landscape character, water quality and flood risk management*

    ■ *enhancing existing woodlands and expanding woodland cover in locations where well-managed woodland can benefit landscape character, biodiversity, water quality and flood risk, in addition to wider climate change, economic and social benefits – key locations include the catchments of the rivers Wear and Gaunless."*

Summary of woodland creation opportunities

■ Numerous opportunities are noted in the literature for the restoration and creation of hedgerows (including hedgerow trees), which are noted as a key part of the landscape structure in this NCA. Existing in-field trees in the landscape tend to be located along old hedgerows which have been removed to amalgamate fields.

■ There are opportunities to target the creation/extension of native woodland (including along rivers), which should focus on the delivery of multi-functional benefits, including for carbon sequestration, flood alleviation and preventing agricultural run-off. New woodlands can be used to buffer and link existing woodlands and other semi-natural open habitats.

■ There are some opportunities for the creation of amenity woodland on the edges of settlements, including as part of new development.

- Existing coniferous woodland in the NCA could be restructured or have their edges softened to increase the proportion of native species for the benefit of biodiversity and landscape.

- There are many former industrial sites in this NCA due to its location on the Northumberland Coal measures, often relating to coal mining and associated industries such as steel production. Within the NCA profile, SEO 4 directly references the landscape opportunities related to these areas: *Protect, restore and enhance ex-industrial and brownfield sites, particularly former coal mines, for their historic and wildlife value, and improve access and interpretation in order to celebrate local tradition and culture and increase understanding of the area's industrial history and geodiversity.*

  – *For example, by:*

    - *Continuing to encourage high-quality restoration schemes for ex-open cast mining sites that provide maximum value for the natural environment and local people, through creation of heathland, semi-natural oak and oak-birch woodland, species-rich grassland and wetlands, as appropriate, and a well-considered network of access routes that provides appropriate access for all abilities and for a variety of user groups.*

Recommendations

- Urban fringe planting could be used to contribute to the delivery of SEO 3 as noted within the NCA profile, by '*promoting opportunities for using woodland for educational activities, such as forest schools, and for the physical and mental health benefits of exercise in and engagement with woodlands.*'

- Hedgerows, in-field trees, and bankside trees are noted as top priorities for landscape in the Countryside Stewardship Statement of Priorities.

- The establishment of 'wild edges' and 'agro-forestry' type woodland is not referenced in the existing literature, although this type of planting could be incorporated into the agricultural landscape to supplement the hedgerow network and provided linkages between areas of semi-natural habitat including woodlands.

- The NCA profile states the following within Strategic Environmental Opportunity 3, which should be considered when creating new woodland: *Ensure that new woodland planting complements existing local patterns of woodland cover, has appropriate species composition, avoids archaeological sites, is not detrimental to priority species and habitats (such as wading birds or species-rich grassland) and provides access and recreational opportunities where appropriate.*

- The numerous former industrial sites in the NCA provide opportunities for woodland creation as part of the restoration of these areas. Woodland in these areas should aim to deliver multiple benefits, including amenity woodland where appropriate.

- Although not mentioned in the literature, there are potential opportunities for some areas of scrub establishment, particularly in the west of the NCA as it transitions to the uplands of the North Pennines.

References

- National Character Area Profile: 16. Durham Coalfield Pennine Fringe National Character Area profiles - GOV.UK (www.gov.uk)

- Countryside Stewardship Statement of Priorities for NCA 16. Durham Coalfield Pennine Fringe Statements of priorities: Countryside Stewardship - GOV.UK (www.gov.uk)

- Northumberland County Council Landscape Character Assessment (2010) https://www.northumberland.gov.uk/Planning/Reports.aspx

Landscape Character Areas in the Durham Coalfield Pennine Fringe Character Area

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of HMSO. Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence no. 0100049048 (2023).

1:75,000

Northumberland County Council

Legend

National Character Areas

31e - Stocksfield to Prudhoe

31d - Langley to Stocksfield

43b - Prudhoe Hinterland

26a - Healey

44a - Derwent Valley

43a - Kiln Pit Hill Hinterland

23c - Lower Derwent