

**Pembrokeshire Coast National Park Authority**

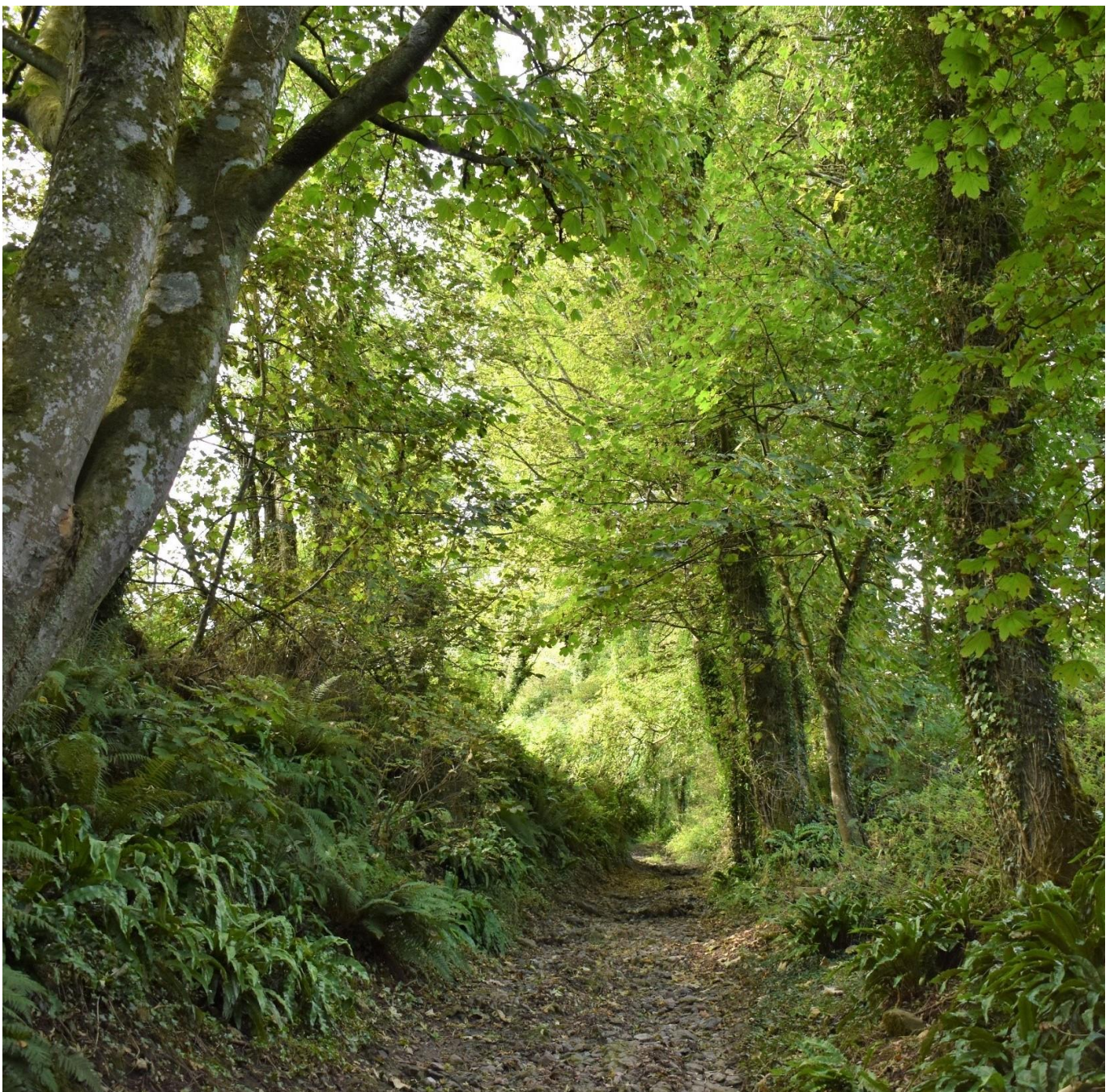
# **Tree and Woodland Guidance** **Pembrokeshire Coast National Park**

A landscape sensitivity assessment to woodland creation

**Supplementary Planning Guidance**

Consultation: 26 October 2022

Adoption: 20 September 2023



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# Chapter 1

## Introduction

This chapter provides the context and overview of the study

### Context

**1.1** Tree and woodland planting play a key role in mitigating biodiversity loss and the effect of a changing climate. Woodland can contribute to a number of other important ecosystems services including climate regulation; regulating water quality; regulating soil quality and erosion; pollination; pest regulation; genetic diversity; sense of place/inspiration; sense of history; tranquillity; and recreation. As a result, woodland expansion is a UK and Welsh Government priority and new measures to increase tree planting form a central pillar in government efforts to reach net zero emissions by 2050.

**1.2** In a written statement on Trees and Timber in July 2021<sup>1</sup>, the Welsh Government set a target of increasing woodland cover in Wales by 43,000 hectares by 2030, and 180,000 hectares by 2050, to help Wales meet its carbon emission reduction targets as part of the 'balanced pathway' set out of the UK Climate Change Commission. This is the equivalent of 5,000 hectares per year. In 2020, just 290 hectares of woodland was planted in Wales.

**1.3** In meeting such targets, the Welsh Government has committed £17m to tree planting over the next two years through the Glastir Woodland Creation scheme and is committed to providing significant future funding. Further detail will be set out in a new *Woodland for Wales Action Plan* in 2022 (updating the previous 2018 edition).

**1.4** New tree and woodland areas can bring a range of benefits for both nature and society and Pembrokeshire Coast National Park Authority (PCNPA) supports tree planting and woodland regeneration. However, woodland creation could have a significant effect on the recognised qualities of this valued landscape, its landscape diversity and rich ecological

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<sup>1</sup> [Written Statement: Trees and Timber \(13 July 2021\)](#)

and historic environment. New tree and woodland planting should take account of the special qualities and distinctive features of the receiving landscape – with a focus on ‘*the right tree in the right place*’. This is not least in recognition of the fact that other natural habitats that may be characteristic in a landscape are equally as important (or in some cases, more so) for ecosystem service delivery, including climate regulation. The Guide therefore aims to direct woodland to the most appropriate locations in terms of landscape sensitivity, while supporting opportunities for the positive management of non-woodland habitats. It is envisaged that further specific advice may become available regarding biodiversity and heritage sensitivities in the National Park.

#### Relevance to local communities

This Guidance provides advice on the types of landscapes where sensitivities may allow new trees or woodland planting, helping to guide the right tree to the right place.

Advice is given for specific Landscape Character Areas within the National Park, and for grouped landscape types.

The Guidance will be of relevance to communities who are planning to plant or restore trees or woodland, or who wish to comment on or otherwise influence the landscape implications of planting proposals.

## Overview

**1.5** The Guide aims to:

- assist those proposing to plant trees or woodland within the PCNP; and
- inform the NPA's response to planting proposals on which it is consulted.

**1.6** The Guide provides an evidence base to help respond to the environmental and climate emergency as set out in the National Park Authority's ten-year plan *Responding to the Climate Change Emergency (2020-2030)* by providing advice on the types of landscapes where sensitivities may allow new trees or woodland planting, while ensuring that considerations of 'right tree, right place' are taken into account. Strategic opportunities and guidance for woodland planting are also included.

The Guide may be viewed as an extension to the existing management guidance in the Pembrokeshire Coast National Park Landscape Character Supplementary Planning Guidance<sup>2</sup> and Seascape Character Supplementary Planning Guidance<sup>3</sup>. The Landscape Character Area (LCA)

classification forms the spatial framework for the Guide, as set out in **Figure 1.1**.

**1.7** This Guide may also be used to plan landscape enhancement works associated with development proposals. This includes landscape enhancement which is being delivered in accordance with policies SOC\_06 and SOC\_07 in the Welsh National Marine Plan 2019, which refer to enhancement of designated landscapes and of seascapes.

**1.8** The method for this project is described in **Chapter 2**. **Chapter 3** describes the existing woodland character of the National Park with general guidance for woodland creation, while **Chapter 4** reports on the results of the landscape sensitivity assessment. **Chapter 5** includes guidance and illustrations of opportunities for future tree and woodland creation for typical landscapes found within the National Park.

**1.9** Individual assessment profiles and guidance for each LCA are presented in **Appendix A**.

<sup>2</sup> [Pembrokeshire Coast National Park Landscape Character Supplementary Planning Guidance](#)

<sup>3</sup> [Pembrokeshire Coast National Park Seascape Character Supplementary Planning Guidance](#)

**Figure 1.1: Pembrokeshire Coast National Park Landscape Character Areas – see separate document**

## Chapter 2

### Methodology and scope

## This chapter sets out the methodology and scope of the Guide

### Policy context

#### Planning Policy Wales

**2.1** Planning Policy Wales<sup>4</sup> (last updated in February 2021) recognises the importance of trees and requires that local planning authorities such as PCNPA produce plans to enhance the natural and local environment.

**2.2** *Para 6.4.24* states that 'trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a valuable wider contribution to landscape character, sense of place, air quality, recreation and local climate moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade and shelter, a sustainable energy source and building materials. The particular role, siting and design requirements of urban trees in providing health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking'.

**2.3** *Para 6.4.25* states that 'planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG'.

**2.4** *Para 6.4.27* states that 'the protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies'.

**2.5** *Woodlands for Wales* (2018) sets out the case for woodland expansion and for good woodland management.

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<sup>4</sup> <https://gov.wales/planning-policy-wales>

This includes the kind of woodland that is needed to maintain and enhance the resilience of Wales' ecosystems and increased canopy cover.

**2.6** Creating both new native and new mixed woodlands that can deliver multiple benefits, and to use planting and natural processes to do so, is a challenge which applies equally to designated landscapes such as the National Park as to the rest of Wales. *Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks* was issued by the Welsh Government in July 2018 and outlines key priority areas for national park authorities in Wales. These include 'increasing woodland cover while respecting the special qualities of these landscapes'.

**2.7 Future Wales: The National Plan 2040 (Welsh Government, 2021)** Policy 9 – Resilient Ecological Networks and Green Infrastructure aims to ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure.

**2.8 Natural Resources Policy (Welsh Government, 2017) and South West Wales Area Statement (Natural Resources Wales)** Natural Resources Policy states that "trees and woodlands are vital in delivering...our national priorities. Wales needs both large and small scale, diverse woodlands that include both conifer and broad-leaved species", that there should be "greater integration between woodland and other land uses..." and that "New woodland will need to be created and trees established to provide greater connectivity between, and increase the size of woodland habitat patches..."

**2.9 Pembrokeshire Coast National Park Local Development Plan 2 (September 2020)** Policies set out in the National Park Local Development Plan form an important consideration, and the Guide seeks to assure that positive outcomes in relation to these policies are met whilst ensuring landscape character is retained and enhanced. This includes:

- Policy 8 Special Qualities: the special qualities of the Pembrokeshire Coast National Park will be conserved and enhanced.

The priorities will ensure that:

c) The pattern and diversity of the landscape is protected and wherever possible enhanced

- Policy 14 Conservation and enhancement of the Pembrokeshire Coast National Park.

'Development will not be permitted where this would have an unacceptable adverse effect on the qualities and special landscape and seascape character of the

Pembrokeshire Coast National Park including locally distinctive characteristics by:'

- a) causing visual intrusion; and/or
- b) introducing or intensifying a use which is incompatible with its location; and/or
- c) failing to harmonise with, or enhance the landform, landscape and seascape character of the National Park; and/or
- d) losing or failing to incorporate important traditional features.

#### **Pembrokeshire Coast National Park Management Plan 2020-2024**

**2.10** Policies set out in the National Park Management Plan 2020-2024, also form an important consideration. This includes:

- Policy L1: the conservation and enhancement of the national park's landscape and seascapes.
- Policy E1; protecting and improving biodiversity quality, extent and connectivity at scale (Policy E1).
- Policy H1: Conserve and enhance landscapes of particular historic interest, Conservation Areas, scheduled monuments, listed buildings and their settings.
- Impact during the Plan period:
  - d. Conserve and restore field boundaries with a particular emphasis on areas of registered historic landscapes and relevance to connectivity for biodiversity.
- Policy N1: contributing to a low carbon economy for Wales and adapting to climate change (Policy N1).

**2.11** Policies in the Management Plan are underpinned by a series of intended impacts. These include:

- Conserving and restructuring semi-natural woodland, wood pasture, trees in the landscape and field boundaries.
- Creating hedgerows and new woodland strips.
- Reducing the impacts of non-native coniferous woodland on biodiversity.
- Supporting soil conservation, management of peat soils, wetland protection, conservation and expansion of semi-natural habitats and protecting the best and most versatile agricultural land from development.

## Woodland Funding and Delivery Mechanisms

**2.12** A range of funding and delivery mechanisms for tree and woodland planting and creation are available and are likely to become available over the next few years. Up to date information on support available for new woodland creation can be found through Natural Resources Wales <sup>5</sup>

### Scope of the Guide

**2.13** It is well known that tree and woodland planting can bring a range of benefits for both nature and society. Additionally, the appropriate, sustainable management and regeneration of existing woodlands is as important as establishing new woodlands, as well as being a lower-cost way of slowing climate change and enhancing biodiversity.

**2.14** However, while most new tree cover is a positive thing, planting new woodland in the 'wrong' locations could result in unintended negative consequences on the special landscape qualities of the National Park and its rich natural and cultural heritage. For example, poorly designed monoculture planting can change the diversity and special qualities of the landscape, including open landscapes and extensive views from the uplands. Establishing woodlands on areas of species-rich grassland, heathlands or peatlands, can reduce biodiversity or even release more carbon than will be stored by the planted trees. Trees can also damage buried archaeology, historic sites and their settings.

**2.15** Therefore, taking a holistic and well-planned approach which builds on the existing landscape framework (such as strengthening hedgerow networks and links to existing woodland, as well as new planting) is what the guidance produced by this study aims to achieve

### Conserving non-woodland habitats and species

**2.16** In addition to its woodland, the National Park also contains a number of important non-woodland habitats that need to be considered in planning for woodland expansion and management. It is important that measures to expand the area of woodland within the National Park do not result in damage or loss of these important habitats. The design and location of schemes should therefore have regard to such sites to ensure that adverse effects on protected and priority species and habitats are avoided. It is also important to ensure that site-specific assessment of woodland creation proposals give appropriate consideration to significant, but

undesigned habitats, such as the transition habitats between areas of wetland, grassland and woodland habitats.

### Tackling non-native species

**2.17** Invasive non-native species of plants and animals pose a significant and growing threat to biodiversity, and the National Park is no exception. Riparian habitats are particularly susceptible to invasive plants, and seeds and other materials can be quickly and widely spread by the action of the water. As these areas are often relatively undisturbed, populations of invasive species, such as Himalayan balsam, can become well established. Efforts to identify, manage and eradicate invasive non-native species, should form part of any tree creation scheme.

### Protecting cultural heritage

**2.18** Trees and woodlands are an integral part of the historic environment – contributing to the setting of a range of assets, adding to the character of historic towns and villages, and preserving the patterns of past activity. However, while trees and woodlands are an important component of many of the National Park's historic landscapes, there is potential for new woodland, whether planted or naturally regenerated, to affect sensitive parts of the historic environment. Archaeological sites, both above and below the ground, are often vulnerable to damage from tree roots. Archaeological landscapes and inter-visibility of monuments can be affected by inappropriately located planting.

**2.19** However, careful siting and well-planned woodlands can make a significant positive contribution to the setting of sites, reinforcing landscape character and restoring degraded landscape structure. Similarly, positive management of the area's extensive suite of designed landscapes is necessary to secure the contribution these assets make to local character, distinctiveness and a sense of time-depth in the landscape. Many of the trees in these historic landscapes are mature or over-mature and in some cases they are suffering due to a lack of appropriate management. The changing climate could compound these issues as a result of storm damage, stress and disease. It is important to ensure that site specific woodland creation proposals give appropriate consideration to the cultural heritage of a site.

### Important note:

<sup>5</sup> <https://naturalresources.wales/guidance-and-advice/environmental-topics/woodlands-and-forests/grants-for-planting-trees-and-creating-woodlands/?lang=en>



**The assessment should not be interpreted as a definitive statement on the suitability of certain locations for planting.**

**The Guide can only play an advisory role in relation to environmental protection and the weighing of potential benefits against likely impacts. Detailed site-specific assessment of proposals for woodland creation and management will always be required to provide this information and contribute to well-informed decisions. Proposals for woodland creation and management plan should seek opportunities to protect, manage and create non-woodland habitats and networks and protect any known sites of archaeological and historic importance.**

### The UK Forestry Standard (UKFS) (2017) and the Pembrokeshire Coast Landscape

**2.20** The suite of Forestry Commission guidance, in particular the mandatory UK Forestry Standard (UKFS) should ensure best practice in woodland design and management of existing woodland.

**2.21** Proposals for all new woodlands in the National Park need to be designed to high standards and should be underpinned by UKFS General Forestry Practice Requirements No. 17: 'New forests and woodlands should be located and designed to maintain or enhance the visual, cultural and ecological value and character of the landscape.'

**2.22** All woodland planting schemes greater than 2 hectares in National Parks require screening for Environmental Impact Assessment and a woodland creation plan must be prepared which follows the guidelines set out in line with the UKFS 2017.

**2.23** Section 6.4 of the UKFS (pages 96 – 127)<sup>6</sup> relates to forests and landscape. It identifies four landscape context factors and seven Forest Design Principles which should be used in the siting and design of new planting. Although the production of a Forest Management Plan is only compulsory for larger schemes, the principles are relevant for all schemes, and will help establishing new woodland in the right place.

### Spatial framework for the assessment

**2.24** The Landscape Character SPG provides detailed descriptions of the landscapes of the National Park and what makes them unique. It does this by identifying Landscape Character Areas. Where relevant, management guidance is

provided on how landscape character can be enhanced through tree planting and management. This Guide sets out further detail on tree and woodland expansion using the National Park's 28 Landscape Character Areas<sup>7</sup> as a spatial framework as shown in **Figure 1.1** above. It aims to show how tree cover can be increased in a way that recognises the diversity of landscapes found in the National Park, enhancing the character of the landscape while retaining its distinctive identity.

**2.25** The main focus of this Guide is on the sensitivity of the landscape of the National Park to woodland creation and management. Although a consideration of natural and cultural heritage is included, individual proposals for woodland creation should undertake more detailed consideration of the potential sensitivities of both. The 'urban' LCAs (LCA 2: Tenby, LCA 17: St Davids and LCA 23: Newport) have been excluded due to the more limited opportunities for woodland planting in these areas, however generic guidance for tree and woodland planting in this document can be used to guide woodland creation in these locations (see **Table 3.2**).

## Type and scale of woodland planting considered

### Scale of woodland planting

**2.26** The Guide judges the suitability of different scales and types of woodland planting, based on bandings that reflect woodlands that are currently characteristic of the local landscape and those most likely to be accommodated in the landscapes of the National Park.

**2.27** The scale of woodland considered for this guide consists predominantly of small scale planting (less than 30ha). Larger scale woodland (over 30ha) is also considered; however, this scale of woodland is unusual in the National Park and largely concentrated in the upland areas and along the wider estuaries.

### Woodland planting types

#### Broadleaved woodlands

**2.28** The woodland types considered for this guide mostly consist of native broadleaf species (although some non-native or coniferous species may form a component of larger woodlands to provide a mix more resilient to climate change and tree disease). The most common woodland types in the National Park are lowland oak woodland, where the dominant tree is sessile oak (found predominantly in the river valleys of

<sup>6</sup> UK Forestry Standard (UKFS) 2017

<sup>7</sup> Landscape Character SPG

the Gwaun and Nevern and in the upper Daugleddau Estuary). In the south, pockets of mixed ash woodland survive although these are increasingly vulnerable to *Chalara fraxinea* (ash dieback).

**2.29** Historically orchards were found across Pembrokeshire and were once a valuable local food source. Although some traditional orchards remain, many have been lost or are derelict. Wood pasture (grazed woodland) is often associated with historic estates but is relatively scarce. The conservation of existing orchards and wood pasture and the creation of new ones offer the opportunity to graze animals in more treed landscape and has potential to integrate tree planting within the agricultural landscapes of the National Park, contributing to the wider woodland network.

**2.30** The choice of species for new woodland in the National Park should be determined in consultation with the National Park team. Advice on appropriate species can be found in the Guidance on Selection of Trees and Shrubs in Pembrokeshire<sup>8</sup>. Location specific species selection should also take into account current local guidance in terms of resilience and adaption to climate change.

**2.31** Broadleaved trees have distinct seasonal colour and textural qualities, as well variations in tone. Planting densities for broadleaved woodlands also tend to be less than those of coniferous woodland, and this together with seasonal change, are likely to result in a lower impact on landscape character than coniferous, or mixed (broadleaf and coniferous) woodland.

### Mixed and coniferous plantations

**2.32** Extensive plantations made up of non-native conifers were established in the National Park in the middle of the 20th century. These were laid out in geometric shapes that followed ownership boundaries, with limited species and age diversity. There was little consideration of the ecological value of the existing habitats or the impact on landscape character at that time. These plantations, or areas that have reached maturity and been clear felled, still dominate the upland landscapes of the Preseli Hills (LCA 27) and Carningli Hills (LCAs 22). Just under a third of the woodland in the wider estuaries at Daugleddau (LCA 28) consist of mixed or coniferous woodlands, with most plantations on ancient woodland sites (PAWs). There are also some smaller plantation woodlands along stream valleys in Saundersfoot Settled Coast (LCA1) and within Cwm Gwaun/Afon Nyfer (LCA 26).

**2.33** Any new or replacement large-scale commercial plantations, within the National Park may provide some elements of recreational value, flood risk management and carbon capture (although in the long term, 100+ years, oaks store as much as conifers). However, rapid growing plantations are likely to result in significant (negative) change to the character of all landscapes within the National Park, do not have the biodiversity benefits of native broadleaved woodland (as trees as predominantly non-native), have a particularly negative impact on the ecology of ancient woodland and can contribute to acidification of watercourses.

**2.34** As the existing plantations within the National Park reach maturity, the opportunity exists to gradually restructure the visual and species diversity of these forests in a way that reduces landscape impact and offers more diversity in terms of wildlife. Options include removal and replacement with heathland habitats or planting broadleaved woodland.

**2.35** The short-term aim should be to modify the overall structure of existing conifers plantations to contain a higher broadleaf content (mixed woodlands), with their eventual replacement with predominantly native broadleaved woodlands. Native woodland conversion should be prioritised for all Planted Ancient Woodland Sites (PAWs), as they often retain ancient woodland remnants and consequently produce more diverse native woodland when restored.

**2.36** On the large upland tracts of the Mynydd Preseli and Mynydd Carningli the alternative is to clear-fell existing plantations over the short or medium term and revert to a mosaic of broadleaved woodland and the former open heathland or grassland habitats of the hills with their soft muted colours and open character.

**2.37** For these reasons, consideration of the sensitivity of the landscape to mixed woodlands in this Guide is confined to the upland landscapes of the National Park (LCA 22 and LCA 27), the wider estuaries at Daugleddau (LCA 28) and stream valleys around Saundersfoot (LCA 1). All other landscapes in the National Park are considered to have a high sensitivity to any scale of mixed woodland.

**2.38** If proposals for new or replacement commercial plantations come forward within the National Park, the key attributes of individual schemes will be assessed on a site-by-site basis through the planning application process. Any scheme should confirm to the UK Forestry Standard. In particular;

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<sup>8</sup> Pembrokeshire Nature Partnership, Guidance on Selection of Trees and Shrubs in Pembrokeshire (2020)

- new woodland should be located and designed to maintain or enhance the visual, cultural, and ecological value and character of the landscape;
- diverse structure of habitat, species and age of trees should be established or maintained within the

woodland, with mandatory broadleaf and open ground components to maximise biodiversity benefit.

**2.39** Woodland types and sizes assessed in this guide are set out in **Table 2.1** below.

Table 2.1: Woodland types and descriptions

| Woodland types         | Area     | Description   |
|------------------------|----------|---|
| Small-scale woodlands  | ≤5ha     | Small predominantly native woodlands, less than or equal to 5ha in area, including copses, farm woodlands, shelter belts or riparian woodlands. Traditional orchards and wood pasture are also considered under this woodland type. |
|                        |          | Small scale mixed woodlands, less than or equal to 5ha in area. Woodlands comprising both broadleaf and coniferous species (where the proportion of broadleaves is more than 50%).  |
| Small-medium scale     | >5- 15ha | Small-medium scale predominantly native woodlands between 5 and 15ha in area including copses, shelterbelt woods or riparian woodlands.   |
|                        |          | Small-medium scale mixed woodlands (predominantly broadleaf), between 5 and 15ha in area. Woodlands comprising both broadleaf and coniferous species (where the proportion of broadleaves is more than 50%).                        |
| Medium-scale woodlands | >15-30ha | Medium scale predominantly native woodlands, between 15 and 30ha in area.   |
|                        |          | Medium scale mixed woodlands (predominantly broadleaf), between 15 and 30ha in area. Woodlands comprising both broadleaf and coniferous species (where the proportion of broadleaves is more than 50%).                             |
| Large-scale woodlands  | >30ha    | Large sized predominantly native woodlands over 30ha in area.   |
|                        |          | Large sized mixed woodlands (predominantly broadleaf) over 30ha in area. Woodlands, comprising both broadleaf and coniferous species (where the proportion of broadleaves is more than 50%).  |

## Evaluating landscape sensitivity

**2.40** This study is based on an understanding of landscape sensitivity, using an established methodology consistent with national guidance.

**2.41** The method used to evaluate landscape sensitivity to woodland planting has been adapted from the approach used by LUC for similar studies and draws on advice contained in An Approach to Landscape Sensitivity Assessment (Natural England, 2019) as well as the draft guidance published by Natural Resources Wales: 'Landscape Sensitivity and Capacity Statement (2018)<sup>9</sup>. Although specifically applied to onshore wind and solar PV development types, this emerging Welsh guidance may be adapted for other forms of landscape change. Landscape Sensitivity and Capacity Assessment has become an important way of using an understanding of landscape character to inform the management of landscape

change. Guidance on landscape sensitivity assessment, in relation to spatial planning and land use change, has been published by Natural Resources Wales.<sup>10</sup>

**2.42** The development of the assessment approach also takes account of guidance in The UK Forestry Standard (2017) – Section 6.4 (Forests and Landscape) and Design Techniques for Forest Management Planning.

**2.43** The method used to evaluate landscape sensitivity to woodland planting has been adapted from the approach used by Land Use Consultants (LUC) for many landscape sensitivity assessments.

**2.44** While LUC's approach draws on advice contained in the Natural England guidance 'An Approach to Landscape Sensitivity Assessment' (2019), as well as guidance published by Natural Resources Wales, LUC has found in the past that

<sup>9</sup> Natural Resources Wales. 2018 Landscape Sensitivity and Capacity in relation to on-shore wind and solar photo-voltaic developments: An assessment approach for Wales

<sup>10</sup> [Landscape Sensitivity Assessment Guidance for Wales, Guidance Note 017, August 2022.](#)

there is overlap between ‘susceptibility’ and ‘value’ indicators and therefore a set of sensitivity criteria is used that takes into account aspects of both. It is considered that this is an appropriate approach for this Guidance, which has a strategic purpose, in contrast to more site-specific assessments, such as Landscape and Visual Impact Assessments.

**2.45** LUC’s indicators are tailored to the landscape change or development being considered (in this case trees and woodland) and the landscape being considered (in this case a nationally designated landscape).

**2.46** The study area is restricted to the landscape of the National Park, a landscape that is effectively all high value. This makes a division of criteria into ‘susceptibility’ and ‘value’ indicators more challenging, as the suggestion that parts of the National Park landscape are of ‘higher value’ than other, would effectively be double counting. Instead, the sensitivity criteria used in this study, include ‘value’ indicators, reflecting those special qualities of the National Park that could be impacted by tree and woodland planting. For example, the criteria for the ‘Perceptual and scenic qualities’, indicator covers many of the special qualities listed in the National Park Management Plan 2020-2024 that make the landscape of the National Park unique, such as ‘coastal splendour’, ‘diversity of landscape’, ‘remoteness, tranquillity and wildness’. <sup>11</sup>

**2.47** The indicator for ‘Historic Landscape Character’ includes a consideration of the rich historic environment, and the indicator ‘Field and landcover pattern’ includes a consideration of the ‘richness of habitats and species’ as they relate to landscape character.”

## Assessment criteria

**2.48** The selection of landscape sensitivity indicators (‘criteria’) for this study is informed by the attributes of landscape that could be affected by woodland planting. It considers the ‘landscape’, ‘visual’ and ‘perceptual’ aspects of sensitivity, including:

- Landform and scale;
- Field and landcover pattern;
- Existing woodland pattern and diversity;
- Historic landscape character;
- Visual character (including skylines); and
- Perceptual and scenic qualities.

**2.49** **Tables 2.3** at the end of this chapter provides guidance and examples of features/attributes of higher and lower sensitivity to woodland planting in the National Park. These criteria were used to determine the key sensitivities to woodland planting for each LCA and inform judgements on overall levels of sensitivity.

**2.50** The initial stage of the assessment involved a thorough desk-based study, drawing on sources of spatial and descriptive information regarding the landscape (see **Appendix B**). This was supplemented by field survey work undertaken by a team of landscape professionals to verify the findings.

**2.51** The following caveats should be noted:

- The landscape sensitivity of one part of an assessment unit may differ to that of another part. Such detail is not picked up without a finer scale of assessment.
- Sensitivity levels are relative to other areas in the assessment. Levels may be calibrated differently in other assessments, meaning that direct comparison may not be correct.
- Specific development proposals on specific sites may need their own, more detailed assessment, normally a landscape and visual impact assessment.

## Making overall judgements on landscape sensitivity

**2.52** Key attributes or features of the landscape that could be affected by woodland creation were identified and are listed under ‘key sensitivities’ for each LCA. An overview of the sensitivity of each LCA is provided, and any area or feature, attribute or locations within the LCA judged to be of more or less sensitive (due to local variations in landscape sensitivity), is highlighted.

**2.53** This is translated into overall scores of ‘landscape sensitivity’ (see **Table 2.2**) for the different bandings of tree and woodland planting. The results for each LCA are shown in the individual assessment profiles.

**Table 2.2: The five-point scale of ‘landscape sensitivity’**

| Overall Sensitivity rating | Definition  |
|----------------------------|---|
| Low                        | The key characteristics and qualities of the landscape are robust and can withstand change from the |

<sup>11</sup> The special qualities of Pembrokeshire Coast National Park are listed in the National Park Management Plan 2020-2024. They are: accessibility; coastal splendour; • cultural heritage; distinctive settlement character; diverse geology; diversity of landscape; islands;

remoteness, tranquillity and wildness; rich historic environment; richness of habitats and species; space to breathe; the diversity of experiences and combination of individual qualities

|               |  |
|---------------|--|
|               | introduction of woodland. The landscape is likely to have high potential to accommodate woodland creation without a significant change in character. Woodland could relate well to the landscape although care is still needed when siting and designing woodland schemes.   |
| Low-Moderate  | Few of the key characteristics and qualities of the landscape are sensitive to change from the introduction of woodland. The landscape has some potential to accommodate woodland creation with limited change in character. Care is still needed when siting and designing woodland schemes to avoid adversely affecting landscape character. |
| Moderate      | Some of the key characteristics and qualities of the landscape are sensitive to change. Although the landscape may have some potential to accommodate woodland creation in defined locations, it is likely to cause a degree of change in character. Care would be needed in siting and design.  |
| Moderate-High | Key characteristics and qualities of the landscape are sensitive to change from woodland creation. There may be limited locations where new woodland planting can be accommodated without significantly changing landscape character. Great care would be needed in siting and design.   |
| High          | Key characteristics and qualities of the landscape are highly sensitive to change. Woodland creation is likely to result in a significant change in character.   |

**2.54** The five defined levels of 'landscape sensitivity' form stages on a continuum, rather than clearly separated categories and an element of professional judgement is required.

**2.55** The assessment of a landscape's sensitivity is the result of a complex interplay of often unequally weighted variables (or 'criteria'). Professional judgement is made on overall landscape sensitivity, taking all criteria into account in the context of their importance to the landscape character and quality of the individual LCA.

**2.56** This Guide focuses on the potential impact of tree and woodland planting on landscape character. It also identifies where woodland planting will provide opportunities to add value in the delivery of other ecosystem services, such as the potential to enhance flood management and water quality, the value of woodland planting to biodiversity and the regulation of soil erosion.

## Presentation of results

**2.57** Guidance on the factors that contribute to the appropriate design of woodland and tree planting in the National Park are set out in **Chapter 3**, with the overall sensitivity of the individual LCAs and guidance on woodland planting opportunities set out in **Chapter 4**.

**2.58** The full landscape sensitivity assessments for each of the LCAs are presented in separate assessment profiles (included in **Appendix A**). These are structured as follows:

- Context maps showing the location of the LCA, existing woodland cover and historic and natural environment designations.
- A summary description of the existing tree and woodland coverage within the LCA.
- A table showing coverage of designated features and valued attributes within the LCA.
- A list of key sensitivities to woodland planting in the LCA.
- An overview of the overall landscape sensitivity of the LCA to new tree and woodland planting referencing particular features, attributes or locations which may be more or less sensitive.
- A table setting out the landscape sensitivity assessment rating for the relevant scenarios (using the five-point scale shown at **Table 2.2** and following the criteria-based approach set out at **Tables 2.3**).
- Opportunities for woodland planting within the LCA.
- Recommendations and strategic guidance for accommodating future tree and woodland planting in the landscape.

**2.59** Illustrations of opportunities for future tree and woodland creation for typical landscapes found within the National Park are included in **Chapter 5**. These relate to the LCA groups in **Table 5.1** and include open coastal farmland, wooded coastal farmland, estuaries and river valleys, uplands, islands, and rocky headlands.

Table 2.3: Sensitivity criteria descriptions

| Landform (and landform scale)  |  |  |   |   |
|--|--|--|---|---|
| <p>In mountainous or hilly areas, landform is usually the dominant influence on landscape sensitivity. A landscape with simple landforms, such as flat or gently undulating lowland landscapes, or smooth lower slopes, is less sensitive to the introduction of larger woodlands than a landscape with complex or prominent landforms and distinctive landform features (e.g. prominent ridgelines, hill summits with rocky outcrops, or intricate coastal landforms). This is because extensive woodland could mask distinctive landform features. However, smaller woodlands can be designed to relate to the landform, (e.g. native woodland extending up narrow upland stream valleys).</p> <p>Generally, the scale and shape of woodland should reflect the scale of the landscape. A small-scale intimate landscape, with small-scale landscape features, is generally more sensitive to the introduction of extensive woodland planting as it can appear as a large block and dominate its surroundings. In these areas, a series of small-scale woodlands that link to existing tree cover and are irregular in shape would be more appropriate. Some of the National Park's largest scale landscapes, particularly those with existing woodlands and trees, such as the lower slopes of the Preseli Hills, generally have a greater ability to accommodate larger scale woodlands as it will have less impact on their landscape character. However, the high open moorlands on the summits of the Preseli and other areas of the National Park which are characterised by their openness, their rich ecology and archaeology have high sensitivity to woodland planting as it would alter their special qualities, including their extensive sweeping moorland character.</p> |  |  |   |   |
| Low  | Low-Moderate   | Moderate   | Moderate-High   | High  |
| A landscape with simple landforms, such as an extensive flat lowland landscape, or larger scale landforms.   | A simple gently rolling landscape, likely to be a medium-large scale landform. | An undulating landscape perhaps also incised by valleys, likely to be a medium scale landform, with hidden areas in folds in the landscape as well as some visible slopes. | A landscape with distinct landform features, and/or irregular in topographic appearance (which may be large in scale), or a smaller scale landform. | A landscape with a rugged landform or dramatic landform features which are distinctive features in the surrounding landscape (which may be large in scale), or a small scale or intimate landform, with small-scale features. |
| Field and landcover pattern  |  |  |   |   |
| <p>In lowland areas, where landform is subdued, field patterns are usually the dominant influence on landscape sensitivity. Landscapes with small, irregular field patterns (often medieval in origin) are likely to be more sensitive to the introduction of large new woodland than landscapes with large, regular scale field patterns because of the risk of diluting or masking the characteristic landscape pattern. This is because extensive woodlands can detract from enclosure patterns, and this would be particularly apparent if planting takes place across a number of adjacent fields where the field pattern is small and intricate. However, small scale woodland planting can reinforce and extend the existing enclosure pattern where field pattern is the dominant influence on the landscape.</p> <p>Highly naturalistic landscapes with extensive semi-natural land cover (e.g. species-rich grassland, heathland, water bodies and wetlands, particularly habitats protected by statutory or local designation) where woodlands are uncharacteristic, are likely to be more sensitive, since large scale woodland creation can result in the loss of landscape diversity. However, consideration should be given to the potential positive effects on habitat diversity of small-scale woodland creation, and the restoration of field boundaries to connect areas of new or existing woodland. Landscapes where woodlands are sparse, if their openness is a product of recent forces like agricultural intensification or development, are likely to be of lower sensitivity.</p>  |  |  |   |   |
| Low  | Low-Moderate   | Moderate   | Moderate-High   | High  |

|  |  |  |  |  |
|--|--|--|--|--|
| <p>A landscape with large-scale, regular fields of mainly modern origin.<br/>A landscape influenced by large-scale modern development / infrastructure.</p>  | <p>A landscape which is mainly defined by large, modern fields or those sub-divided for non-traditional uses, e.g. equestrian uses.<br/>A landscape influenced by modern development/infrastructure.</p> | <p>A landscape with a mixture of large-scale, modern fields and some smaller, more historic enclosure.<br/>A rural landscape, perhaps with some modern development/infrastructure.</p> | <p>A landscape dominated by ancient, small-scale field patterns with a few isolated areas of modern enclosure, and/or a landscape with some areas of semi-natural (non-woodland) land cover.</p> | <p>A landscape characterised by small-scale, ancient field patterns and/ or a diverse landscape dominated by semi-natural (non-woodland) land cover.</p>                                 |
| <p><b>Existing woodland pattern and diversity</b></p>  |  |  |  |  |
| <p>The overall pattern of existing and historic woodland coverage within the landscape (including size, overall shape, location within the landscape and type) will determine its sensitivity and the effects on the existing woodland pattern of new woodland creation and its location will need to be considered.</p> <p>For example, landscapes with a strong/complex woodland pattern (e.g. narrow riparian woodland lining lowland valleys or extending up hillsides in steep stream valleys) will be sensitive to the introduction of new woodland planting because of the risk of diluting the existing landscape pattern and the difficulty of integrating new woodland in a way that respects the intrinsic landscape character (although they may not be sensitive to the woodland planting of a similar scale and type).</p> <p>Landscapes with diverse native woodland (particularly ancient and/or designated woodlands) are likely to be more sensitive to the introduction of new woodland. However, in these areas small-medium scale woodland planting can reinforce and extend the existing native woodland pattern if located sensitively and reflecting the pattern of species within it. Landscapes with a history of woodland will be less sensitive to its reinstatement than those with no history of woodland</p> <p>New woodland will generally be less intrusive in landscapes with geometric patterns of uniform coniferous forest or clear felled areas where woodland creation would result in a more diverse species, irregular edges and glades. If these plantations are on ancient woodland sites, then there is an opportunity to restore them to broadleaved woodland with native ground flora which would greatly increase their biodiversity.</p> |  |  |  |  |
| <p><b>Low</b></p>  | <p><b>Low-Moderate</b></p>   | <p><b>Moderate</b></p>   | <p><b>Moderate-High</b></p>  | <p><b>High</b></p>   |
| <p>A landscape with very limited deciduous woodland due to historic clearance, and/or landscapes with extensive and uniform coniferous forestry.</p>   | <p>An area with limited deciduous woodland and/or areas of uniform coniferous forestry.</p>  | <p>A landscape with a mix of coniferous plantation and deciduous woodland, without a discernible woodland pattern</p>  | <p>A landscape with a characteristic pattern of woodland coverage, much of which is native deciduous woodland</p>  | <p>A landscape characterised by a strong characteristic pattern of existing woodland coverage and/or with extensive native deciduous woodland (some of which is ancient /designated)</p> |
| <p><b>Historic landscape character</b></p>   |  |  |  |  |
| <p>Woodland and individual specimen trees may be landscape components of the historic environment. However, new woodland planting can detract from historic character if sited inappropriately. Where planting is likely to impact or disturb the historic character of the landscape itself, and /or the setting/character of archaeological and historic features (particularly nationally or locally designated heritage assets such as Scheduled Monuments, Listed buildings, Registered Historic Parks and Gardens and Conservation Areas) the sensitivity is likely to be higher. Woodland planting can also impact on buried and on the surface</p>   |  |  |  |  |



| <p>archaeological features if inappropriately planted (e.g. Historic Environment Record Monuments). Please refer to the Historic Landscape Character Assessment<sup>12</sup> which examines the historic character of areas defined by the Register of Historic Interest in Wales.</p> <p>Landscapes with little historic character and/or few historic features important to the character of the landscape, are likely to have lower sensitivity to new woodland.</p>  |  |  |   |  |
|--|--|--|---|--|
| Low  | Low-Moderate   | Moderate   | Moderate-High   | High   |
| A landscape with very little historic character and/or few historic features important to the character of the landscape and/or tree planting is likely to have a low impact on the historic environment.  | A landscape with little historic character a small number of historic features of importance to landscape character area and/or where tree planting is likely to have a low-moderate impact on the historic environment. | A landscape with some historic character and/or historic features of importance to landscape character, and/or where trees planting is likely to have a moderate impact on the historic environment. | A landscape with a strong historic character and/or many historic features of importance to the character of the landscape and/or where tree planting is likely to have a moderate-high impact on the historic environment. | A landscape with a very strong historic character and/or a high density of historic features of importance to the character of the landscape and/or where tree planting is likely to have a high impact on the historic environment. |
| Visual character (including skylines)  |  |  |   |  |
| <p>Landscapes which are highly visible in the wider landscape, especially in key views from settlements, footpaths including the Coast Path or promoted routes such as Active Travel are likely to have a higher level of sensitivity to new woodland planting, as new woodland can obscure important or sensitive viewpoints.</p> <p>Undeveloped open skylines, or skylines with important landmark features, are likely to be more sensitive to woodland planting because new woodland may mask these skylines as features in the landscape or landmark features on skylines if not sited appropriately. Important landmark features on the skyline might include historic features or monuments as well as landforms.</p> |  |  |   |  |
| Low  | Low-Moderate   | Moderate   | Moderate-High   | High   |
| A landscape which is not visible from footpaths or promoted routes and in which skylines are not prominent, and there are no important landmark features on the skyline.   | A landscape with limited visibility from footpaths or promoted routes. A landscape in which skylines are simple, flat or gently convex and/or there are very few landmark features.                                      | A landscape which is visible from footpaths or promoted routes and has some prominent skylines, but these are not particularly distinctive – there may be some landmark features on the skyline.     | A landscape which is visible from the surrounding area, particularly footpaths or promoted routes. A landscape with important landmark features.  | A landscape which is highly visible from the surrounding area, particularly footpaths or promoted routes. A landscape with prominent or distinctive open skylines, or with important landmark features on skylines.                  |
| Perceptual and scenic qualities  |  |  |   |  |
| <p>Landscapes with intangible qualities, such as remoteness, tranquillity or cultural associations that make a location special or unique, tend to be more sensitive to new woodland planting, since new woodlands can have a significant impact on the recognised qualities of a landscape and how people experience it. In areas where existing woodlands are a characteristic of the landscape, consideration will need to given to the</p>   |  |  |   |  |

<sup>12</sup> Dyfed Archaeological Trust, [Historic Landscape Character Assessment](#)

potential negative effects where increasing the woodland extent would be perceived as decreasing scenic qualities of the landscape. This particularly includes landscapes nationally recognised for their scenic quality such as the National Park.

New woodland will generally be less intrusive in landscapes that are influenced by overt human activity and disturbance, including modern settlement, industrial and commercial development, and infrastructure. These landscapes would benefit from further woodland planting which will provide a new landscape framework to help integrate/screen areas of new development.

| Low   | Low-Moderate   | Moderate   | Moderate-High  | High  |
|---|--|--|--|---|
| Landscapes with much human activity and modern development, including residential, commercial, or industrial areas. | A rural or semi-rural landscape with much human activity and dispersed modern development, such as settlement fringes. | A rural landscape with some modern development and human activity, such as intensive farmland. | A naturalistic/rural landscape with little modern human influence and development. | A naturalistic/rural landscape with no overt sign of modern human activity and development. |

## Chapter 3

# Existing woodland character and guidance for woodland creation

### Woodland coverage in Pembrokeshire Coast National Park

**3.1** Wales is one of the least wooded countries in Europe, with woodland covering 15% of the land area, compared to the EU average of 38%<sup>13</sup>. The character of woodland in Wales has been influenced by both historic land use and previous government policy, and now most woodland is either predominantly conifer woodland or native woodland which is mostly small and fragmented.

**3.2** The total area of woodland in Wales is currently 306,000ha<sup>14</sup> and this has changed little in the past 20 years. Fragmentation is a significant pressure affecting native woodland condition, with nearly 22,000 woodlands identified as being smaller than 2ha. Woodland condition is also negatively impacted by grazing pressure from domesticated and wild animals, while tree health is declining due to the spread of pests, diseases and pathogens such as *Phytophthora ramorum* (affecting larch in particular), Acute Oak Decline and *Chalara fraxinea* (ash dieback). Woodland condition and extent will be increasingly affected by climate change and pressure from pests and diseases will increase in the future.

**3.3** Woodland cover within the Pembrokeshire Coast National Park is lower than the Welsh average, with woodland making up just 8.75% of total land cover (5,374 ha)<sup>15</sup>.

- Conifer woodlands make up 12.4% of the woodland in the National Park. These are a mixture of stands that are undergoing transformation and restoration to diversify species and structure, or single-species even-aged stands created during the 20<sup>th</sup> century which generally have been managed by clear-felling. These are mostly concentrated in the upland areas of Mynydd Carningli (LCA 22) and Mynydd Preseli (LCA 27). Non-native plantation woodland has also been introduced along the slopes of the wider estuaries such as the Daugleddau

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<sup>13</sup> [Natural Resources Wales / Why we need more trees - the benefits of new woodland creation](#)

<sup>14</sup> The State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources. Technical Report. [www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk)

<sup>15</sup> Statistics on woodland cover within the National Park are taken from the National Forestry Inventory (NFI) programme which monitors woodland and trees within Great Britain.

(LCA 28), often on planted ancient woodland sites (PAWS).

- Native woodland makes up 64.4% of the total woodland in the National Park. This is mostly small in scale (under 5ha) and located within the agricultural landscape or comprises more extensive woodlands along the banks of the rivers and estuaries of the National Park. Remaining woodland within the National Park is mixed, or falls into other NFI woodland types<sup>16</sup>.
- Not all native woodland is old, but a significant proportion (37% of all woodland with the National Park) has been continuously wooded for 400 years and is therefore classified as ancient (including some within PAWS).
- A significant proportion of the woodland in the National Park comprises trees growing along linear features, including hedgerows, and streams, while the rest is made up of trees found in orchards, wood pasture, parkland and urban areas. Even in areas with low woodland cover, broadleaved woodland is usually concentrated in the sheltered stream valleys which run to the coast.



Daugleddau Estuary LCA 26

**3.4** There are marked differences in woodland coverage within the National Park, with heavily wooded areas concentrated in the river valleys and estuaries. This includes the river valleys of the Gwaun and Nyfer (LCA 26) where woodland cover makes up over half the current land cover (52.6%), and along the estuaries at Stackpole (LCA 5) with 34% and Daugleddau (LCA 28) with 20%. Woodland cover along the Brandy Brook (LCA 13) and the Solva Valley (LCA 14) varies between 20% and 7.6% respectively. Riverside

woodlands are a common feature of the valley floors and slopes, with riparian woodlands following the course of the rivers and their tributaries. Parkland trees are also associated with the gardens and parks of historic houses found along the Daugleddau Estuary (LCA 28).

**3.5** The upland areas of the Preseli Hills (LCA 27) and Carningli Hills (LCA 22) also have extensive woodlands concentrated on the lower slopes, including coniferous plantations in the Preseli Hills. However, this woodland makes up less than 10% of the total land cover of the LCAs due to their characteristically open and exposed higher slopes. Scattered scrub is characteristic of the steep upper slopes, at the transition to the open upland areas. Small woodlands trace the course of minor watercourses and contribute to the landscape pattern of pastoral fields and woodland on lower slopes.



Preseli Hills LCA 27

**3.6** Exposed coastal areas have very low woodland coverage. Castlemartin/Merrion Ranges (LCA 6), Herbrandston Refinery Edge (LCA 11), and St David's Headland (LCA 18) as well as the inland commons at Dowrog and Tretio Common (LCA 15), have less than 2% woodland cover. Other lowland farmland areas along the coast including Angle Peninsular (LCA 7) Freshwater West/Brownslade Burrows (LCA 8), Marloes (LCA 9), St Brides Bay (LCA 12), Trefin (LCA 20) have woodland coverage of under 4%. Woodlands in these areas are generally small with occasional linear tracts of trees following minor watercourses or associated with coastal settlements and farmsteads, where tree groups or specimens provide shelter in the exposed conditions. The offshore islands of Skomer, Skokholm, and Ramsey are largely devoid of any woodland.

<sup>16</sup> NFI Woodland Types include Broadleaved, Conifer, Mixed (mainly broadleaved), Mixed (mainly conifer), Shrub, Young trees, Low density, Ground Prep, Assumed Woodland and Felled.



Strumble Head LCA 21

**3.7** Woodland on the exposed headlands, including Carn Llidi (LCA 16), Strumble Head (LCA 21), Dinas Head (LCA 24), and Cemaes Head (LCA 25) is limited to small groups of trees within the farmed landscape, or concentrated in the shelter of the incised stream valleys which flow to the coast. Field boundaries are often devoid of trees, except in inland areas away from the coast.



Carn Llidi LCA 16

**3.8** The more sheltered farmland in Saundersfoot Settled Coast (LCA 1) and Manorbier-Freshwater East (LCA 4) have a well-wooded character due to more mature hedgerow trees along field boundaries, and linear woodland along stream valleys or surrounding settlements. Woodland composition varies, with some broadleaved and some mixed or coniferous woodlands. Parkland estates with veteran trees are also features of Saundersfoot Settled Coast (LCA 1).

### Woodland coverage in urban areas of the National Park

**3.9** Urban tree cover in Pembrokeshire was estimated to be 13.5% in 2013 (below the national average of 16.3%)<sup>17</sup>. Urban woodlands represent 35% of Wales' urban canopy cover, the rest is made up of 'amenity' trees, growing along streets, car parks and other public and private spaces. Most urban trees and woodlands are broadleaved and are often made up of very hardy species that are resistant to pollution.

**3.10** Canopy cover in coastal towns in Wales is often low, and Newport and St David's are typical in this regard. By contrast, Tenby (17.4% canopy cover) is above the Welsh national average, demonstrating that the establishment of a robust tree and woodland network within exposed coastal towns can help to ameliorate the environment and provide more comfortable living conditions. Despite their low canopy cover, these small coastal towns benefit from their strong natural setting which contributes greatly to the sense of place. Newport in particular has the feel of a town in woodland when viewed from across the estuary.

### Benefits of tree and woodland planting

**3.11** As noted earlier, new tree and woodland planting can bring a range of benefits for both nature and society. As well as acting as a carbon sink and producing timber, woodlands deliver numerous other ecosystem services: providing an important habitat for a variety of species, reducing air pollution and the risk of downstream flooding, improving community health and wellbeing by providing spaces for leisure and recreation, and contributing to cultural heritage and a sense of place. Woodlands and trees have a vital role to play in helping people and biodiversity adapt to the effects of a changing climate, which are likely to include changes in the pattern of rainfall, an increased risk of flooding, and higher peak temperatures. Woodlands are also important visual elements in the landscape that can make a significant contribution to sense of place.

**3.12** Urban woodlands and trees can deliver a similar range of benefits as components of the green infrastructure in and around the villages and towns within the National Park. As well as contributing to urban character by bringing natural elements into urban areas and restoring derelict land, they can contribute to the quality of urban life by providing places for recreation and relaxation. They can be used to reduce unwelcome visual prominence in the wider landscape of hard built structures such as buildings and roads and soften the junction between the built and natural environment. Trees in

<sup>17</sup> Natural Resources Wales, [Tree Cover in Wales' Towns and Cities](#) (2016)

streets and parks also help to lower noise pollution, combat air pollution, reduce temperatures in urban areas in summer and reduce the pressure on urban drainage systems by absorbing water.

**Right tree, right place**

**3.13** As recognised by the UK Forestry Standard<sup>18</sup> Guidelines on Forests and Landscapes:

'An appreciation of landscape character helps determine the capacity of a landscape to accommodate new forests and their design with respect to the key landscape characteristics of a particular area. Within a **valued landscape**, new forests, woodlands and trees can have a significant impact on its recognised qualities and how people experience it'.

**3.14** Pembrokeshire Coast National Park is one of the smallest UK National Parks but has one of the most diverse landscapes and is the only National Park which is primarily designated for its unique coastal landscape.

**3.15** Ecologically it is one of the richest and most diverse parts of Wales and is recognised as of international importance for a wide range of high-quality habitats and rare species. The high ecological value of many parts of the National Park is reflected in its coverage of nature conservation designations which include 13 Special Areas of Conservation (three marine SACs overlap about 75% of the Park's coastline and account for about 60% of the inshore area), five Special Protection Areas, one Marine Conservation Zone at Skomer, seven National Nature Reserves and 60 Sites of Special Scientific Interest (SSSI) – with 80% of the National Park coastline designated as SSSI.

**3.16** The National Park also has a rich historic environment including 286 Scheduled Monuments, 14 Conservation Areas, and 15 registered historic parks and gardens. Large swathes of the National Park are registered as a special or outstanding historic landscapes. The National Park also has many

undesigned historic features, including archaeological sites and historic buildings.

**3.17** Due to the richness of the landscape context, opportunities for woodland creation are correspondingly limited in terms of type and extent. The National Park Authority aims to achieve a holistic and well-planned approach to woodland creation which builds on the existing landscape framework. If woodland planting was permitted across a landscape, many of the elements (and combination of elements) that make this nationally protected landscape distinctive would be blurred or lost. Valued semi-natural habitats could be replaced by uncharacteristic woodland or the restoration potential to alternative habitats lost. Heritage features could be obscured, or the sense of wildness and remoteness along the unique coastline diminished. Woodland creation in the National Park should therefore be designed to take account of this landscape context in order make a positive contribution to the character of the local area.

**Guidance for tree and woodland planting**

**3.18** Guidance on the factors that contribute to the appropriate design of woodland and tree planting in the National Park are set out below in **Table 3.1**. These align with guidance contained in the UK Forestry Standard. LANDMAP is a source of further relevant information, particularly as it includes information on existing woodlands, including evaluation and guidance for management as part of the Landscape Habitats Aspect.

**Further guidance**

**3.19** The UK Forestry Standard (UKFS)<sup>19</sup> sets out the standard for the planning, design and sustainable management of forests and woodland in the UK and provides valuable guidance for woodland creation.

**3.20** Natural Resources Wales can also offer guidance on how to grow the right tree in the right place for the right reasons, and further guidance on tree planting is available from Forestry Commission Wales, including how planting trees can contribute to a farm business<sup>20</sup>.

**Table 3.1: Guidelines for woodland and tree planting in the National Park**

| Factor       | Guidance   |
|--------------|--|
| <b>Shape</b> | New woodlands should be located to establish a good fit with existing semi-natural woodland shapes and patterns, including the pattern of species within them. Woodland within the National Park is often small in scale and linear in shape, located along sheltered stream valleys or extending along river and estuaries and this irregular pattern should be reinforced and extended. Existing vegetation patterns and species |

<sup>18</sup> Forestry Commission, The UK Forestry Standard (2017)

<sup>19</sup> Forestry Commission The UK Forestry Standard (2017)

<sup>20</sup> [New Farm Woodlands](#)

| Factor                                 | Guidance   |
|--|--|
|  | (which reflect the underlying soil type, drainage, aspect and exposure) can also help guide planting species choices. Planting in geometric single-species blocks could detract from the prevalent woodland pattern in the National Park.  |
| <b>Landform</b>                        | New woodlands in the National Park should relate to the local topography, particularly in hilly or mountainous areas, where landform is the dominant and most obvious landscape influence. Woodlands should run along the contours of slopes, such as the incised valley slopes, in order to integrate new woodland with its surrounding. Avoid planting woodland in straight horizontal or vertical lines across the landform or obscuring distinctive landform such as rocky outcrops and open ridgelines.   |
| <b>Enclosure patterns</b>              | In lowland farmed areas, where field patterns are the dominant and most obvious landscape influence, woodland should reinforce and extend the existing field pattern, particularly in areas with historic enclosure patterns. Use new woodlands to provide links to existing hedges and woodland copses. Extensive woodland planting could obscure the intricate small-scale pattern of the pastoral farmland found throughout the National Park, hiding historic field patterns that contribute to landscape character.   |
| <b>Scale</b>                           | The scale of new woodlands should reflect the scale of the receiving landscape. The intricate scale of much of the farmed landscape within the National Park would mean that only smaller-scale woodlands would be appropriate, while large scale planting could weaken landscape character.   |
| <b>Diversity</b>                       | The majority of the woodland within the National Park is species diverse. Diverse woodlands are more visually appealing and ecologically sound. Woodland resilience and climate adaptation can be improved through increasing the diversity of tree sizes, ages and species composition within woodlands, and ensuring they are appropriately managed – including through traditional techniques such as coppicing and pollarding.   |
| <b>Unity</b>                           | Unity is achieved when woodlands integrate well with other features of the landscape. Woodland creation should be targeted to increase habitat connectivity across the landscape (strengthening hedgerow networks and providing links between existing woodlands) and providing links with other valued semi-natural habitats within the National Park such as coastal grasslands and heathlands. When selecting areas for woodland planting consideration should be given to the existence of existing valued habitats as well as the restoration potential to alternative habitats. The natural regeneration of existing native woodlands and natural colonisation by trees on suitable open ground should also be encouraged. |
| <b>Visual character</b>                | Planting should be positioned to avoid screening or obscuring the extensive views out to sea and along the coast that are distinctive features of the National Park, or obscure landmark features and their settings.  |
| <b>Historic character</b>              | The National Park has a rich historic environment. Woodland planting should be located to preserve the integrity of the historic features and the strong cultural associations of the landscape. Avoid sitting woodland in areas that may adversely affect designated or locally listed heritage assets or their settings (including scheduled or undesignated monuments, listed and historic buildings, registered historic parks and gardens and conservation areas).  |
| <b>Perceptual and scenic qualities</b> | The intangible qualities of the landscape of the National Park, including its wildness and tranquillity and cultural associations should be conserved and woodland planting designed to emphasise rather than detract from these qualities. For example, extensive woodland planting could detract from the exposed character of the coastline and remote qualities of the upland areas, which contribute to the sense of wildness and remoteness which are defining characteristics of the National Park.   |

## Chapter 4

### Overall results

#### This chapter presents the overall results of the landscape sensitivity assessment

**4.1** The overall landscape sensitivity for each Landscape Character Area within the National Park is set out in **Table 4.1** and illustrated in **Figures 4.1 to 4.8**. These figures do not contain results for the urban areas within the National Park.

**These results should be interpreted alongside the detailed information and guidance provided in the separate assessment profiles.**

**The LCAs within PCNP often contain areas of higher and lower landscape sensitivity that vary from the overall scores. It is therefore important to take note of the content of the individual assessment profiles, including any commentary which highlights areas which could be more sensitive to tree and woodland planting.**

**4.2** The detailed profiles and guidance for woodland creation for each LCA are included in **Appendix A**.



Table 4.1: Landscape sensitivity scores for tree and woodland planting

| LCA code | LCA name                           | Broadleaved Woodland |                              |                         |                     | Mixed Woodland     |                              |                         |                     |
|----------|------------------------------------|----------------------|------------------------------|-------------------------|---------------------|--------------------|------------------------------|-------------------------|---------------------|
|          |                                    | Small-scale (<5ha)   | Small-medium scale (>5-15ha) | Medium-scale (>15-30ha) | Large-scale (>30ha) | Small-scale (<5ha) | Small-medium scale (>5-15ha) | Medium-scale (>15-30ha) | Large-scale (>30ha) |
| LCA 1    | Saundersfoot Settled Coast         | L                    | L                            | L-M                     | H                   | M-H                | M-H                          | H                       | H                   |
| LCA 3    | Caldey Island                      | M                    | H                            | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 4    | Manorbier/Freshwater East          | L                    | L-M                          | M                       | H                   | H                  | H                            | H                       | H                   |
| LCA 5    | Stackpole                          | L                    | L                            | L-M                     | H                   | H                  | H                            | H                       | H                   |
| LCA 6    | Castlemartin/Merrion Ranges        | L-M                  | L-M                          | M                       | M-H                 | H                  | H                            | H                       | H                   |
| LCA 7    | Angle Peninsula                    | L                    | M                            | M                       | M-H                 | H                  | H                            | H                       | H                   |
| LCA 8    | Freshwater West/Brownslade Burrows | M-H                  | H                            | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 9    | Marloes                            | L                    | L-M                          | M                       | H                   | H                  | H                            | H                       | H                   |
| LCA 10   | Skomer & Skokholm                  | H                    | H                            | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 11   | Herbrandston Refinery Fringe       | L                    | L-M                          | M                       | M-H                 | H                  | H                            | H                       | H                   |
| LCA 12   | St Brides Bay                      | L-M                  | M                            | M                       | H                   | H                  | H                            | H                       | H                   |
| LCA 13   | Brandy Brook                       | L                    | L                            | L-M                     | M-H                 | H                  | H                            | H                       | H                   |

Chapter 4  
Overall results

| LCA code | LCA name                | Broadleaved Woodland |                              |                         |                     | Mixed Woodland     |                              |                         |                     |
|----------|-------------------------|----------------------|------------------------------|-------------------------|---------------------|--------------------|------------------------------|-------------------------|---------------------|
|          |                         | Small-scale (<5ha)   | Small-medium scale (>5-15ha) | Medium-scale (>15-30ha) | Large-scale (>30ha) | Small-scale (<5ha) | Small-medium scale (>5-15ha) | Medium-scale (>15-30ha) | Large-scale (>30ha) |
| LCA 14   | Solva Valley            | L                    | L-M                          | M                       | M-H                 | H                  | H                            | H                       | H                   |
| LCA 15   | Dowrog & Tretio Commons | L-M                  | M                            | M-H                     | H                   | H                  | H                            | H                       | H                   |
| LCA 16   | Carn Llidi              | M                    | H                            | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 18   | St Davids Headland      | L-M                  | M                            | M-H                     | H                   | H                  | H                            | H                       | H                   |
| LCA 19   | Ramsey Island           | H                    | H                            | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 20   | Trefin                  | L-M                  | M                            | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 21   | Pen Caer/Strumble Head  | L-M                  | M-H                          | H                       | H                   | H                  | H                            | H                       | H                   |
| LCA 22   | Mynydd Carningli        | L                    | L-M                          | M                       | M                   | M                  | M-H                          | M-H                     | H                   |
| LCA 24   | Dinas Head              | L                    | M                            | M-H                     | H                   | H                  | H                            | H                       | H                   |
| LCA 25   | Cemaes Head             | L                    | L                            | M                       | H                   | H                  | H                            | H                       | H                   |
| LCA 26   | Cwm Gwaun/Afon Nyfer    | L                    | L                            | M                       | H                   | H                  | H                            | H                       | H                   |
| LCA 27   | Mynydd Preseli          | L                    | L-M                          | M                       | M                   | M                  | M-H                          | M-H                     | H                   |
| LCA 28   | Daugleddau              | L                    | L                            | L-M                     | M                   | M                  | M                            | M-H                     | H                   |

Figure 4.1: Landscape sensitivity to small scale broadleaved woodland - see separate document



Figure 4.2: Landscape sensitivity to small-medium scale broadleaved woodland - see separate document

Figure 4.3: Landscape sensitivity to medium scale broadleaved woodland - see separate document

Figure 4.4: Landscape sensitivity to large scale broadleaved woodland - see separate document

**Figure 4.5: Landscape sensitivity to small scale mixed woodland - see separate document**



Figure 4.6: Landscape sensitivity to small-medium scale mixed woodland - see separate document

**Figure 4.7: Landscape sensitivity to medium-scale mixed woodland - see separate document**

Figure 4.8: Landscape sensitivity to large-scale mixed woodland - see separate document

## Chapter 5

# Opportunities for woodland creation

### This chapter presents the opportunities for woodland creation

**5.1** Opportunities for future tree and woodland creation for 'typical' landscapes found within the National Park are summarised in **Table 5.1**. The guidance relates to the following landscape types:

- open coastal farmland
- wooded coastal farmland
- estuaries and river valleys
- uplands
- islands
- rocky headlands
- urban areas

**5.2** Through the use of illustrations appropriate locations for tree and woodland planting have been highlighted for these 'typical' landscapes.

Table 5.1: Opportunities for woodland creation in typical landscapes found in the National Park

| LCA group                   | LCAs  | Opportunities for woodland creation   |
|-----------------------------|---|---|
| Open coastal farmland       | <p>LCA 6 Castlemartin/Merrion Ranges</p> <p>LCA 7 Angle Peninsula</p> <p>LCA 8 Freshwater West/Brownslade Burrows</p> <p>LCA 9 Marloes</p> <p>LCA 11 Herbrandston Refinery Fringe</p> <p>LCA 12 St Brides Bay</p> <p>LCA 15 Dowrog &amp; Tretio Commons</p> <p>LCA 18 St Davids Headland</p> <p>LCA 20 Trefin</p> | <p>There are very limited opportunities for woodland creation in the LCAs along the coastline of the National Park, due to their extensive semi-natural habitats (particularly along the coastal strip), their distinctively open character and expansive views, and the strong sense of place and connection to the sea.</p> <p>There are opportunities for small scale or small-medium woodland planting (or occasionally medium-scale) when located to reinforce the traditional field pattern of the farmed landscape, or when planted to increase the connectivity of existing linear woodlands along stream valleys or provide connectivity with non-woodland habitats. There are also opportunities to restore lost lengths of hedgerow and plant new hedgerow trees.</p> <p>Woodland creation could also be used to screen farm-based development or small-scale tourism development.</p> <p>Large scale woodland creation is only appropriate when used to screen views of large scale industrial development, such as oil refineries or LNG terminals e.g. Angle Peninsular (LCA 7) or Herbrandston Refinery Fringe (LCA 11).</p> |
| Wooded coastal farmland     | <p>LCA 1 Saundersfoot settled coast</p> <p>LCA 4 Manorbier/Freshwater East</p>  | <p>There are some opportunities to increase woodland coverage in these more sheltered coastal LCAs, particularly in the farmed landscape inland from the coast, or where the field pattern is larger. There are opportunities for the restructuring of existing conifer plantations, working towards a gradual reversion to a mosaic of mixed or broadleaved woodland. New tree and woodland planting could provide links between exiting valley woodlands, and could also screen tourism development such as camping and caravan sites.</p>  |
| Estuaries and river valleys | <p>LCA 5 Stackpole</p> <p>LCA 13 Brandy Brook</p> <p>LCA 14 Solva Valley</p> <p>LCA 28 Daugleddau</p> <p>LCA 26 Cwm Gwaun/Afon Nyfer</p>  | <p>There are opportunities to increase woodland cover along the wooded estuaries and river valleys of the National Park. Woodland planting in these LCAs could strengthen the exiting landscape character if designed to extend the existing pattern of linear woodlands along the main estuaries and river valleys. Small or small-medium scale woodland could increase connectivity along small tributary valleys extending riparian woodlands, and enhancing flood management, and helping to prevent soil erosion.</p> <p>Small scale woodland coverage could also extend into the agricultural landscape but should sit within the traditional field pattern.</p> <p>There is an opportunity in many of these LCAs to restructure existing plantations (including PAWS) to improve climate change resilience by increasing age and species diversity e.g. Stackpole (LCA 5), Brandy Brook (LCA 13), Cwm Gwaun-Afon Nyer (LCA 26), Daugleddau (LCA 28).</p>   |

| LCA group       | LCAs   | Opportunities for woodland creation  |
|-----------------|--|--|
|                 |  | There are also opportunities to soften settlement edges e.g. Solva Valley (LCA 14).  |
| Uplands         | LCA 22 Mynydd Carningli<br>LCA 27 Mynydd Preseli   | <p>These upland landscapes are typically open on upper slopes and the rocky ridgelines make a dominant contribution to the character of the National Park and planting on upper slopes and rocky ridgelines should be avoided. Ongoing restructuring of exiting coniferous woodland creates an opportunity to work towards a gradual reversion to a mosaic of mixed or broadleaved woodland, and deliver benefits ranging from enhanced public access, to habitat networks, climate resilience and improved landscape values.</p> <p>There are some opportunities to increase woodland cover on the lower slopes. Extending woodland/scrub along upland tributaries could also provide increased connectivity with more extensive woodland in adjacent lowland river valleys.</p> <p>Woodland/ hedgerow tree planting could reinforce the small scale pattern on the fringing farmland and screen farm-based development or small-scale tourism development.</p>   |
| Islands         | LCA 3 Caldey Island<br>LCA 10 Skomer & Skokholm<br>LCA 19 Ramsey Island                        | There are no opportunities for woodland creation on the offshore islands due to their high sensitivity to change (due to their extensive semi-natural habitats, archeological remains, distinctive open character and expansive views), except on Caldey Island, where limited small scale woodland planting could be used to extend and in-fill and soften the edges of the exiting wooded area.  |
| Rocky headlands | LCA 16 Carn Llidi<br>LCA 21 Pen Caer/Strumble Head<br>LCA 24 Dinas Head<br>LCA 25: Cemaes Head | <p>There are very limited opportunities for woodland creation on these rocky headlands as this would detract from the intricate coastal landforms and craggy summits, as well as the extensive semi-natural habitats, the distinctive open character and expansive views, and the strong sense of remoteness and connection to the sea.</p> <p>There are some opportunities for small scale (or occasionally small-medium scale) woodland planting in the agricultural landscape when located to reinforce the traditional field pattern and provide habitat connectivity, conserving and reinforcing existing networks. Small-medium or medium scale planting could also increase the connectivity of existing linear woodlands along watercourses flowing to the coast. There are also opportunities to restore lost field boundaries and plant new hedgerow trees in more sheltered locations.</p> <p>Woodland creation could also screen village or farm-based development or small-scale tourism development.</p> |
| Urban areas     | LCA 2 Tenby  | Urban woodland is most valuable when it is accessible to the local population and forms part of an interlinking green infrastructure and network of footpaths and recreational features. For woodlands to offer the most benefits to local   |

| LCA group | LCAs                               | Opportunities for woodland creation   |
|-----------|------------------------------------|---|
|           | LCA 17 St Davids<br>LCA 23 Newport | <p>communities they must be well managed. Reference should be made to the Green Infrastructure Action Plan for the National Park.<sup>21</sup></p> <p>Not all urban green space or urban fringe land is suitable for woodland and a balance between habitats and land use is required. In some areas, open green space provides more benefits due to a long history as open common land or is heavily used by the community. Many of the towns in the National Park are located on the coast and have valued semi-natural habitats such as coastal grassland, dune grasslands, and scrub or may contain features of archeological or historic value and so would be unsuitable for woodland planting.</p> <p>Existing woodland and amenity trees should be retained and extended wherever possible, and connectivity improved to woodlands on the edge of the towns or in the adjacent rural areas.</p> <p>Mature street trees are often a Victorian or Edwardian legacy, which are increasingly in need of replacement. There is an opportunity to enhance the urban treescape through planting similar large scale trees.</p> <p>Urban sites require robust planting of tolerant species reducing the need for high-input management. Existing trees are often appropriate to the character of the urban landscape and the range of species should be taken in account in species choice.</p> |

<sup>21</sup> LUC, Pembrokeshire Towns: [A Green Infrastructure Action Plan](#) (2018)

Figure 5.1: Open coastal farmland: opportunities for tree and woodland planting





- ① Avoid planting along the coastal strip as this could detract from the open character and harm existing coastal habitats.  
Introduce new, small-scale woodlands that sit within the field pattern of the farmed landscape and adjoin existing woodlands and/ or hedges. Restore lost hedgerows and plant hedgerow trees.
- ② Plant new woodlands along stream valleys, extending the linear form of existing woodlands which relate to the enclosed valley landform.
- ③ Introduce woodlands to screen farm based development or small-scale tourism development.
- ④ Establish new woodlands to screen views of large scale industrial development.

Figure 5.2: Wooded coastal farmland - opportunities for tree and woodland planting



- ① Restructure existing conifer plantations with broadleaved species.  
Introduce new, small-scale woodlands that sit within the field pattern of the farmed landscape and adjoin existing woodlands and/ or hedges. Restore lost hedgerows and plant hedgerow trees.
- ② Introduce new woodlands to provide links between existing valley woodlands.
- ③ Establish new woodlands to screen views of tourism development.



Figure 5.3: Estuaries and river valleys - opportunities for tree and woodland planting



- ① Concentrate riparian woodlands adjacent to estuaries and river valleys to extend the existing pattern of linear woodland.
- ② Plant new woodlands along stream valleys, extending the linear form of existing woodlands which relate to the enclosed valley landform.
- ③ Introduce new, small-scale woodlands that sit within the traditional field pattern of the farmed landscape and adjoin existing woodlands and/ or hedges.
- ④ Restructure existing conifer plantations with broadleaved species. Relate the design of new woodland to the local landform, and naturalise margins.
- ⑤ Avoid planting which could harm existing estuarine habitats.



Figure 5.4: Uplands - opportunities for tree and woodland planting



- ① Avoid planting on open upper slopes and rocky ridgelines as this could detract from the open character of the hills.
- ② Restructure existing conifer plantations with broadleaved species. Relate design to the upland landform and naturalise margins.
- ③ Manage and extend woodland and scrub along upland tributaries.
- ④ Manage and extend existing woodlands on lower slopes.
- ⑤ Introducing new woodlands on lower slopes to connect with more extensive woodland in adjacent river valleys.
- ⑥ Introduce new, small-scale woodlands that sit within the traditional field pattern of the farmed landscape and adjoin existing woodlands and/ or hedges.
- ⑦ Introduce woodlands to screen farm based development or small-scale tourism development.



Figure 5.5: Rocky headlands - opportunities for tree and woodland planting





- ① Avoid planting on rocky headlands as this could detract from the open coastal character and harm existing coastal habitats.
- ② Introduce new, small-scale woodlands that sit within the field pattern of the farmed landscape and adjoin existing woodlands and/ or hedges. Restore lost hedgerows and plant hedgerow trees.
- ③ Plant new woodlands along stream valleys, extending the linear form of existing woodlands which relate to the enclosed valley landform.
- ④ Introduce woodlands to screen farm based development or small-scale tourism development.

# Appendix A

## Assessment profiles

**This appendix presents the assessment profiles for tree and woodland planting for each LCA within the National Park.**

**A.1** The assessments of individual LCAs within the National Park excludes urban areas due to the limited opportunities for woodland planting within these settlements. As a result, the following LCAs were scoped out: Tenby (LCA2), St Davids (LCA 17) and Newport (LCA 23). General guidance on planting in urban areas of the National Park has been included in **Table 5.1** above.

See separate sheets

# Appendix B

## Data/information sources

The following key sources of information were used to inform this study:

- Pembrokeshire Coast National Park Landscape Character SPD (LCA)<sup>22</sup>
- Pembrokeshire Coast National Park Seascape Character SPD<sup>23</sup>
- Planning Policy Wales<sup>24</sup>
- Pembrokeshire Coast National Park Local Development Plan 2 (end date 2031)<sup>25</sup>
- Pembrokeshire Coast National Park Management Plan 2020-2024<sup>26</sup>
- An Approach to Landscape Sensitivity Assessment<sup>27</sup>
- Natural Resources Wales: 'Landscape Sensitivity and Capacity Statement'<sup>28</sup>
- The State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources. Technical Report<sup>29</sup>

**B.1** The following woodland and forestry guidance was consulted:

- UK Forestry Standard<sup>30</sup> – Section 6.4 (Forests and Landscape)
- Design Techniques for Forest Management Planning<sup>31</sup>
- Woodlands for Wales Strategy<sup>32</sup>

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<sup>22</sup> Landscape Character SPD (prepared by John Campion Associates Ltd) (2011, updated 2020)

<sup>23</sup> Pembrokeshire Coast Seascape Character interim SPD (prepared by White Consultants) (2013, updated 2020)

<sup>24</sup> <https://gov.wales/planning-policy-wales> (updated Feb 2021)

<sup>25</sup> Pembrokeshire Coast National Park Local Development Plan 2 (end date 2031) September 2020

<sup>26</sup> Pembrokeshire Coast National Park Management Plan 2020-2024, Pembrokeshire Coast National Park Authority

<sup>27</sup> An approach to landscape sensitivity assessment – to inform spatial planning and land management Natural England (2019)

<sup>28</sup> Natural Resources Wales. Landscape Sensitivity and Capacity in relation to on-shore wind and solar photo-voltaic developments: An assessment approach for Wales (2018)

<sup>30</sup> Forestry Commission The UK Forestry Standard (2017)

<sup>31</sup> Forestry Commission. Practice Guide. Design techniques for forest management planning (2014)

<sup>32</sup> Woodland For Wales The Welsh Government's Strategy for trees, Welsh Government (2018)

- Written Statement. Trees and Timber<sup>33</sup>
- Written statement - Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks 2018<sup>34</sup>
- Natural Resources Wales Tree Cover in Wales' Towns and Cities (2016)<sup>35</sup>

**B.2** In addition, the following table lists the main datasets collated and analysed in Geographic Information System (GIS) software as a key part of the evidence base for this study.

**Table B.1: GIS data considered in the assessments**

| GIS layer   | Source                           |
|---|----------------------------------|
| <b>Base maps</b>  |                                  |
| Aerial Imagery  | ESRI                             |
| Ordnance Survey 25k   | Ordnance Survey (via Getmapping) |
| Ordnance Survey 50k   | Ordnance Survey                  |
| Ordnance Survey 250K  | Ordnance Survey                  |
| Contour lines   | Ordnance Survey                  |
| <b>Boundary</b>   |                                  |
| Local Authority boundaries                                    | Ordnance Survey                  |
| Pembrokeshire Coast National Park boundary                    | PCNPA                            |
| Action Area Boundaries  | PNCPA                            |
| <b>Landscape Character</b>                                    |                                  |
| National Landscape and Seascape Character Areas for Wales     | NRW                              |
| LANDMAP Aspect Areas  | NRW                              |
| Pembrokeshire Coast Landscape Character Areas (2011)          | PCNPA                            |
| Pembrokeshire Coast Seascape Character Areas and Types (2013) | PCNPA                            |
| <b>Agriculture and Land Use</b>                               |                                  |
| Agricultural Land Classification                              | NRW                              |
| CEH Land Cover Map 2019                                       | CEH                              |

| GIS layer   | Source                     |
|---|----------------------------|
| Unified Peat Map of Wales   | Lle                        |
| CORINE Land Cover   | EEA                        |
| <b>Natural Heritage</b>   |                            |
| Priority Habitat Inventory  | NRW                        |
| National Nature Reserves  | NRW                        |
| Local Nature Reserves   | NRW                        |
| Sites of Special Scientific Interest                                  | NRW                        |
| Ancient Woodland Inventory  | NRW                        |
| National Forestry Inventory   | FC                         |
| Regionally Important Geological Sites (RIGS) / Local Geological Sites | NRW                        |
| Geological Conservation Review (GCR)                                  | NRW                        |
| Special Protection Areas (SPA)  | NRW                        |
| Special Areas of Conservation (SAC)                                   | NRW                        |
| Marine Conservation Zones   | NRW                        |
| Ramsar  | NRW                        |
| RSPB Reserves   | RSPB                       |
| RSPB Important Bird Areas   | RSPB                       |
| Habitat Networks  | NRW                        |
| Canopy cover  | Living Wales               |
| <b>Historic Environment</b>   |                            |
| Registered Historic Landscapes  | Cadw                       |
| Listed Buildings  | Cadw                       |
| Scheduled Monuments   | Cadw                       |
| Registered Historic Parks and Gardens                                 | PCNPA                      |
| Conservation Areas  | Lle                        |
| Historic Environment Records (HERs)                                   | Dyfed Archaeological Trust |
| <b>Water resources</b>  |                            |

<sup>33</sup> Written Statement: Trees and Timber (2021)

<sup>34</sup> Written Statement Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks (2018)

<sup>35</sup> Natural Resources Wales, Tree Cover in Wales' Towns and Cities (2016)

| GIS layer  | Source          |
|--|-----------------|
| WWNP Floodplain Reconnection Potential - Wales       | NRW             |
| WWNP Floodplain Woodland Planting Potential - Wales  | NRW             |
| WWNP Riparian Woodland Potential - Wales             | NRW             |
| Ordnance Survey OpenRivers                           | Ordnance Survey |
| <b>Access and Recreation</b>                         |                 |
| National Cycle Network                               | Sustrans        |
| National Trails                                      | NRW             |
| Open Access, including Common Land                   | NRW             |
| Country Parks  | NRW             |
| <b>Planning and infrastructure</b>                   |                 |
| Pre-Assessed Areas for Wind Energy (PAAs)            | Lle             |
| Solar Local Search Areas                             | PCNPA           |
| National grid overhead lines and pipes               | National Grid   |
| Consented and operational solar farms and wind farms | BEIS            |
| <b>Dark skies and tranquillity</b>                   |                 |
| Dark Skies and Light Pollution in Wales              | NRW             |
| OS 50 Terrain  | Ordnance Survey |
| Tranquil Areas Wales (2009)                          | NRW             |

## Appendix C

### Glossary of terms and abbreviations

Table C.1: Glossary of Terms

| Term                             | Definition   |
|----------------------------------|--|
| AOD                              | Above Ordnance Datum (sea level).  |
| Agricultural Land Classification | The classification of agricultural land in England and Wales.  |
| Ancient trees and veteran trees  | <p>Individual trees or groups of trees with wood pastures, historic parkland, hedgerows, orchards, park, and other areas. They are often found outside ancient woodlands. irreplaceable habitats with some or all of the following characteristics:</p> <p><b>Ancient trees</b></p> <p>An ancient tree is exceptionally valuable. Attributes can include its great age, size, condition, biodiversity value (as a result of significant wood decay and the habitat created from the ageing process), cultural and heritage value.</p> <p><b>Veteran trees</b></p> <p>A veteran tree may or may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value.</p> |
| Ancient Woodland                 | Woodland which the evidence shows has had had continuous woodland cover since at least 1600 AD and has only been cleared for underwood or timber production. It is an extremely valuable ecological resource, with an exceptionally high diversity of flora and fauna.   |
| Biodiversity                     | The measure of the variety of organisms present in different ecosystems.   |
| Coppicing                        | The traditional method of woodland management in which trees are cut down to near the ground to encourage the production of long, straight shoots, which can subsequently be harvested.  |
| Element                          | A component part of the landscape (e.g. hedges, roads, woods).   |
| FC                               | Forestry Commission.   |
| GCR                              | Geological Conservation Review.  |
| Glastir                          | The Welsh Government's sustainable land management scheme, through which financial support is offered to farmers and land managers.  |
| Habitat                          | The natural home or environment of an animal, plant, or other organism.  |
| HER                              | Historic Environment Records   |
| HLC                              | Historic Landscape Characterisation.   |

| Term                                     | Definition  |
|--|---|
| Land cover                               | Combinations of land use and vegetation that cover the land surface.  |
| Landscape                                | The term refers primarily to the visual appearance of the land, including its shape, form, and colours. However, the landscape is not a purely visual phenomenon; its character relies on a whole range of other dimensions, including geology, topography, soils, ecology, archaeology, landscape history, land use, architecture, and cultural associations.  |
| Landscape character                      | A distinct pattern or combination of elements that occurs consistently in a particular landscape.   |
| Landscape Character Area (LCA)           | A unique geographic area with a consistent character and identity, which forms part of a landscape character type.  |
| Landscape value                          | The relative value that is attached to different landscapes. In a policy context the usual basis for recognising certain highly valued landscapes is through the application of a local or national landscape designation. Yet a landscape may be valued by different communities of interest for many different reasons without any formal designation, recognising, for example, perceptual aspects such as scenic beauty, tranquillity or wildness; special cultural associations; the influence and presence of other conservation interests; or the existence of a consensus about importance, either nationally or locally. |
| Listed Building                          | A building, object or structure that has been judged to be of national importance in terms of architectural or historic interest.   |
| LNR                                      | Local Nature Reserve.   |
| Natural character                        | Character as a result of natural or semi-natural features such as woodland, grassland, hedgerows etc.   |
| National Landscape Character Area (NLCA) | National Landscape Character Areas are defined by NRW at a broad landscape scale. There are 48 individual NLCA's in Wales. Each has their own regionally distinct natural, cultural and perceptual characteristics.   |
| NFI                                      | National Forest Inventory   |
| NNR                                      | National Nature Reserve.  |
| NRW                                      | Natural Resources Wales.  |
| Open access land                         | An area where the public have a right of access on foot as set out in the Countryside and Rights of Way (CRoW) Act 2005.  |
| OS                                       | Ordnance Survey.  |
| PAWS                                     | Planted Ancient Woodland Sites. Ancient woodland sites where the semi-natural woodland has been replaced with a plantation.   |
| Pastoral                                 | Land used for keeping or grazing sheep or cattle.   |
| PCNPA                                    | Pembrokeshire Coast National Park Authority   |
| <i>Phytophthora ramorum</i>              | A fungal-like organism that causes the death of a wide range of trees and shrubs, particularly Larch.   |
| PRoW                                     | Public Right of Way.  |

| Term                        | Definition  |
|-----------------------------|---|
| Ramsar                      | Wetlands of international importance especially as Waterfowl Habitat.   |
| Remnant                     | A part or quantity left after the greater part has been used, removed, or destroyed.  |
| RIGS                        | Regionally Important Geological and Geomorphological Sites.   |
| Riparian habitat            | Riverbank habitat.  |
| RHPG                        | Registered Historic Park and Garden - sites listed under the register of historic parks and gardens as designated under the Historic Environment (Wales) Act 2016.  |
| SAC                         | Special Area of Conservation (EC Directive 92/43/EEC Habitats Directive).   |
| Scheduled Monument          | Nationally important archaeological sites or historic buildings, given protection against unauthorised change.  |
| Semi-natural vegetation     | Any type of natural vegetation which has been influenced by human activities, either directly or indirectly.  |
| Sense of Place              | A person's perception of a location's indigenous characteristics, based on the mix of uses, appearance and context that makes a place memorable.  |
| Sensitive                   | The response to change or influence.  |
| Skyline                     | The outline of a range of hills, ridge or group of buildings seen against the sky.  |
| SPA                         | Special Protection Area (EC Directive 2009/147/EC on the Conservation of Wild Birds).   |
| SSSI                        | Site of Special Scientific Interest.  |
| Time depth                  | The time period expressed in the landscape, or the extent to which the landscape reflects a certain time period (a landscape with greater time depth will comprise older elements than a landscape with lesser time depth). |
| Topography                  | Combinations of slope and elevation that produce the shape and form of the land surface.  |
| UKFS                        | UK Forestry Standard. The standard for the planning, design and sustainable management of forests and woodland in the UK.   |
| Valued landscape attributes | Positive features and characteristics that are important to landscape character and that, if lost, would result in adverse change to the landscape.   |