

Cranborne Chase & West Wiltshire Downs  
Area of Outstanding Natural Beauty



# A landscape view of trees and woodlands





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# Introduction

## The role of trees and woodlands in the landscape

Trees and woodlands play a vital role in our landscape: they provide for us, regulate and support the environmental systems that enrich our lives and upon which we depend.

Trees provide us with services without which life would become very much harder. They provide us with timber, fibre, fuel, food and the genetic material to sustain and improve future generations of trees.

Trees regulate our environment by storing carbon and by being a part of the hydrological cycle; taking up water from the soil and emitting it as a vapour. They reduce the velocity of water that flows through and over the ground, reducing erosion and intercepting pollution before it reaches water courses. Pollutants have to be removed from water in expensive processes to protect drinking water and wildlife; when riverside trees do this for us it saves us all money.

Trees support our ecosystems by storing and cycling nutrients and providing habitat for a huge range of species, including whole groups such as bats and avian raptors.

Trees and woodlands also have a huge cultural and historical significance and have a proven positive impact on our health and



well-being. They are integral to outdoor recreation, game shooting and equestrian sports such as hunting. Trees and woodlands frame views and act as focal points within the landscape. They are inspirational by their individual presence, as remarkable or architecturally beautiful trees, and in their collective effect, as in the ambience created in and around woodlands. Trees have a deep spiritual importance for many people and certainly form an important part of the *genius loci*, the sense of place, which characterises where we live, work and play.<sup>1</sup>

## The need for a landscape view of trees and woodlands.

The Cranborne Chase and West Wiltshire Downs was designated as an Area of Outstanding Natural Beauty (AONB) in 1981 because it was judged to be a landscape of such special and unique character that it should be conserved as a part of our shared national heritage. The Countryside and Rights of Way Act 2000 put a duty on Local Authorities

and other statutory bodies to have due regard for AONB in all their work. The AONB Partnership came together to formulate a management plan. In 2003 a Landscape Character Assessment<sup>2</sup> was undertaken to provide a detailed, integrated and objective analysis of the character of the landscape. This formed the basis for the public consultation that produced, in 2004, the first AONB Management Plan. In 2008 this was reviewed and the refreshed plan published in 2009<sup>3</sup>. In that year there were several landscape scale enhancement projects arising:

- Rivers – on the Avon the STREAM<sup>4</sup> programme and Living River Project<sup>5</sup> addressed issues relating to chalk streams and the riparian zone.
- Downs – across the chalk downland the Wildlife Trusts were working through the New Life for Chalk Grassland Project<sup>6</sup> in Wiltshire and the Pastures New Project<sup>7</sup> in Dorset.
- Farmland – a Farmland Bird Adviser joined the AONB team to work with agri-environment schemes and support habitat creation on the arable land.

<sup>2</sup> The AONB Landscape Character Assessment chapters can be downloaded from [www.ccwwdaonb.org.uk](http://www.ccwwdaonb.org.uk)

<sup>3</sup> The AONB Management Plan can be obtained from [www.ccwwdaonb.org.uk](http://www.ccwwdaonb.org.uk) or by calling 01725 517417

<sup>4</sup> For more information about STREAM go to [www.streamlife.org.uk](http://www.streamlife.org.uk)

<sup>5</sup> For more information about Living River Project go to [www.livingriver.org.uk](http://www.livingriver.org.uk)

<sup>6</sup> For more information about New Life for Chalk Grasslands go to [www.wiltshirewildlife.org.uk](http://www.wiltshirewildlife.org.uk) and click on to Living Landscapes

<sup>7</sup> For more information about grassland conservation in Dorset, visit the Dorset AONB web site at [www.dorsetaonb.org.uk](http://www.dorsetaonb.org.uk)

<sup>1</sup> For more information about ecosystem services, you can download "Taking an Ecosystem Services approach to land management" from the South West Protected Landscapes Forum at [www.southwestlandscapes.org.uk](http://www.southwestlandscapes.org.uk)

- Ancient and Veteran trees – the Dorset Greenwood Tree Project and the Wiltshire Tree Warden Scheme had been launched.
- Historic Environment Action Plans – the H.E.A.P. project was launched in February 2009, to focus attention on the archaeological and historical aspects of the AONB landscape.<sup>8</sup>

Trees and woods were important or key components in each initiative. If the AONB Partnership was to successfully form collaborative links between all these initiatives, so that the people and places of the area could derive the most benefit from them, then there was a need for better and more relevant knowledge of trees and woodlands.

## New developments for woodlands and trees

The two most significant developments for woodlands and trees at that time were firstly that the AONB became an Ancient Woodland Priority Area and secondly, the re-launch of the Dorset Woodlink Project<sup>9</sup> that coordinates woodland and trees policy across Dorset.

The Cranborne Chase Ancient Woodland project<sup>10</sup> was established by the AONB Partnership, Forestry Commission and Natural England with support from the Woodland Trust and other non-governmental organisations. It has the broad objectives to:

- Promote the establishment of robust, resilient landscapes well suited to meeting future challenges.
- Encourage and implement the

<sup>8</sup> For more information about Historic Environment Action Plans, or to view the Historic Landscape Characterisation of the AONB, go to [www.historiclandscape.co.uk](http://www.historiclandscape.co.uk)

<sup>9</sup> For more information about Dorset Woodlink, contact Dorset AONB at [www.dorsetaonb.org.uk](http://www.dorsetaonb.org.uk)

<sup>10</sup> For more information about the ancient woodland priority area, contact the AONB Office on 01725 517417 or via [www.ccwdaonb.org.uk](http://www.ccwdaonb.org.uk)



sustainable management of ancient woodlands in line with the Forestry Commission Ancient Woodland Practice Guide.

- Encourage and implement the restoration of plantations on ancient woodland sites to a native character.
- Safeguard, enhance and extend landscape scale habitat networks.
- Encourage and implement appropriate creation of new native woodlands.
- Raise awareness of the value of ancient woodlands amongst landowners.
- Gain the greatest benefits for both land owners and the public good by linking woodland and other land management initiatives.
- Build partnerships to identify and deliver common goals

These developments made it necessary to instigate a research project that would give us the means to at least address some of the issues around woodland and trees, if not actually provide solutions. Therefore the AONB Team began to create a dataset characterising the woodland in the AONB which corrected or resolved many of the issues with the datasets then available. (A full description of the method for this research can be found in a separate document). It has culminated in the publication of this document.

## Who will benefit from this work?

This document is aimed primarily at land owners and managers, advisers and consultants, but also Forestry Commission and Natural England officers and those people in local authorities that formulate and deliver rural and tree-related policies. It is hoped that this work will help these individuals by giving them an evidence base that justifies landscape scale working; given a fuller understanding of the landscape character context in which they are working. The forester or landowner will then be able to make better decisions about their own sites, applying to this base layer their detailed site knowledge from the site history, their personal experience, their training and their own objectives. This document also aims to inspire those people who may not be directly involved in woodland management but are enthusiastic about, and interested in, the trees and woodlands of our exceptional landscape.

It was also realised that the dataset had the potential to answer a whole range of other questions, have a diversity applications, as well as posing new questions for further enquiry. It would, for example, allow the AONB to:

- Gain a better understanding of the location and nature of ancient woodland in the AONB and its relationship to historic land use.
- Identify landscape scale management priorities for



Ancient Woodland based on a more complete picture of this habitat type in the AONB.

- Identify areas of woodland, in a systematic manner, which may contain undiscovered woodland archaeology, or which may warrant future archaeological survey.
- Identify priority areas for the enhancement of landscape connectivity as a necessary step for improving biodiversity.
- Deepen our understanding of the contribution that woodland makes to the character of Landscape Character Types and Areas identified in the AONB Landscape Character Assessment.
- Transmit to a wider audience an enhanced and more detailed understanding of the nature of woodlands in the AONB.

The new dataset that this document draws upon identifies all the woodland in the AONB, regardless of size. It uses existing data available to the AONB in a number of new ways. The dataset applied a much broader definition of woodland than that used in the National Inventory of Woodland and Trees. All the different kinds of woodland habitat that are found in the AONB were recorded. This included features such as wooded scrub on the sides of chalk escarpments, small copses in the corners of fields and small ornamental plantations within the setting of larger designed landscapes, all of which tended to be excluded from the previous datasets available to the AONB.

## Method summary<sup>11</sup>

This document has introduced a new desk based method of digitising, characterising, and recording woodland at a landscape scale. The dataset is more precise and comprehensive than has ever been achieved before and allows the relationships between origin, type and connectivity of woodland to be mapped for the first time. For the purposes of the project woodland was defined as “land that is mostly covered with dense growths of trees and shrubs”.

## Identifying and mapping woodland

The AONB Woodland dataset was created using a desk-based programme of GIS mapping and analysis which drew primarily on aerial photography, Ordnance Survey mapping and the AONB Historic Landscape Characterisation dataset. The GIS package used was MapInfo Professional version 9.5.

Each woodland was digitised in a GIS layer and information recorded on the following: -

- Period of origin of woodland
- The broad type of woodland present (Broad-leaved, Coniferous, Mixed)

- The level of connectivity to semi-natural habitats

The creation of the new GIS based AONB woodland dataset took 40 working days during the latter half of 2008, not including the pilot study which took 4 working days.

## Categorising the historical origins of woodland

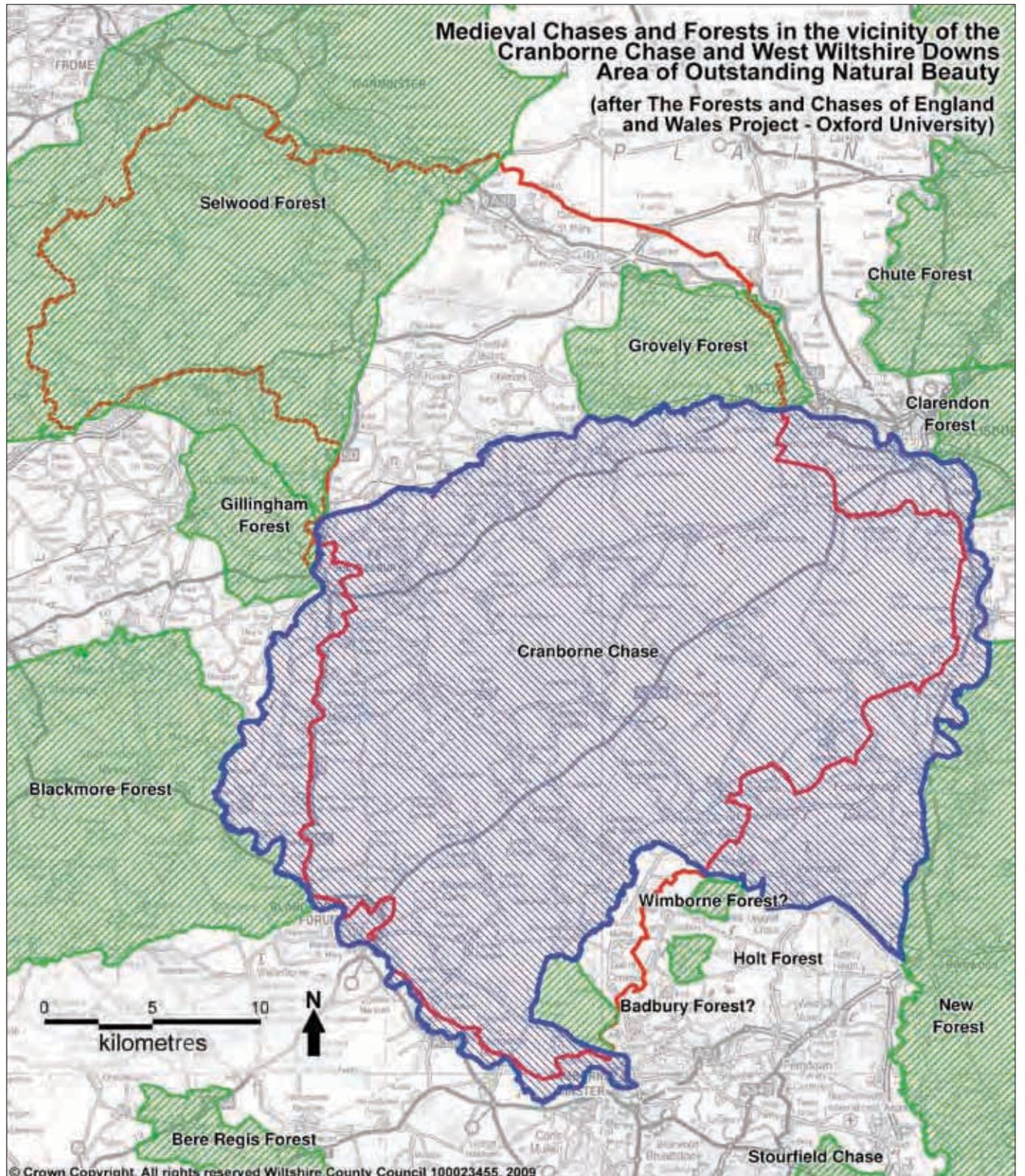
The Historic Landscape Characterisation (HLC) of the AONB had already studied the history of land use in the AONB in some detail. This meant that the historical mapping sources had already been analysed. The historic map datasets were compared against a modern mapping base to identify the origin of woodland by historical map regression (the existence of a particular block of woodland is tracked back in time). There are some limitations imposed on the accuracy of the allocation of origin to woodland that derived from the nature of the sources used. These are:

- The approach will underestimate the age of older woodland as it only attributes the age of woodland to the earliest source on which it is depicted
- Smaller woodland is not always featured on the oldest available map and so may be given a more recent date
- There is a mismatch between the woodland boundaries featured on the very oldest

<sup>11</sup> For a full explanation of the summary and to download the feasibility study, go to [www.ccwdaonb.org.uk](http://www.ccwdaonb.org.uk)



Map showing medieval hunting areas on and around current Area of Outstanding Natural Beauty.





mapping sources and their actual boundaries, which means that relating particular woodland in today's landscape with woodland depicted on old maps can often be an approximation.

The historic period in which woodland originated was assigned to one of four categories:

1. AD 1900 to present – Woodland only present on Modern Mapping
2. AD 1750 to AD 1900 – Woodland present on the First County Series survey
3. Pre AD 1750 – Woodland present on the historic county maps and the Ordnance Survey 2" Surveyor's Draft
4. Veteran- Only those woodlands which can be firmly dated as remnant veteran woodland through depiction on the oldest map based sources available to the AONB is identified as Medieval. This means that much of the woodland identified as category 3 – Pre AD 1750 could also have a much earlier origin.

## Categorising the woodland type.

The AONB is interested in the effect of woodland on landscape character. Each woodland was recorded as one woodland block rather than recording separate polygons comprising the component parts of each woodland. This avoids a short coming of the other available woodland datasets and is a different approach to that adopted for the National Inventory of Woodland and Trees.

The AONB was interested in recording the broad type of each woodland and therefore only three categories were identified:

1. Broad-leaved – over 60% of the woodland is broad-leaved
2. Coniferous – over 60 % of the woodland is coniferous
3. Mixed – For woodland which does not fall into categories 1 or 2. This mixed woodland could be where individual trees are interspersed with coniferous and broad-leaved species or where the blocks of plantation which make up the woodland are not dominated by broad-leaved or coniferous species.

## Recording information on the landscape connectivity of woodlands.

The AONB is interested in the level of connectivity between the woodland identified and semi-natural habitats, particularly veteran woodland. Each woodland polygon was allocated to one of the following categories:

1. Contiguous with veteran woodland.
2. Less than 0.5km from a veteran woodland.
3. Between 0.5km and 1km from a veteran woodland.
4. Over 1km from a veteran woodland.

Connectivity between woodlands and veteran woodlands was assessed using data from the Forestry Commission research that defined Ancient Woodland clusters in the South West England Conservancy (Watts & Griffiths: 2005<sup>1</sup>). This research defined focal species according to their habitat area requirements and dispersal abilities. This effectively measured the species vulnerability to habitat fragmentation. Habitat fragmentation, the combination of reduced habitat area and increased isolation, is considered to be a major threat to woodland conservation and an important factor in loss of biodiversity. The Forestry Commission research considered ancient woodlands to be close to each other when they were 1 km apart and distant when 10 km apart.

This document has attempted to assess the permeability of the landscape by looking at the connectivity of the areas surrounding the mapped woodlands. As Watts and Griffiths report: "Semi-natural and extensive habitats are considered to be more conducive or permeable to species movement, whereas, intensive land uses are predicted to reduce connectivity and increase ecological isolation" and "based on these assumptions a woodland species with a dispersal distance of 1000m can effectively move 1000m through a scrub habitat due to its low modification and high vertical structure ... while it can

1. Watts, K., Griffiths, M., Quine, C., Ray, D. and Humphrey, J.W. (2005). Towards a Woodland Habitat Network for Wales. Contract Science Report, 686. Countryside Council for Wales, Bangor.

only move 50m through an arable landscape ... due to the high level of modification and lack of vertical structure". However, there is not a great deal of empirical evidence to support these widely accepted assertions, therefore the AONB study used 1 km between semi-natural habitats as the least acceptable measurement and contiguity as the preferred situation.

## Ancient & Veteran Trees

The Cranborne Chase & West Wiltshire Downs hold an internationally important aggregation of superb trees. That this is not well understood by people living in the area, or by some of the people managing trees in the area, makes it one of the better kept secrets of the area.

There are historic reasons for this aggregation of trees and for the scarcity of such trees in Western Europe. European forests tend not to have old trees because when they reach economic maturity they are

cut down and utilised for timber and fuel. European forestry has tended towards the retention of broadleaved forests and land tenure systems have meant that much forestry is in communal ownership, which encourages exploitation rather than neglect. In Britain, natural woodland was removed during periods of high population density, notably in the late Iron Age and the late Seventeenth and early Eighteenth Centuries. When British foresters began to use rapid growing exotic conifers for their fine timber our broadleaved woodlands were often neglected or only retained by landowners who appreciated them more as game preserves and for their aesthetic qualities than their financial value. British people, far more so than in Europe, got into the habit of burning coal as fuel rather than wood. So many of our broadleaved trees were left to attain great ages, either through deliberate conservation, but more often because they were not seen as being worth cutting down.

So why is this area in particular so rich in veteran trees? The ancient

woodlands and trees of Britain were conserved over the last thousand years better within hunting areas than anywhere else. The best assemblages of ancient trees are to be found in places such as New Forest, Sherwood, Forest of Dean, Savernake and Cranborne Chase. It is no coincidence that these names bring to mind pictures of huge spreading oaks, deep forests and evoke the stories that go with them. The map (page 8) shows the greatest extent covered by hunting areas during the Medieval Period in and around the AONB. It is of no surprise then, that trees of 400 years of age or more are not uncommon in the area.

## How can we conserve our heritage of remarkable trees?

There is a need to identify and conserve individual ancient and veteran trees, but first they must be



Ancient Beech in Grovley Wood



found. Land owners and interested organisations should concentrate search effort on areas where such trees are most likely to have survived such as former deer parks, former wood pasture and boundary features like parish boundaries and woodbanks.

When individual trees, or groups of trees, have been identified then conservation measures for them should be formulated as part of a wider woodland plan or other management plan after obtaining suitable advice. Exceptionally good areas may require ancient tree management plans.

One of the most important parts of such a plan would be a means of identifying trees that will be going on to attain ages beyond their commercial maturity; effectively promoting certain trees to become the ancient trees of the future. Woodland owners and managers should consider nurturing not only native species such as oak towards great age, but also preserving some of the exotic conifers such as Douglas fir that are testimony to the long history of forestry associated with our managed forests and as remarkable trees in their own right. Nurturing trees to great age is much more difficult than in the past as these individual trees will have to cope with future climate change and often the accumulation of damage from grey squirrels.<sup>12</sup>

## What are the opportunities for the conservation of woodlands and trees in the AONB?

The first and last opportunity that we have as a generation of land owners, land managers and policy makers is to achieve the conservation and enhancement of the existing woodlands.

To do this,

- The economic and productive potential of our woodlands must be maintained by careful management.
- This will require the successful production and marketing of forest goods and services in the face of changing markets, rising costs and a changing climate.
- The woodland that the next generation inherits should be richer in wildlife than before.
- The resource of woodland and trees must be increased.

The immediate opportunities for everyone involved with trees and woodlands in the AONB are:

- To ensure that the woodlands we plant and manage today are relevant to the people who come after us.
- To increase the resilience of woodlands to extreme weather events.

- To increase the robustness of woodlands to a changing climate.
- To ensure that woodlands play a full part in mitigating climate change.

In order to take advantage of these opportunities we must act at the scale of the landscape and in concert with one another.

Specifically, if we are to achieve the points above, then we should consider the following:

- Woodlands benefit from long term plans that record actions and the reasons for decisions as well as setting objectives for specific sites.
- Long-term planning allows managers and owners to take landscape scale decisions: decisions about individual woodlands or compartments that take into account the context of the landscape.
- Planning over long time scales and wide areas also allows us to see how our woodlands can be adapted to a changed climate.

The species we use in our woodlands may have to change. Species that have been used before may not be appropriate in a changing climate.

We need to increase the amount of woodland in the AONB, but it has to be based on the maxim of “the right tree in the right place”. This means establishing new native woodlands that increase the connectivity of the landscape and replace woodlands that were lost in the past. But it also

<sup>12</sup> For more information about ancient trees and how to conserve them, go to [www.ancient-tree-hunt.org.uk](http://www.ancient-tree-hunt.org.uk)

means restoring wooded landscapes by promoting the use and growth of hedgerow trees and in particular finding a replacement for the elm that was lost in the 1970s so that we can restore the wooded character of the valleys.

While future markets may come and go (Britain will never be in the forefront of timber producing nations) and costs continue to rise, there will be good markets for high quality timber. Our woodland management should be geared to the production of quality because our small woodlands cannot compete on quantity.

In order that we can manage our woodlands for optimum production rather than as and when the markets

allow, we need to develop a good wood fuel market that can contribute significantly to management costs.

If we are to achieve the multiple benefits of timber, fuel wood, biodiversity, climate change adaptation and recreation then we need to create diverse stands of trees, in terms of both age and species.

This document examines what this means for each of the Character Areas in the AONB. The table below summarises in the briefest possible manner what the key opportunities are for landscape scale enhancements in each Character Type. From the table you can also see which Character Types are most affected by their woodland component.



Table of most and least wooded areas – to show what extent woodland determines character and the general opportunities for landscape scale enhancement. Further detail and explanation can be found in the Character Type chapters.

Character Type	% of the Character Type area that is wooded	% of total woodland in the AONB	Opportunities for landscape scale enhancements
Greensand Hills (10% of the AONB)	48%	31%	<ul style="list-style-type: none"> <li>• Conserve and expand veteran woodland.</li> <li>• Improve coniferous plantations.</li> <li>• Conserve parkland trees.</li> <li>• Develop woodland recreation.</li> <li>• Increase understanding of archaeological resource</li> </ul>
Wooded Chalk Downland (8% of the AONB)	30%	16%	<ul style="list-style-type: none"> <li>• Conserve veteran woodland.</li> <li>• Improve connectivity with new native planting.</li> <li>• PAWS* conversion.</li> <li>• Conserve underwood working.</li> <li>• Increase understanding of archaeological resource</li> </ul>
Downland Hills (4% of the AONB)	20%	6%	<ul style="list-style-type: none"> <li>• Conserve and expand veteran woodland.</li> <li>• Improve coniferous plantations.</li> <li>• PAWS* conversion.</li> <li>• Conserve and improve hedgerows.</li> <li>• Develop woodland recreation.</li> <li>• Retain open views and distinctive landforms.</li> </ul>
Chalk Escarpments (5% of the AONB)	15%	5%	<ul style="list-style-type: none"> <li>• Improve plantations.</li> <li>• Extend natural broadleaved woodland.</li> <li>• Manage balance between thorn scrub and semi-natural grassland.</li> </ul>
Open Chalk Downland (36% of the AONB)	11%	28%	<ul style="list-style-type: none"> <li>• Conserve and expand veteran woodland.</li> <li>• Use cooperative planning to connect woodlands and semi-natural habitats.</li> <li>• Conserve woodland features.</li> <li>• Develop woodland recreation.</li> <li>• Conserve open character.</li> </ul>
Rolling Clay Vale (7% of the AONB)	11%	5%	<ul style="list-style-type: none"> <li>• Improve connectivity with new native planting.</li> <li>• Conserve parkland trees.</li> <li>• Conserve and improve hedgerows.</li> </ul>
Chalk River Valleys (20% of the AONB)	6%	8%	<ul style="list-style-type: none"> <li>• Improve plantations.</li> <li>• Conserve and improve hedgerows.</li> <li>• Conserve and replace single trees and groups of trees.</li> </ul>
Greensand Terraces (9% of the AONB)	2.5%	2%	<ul style="list-style-type: none"> <li>• Conserve and improve hedgerows.</li> <li>• Improve connectivity with new native planting at foot of escarpment.</li> </ul>

\* Plantations on Ancient Woodland Sites

# Connectivity: habitat management on the scale of the landscape

## What is connectivity?

The ability to move from one location to another is important for all species, both plants and animals, because it allows them to move away from hostile conditions and exploit new resources, such as finding the right conditions for foraging and reproduction. Connectivity is the degree to which a landscape is permeable to individual plants and animals, populations and species. Connectivity is vital if local extinctions are to be avoided and it helps to maintain the ability of a population to adapt to environmental change. This is particularly important if the landscape is to be resilient to climate change and changes in cropping patterns. The degree to which habitats are connected will be an important factor in the wealth of wildlife that we hand on to subsequent generations.

## Connectivity in the AONB

The Cranborne Chase & West Wiltshire Downs AONB is an area with a relatively high density of semi-natural habitats, some of which are designated conservation sites such as Sites of Special Scientific Interest or Special Areas for Conservation<sup>1</sup>, and others that are outside the statutory system, such as small woodlands, hedgerows and ponds that buffer and compliment



the special sites. This makes it unusual in Britain where land use intensification has made the matrix of habitats around such special sites increasingly hostile to the wildlife they sustain. For this reason, and lying as it does between two of the largest surviving semi-natural areas in Britain, the Salisbury Plain grasslands and the New Forest woodlands and heaths, the AONB has been identified as a habitat network of strategic importance<sup>2</sup>. This network of habitats makes the AONB landscape more permeable for wildlife and, with some enhancement in the right places, it could be made into a mosaic of habitats that allows wildlife populations to expand or move more readily in response to changing environmental conditions. This assumes that the special sites are being well managed already. It would be a mistake to expend resources on increasing the connectivity of the landscape without first securing the source sites.

The analysis of connectivity in this study should be used by land managers and policy makers to prioritise areas where action to increase connectivity will be most effective. Not all parts of the AONB, or any landscape, have a uniformity of habitats. Just as the AONB represents an aggregation of semi-natural habitats at a national scale, so some areas within the AONB are more or less rich in wildlife resources.

Therefore blanket prescriptions for conservation action could be a waste of time and money.

The study has considered not just woodlands, but also taken into account other semi-natural habitats such as species-rich grasslands and rivers. It is assumed that semi-natural habitats are more permeable to wildlife than areas that have been greatly altered, such as built up areas, or areas of land that are being intensively managed for arable or fodder crops, for instance.

## Measuring connectivity.

The scientific basis for the distances used in this study is weak due to a lack of data and following a species-specific approach would have been misleading because the dispersal and movement behaviour of most species of conservation concern is not known (only 28 out of the 1245 species reviewed by Roger Catchpole in England Habitat Network have dispersal data). A great deal of the data regarding woodland species is brought together in the Forestry Commissions publication South West England Ancient Woodland Habitat Networks: a Scoping Study by Watts, K & Griffiths, M. However, the shorter the distance that an individual or population has to travel over inhospitable ground before reaching a patch of suitable habitat, the more likely it is that the journey will be successful and occur more frequently. Drawing on what published data there is for

<sup>1</sup> For more information on special and protected sites visit the Natural England web site [www.natural-england.org.uk](http://www.natural-england.org.uk)

<sup>2</sup> Catchpole, Dr R. England Habitat Network. Natural England Briefing Note November 2007

dispersal, the distances used in this study were selected from values that described highly connected habitat networks, so what would appear to be good connections in other places were regarded as the limit of acceptability in this study. Using shorter distances is also more practical at the local level at which we are working. Some studies of connectivity have advocated the creation of wildlife superhighways from south to north to allow species to escape the advance of climate change. Even if this is realistically achievable, then it is beyond the scope of this AONB and the people who own and manage the land within it. Creating short steps across the arable downland, or across a river valley, is more achievable. We have not measured the length of boundary that is connected from one habitat to another, so a “contiguous” connection could be connected at just one point. Considering all of the above, a ‘best guess’ approach proves to be a robust and practically applicable method of arriving at the distances we used.

The distances used in this study are:

1. Contiguous with semi-natural habitats
2. Less than 0.5km from a semi-natural habitat
3. Between 0.5km and 1km from a semi-natural habitat
4. Over 1km from a semi-natural habitat

Connectivity is therefore necessarily broad-brush in its approach and its application, but this will be greatly refined in years to come as this subject is attracting research attention.

## Warnings regarding connectivity

The user of this information should consider that time is a factor. Eventually an individual or population may cross an unfavourable area to a patch of habitat, but species disperse at different rates and in different ways. The longer one can

wait, the more likely one is to see the dispersal occur. At the end of the day it is up to the land manager and their intimate knowledge of their own situation to make the choices regarding the placement of crops, wildlife habitat and the use of management regimes; it is hoped that this document will enable better decision making.

In the use of connectivity as an aid to decision making there are some warnings that should be made:

- The distance one considers acceptable between habitat patches and what one considers to be good habitat depends on circumstances; what is permeable to one animal or plant will not be to another, all conservation action benefits some species and disadvantages others.
- Connectivity has costs. It is expensive to link habitats and a great deal of the cost will be placed on the public purse in the form of incentives and payments for profit foregone to landowners. Careful evaluation is required and we hope that this study will assist with prioritisation of action within the AONB.

- Connectivity has risks. Pests, diseases and invasive non-native species will also take advantage of these connections and this can have severe consequences for biodiversity.

In formulating this method we have drawn heavily on the work of Natural England and the Forestry Commission and that of Dr Roger Catchpole in particular. For further information on connectivity the following resources are recommended:

*Bennett, A.F. (2003). Linkages in the landscape. The role of corridors and connectivity in wildlife conservation. Conserving Forests and Ecosystems Series 1. IUCN, Gland, Switzerland.*

*Catchpole, R.D.J. (2006). Planning for biodiversity - opportunity mapping and habitat networks in practice: a technical guide. English Nature Research Report: 687. Peterborough.*

*Crooks, K.R., Sanjayan, M. (Ed.) (2006). Connectivity Conservation. Cambridge Conservation Biology Series 14. Cambridge.*

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A well connected landscape in the Downland Hills

# Our woodlands in a changing climate

## 1 Scenario for the future.

It is important, at the outset, to say that a scenario for climate change is not a prediction, let alone a forecast. The following scenario is designed to give the reader a general idea of what kind of average weather will be taking place in the modified climate of southern England in the 2050s. Broadly speaking, with some reduction in the current rate of greenhouse gas emissions, it will be composed of:

- drier and warmer summers (the central estimate of increase in summer mean daily minimum temperature is 2.9°C; it is very unlikely to be less than 1.2°C and is very unlikely to be more than 5°C. A wider range of uncertainty is from 1°C to 5.5°C. The central estimate of change in summer mean precipitation is -19%; it is very unlikely to be less than -41% and is very unlikely to be more than 7%. A wider range of uncertainty is from -43% to 16%.
- milder and wetter winters (the central estimate of increase in winter mean temperature is 2.1°C; it is very unlikely to be less than 1.1°C and is very unlikely to be more than 3.2°C. A wider range of uncertainty is from 0.8°C to 3.5°C. The central estimate of change in winter mean precipitation is 17%; it is very unlikely to be less than 4% and is very unlikely to be more than 38%. A wider range of uncertainty is from 0% to 41%.



- an increasing soil moisture deficit during summer and autumn
- an increase in very hot summer days (the central estimate of increase in summer mean daily maximum temperature is 3.8°C; it is very unlikely to be less than 1.4°C and is very unlikely to be more than 6.8°C. A wider range of uncertainty is from 1.2°C to 7.6°C).
- About the same amount of rain, but there will also be a tendency for it to fall very heavily for protracted periods in the winter and spring. The central estimate of change in annual mean precipitation is 0%; it is very unlikely to be less than -4% and is very unlikely to be more than 6%. A wider range of uncertainty is from -5% to 6%.
- an increase in the frequency and severity of winter storms.

*(from UK Climate Projections, June 2009. Available from [www.ukcip.org.uk](http://www.ukcip.org.uk))*

As can be seen, a degree of uncertainty exists about this scenario, but we are sure to feel the difference by 2050 when our climate will have changed significantly. By 2080 we could have a climate similar to that of parts of Portugal today<sup>1</sup>.

## 2 What does this mean for woodlands and their owners?

In short, our woodlands will have:

1. a longer thermal growing season
2. less frost
3. natural regeneration rates different to those of today
4. a surfeit of winter water, possibly leading to root death from waterlogging and a loss of stability
5. a deficit in summer water, possibly leading to reduced growth in some species and increased fire risk

The character and composition of native woodland plant communities is likely to change in response to this, possibly with the formation of new communities and sub-communities not currently recognised in systems such as the National Vegetation Classification. Indeed this is likely to be the main biophysical impact of climate change<sup>2</sup>. The rate of community change, and the exact nature of that change (which species will be present or absent and which will decline or increase) is impossible to predict at this stage, but indirect effects acting through changing competition are likely to have impacts on the overstorey and

<sup>1</sup> For more information on climate change impacts, go to the web site of the United Kingdom Climate Impacts Programme [www.ukcip.org.uk](http://www.ukcip.org.uk)

<sup>2</sup> Walmsley, CA., Smithers, R.J., Berry, P.M., Harley, M., Stevenson, M.J. and Catchpole, R. 2007. MONARCH – Modelling natural resource responses to climate change – a synthesis for biodiversity conservation. UKCIP, Oxford





understorey alike. Some species may only survive if they can move to different places.

One can easily get overtaken by a sense of impending doom when considering how our woodlands will fare in a changing climate. This is unnecessary and ultimately unhelpful. It is important for people to understand that although some timber yields may be down and there will be some changes in the composition of our woodlands, it does not mean that all the trees will suddenly die or that trees will no longer grow in the AONB. What we do to our woodlands has a far greater impact than the climate can ever have. For instance, soil and water changes associated with normal afforestation and forest management practices are far more profound than those expected from climate change. The wise husbandry of woodlands will be a key component in how land owners can help ameliorate the effects of climate change.

Some of the aspects of a changed climate will have positive implications for woodlands. Storms, usually seen as destructive in woodlands, can have a positive effect on woodland biodiversity by creating gaps that allow an increase in structural diversity as shrub species emerge and the fallen dead wood creates habitat for insects and fungi.

An increase in annual mean temperature will lengthen the growing season. This may be beneficial to some species which can adapt to a longer growing season, for example oak, but detrimental to

those that cannot such as ash. Given that CO<sub>2</sub> levels and temperatures are set to rise above current levels in the coming decades, the AONB should become a better place to grow trees, except perhaps on sites prone to drought or lacking in nutrients. Overall, it is likely that an increase in the length of the growing season will be beneficial for trees. The plants that compete with trees will also do well; bracken, bramble and gorse are likely to grow faster under climate change and will require more vigorous management.

When we look at individual tree species and how they might fare in a changed climate we see some doing better than others. The Forestry Commission has used Ecological Site Classifications for tree species in the SW of England and these show that most tree species that we currently grow in our woodlands will produce slightly less timber in the future. However, this does not take into account rising levels of atmospheric carbon dioxide and site details such as micro-climates and changes in local soil conditions or aspect. In particular, there has been much recent discussion of beech. As a silvicultural species (as measured by its yield class, or the increase in volume of crop per hectare per year), it will become less suitable to grow in the AONB by 2050, but it will not disappear from the landscape<sup>3</sup>. But even so, we can expect that in sheltered coombes on the north facing slopes of the chalk

escarpments beech will still be doing well.

One of the hardest things to predict is the rate of regeneration of tree species from seed because this is affected by so many factors. However, natural regeneration may be the preferred restocking method as establishing new woodlands with transplants may be problematical: increasing heat and drought can be expected to increase losses in newly planted trees.

Climate change has already started. Phenological changes (the timing of annual events in natural ecosystems) are already being observed in the UK; earlier arrival of birds and butterflies in the spring have been recorded and tree leaf appearance in Surrey has been found to be 10 days earlier in the 1990s than the 1980s<sup>4</sup>. While it may be too soon for woodland managers and owners to start doing things in their woods to adapt to climate change, there is an urgent need for them to understand the ramifications of climate change and amend their long term woodland plans accordingly.

### 3 General adaptations

Specific adaptations relevant to particular areas are given in the chapters on each Character Type. However, there are some general ways in which our woodlands can be adapted to climate change.

3 Broadmeadow, M. Forestry Commission. Climate change, trees and the future. Proceedings of PlantNetwork Spring conference, Royal Agricultural College, Cirencester with The National Arboretum at Westonbirt, 10-12 September 2008

4 Sparks, T., Crick, H. Woiwod, I. and Beebee, T. 2001. 'Climate change and phenology in the United Kingdom' in Green, R., Harley, M. Spalding, M. and Zockler, C. (Eds) Impacts of climate change on wildlife RSPB, Sandy





When evaluating the impacts of climate change on landscapes, and therefore how we might go about adapting our woodlands to those changes, the terms robust and resilient are potentially useful. However, there are subtle differences between the terms. Resilience is defined in the climate change literature as “the ability of a system to recover from the effect of an extreme load that may have caused harm” whilst robustness is defined as “the ability of a system to continue to perform satisfactorily under load”<sup>5</sup>. In terms of climate change and the natural environment, a robust landscape is one that has the capacity to cope with climate change without major adaptation while a resilient landscape can be thought of as one that can recover following an extreme climate event (such as a storm or flood). It is however important to say that recovery may not be to the same condition as it was in prior to the event. Recovering from extreme events will involve a shift in state; recovery to the status quo will not be sustainable in the long term.

Some of these adaptations are as follows:

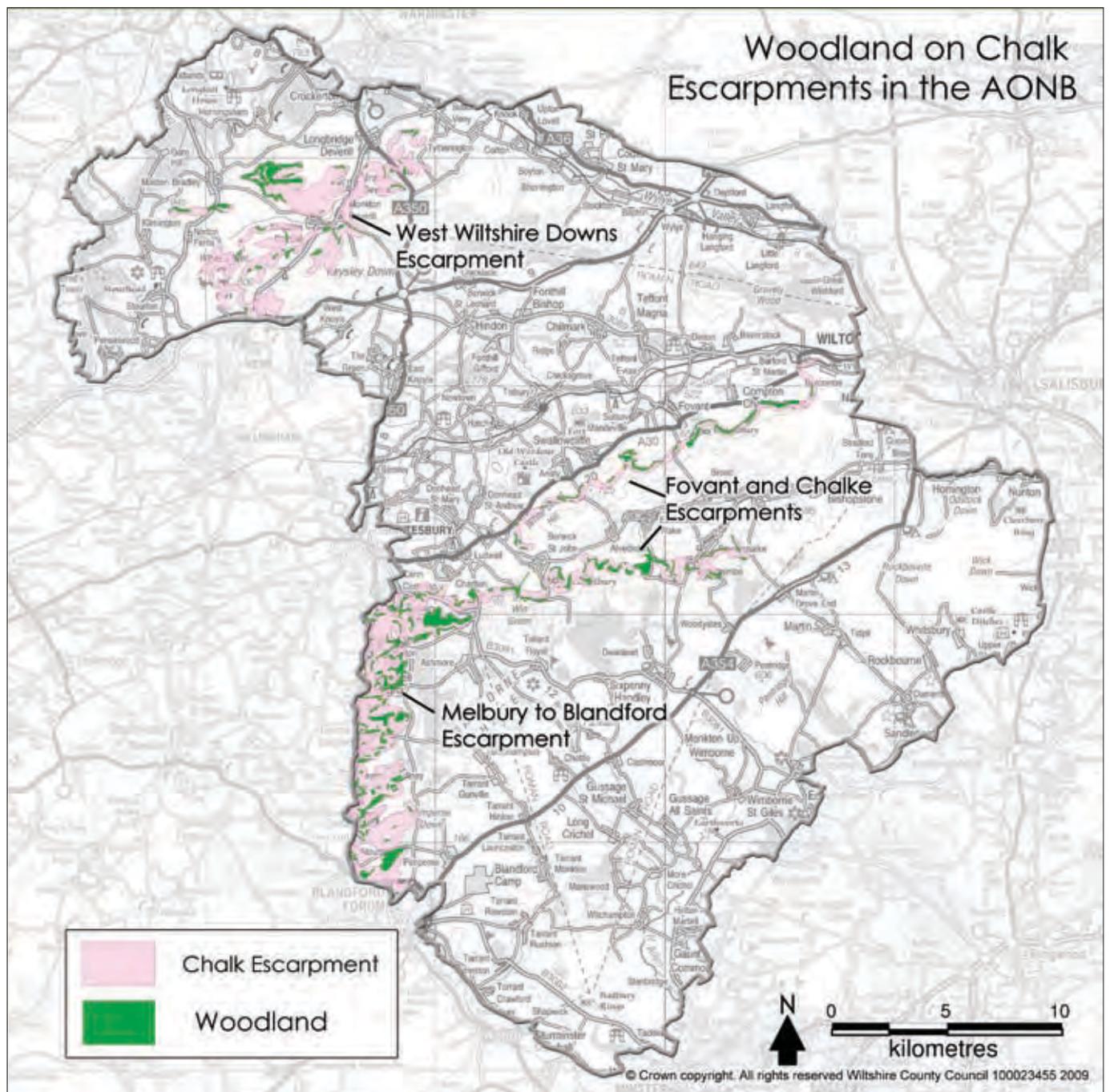
- Norway spruce could cease to be a productive species over much of England, therefore other better adapted tree species should be considered when stands of Norway spruce are felled. This is an example of where a greater mix of trees could be encouraged, for instance when weeding or
- thinning a Norway spruce stand, some spruce might be removed to allow naturally regenerated broadleaves and conifers to go on and form part of the mature stand.
- An increased incidence of summer drought will make trees more vulnerable to attack by weak pathogens, therefore droughty sites may be more suitable as areas for long term natural regeneration rather than clearfell and replant.
- Increased winter rainfall may raise water tables enough to kill roots, thereby reducing effective rooting depth and making trees more vulnerable to summer droughts. This may affect the timing of felling and the intensity of thinning regimes. However, there may be opportunities for the restoration of floodplain woodland that will yield benefits in terms of flood control and associated biodiversity.
- Populations of deer and squirrels are adversely affected by cool, wet weather, through reducing food availability and increasing mortality. Predicted climate change is therefore likely to result in increased population densities and ranges if appropriate control measures are not put in place.
- In the long-term, Corsican pine will become more suitable as a commercial species in the AONB. It may be an appropriate replacement for existing stands of conifer crops, or an addition to future stands.
- Douglas fir will remain a suitable species and there are already good stands of this species in the AONB. Climate change scenarios indicate that investment in these stands designed to increase the crop quality and encourage natural regeneration may yield an acceptable return.
- Veteran trees, hedgerow trees, orchards and isolated parkland trees are at particular risk of high winds associated with storms. Exotic trees in parklands are also at risk from the arrival of new pests and diseases. These factors may make historically authentic tree plantings as part of parkland conservation and restoration increasingly difficult. Therefore the free-standing copses and small woods that are such a feature of the AONB should be increased in size and buffered, especially in exposed situations. Management around existing veteran trees needs to be planned and improved; less cultivation, reducing grazing & barking of trees, reducing fertilizer or pesticide drift.

This section has relied heavily on Forestry Commission Bulletin 125 Climate change - Impacts on UK forests. This is available from the Forestry Commission web site [www.forestry.gov.uk](http://www.forestry.gov.uk) in the climate change publications section of the Forest Research pages.

<sup>5</sup> UKCIP, 2003. Climate adaptation; Risk, uncertainty and decision-making UKCIP Technical Report, UKCIP, Oxford



Figure 1.1 Map showing the woodlands of the Chalk Escarpments.



# Chapter 1

# Chalk Escarpments

## Landscape Character Areas

- Melbury to Blandford
- West Wiltshire Downs
- Fovant and Chalke

## 1.1 Introduction to the Chalk Escarpments

- Covers 5,182 hectares, 5% of the total area of the AONB.
- They mark dramatically the transition between the Cretaceous chalk and the adjoining rocks.
- These are large scale landscapes composed of repeating patterns of rounded spurs and deep combes affording panoramic views over adjacent landscapes.
- Areas of unimproved chalk grassland of international importance are found on some of the steeper slopes while improved pasture and arable fields occupy the shallower, more accessible, slopes.
- Beech hangars and natural ash woodland (or ivers) are features of the steepest, enclosing chalk combes.
- Copses of beech and single trees act as focal points.



- The dominant soil group is Rendzina. Grey rendzina is the most common subgroup, a shallow, well drained soil associated with steep slopes. Brown calcareous earths are also present, being strongly affiliated with the tributary valleys.

### 1.1.1 Melbury to Blandford Chalk Escarpment

The Melbury to Blandford Chalk Escarpment forms a western boundary to the AONB. To the east, the crest of the scarp is marked by the regular occurrence of woodland and the landscape of Cranborne Chase. The escarpment is a dramatic feature in the AONB landscape and forms a transition from the rolling chalk landscapes of Cranborne Chase to the lowlands of Blackmore Vale. The open, remote scarp with its unenclosed chalk grassland and woodland contrasts with the enclosed and more domestic appearance of the vale.

### 1.1.2 West Wiltshire Downs Chalk Escarpment

The West Wiltshire Downs Chalk Escarpment marks the north-western edge of the West Wiltshire Downs just south of Sutton Veny and running in a convoluted south westerly direction to Mere. In addition, there are three hills separated from the escarpment by the River Wylde. Although not as conspicuous as

other escarpments within the AONB, the magnitude of this landscape is exaggerated by the simplicity of its land cover. Predominantly comprising grassland, there is a sense of uniformity that adds to its openness, expanse and remoteness. Where woodland occurs, it follows the line of the contours and delineates the contrast between the escarpment and adjacent Open Chalk Downland landscape.

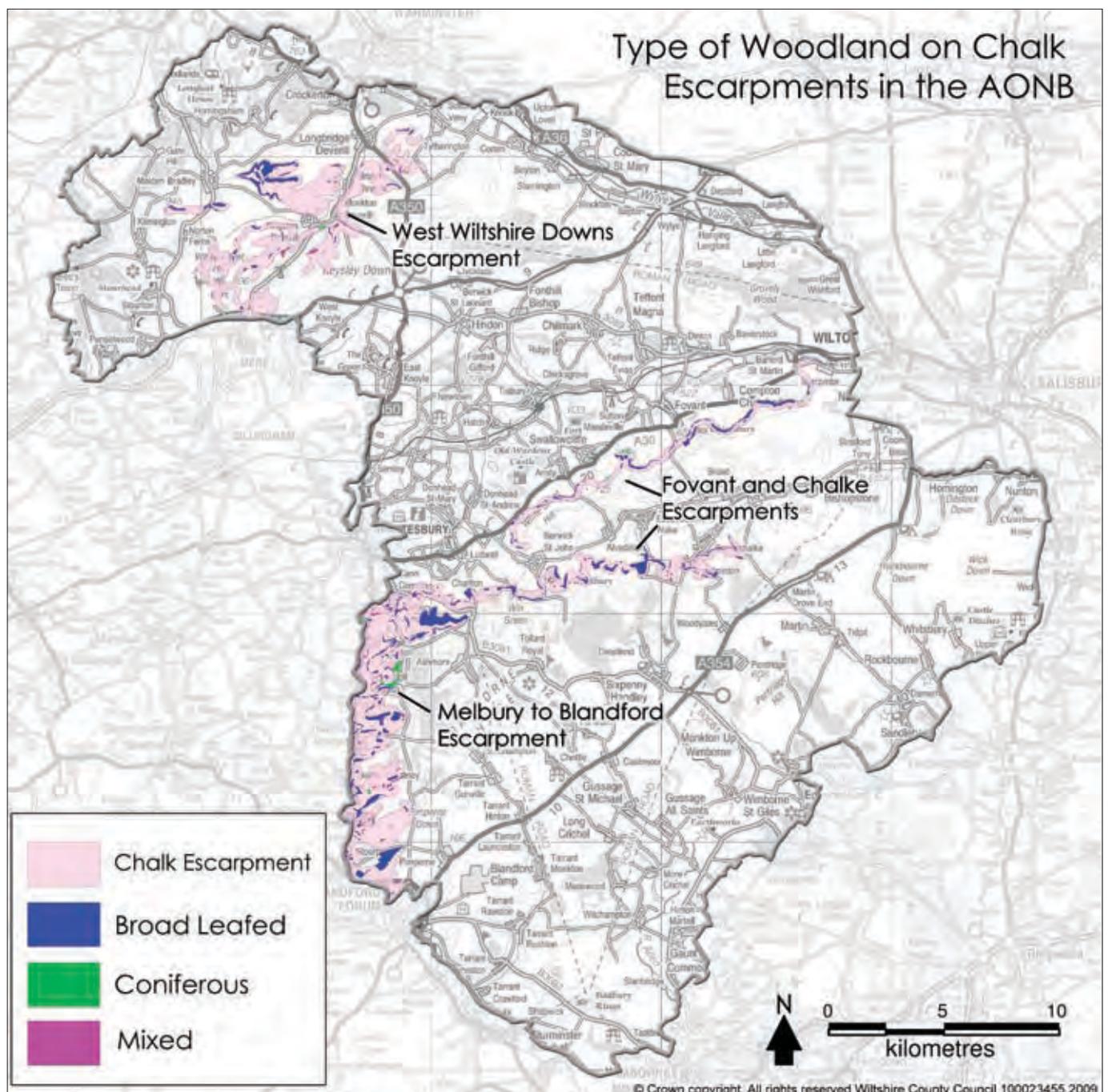
### 1.1.3 Fovant and Chalke Chalk Escarpment

This character area occupies a central location within the AONB and comprises two roughly parallel sections. The northern Fovant Escarpment runs between Burcombe and Berwick St John, while the southern Chalke Escarpment extends from Melbury to Knowle Hill. The Fovant Escarpment rises from the Fovant Greensand Terrace. The Chalke escarpment rises from the Ebbel Valley. These two precipitous escarpments make a substantial contribution to the character of the AONB as a whole. They are very visible, appearing as a range of stark hills dominating the Vale of Wardour, the skyline punctuated by the copses and woodland blocks along the crest. They hold significant tracts of unimproved chalk grassland and some broadleaved and mixed woodland occurring in distinctive patterns.

## 1.2 General description of the woodlands

- 718 hectares of woodland, representing 5% of the total woodland cover of the AONB.
- The escarpments are not usually considered to be wooded, but 15% of the Character Type is covered by trees so woodland plays a significant role in supporting its character.
- 35% was present prior to 1750, 25% dates from between 1750 and 1900 whilst 40% is post 1900 in origin.
- On the Chalk Escarpments there seems to have been a much more stable pattern of woodland cover than seen in other areas of the AONB. However the patterns in the retraction and expansion of scrub, a characteristic feature of these escarpments, are unknown.
- The majority of the woodland on the escarpments is broad-leaved or mixed.
- The woodland in this character type is moderately well connected; over 40% of it is contiguous with or within 0.5 km of a veteran broad-leaved woodland. However this connectivity is linear in nature, so the strength and resilience of these connections may be weaker than the figures suggest.

Figure 1.2 – Woodland of the Chalk Escarpments displayed by type





### 1.2.1 Melbury to Blandford Woodland

There would seem to have been very little woodland creation in the 18th and 19th Centuries. Woodlands dating from earlier periods are scattered throughout the area, but particularly at the base of the escarpment, while woodlands established in the 19th Century or later tend to be on the top of the slope. Most of the woodland is broadleaved, the steepest slopes are often covered by areas of thorn and hazel scrub woodland. These small woodlands have occasional ash, field maple and oak trees within them and if left to develop will gradually grow into ash dominated woodlands. The grassland and woodland mosaics support many local and endangered species, such as the marsh fritillary butterfly and the silver spotted skipper butterfly, both UK BAP priority species. The mosaics also greatly enrich the landscape and provide habitat for a variety of species of birds, beetles and mammals. The woodlands are better connected to veteran woodlands around Pimperne, Iwerne Courtney and Iwerne Minster and less well connected around Melbury and Compton Abbas.

### 1.2.2 West Wiltshire Downs Woodland

Woodland does occur but is generally small scale and confined to the sheltered combs. There is one area of woodland, considered to be of veteran origin, at Bidcombe Hill. This woodland grades from ash dominated on

the calcareous slopes, through to oak and downy birch woodland on the more acidic plateau. The other woodlands are of post 1750 origin and shows that the area has for a long time been open downland. The woodlands are poorly connected to any other veteran woodland but it should be remembered this character area contains small areas of thorn scrub which provide a range of habitats for invertebrate species and birds of restricted distribution in a large area of important chalk grasslands.

### 1.2.3 Fovant and Chalke Woodland

Woodland plays an important role in this Character Area. Mixed and deciduous woodland is found on both the escarpments, but is particularly characteristic of the Chalke escarpment. The predominantly broadleaved, 18th and 19th Century, woodlands are found on the Berwick St John – Alvediston north facing escarpment. There is a good deal of older, possibly medieval in origin, woodland locally named 'ivers' that follow the contours in a sinuous form and this is most apparent where they line the base of the escarpments, in some places stretching to mid-slope. They are a significant landscape feature marking the transition from the steep downland slopes to the intensively cultivated land below. The origin of these woodlands is hard to attest to due to the lack of detail in the 1750 maps that did not show the full extent of woodlands. Game covert woodlands, mixed woodlands with a fringe of Lawson's Cypress or

Western Red Cedar, are a distinct feature at the foot of the escarpment or occupying prominent ridgeline locations. Their strong geometric form is a striking contrast to the rounded form of the escarpment, but they offer opportunities for redesign to blend with the landform and give more benefit to both landscape character and wildlife habitat. Areas of scrub woodland are also a characteristic and important part of this landscape such as on the Fovant escarpment where the woodland supports a population of scattered juniper, a declining species. The connectivity of woodlands to veteran woodland is better in this character area than on the other escarpments, but is still considered poor on the Fovant area and much better on the Chalke area.



# 1.3. Cultural Heritage

## 1.3.1 General Character

The escarpments convey a sense of antiquity and history which has often been obscured or lost in the more intensively worked and constantly adapting lowland landscape below. A comparative lack of recent agricultural activity, traditionally far less intense on the meagre soils

of the escarpment, has preserved many features which reflect patterns of activity dating back thousands of years. Some may have symbolised ancestral rights to territory for an early farming community, but others suggest an ideological representation of individual power and status. Both types were sited on the escarpment where they could be viewed both from the valley and combe bottoms as well as from the downs. The extensive lengths of linear ditch and bank earthworks indicate a more direct means of controlling territory.

These earthworks provided both an effective territorial boundary and a barrier to the movement of stock. Areas of strip and other field systems on the steep slope of the escarpment may represent the expansion of arable farming onto marginal land at times of increased population pressure and the pillow mounds, usually situated on marginal land, as seen at the base of Whitesheet Hill, would have been used for the rearing of rabbits.

Figure 1.3 – Woodland on the Chalk Escarpments displayed by origin

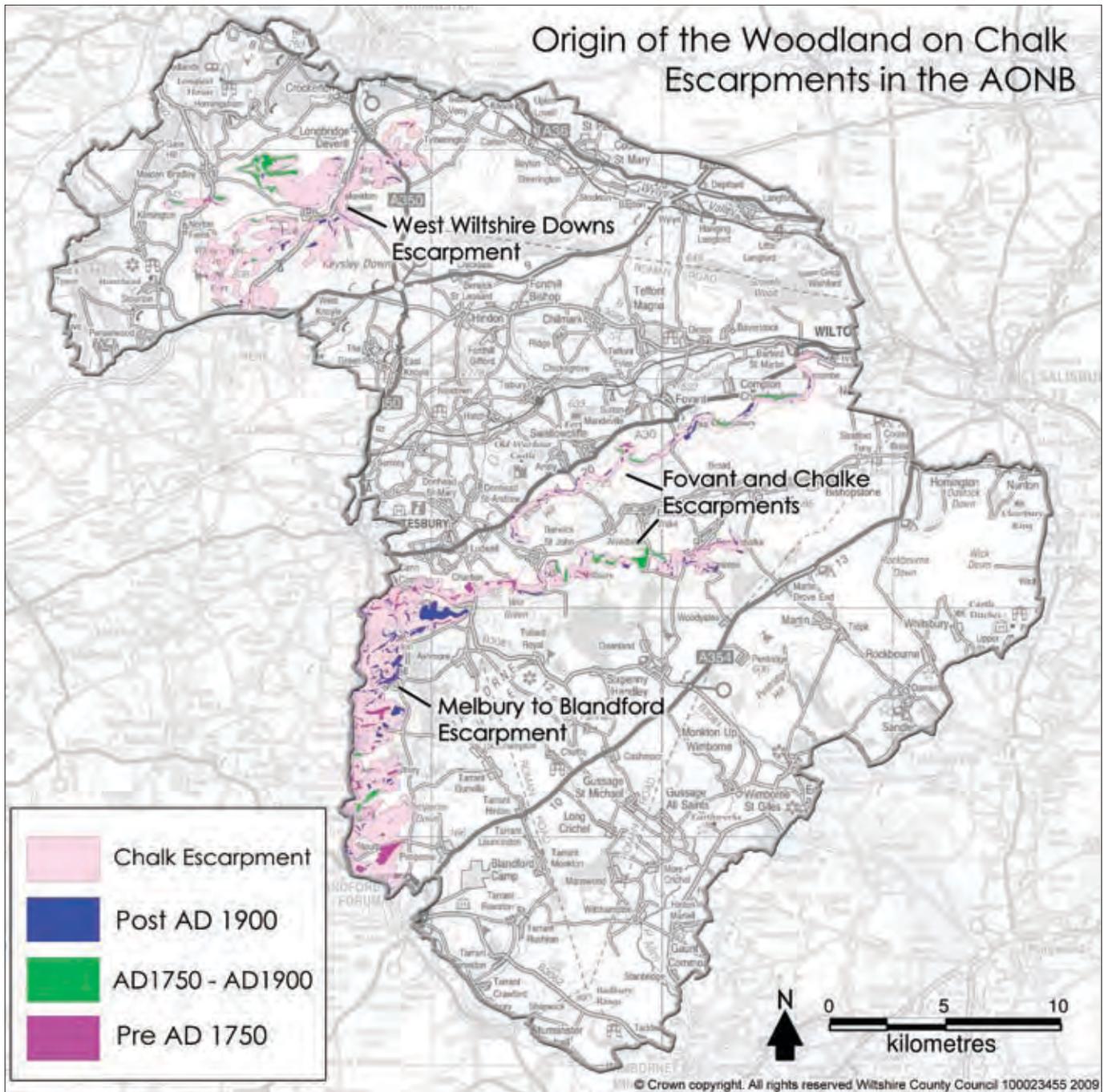
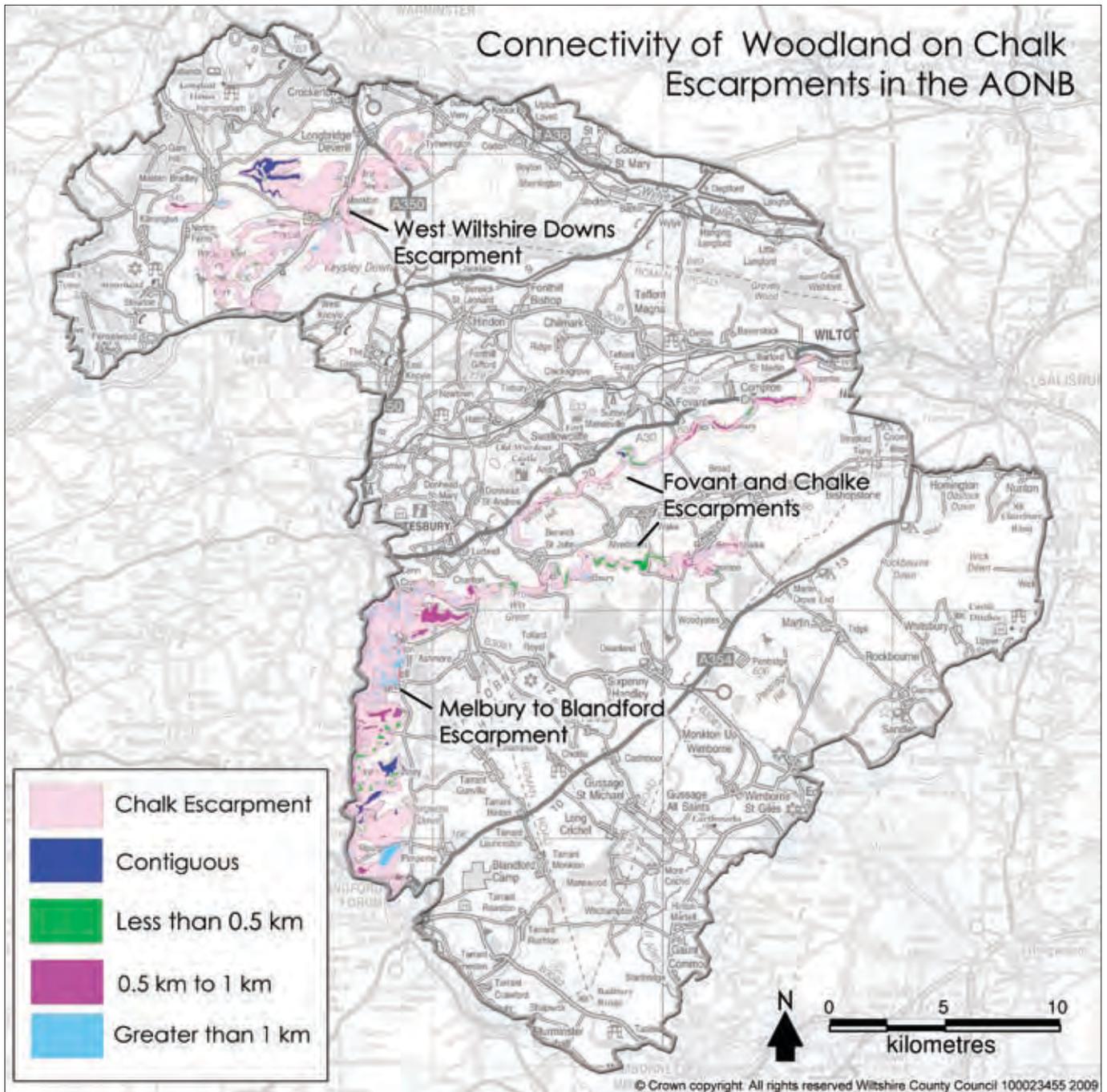




Figure 1.4 – Woodland on the Chalk Escarpments displayed by Connectivity



### 1.3.2 Woodland Archaeology

The majority of known archaeology on the Chalk Escarpments is located outside of woodland, with the exception of two Bronze Age Round Barrow cemeteries. However the many field systems, lynchets and linear earthworks found on the escarpments probably continue within woodlands, supported by the few examples which are recorded as doing so. This suggests that the woodland here warrants further archaeological exploration.

### 1.4 Ancient and veteran trees

Large ancient trees are not a common feature of this landscape type. However, isolated trees and groups of trees may be of particular value. Single ash trees, isolated thorns or field maples may be of great antiquity and are not only valuable for their scenic qualities but also as focal points in the landscape. Many invertebrates, including some very rare beetles, require isolated

trees in chalk grasslands as habitat or for the spring nectar they offer. They may be used as singing posts for both birds and insects as well as being refugia for small mammals and bats.

### 1.5 Climate change adaptation

The north-facing escarpments of the AONB may become more suitable for woodland as climate change progresses. Scrub woodland may grow faster, quickening the seral progression from grassland to woodland. The north and east facing escarpments may hold the best environment for beech by 2050, but this in itself may not make them suitable plantation sites as the steep slopes would make operations problematical and expensive. The careful management of an expanding area of natural woodland and scrub may yield more benefits in terms of wood fuel, wildlife habitat and game coverts as well as having greater landscape integrity than beech plantations.

### 1.6 Opportunities for future management

Appropriate management of the woodland resource should be the priority when land owners are considering future opportunities. Even though the woodlands themselves may be small, and the amount of woodland on this character type on any given landholding will be comparatively small, there may be opportunities and advantages to both land owners and the public interest in working with neighbours to develop cooperative woodland plans.

Further planting of small coniferous game coverts should be strenuously discouraged by those giving advice and support. In particular, the planting of Western Red Cedar, Lawsons Cypress and Norway spruce brings stark colour variation not characteristic of this landscape and these species are unlikely to survive if even moderate climate change forecasts are correct.

It is vital to maintain a balanced scrub and chalk grassland mosaic, coupled with appropriate grazing regimes, to maintain the ecological integrity of the chalk grassland. On the Fovant and Chalke Escarpments it is particularly important to conserve the distinct pattern of deciduous woodland, especially at the break of the lower slope, where the woodland creates the distinction with the adjacent Fovant Greensand Terrace. Enhancing this with additional planting would be desirable; linking woodlands and hedgerows across the landscape.

The small areas of surviving medieval woodland and more recent plantations may well hold archaeological features obscured by vegetation. This must be considered in any operations that are carried out in woodlands and scrub areas of the escarpments. Such operations include agricultural practices such as the siting of round feeders and troughs as well as forestry and scrub clearance operations.



# Chapter 2

# Open Chalk Downland

## Landscape Character Areas

- West Wiltshire Downs Open Chalk Downland
- Southern Downland Belt

## 2.1 Introduction to the Open Chalk Downland

- Covers 35,629 hectares (36%) of the AONB, making it the most significant landscape type in terms of area.
- The open downland comprises the dip-slope and plateau of the Cretaceous chalk; a gently inclined landform representing the original chalk 'surface'.
- The uninterrupted rolling hills and gentle slopes give a great sense of openness.
- Predominantly under arable cultivation.

### 2.1.1 West Wiltshire Downs Open Chalk Downland

Occupying an extensive area within the northern half of the AONB, the character area of the West Wiltshire Downs Open Chalk Downland extends from the village of Wilton in the east to Mere in the west. To the south lies the Vale of Wardour and to the north lies the Wylde Valley and Salisbury Plain. It is a large-scale



landscape of broad rolling hills and undulating land separated by dry river valleys. The area is dominated by an Upper Chalk surface geology that lends itself to arable production. The clay-with-flints capping of the higher ground is reflected in the occurrence of large wooded areas such as Groveley and Great Ridge. Broad leaved copses and clumps stand out on the hill tops.

### 2.1.2 Southern Downland Belt

This character area extends across the southern part of the AONB. To the north it gradually merges into the Cranborne Chase character area and drops into the Chalke Valley, to the south it gives way to the sandy heathlands of East Dorset. The Stour and Avon Tributary Valleys cut through the downland landscape. As with the downland to the north, this is a large-scale landscape of broad rolling hills and gentle slopes, but cut to the south by a series of distinct river valleys. Another difference is that mixed woodland is a significant feature to the west where the land is more undulating. Coniferous blocks and shelterbelts gain unusual prominence, their presence making a stark contrast to the gently sloping landscape.

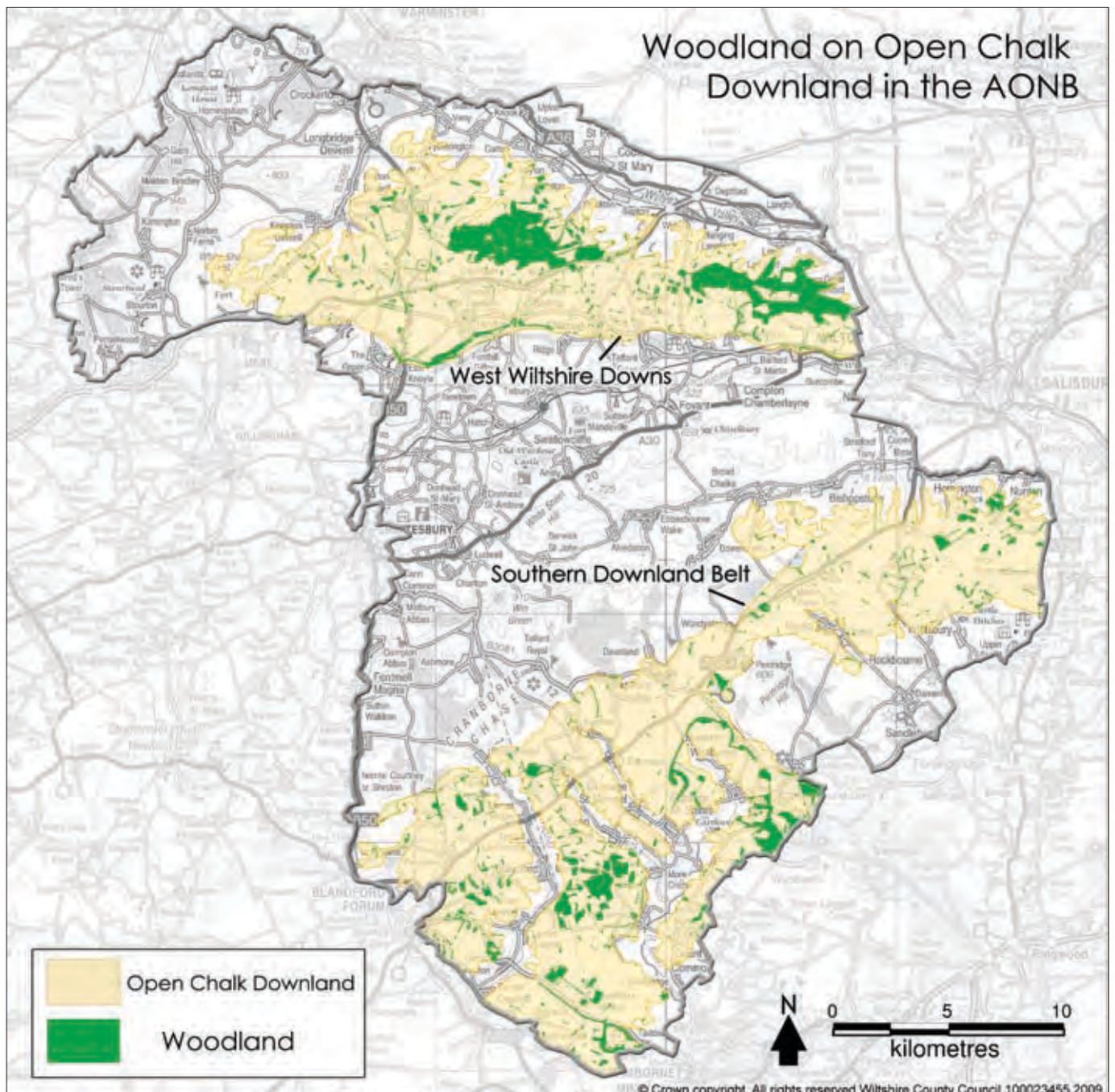
## 2.2 General Description of the Woodland

- 4,036 hectares of woodland, representing 28% of the woodland cover of the AONB.
- These woodlands tend to be broadleaved or mixed, few are purely coniferous.
- The majority was present prior to 1750, with a large proportion being at least medieval.
- There are also large tracts of more recent woodland.
- There has been a gradual increase in the number of small linear and rectangular plantations especially along the northern edge of the West Wiltshire Downs and the southern and northern edges of the Southern Downland Belts.
- Noticeable losses of woodland have occurred on the West Wiltshire Downs around Great Wood, Groveley Wood, Pertwood and Upper Pertwood and on the Southern Downland Belt around Chetterwood and in the vicinity of Pimperne Wood.
- Large swathes of woodland in the Character Type occurs in the large blocks at Great Ridge, Groveley and Chettle Wood, so over 50% of the woodland in the Character Type is very well connected being either contiguous with or within 0.5km of a veteran broad-leaved woodland.



Beech plantation in Great Ridge Wood

Figure 2.1 Map showing woodlands of the Open Chalk Downslands





### 2.2.1 Woodland of the West Wiltshire Downs Open Chalk Downland

Woodland, both large and small scale, makes an important contribution to the character of this landscape. Although woodland interrupts some long distance views, there is a feeling of exposure and expanse across the entire landscape. This heightens the sense of remoteness as well as providing wide open views and the impression of being in an upland landscape. Groveley Wood and Great Ridge are two extensive areas of woodland associated with elevated plateaux where the chalk is capped by clay-with-flints. Both were present prior to 1750 and were part of the medieval landscape along with associated open habitats. They are now mosaics of deciduous, coniferous and mixed woodland with fragments of pre 1750 woodland around their edges. Twentieth Century planting with coniferous blocks inside these woodlands replaced the oak – ash stands and has resulted in the coniferous canopy standing above the broadleaf canopy, altering the skyline, hardening it against the cloudscapes and removing the seasonal changes that occur with a deciduous treeline. The years 1750 – 1900 saw very little woodland established across the West Wiltshire Downs, except where the Fonthill Woodlands overlap from the Greensand Hills. Twentieth Century woodland frequently occurs elsewhere across the downs, either as small farm woods or geometric conifer plantations. Many of the

smaller conifer plantations have broadleaved species in their centre, being planted as game coverts, but also hold exotic shrub species such as bush honeysuckle (*Lonicera nitida*). Copses and clumps of trees are a particularly distinctive feature of the downland landscape, crowning a number of hilltops. Some of the rich scrub woodlands are of high conservation importance, such as Baverstock Bank SSSI which supports a large colony of juniper. As one would expect in a downland landscape, the woodlands are very poorly connected beyond the largest woodland blocks.

### 2.2.2 Woodland of the Southern Downland Belt

In this area pockets of woodland occur corresponding to the loamy brown earth soils that overlie the clay-with-flint drift deposits. The landscape is more wooded towards the valleys and to the west. Small blocks of pre 1750 woodland are widely scattered across the Southern Downland Belt. However a large complex of ancient woodlands at Chettle Wood, the remnants of the once more extensive Chetterwood Walk of Cranborne Chase, occupies the high ground between the Rivers Tarrant and Allen. Among these woodlands is Oakhill Coppice, an oak-bracken-bramble community that supports a rich lichen flora. Other veteran woodlands overlap the southern boundary of the Character Area from the Dorset heaths and close to the Hampshire-Wiltshire border is Great Yews, which represents one of the two best examples of natural yew woodland

in Wiltshire. Deciduous and mixed woodland have been planted or developed from coppices. 18th and 19th Century plantings are particularly evident in and around the parklands and planned landscapes of Kingston Lacey and Wimborne St Giles. Coniferous woodland blocks established in the 20th Century as game coverts and shelter belts are similar to those found on the West Wiltshire Downs are a common feature of the area; their geometric edges can intrude on this otherwise smooth and simple landscape, however they can also add points of interest within it .

## 2.3 Cultural Heritage

### 2.3.1 Cultural Heritage on the West Wiltshire Downs

#### 2.3.1.1 General Character

This character area is rich in Neolithic remains, such as the causewayed enclosure at Whitesheet Hill. The settlement enclosures at Stockton Wood, Cow Down and Hamshill Ditches are accompanied by territorial boundaries such as Grim's Ditch linear earthwork, the frequent cross-ridge dykes and the string of hillforts and defended enclosures overlooking the Wylie. The Roman road that extended from Sarum to the Mendips was used as a trackway for centuries and the drove roads may be even older.

### 2.3.1.2 Woodland Archaeology

The 2006 LiDAR (Light Detection and Ranging) survey of Savernake Forest, in North Wiltshire, has demonstrated how much undiscovered archaeology may exist in extensive tracts of downland woodland. The majority of the woodland archaeology on the West Wiltshire Downs falls within Grovely Wood and Great Ridge and the wealth of known archaeological sites in both of these large woodlands suggest that these woodlands warrant

further archaeological attention. The archaeology includes major field systems, prehistoric enclosure and linear earthworks, Iron Age Hillforts and Bronze Age Round Barrows.

### 2.3.2 Cultural Heritage on the Southern Downland Belt

#### 2.3.2.1 General Character

The wide range of monuments on these open downs provides

an unparalleled insight into social developments from the Neolithic period. The concentration of Neolithic and Bronze Age mortuary, burial and ceremonial monuments, including long barrows and round barrows, henges and pit alignments, in a landscape dominated by the 10km long Dorset Cursus, indicates that this was not a normal prehistoric landscape but one in which certain areas were imbued, for millennia, with a distinct symbolic significance. The imposition on the prehistoric landscape of the Roman road, the

Figure 2.2 Woodland of the Open Chalk Downland displayed by type

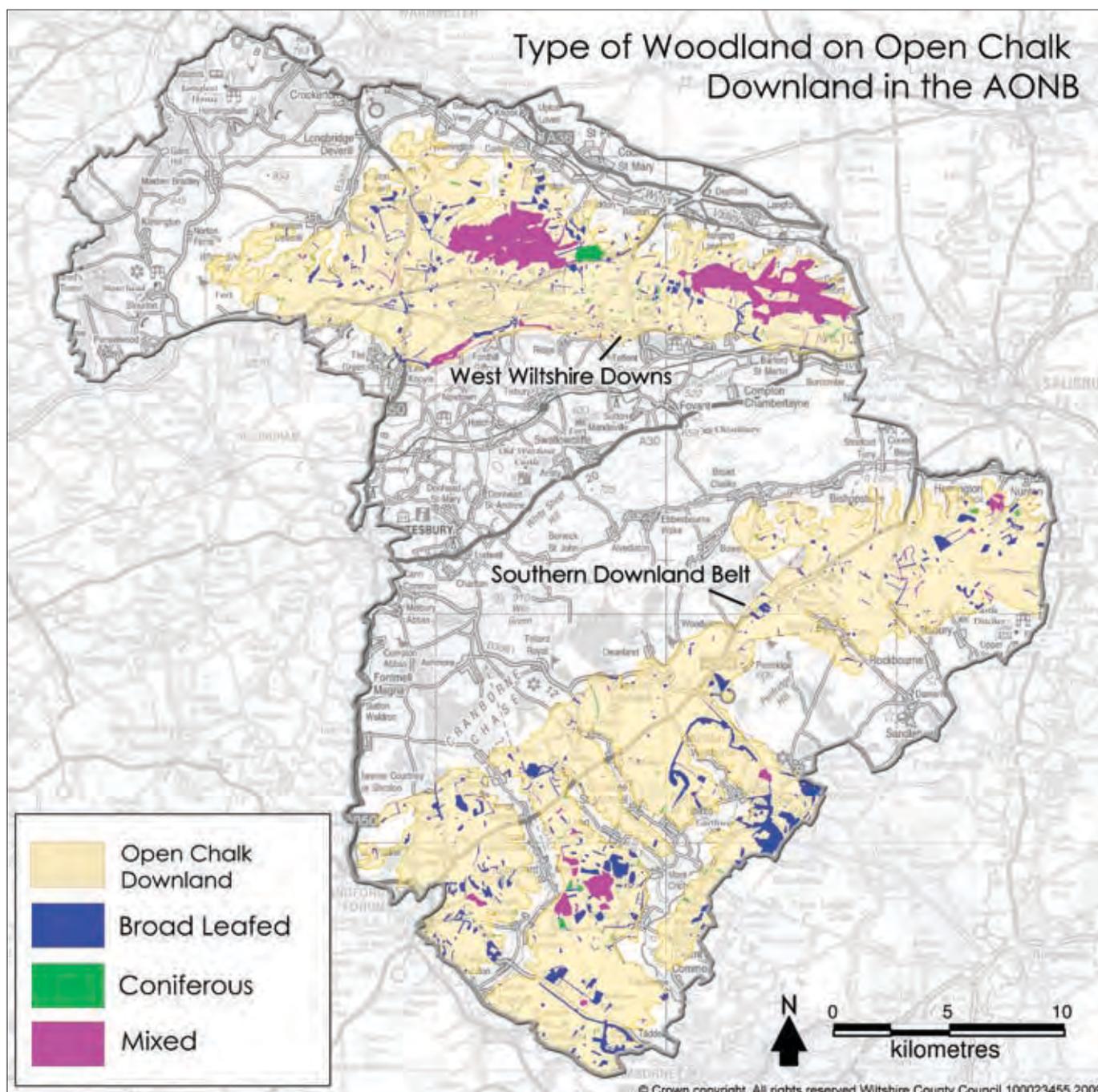
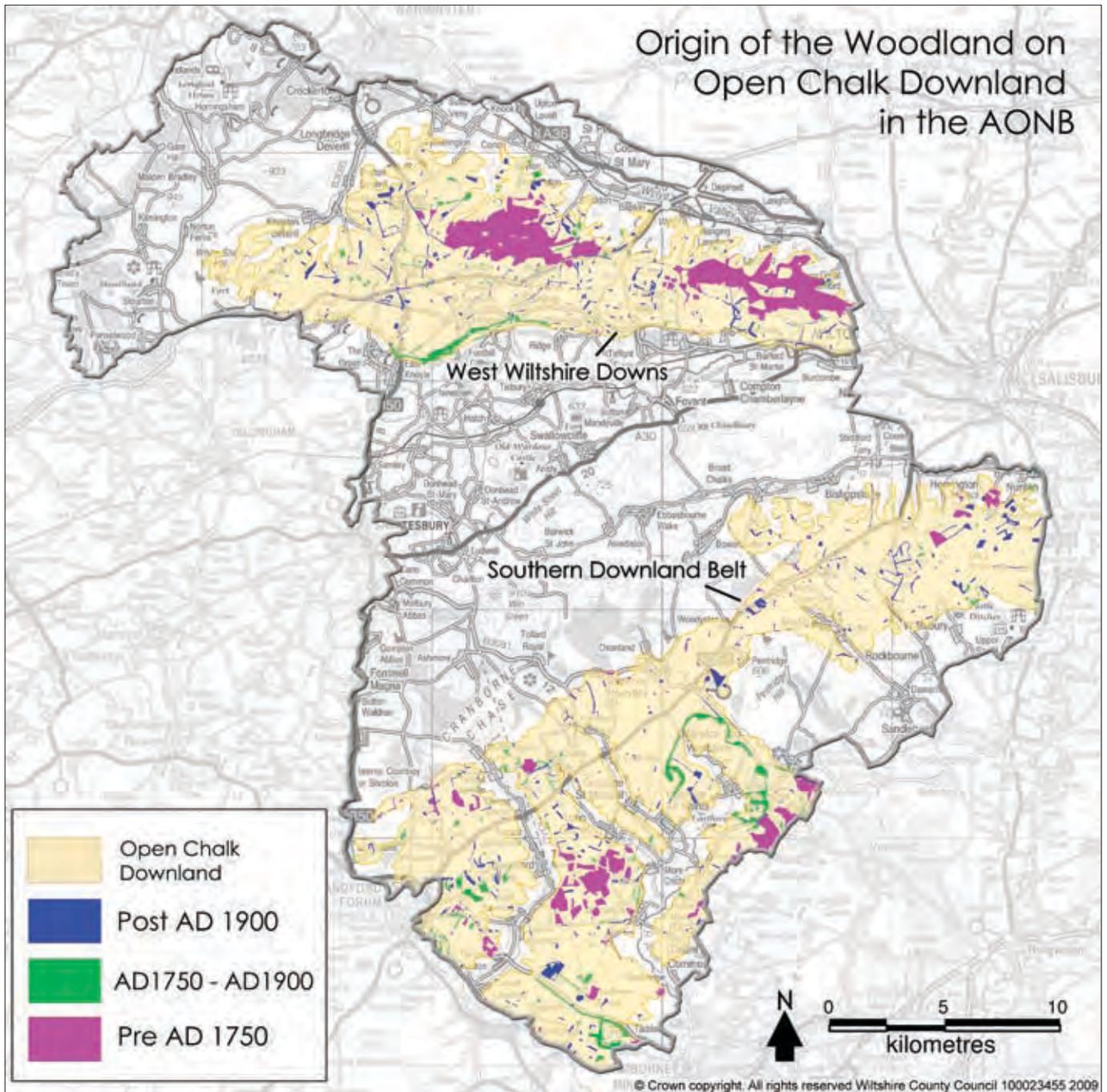




Figure 2.3 Woodland on the Open Chalk Downland displayed by origin



Ackling Dyke, between Old Sarum and Badbury Rings (which then split south to Poole, west to Dorchester, and north into the Nadder valley) contrasts with the overall continuity of Romano-British agricultural settlement and production on the downs. The siting of Saxon burial monuments in relation to earlier features, as on Oakley Down, points to their continuing significance in the landscape. The landscape is also rich in boundary features such as Grim's Ditch and Bokerley Dyke which retained a significance and

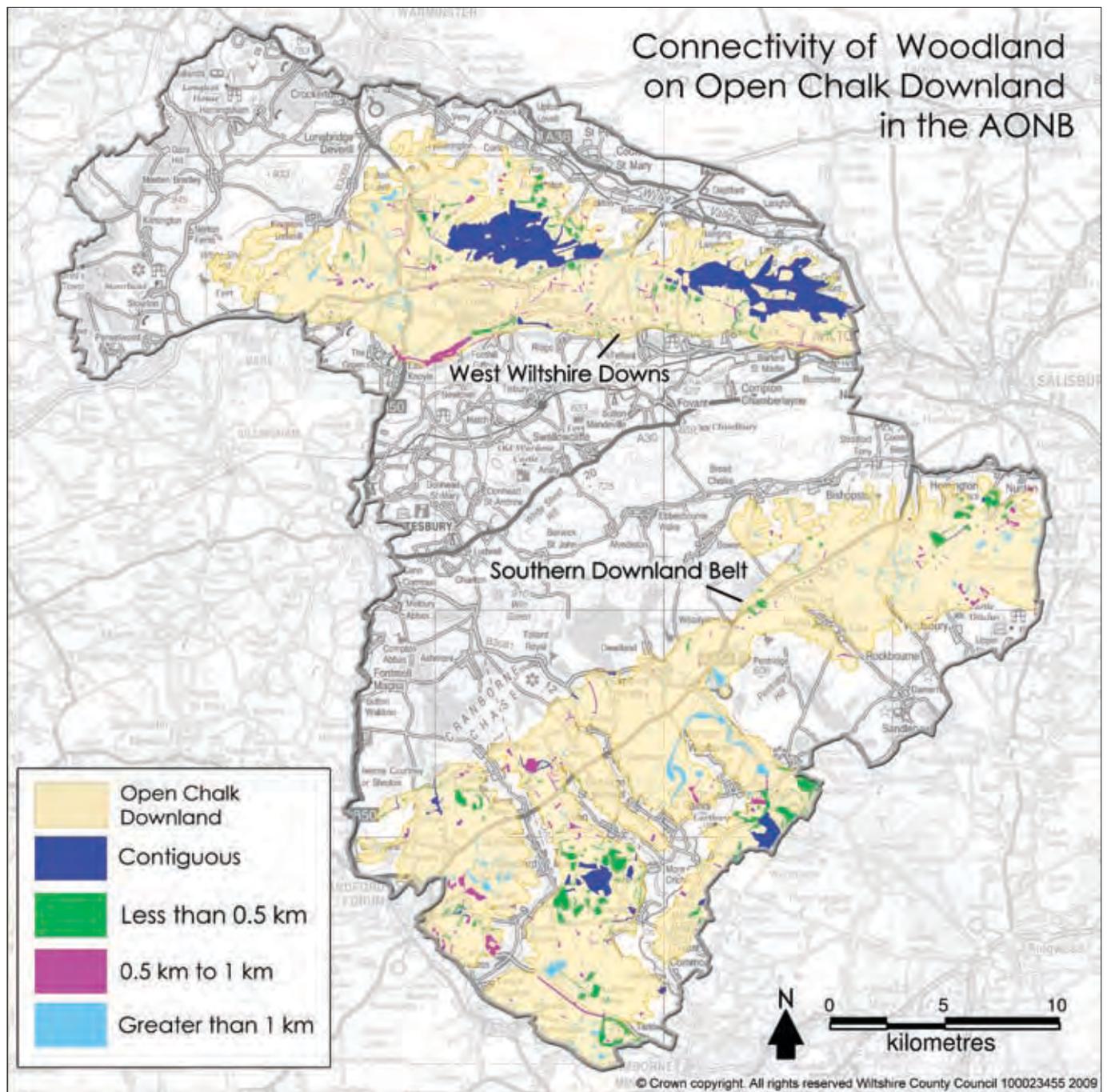
use into the medieval period, the latter marking the modern boundary between Hampshire and Dorset.

continue within woodland as extent earthworks. A notable historic feature is the woodland forming the great 'Brownian' ride of Wimborne St Giles Park.

### 2.3.2.2 Woodland Archaeology

In the southern Downland Belt in comparison the majority of known archaeology is located outside of woodland, but as with the Chalk Escarpments it appears that many of the expansive ancient field systems covering the area may

Figure 2.4 Woodland on the Open Chalk Downland - displayed by Connectivity with semi-natural habitats





## 2.4 Ancient and veteran trees

### 2.4.1 Trees of the West Wiltshire Downs Open Chalk Downland

While this area is characterised by its openness and therefore lack of trees, the sparse hedgerows and copses shelter some extraordinarily large ash boles, ancient thorns and very occasionally a pollarded oak or even a yew. These should be identified within any plan to improve the existing woodland, game coverts or plant additional woodland on a landholding. The majority of the ancient trees will be found in the large woodlands of the character area: Groveley and Great Ridge. The wood pasture and oak coppice of Great Ridge and the large beech of Groveley are no doubt recognised in the forestry plans for the properties. The Wilton Estate has sponsored a survey of four hundred beech trees, undertaken by retired forester Tony Caceras, and is carrying out gradual removal of conifers around them, or “haloing”, that will lengthen their lives considerably.

### 2.4.2 Trees of the Southern Downland Belt

Field trees are rare in this landscape character type, but isolated veteran trees can be found in chalk pits and hidden within conifer game coverts. The majority of ancient and veteran trees will be found in boundary features, particularly the ancient hedgerows and roadsides.

Reportedly, many yews were removed from this character type during the 1950s. Where yews still occur in hedgerows and on roadsides they should be afforded particular attention, removing cultivation and wheeled traffic from under the canopy and a further 5 metres wherever possible. English yew is one of the potentially longest lived life forms on Earth, given good conditions they will live for thousands of years. Very large ash boles are also a characteristic feature of this character area. The longevity of the boundaries in this area, some dating back to the Bronze Age, make the hedgerows and woodland strips associated with the boundaries such as the Shire Rack fruitful areas to search for ancient and veteran trees of all species. It is important for land managers to identify those hedgerows that may be of ancient origin and manage them and the land immediately adjacent accordingly.

## 2.5 Climate change adaptation

Yew was undoubtedly more common in previous centuries than it is now. Across the chalklands of southern England yew is found more commonly than in this Character Type. This probably reflects the removal of yew from the downs to protect cattle from its toxic leaves. However, yews can live for millennia and are therefore the one native tree that we know can survive changes in climate. This species would therefore be highly suitable as a component in new planting schemes around the small woodlands that have been

planted as game coverts or that are the remnants of once more extensive woodlands. Expansion of these small woodlands will buffer them against extreme weather, increase the connectivity of the landscape and make them more valuable as sources of timber and as game coverts. The creation of new wood pastures will be desirable. There are many scattered grasslands across the Open Downlands and while this area is predominantly under arable cultivation, and will continue to be so, there will always be an element of permanent pasture in the landscape. The addition of single trees and small clumps of trees in the pasture will afford shelter and shade to livestock, may provide some fodder if the trees are pollarded and greatly increase the range of habitats for wildlife. Some of these trees could be selected from naturally seeded individuals amongst areas of scrub, but others could be planted to provide particular things, such as walnut for its fruit, foliage and timber.

## 2.6 Opportunities for future management

### 2.6.1 Opportunities on the West Wiltshire Downs Open Chalk Downland

There are good opportunities for woodland creation where woodland has been lost or where new planting could connect or buffer existing woodlands; this would be an



eminently desirable enhancement to the character of the area. Any planting of new woodland on this character area should seek to conserve the sense of openness and simplicity of the character type. The distinctive deciduous woodland clumps require management and a programme of planting to maintain and enlarge them as features.

This area has high recreational potential, with long-distance footpaths, accessible Open Country and other rights of way that criss-cross the area. It is popular with walkers and horse riders as well as motorised users of the By-ways Open To All Traffic. Grovely Wood forms an extensive area of Registered Common Land. The wooded areas of the West Wiltshire Downs could be suitable for recreational development in keeping with the AONB designation. They are also important nature conservation sites and have important archaeological features within them. Their management should therefore be for multiple benefits: game shooting, recreation, timber production, nature conservation and all within a modus operandi that will ensure the continued survival of historic features. This kind of management requires detailed, long term planning and professional advice.

It should be remembered that the archaeological remains of the West Wiltshire Downs have disappeared rather than never having existed. It is certain that much lies undiscovered in the woodlands where the plough has not ventured for decades or centuries. Therefore mechanised forest operations should be preceded by careful inspection and survey by suitably trained or



knowledgeable staff or consultants so that any features (even if their true origin is not known) can be avoided. Much of the ancient archaeology may be masked by or confused with later remains such as medieval woodbanks or the extensive military use of the wooded areas during the World Wars, but these remains have their own intrinsic value and should also be assiduously preserved.

## 2.6.2 Opportunities on the Southern Downland Belt

There are good opportunities for additional woodland to be created in this character area. It may be particularly advantageous for neighbouring landowners to consult with each other over any woodland creation or enhancement plans so that such long term changes can complement one another's strategic objectives (such as game and deer management or timber extraction). There should be a presumption that it will consist of native species, but the inclusion of commercial species adapted to climate change forecasts

such as Douglas fir, should not be ruled out. Hedgerows and new woodland planting should seek to increase the visual integrity of the landscape by expanding and linking existing woodlands and semi-natural grasslands.

Where blocks of coniferous trees have been introduced, their geometric shapes could be softened by the planting of native species around them or redesigning the edges to encourage natural regeneration of native trees and shrubs. However, any new planting should conserve the distinctive open character of the landscape and the long ranging views it affords, especially from roads. This may be achieved by creating wood pasture or parkland plantings close to roads, with planting densities increasing with distance from the highway.

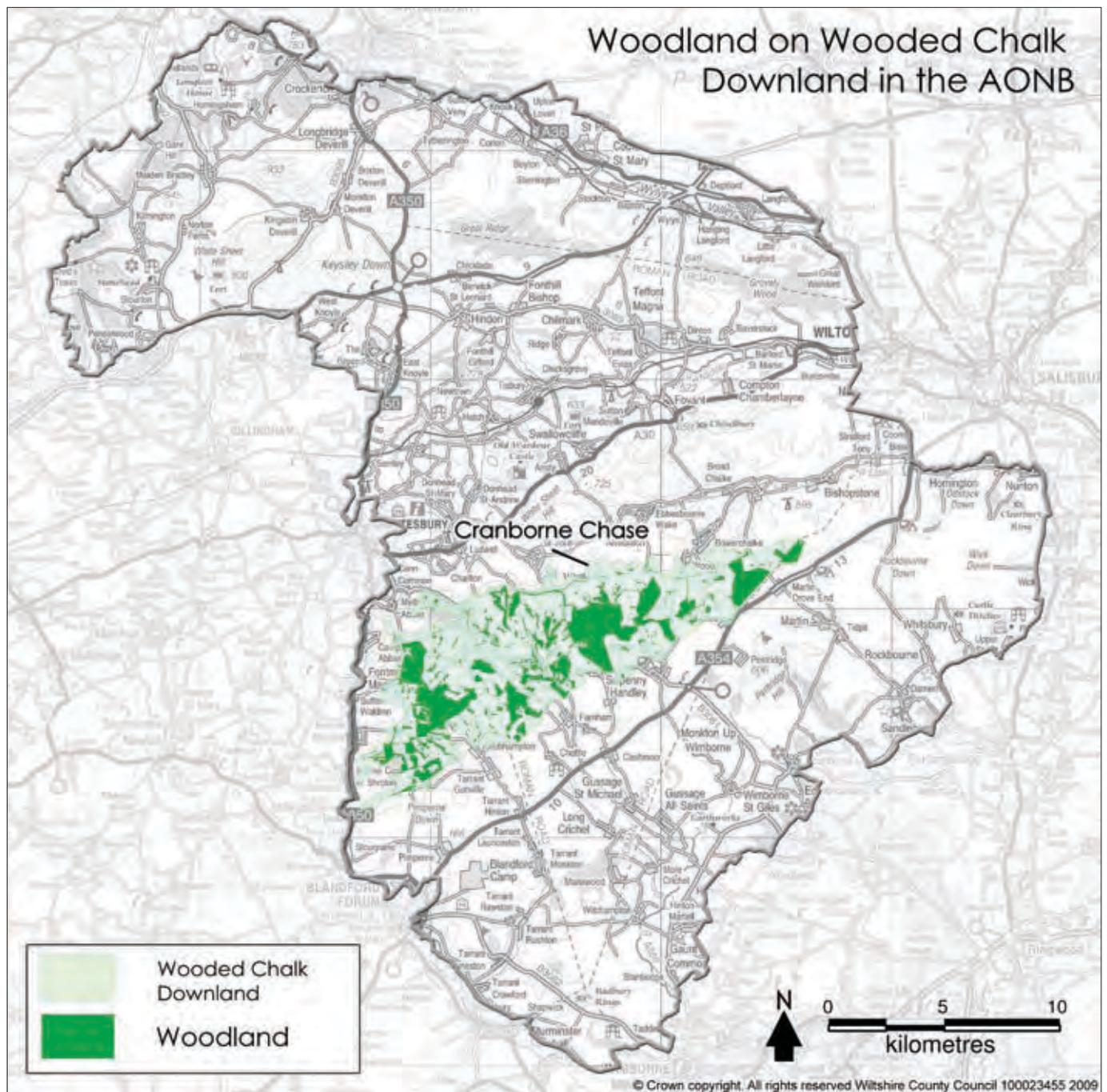
Any woodland management at any scale, or woodland creation or hedge or tree planting, must take into account the unique and invaluable archaeological heritage that must be left intact for generations to come.

# Chapter 3

# Wooded Chalk

# Downland

Figure 3.1 Map showing the woodlands of the Wooded Chalk Downland.



## 3.1 Introduction to the Wooded Chalk Downland

- There is just one area of Wooded Chalk Downland located within the southern half of the AONB: Cranborne Chase, but it includes 16% of the woodland found in the AONB.
- Covers 7,970 hectares (8%) of the AONB around Tollard Royal.
- To the west is the Melbury to Blandford Escarpment that overlooks Blackmore Vale.
- To the north the Fovant and Chalke Escarpment provides a definite boundary as the land drops towards the clay vale from some of the highest elevations in the region.
- To the south the landscape gradually merges into what is termed the Southern Downland Belt. There is no definite boundary between these two character types and they merge together, sharing significant similarities.
- The differentiation between the Cranborne Chase and Southern Downland character areas lies in the dramatic topography that develops as one moves north from the gently undulating dip slope of the Southern Downland, culminating in the deep chalk combs of Quarry Bottom, Ashcombe Bottom and Malacombe Bottom which are scooped out of the chalk downs around Tollard Royal.
- These dry tributary valleys are an important feature of the AONB, their valley heads cutting deeply into the downs behind the escarpments to the north and west.
- This is a classical English piece of scenery; a mosaic of downland, woodland and arable land in an undulating landscape of upstanding chalk ridges and deeply incised combs.
- The solid surface geology of this character area is predominantly

defined by Upper Chalk of the Upper Cretaceous era. Older chalk strata layers are exposed in the deep combs. On the highest ground drift deposits of Clay-with-Flints overlie the chalk. Rendzina soils are found overlying the chalk and Paleosol brown earths cap the Clay-with-Flint.

## 3.2 Woodland of the Wooded Chalk Downland.

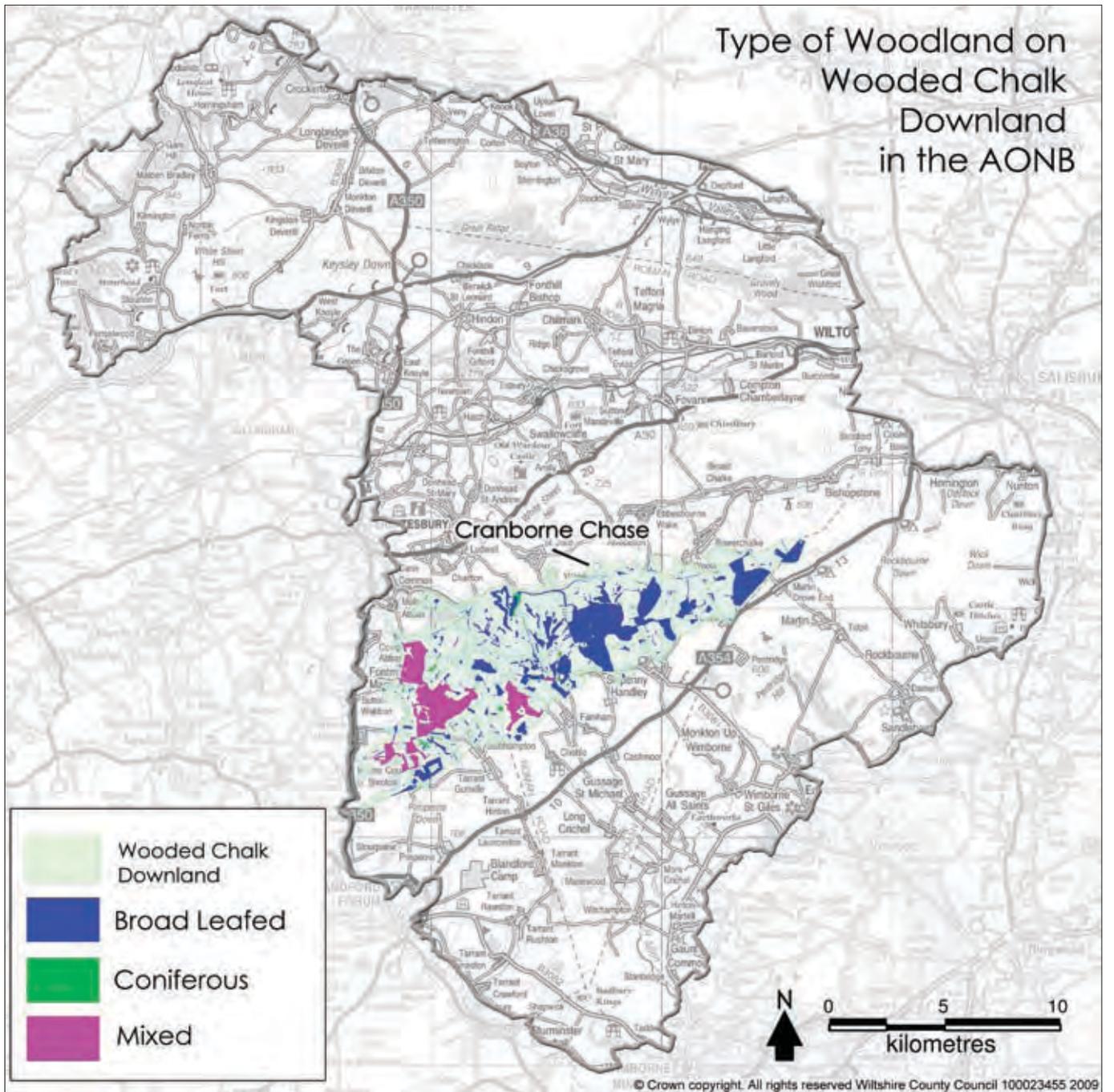
The distinguishing feature of the character type is its woodland, covering 30% of the Landscape Character Type. Of the 2,318 hectares of woodland in the Character Type, over 1,800 hectares are of veteran origin, originating from semi-natural plant communities. This reflects approximately 1,000 years of management as a hunting chase which only came to an end with the disenfranchisement of Cranborne Chase in 1829, though of course smaller scale game management practices have continued. The biological importance of this woodland cannot be over-estimated. Two thirds of the woodland in the character type is predominantly broad-leaved in character and 85% of it is contiguous with or within 0.5km of a broadleaved veteran woodland. It is the nature of the woodland and its relationship to the chalk landform which lies at the heart of the area's special character. Chalk grasslands have been retained, including the extensive Rotherley Downs SSSI which comprises an area of floristically rich chalk grassland, scrub and ancient woodland, and is particularly notable for supporting a colony of the rare early gentian. Chickengrove Bottom SSSI is an example of a much smaller site and consists of an intimate mixture of chalk grassland, scrub and woodland and is particularly notable for supporting a small colony of the rare tuberous thistle and dormice a UK BAP priority species. Forestry Commission and Natural England are working together on this site to manage the interface between downland and woodland.

Of the woodland sites Cranborne Chase SSSI itself comprises a large tract of woodland derived from ancient hunting forest and includes remnants of traditional coppice woodland and wood pasture. The site supports a number of woodland types, the commonest being an ash and field maple dominated woodland, which occurs on freely drained soils, which is replaced on the heavier soils by an oak, hazel and ash community. The ground flora of these communities varies according to historical management and soil conditions, but is generally species-rich and includes many nationally rare species. In particular, the area has a high ecological value for the range of nationally rare bryophytes and lichens that are found there (it has been recognised by Plantlife [www.plantlife.org.uk](http://www.plantlife.org.uk) as a Special Plant Area for this reason) and for its diverse invertebrate fauna.

The AONB study of the historic aspects of the landscape (the Historic Landscape Characterisation) can be used to give an indication of the history of woodland contraction and expansion in the last 100 years. In the Wooded Chalk Downland there has been a large proportion of woodland loss and little woodland gain. This is most noticeable in the north east of the area between Chase Woods, Stonedown Wood and Vernditch Chase which at the beginning of the 19th century were extensive areas of coppice. Irregular woodland clearance also occurred in the area to the south of Ashmore Wood with the creation of new fields in the 20th century, though in this area these fields were interspersed by new smaller linear plantations. The main body of woodland of the Wooded Chalk Downland is around Rushmore and Tollard Royal. In 1880 this became the home of General Augustus Pitt-Rivers, the instigator of modern, systematic archaeology. During the latter years of the nineteenth century and the early part of the twentieth century he created the Larmer Tree Gardens and the great beech avenues of the Chase Wood.



Figure 3.2 Woodland of the Wooded Chalk Downland displayed by type



## 3.3 Cultural Heritage

### 3.3.1 General Character

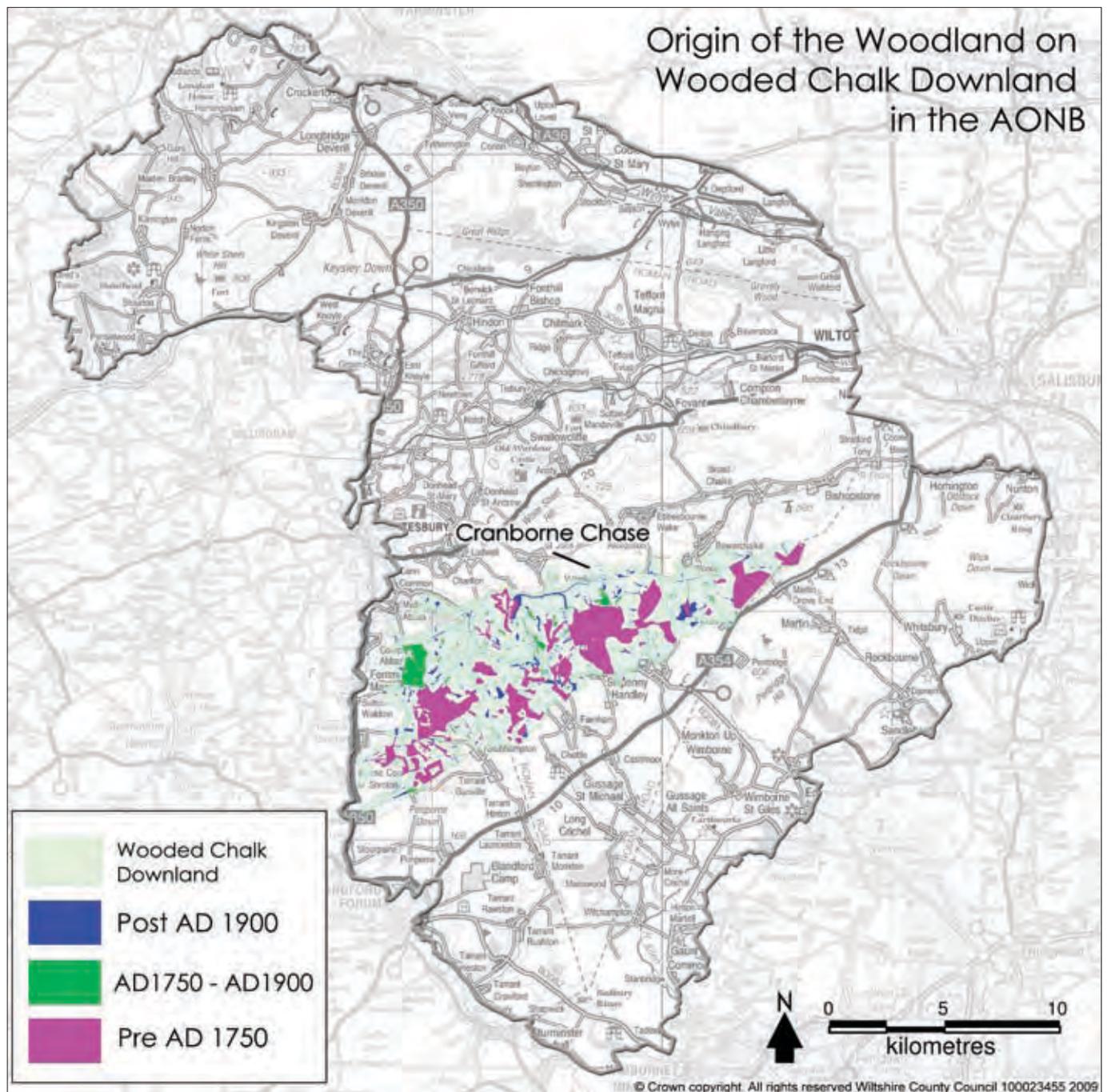
There are a large number of prehistoric monuments in this area including long barrows and a large number of early Bronze Age round barrows, particularly around Tollard Royal. Later prehistoric activity is represented by field systems with associated open settlements, enclosures, linear ditch and bank

boundaries (such as Grim's Ditch), cross-ridge dykes, and ultimately in defended Iron Age hillforts (such as Caesar's Camp). The continuity of downland settlement and agriculture in the Romano-British period is evident in the Roman road between Badbury Rings and the Nadder valley. In the medieval period the character of the area was dominated by its use as a Royal hunting ground, restricting the local communities rights of habitation and agriculture, and still evident in the pattern of settlement and landuse.

### 3.3.2 Woodland Archaeology

The woodlands of the Wooded Chalk Downland are packed with a wealth of known archaeology. Notable features include Neolithic Archaeology including isolated find spots and a Long Barrow in Vernditch Chase, Bronze Age Iron Age / Romano-British settlements within woodland (e.g. Rotherley Wood) with field systems and earthworks running into woodland (e.g. Woodcuts Common). Two separate Roman Roads, sections of which survive in woodland for

Figure 3.3 Woodland on the Wooded Chalk Downland displayed by origin





example in Kingston Woods and in the woods to the east of Ashmore Farm. Saxon remains including sections of the Bokerley Dyke complex (with probably earlier origin), historic Saxon borderlands marked by the historic county boundaries. There are also Four Medieval deer parks (Harbins Park, Tollard Royal Park, Rushmore Park and Ashcombe Park) and a multitude of medieval earthworks, enclosures and settlements. The Registered ornamental Rushmore Park and the historic Larmer Tree Gardens are a dominant feature in the landscape. Finally there are many other undated field systems, earthworks and features relating to historic management of the woodland.

### 3.4 Ancient and veteran trees

The area is exceptionally rich in ancient trees, coppices and significant hedgerow trees. In particular, the large field maples are characteristic of Cranborne Chase woodlands. Very large ash stools are found in the hedgerows and there are many grand beech trees, that were planted in the late 1700s and early 1800s in woodlands and copses across the character area, that are now in senescence and worthy of preservation for their cultural and landscape qualities as well as their value as wildlife habitats. The history of Cranborne Chase can be seen in the older trees, such as the avenues of beech planted by General Augustus Pitt-Rivers and the pollarded holly and other rideside trees that were lopped to provide winter deer forage.

## 3.5 Climate change adaptation

Over the next fifty years beech will become less suitable as a commercial tree species. Existing beech dominated stands, unless they are on sites with northern aspects, will yield less well as time goes on. The characteristic free-standing hill-top copses, parkland and roadside beech trees will benefit from active replacement and buffering with new planting around them.

However the area should be more suitable for small-leaved lime and it is recommended that pure beech stands are gradually replaced with mixed species stands, incorporating oak and small-leaved lime where appropriate, and encouraging natural regeneration in some areas to give greater structural diversity.

As the climate changes there is expected to be changes in the ground flora of woodlands in the character type. Therefore any monitoring of woodland plant communities, for forestry or nature conservation, should take this effect into account.

## 3.6 Opportunities for future management

The great opportunity in this character type is that the conservation of the character of this area is dependant upon the conservation and enhancement of its woodland and trees. Profitable

woodland management will be a priority for landowners and is one of the top priorities for government funding in this area.

The woodland of this character type is predominantly veteran broad-leaved woodland, contiguous with other woodlands or semi-natural habitats such as chalk grasslands, hedgerows and ponds. Therefore the overriding priority for landowners and those giving advice and support should be to sustain the management of veteran woodland.

This Character Type includes some of the finest and largest areas of coppice and coppice-with-standards still in existence in the UK. The continuation of underwood management should be a priority for private enterprise coupled with public funding in the area.

It is desirable that any conifer woodland in this character area is gradually converted to native broad-leaved woodland. All woodland management and woodland creation should strengthen the connectivity between woodlands and semi-natural habitats.

Any removal of trees or forest operations that occurs should not weaken the connections between semi-natural landscape components, even temporarily, and any such operations that threaten to do so should be strenuously discouraged by those people and organisations that offer advice and support to woodland owners.

It is not expected that there will be large amounts of woodland creation on the Wooded Chalk Downland, but there are opportunities for landowners to plant up small strategic areas to increase the connectivity between existing veteran woodlands. Any new woodland should be composed of native species, particularly ash, pedunculate oak, hazel and field maple.

The high proportion of veteran woodland in this character area makes it highly likely that there is a great deal of hidden, undiscovered archaeology. Any forestry operation in the veteran woodland should be planned with the expectation that there is valuable unrecorded archaeology in the area and appropriate precautions taken.





Figure 3.4 Woodland on the Wooded Chalk Downland displayed by Connectivity with semi-natural habitats

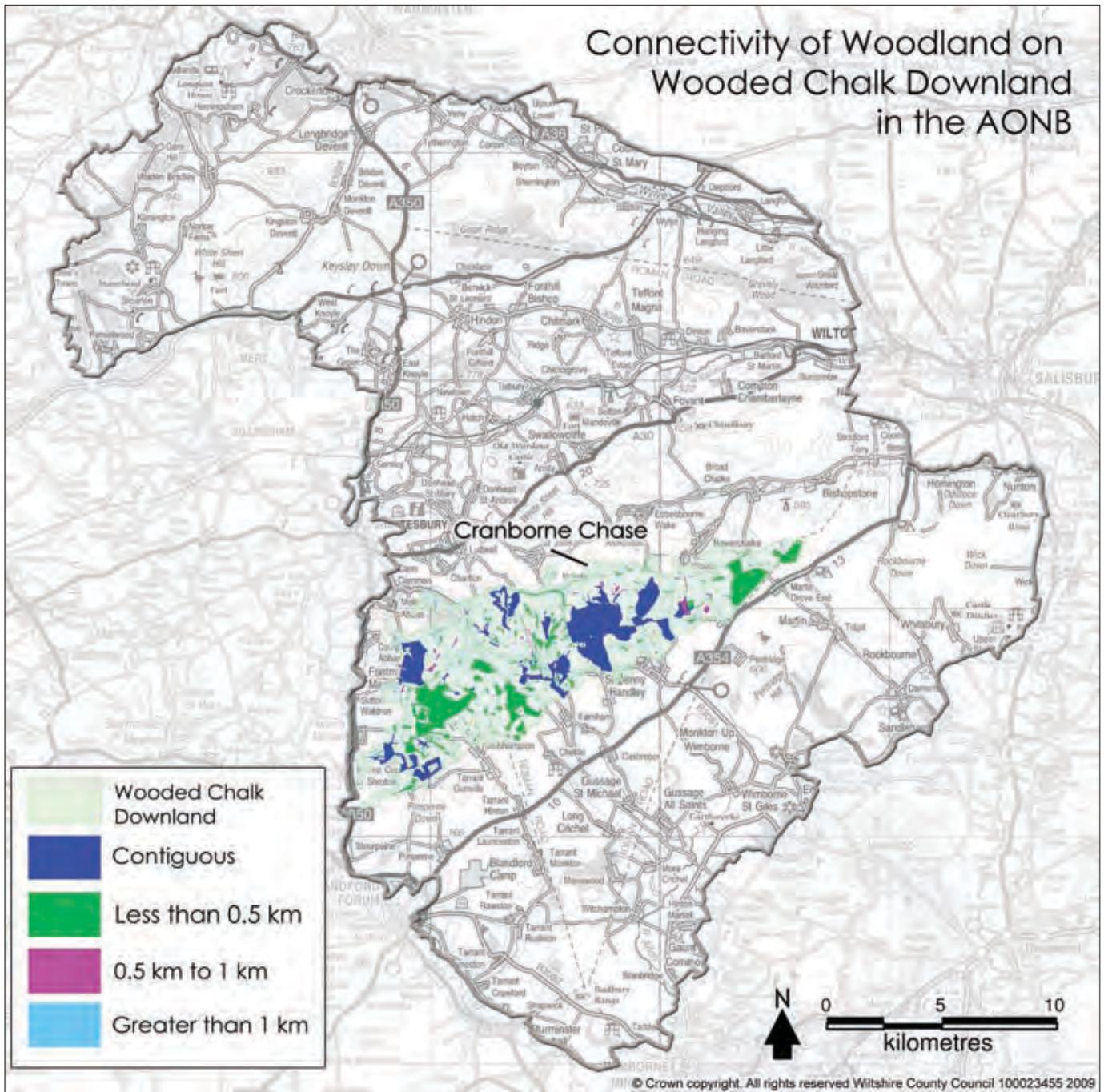
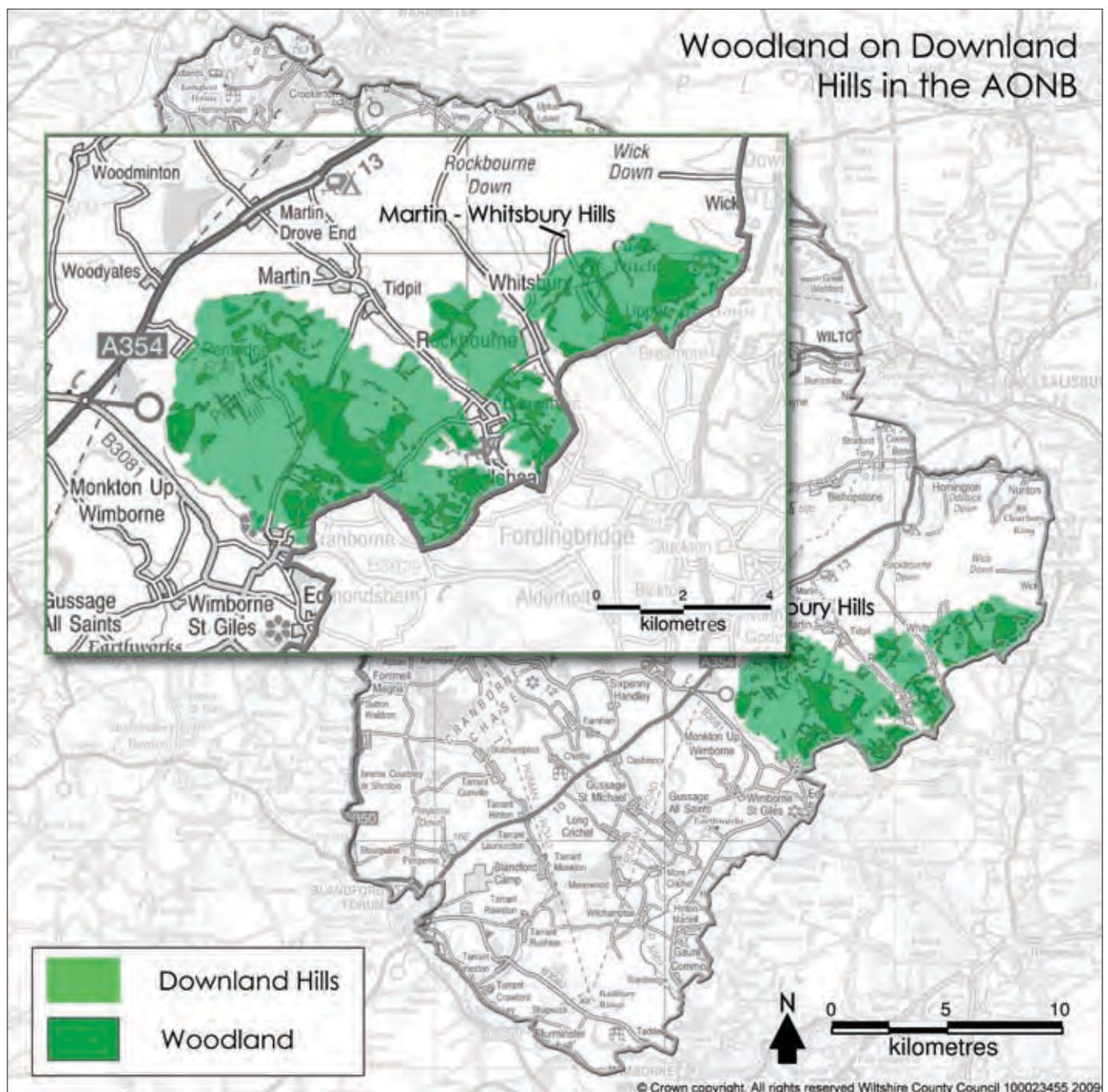




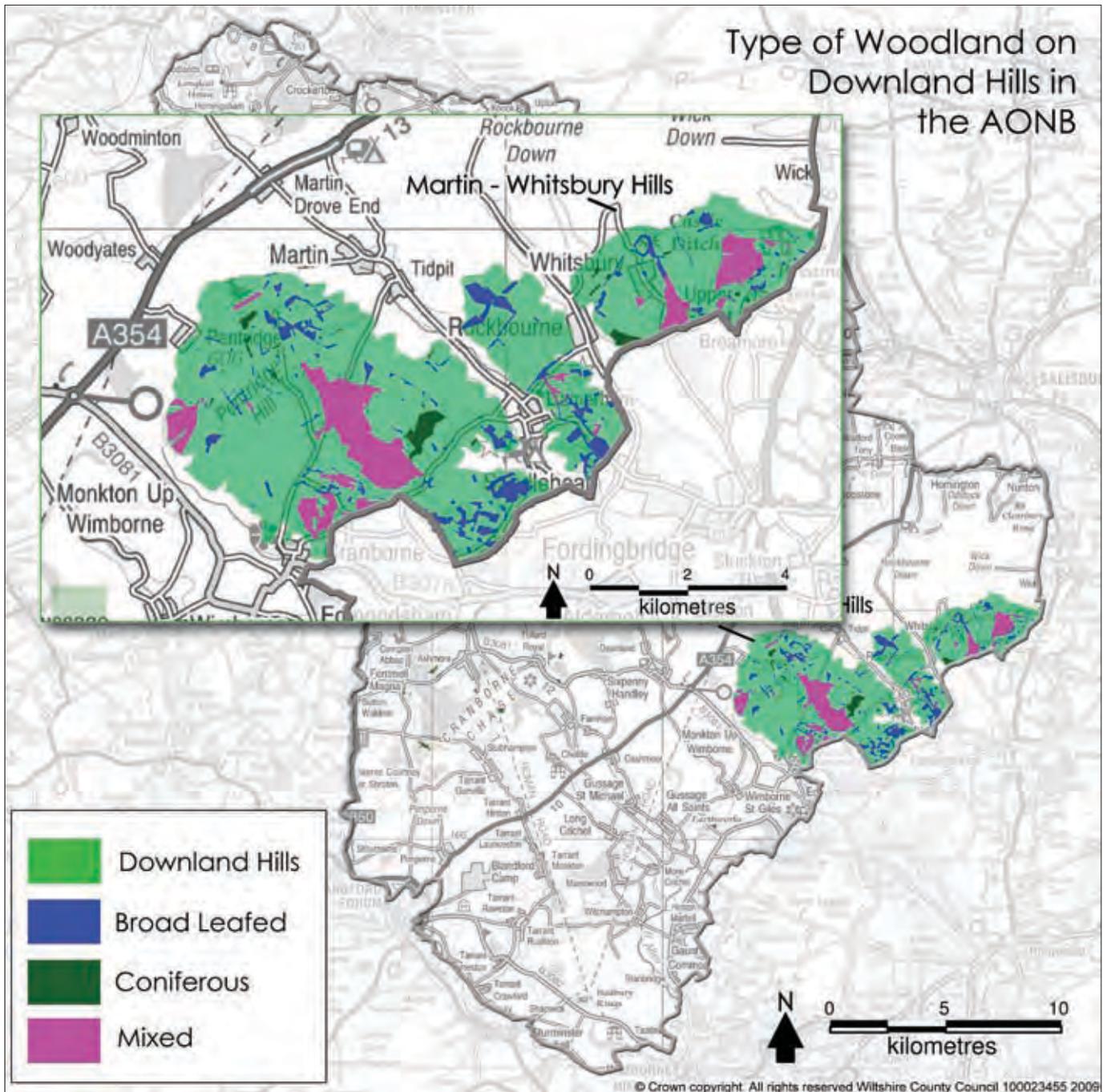
Figure 4.1 Map showing the woodlands of the Downland Hills.



# Chapter 4

# Downland Hills

Figure 4.2 Woodland of the Downland Hills displayed by type



## 4.1 Introduction to the Downland Hills

- Covers 4,334 hectares, (4%) of the AONB.
- There is just one area of this landscape type located in the south east of the AONB.
- It is intersected by river valleys, the northern edge of the character area meets the high downland of Cranborne Chase with the southern edge being defined by the sands and gravels of East Dorset and West Hampshire.
- The hills are formed from the dissected remnants of an older chalk escarpment cut by the rivers which drain the chalk dip slope.
- The 'whale-backed' ridges tend to be capped by clay-with-flints and small areas of Reading Beds.
- Ploughed slopes and enlarged fields create a vast patchwork of arable land with isolated remnants of chalk grassland and veteran woodland that provides significant ecological interest.
- This is a landscape of contrast with enclosed areas of woodland opening out to provide extensive views across large fields.
- Both framed views from sunken lanes and open views from hills can be enjoyed.
- Woodland crowns the tops of slopes; mixed woodland occurs alongside coniferous blocks softening their edges.
- Scattered copses and mature hedgerow trees provide a connection between arable fields and the wooded hilltops.

## 4.2 Woodland of the Downland Hills

There are 828 hectares of woodland in the Character Type which represents 6% of the woodland in the AONB. Over 20% of the Character Type is covered by woodland,

making it one of the most wooded areas in the AONB. The area, in terms of its woodlands, exhibits a transition from the open downland in its northern half to the woodlands of the southern half. From the wooded hills one can look towards the extensive wooded landscape to the east of the Avon (the New Forest, Clarendon and the Tytherley Woods) rather than Cranborne Chase and the view from Pepperbox Hill back towards the AONB reveals the wooded character of the whole region. The larger woodlands of the Downland Hills are broadleaved and mixed and a large proportion (over 70%) were present prior to 1750. The AONB study of the historic aspects of the landscape (the Historic Landscape Characterisation) can be used to give an indication of the history of woodland contraction and expansion in the last 100 years. On the Downland Hills, particularly in the area to the north east of the Allen valley in the vicinity of the Bokerley Dyke plantation, there has been noticeable woodland reduction during the 20th century. The north western edge of the area has seen the creation of small linear blocks of woodland that are predominantly coniferous. The pattern of small irregular fields with interspersed copses in the area around Lopshill suggests that there was early piecemeal clearance of woodland in this area interspersed with common land. Over 80% of the Downland Hills woodlands are very well connected to veteran woodlands, being either contiguous with or within 0.5km of a veteran broad-leaved woodland. This is particularly true in the southern part of the area. Scattered oak woodlands such as Martin Wood, Bousbury Wood and Burwood occur with coniferous and deciduous woodland on the crests of hills like Blagdon Hill and Boveridge. These woodlands, and the occurrence of copses, are a key feature that emphasise the height and form of the hills. In contrast, the sharp edges and vertical uniformity of coniferous plantations break the subtle flow of the chalk landform and while the other components of the landscape change with the seasons, the coniferous plantations remain the same. Where the two woodland types occur side by side, the mixed

woodland softens the harshness of the coniferous blocks. Sunken lanes with overhanging trees contribute to the wooded appearance of this character area. Bousbury Wood SSSI is perhaps the best example of the medieval woodland of this area. A nationally important woodland complex consisting of a number of separate broadleaved woodlands, together with areas replanted with conifers, this large woodland reflects the varied soil conditions over which it has formed and over ten separate forest stand types have been recorded. The ground flora is exceptionally rich, in fact the richest vascular plant flora of any Hampshire wood, with over 60 ancient woodland indicator plant species.

## 4.3 Cultural Heritage

### 4.3.1 General Character

There are a range of prehistoric and Romano-British features in this area, such as the multi-vallate Hillfort at Whitsbury Castle, similar in size and location to Badbury Rings to the southwest. In addition, there are a number of ancient boundary features such as Grim's Ditch and Bokerley Dyke.

### 4.3.2 Woodland Archaeology

The majority of known archaeological sites are located outside of woodland in the area of the Martin and Whitsbury Downland Hills. The exceptions being the woodland located on the ramparts of Whitsbury Castle, Bronze Age Round Barrows situated on the crest of hills and several undated field systems and linear features. As with other Landscape Character Types several woodlands are associated with historic parks for example Boveridge.

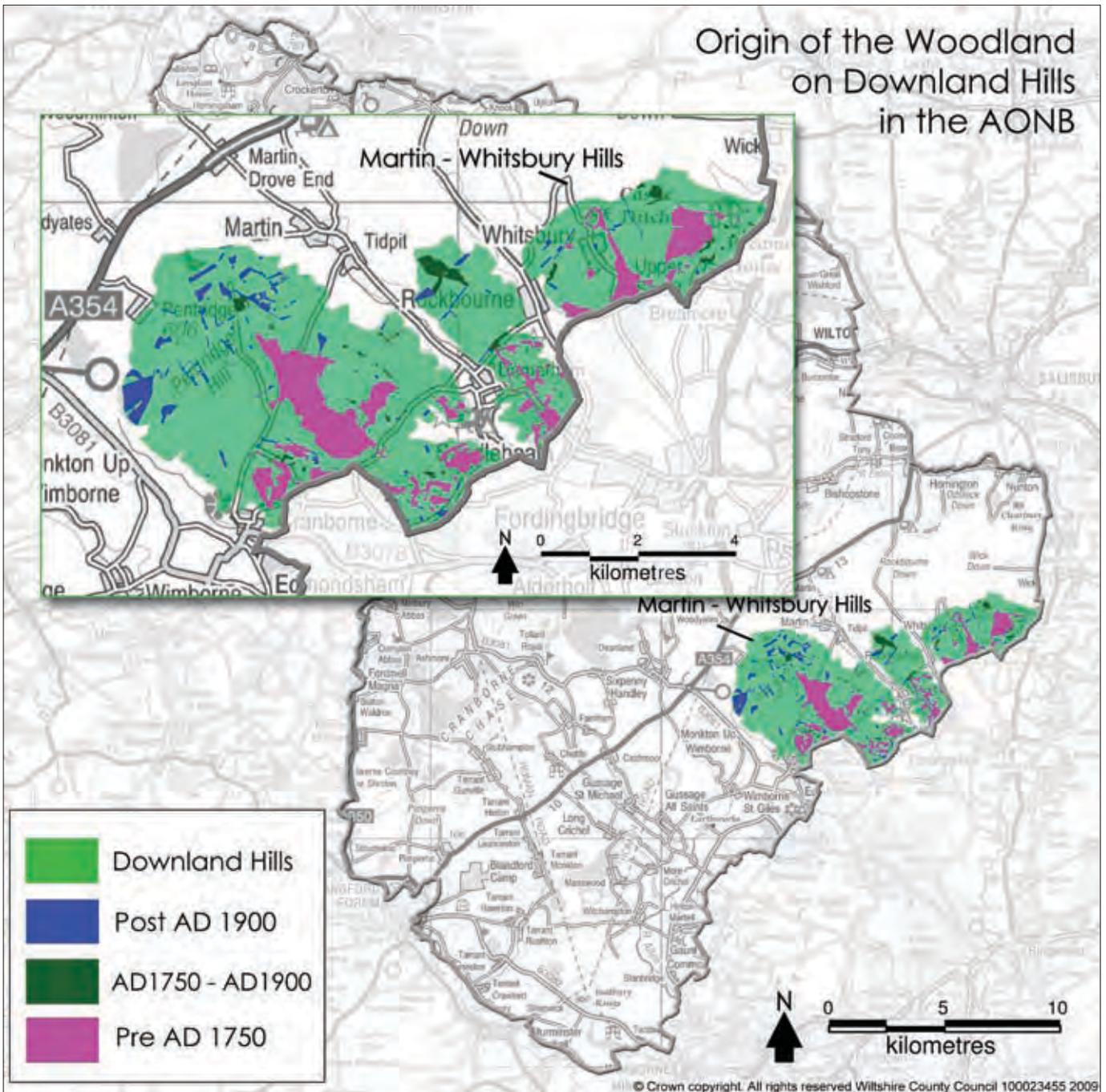
## 4.4 Ancient and veteran trees

The Character Area is exceptionally rich in veteran and ancient trees of all species. These remarkable trees should be identified on woodland



Contrast between hard and soft horizons created by different plantings

Figure 4.3 Woodland on the Downland Hills displayed by origin



plans and in estate management plans and given appropriate management to extend their lives and preserve the unique biodiversity that they support. Just as important is the identification of individual trees and stands of trees that will be allowed to achieve great ages, or become senescent. Even short-lived trees such as birch and willows need to be allowed to persist into the latter stages of their biological lifespans.

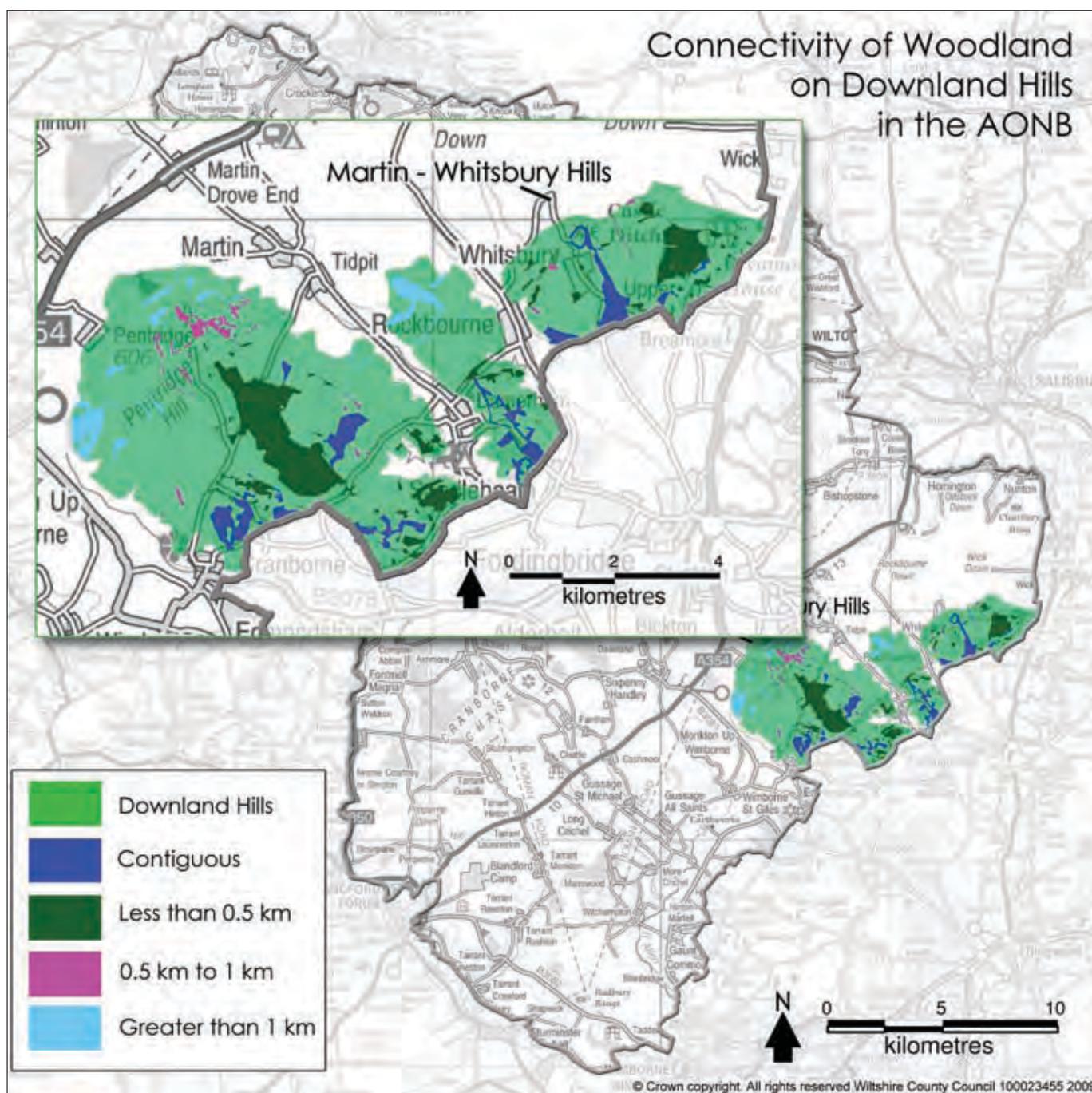
## 4.5 Climate change adaptation

The coniferous components of the woodlands may not be sustainable in a changing climate. In particular, Norway spruce, Lawson's Cypress and Western Red Cedar should be replaced when felled with either native trees species or with species that will yield better in the future climate such as Douglas fir and Corsican pine.

## 4.6 Opportunities for future management

This area offers an opportunity for woodland owners to enhance the landscape character by planting new native broadleaved woodlands that follow the natural pattern of existing woodland. People and organisations that offer advice and support should encourage the establishment of such

Figure 4.4 Woodland on the Downland Hills displayed by Connectivity with veteran broadleaved woodland





Native tree species soften the edge of a conifer plantation and create wildlife habitat

woodlands, particularly where they connect and enlarge existing veteran woodland, and discourage new coniferous plantations and exotic planting. Such opportunities may be enhanced by landowners working cooperatively with their neighbours.

Existing conifer plantations should either be replanted with native species or with species adapted to climate change such as Douglas fir and Corsican pine. The edges of conifer plantations can be softened and naturalised with planted broadleaved trees or naturally regenerated native

species. Woodlands of veteran origin, whatever their type and composition, should receive appropriate management and coniferous plantations within them should gradually be converted to broadleaved native communities that reflect surrounding woodland structure. Older hedgerows should be identified and appropriately managed, along with the adjacent land. Hedgerows of more recent origin should be managed so as to preserve the open views and flowing landforms.

Any planting or management operation should take into account the archaeological heritage of the area and long term woodland plans should be cognisant of the possibility that veteran woodland may hold hidden archaeological treasures as yet unidentified.

There are opportunities to develop woodland recreation as Rights of Way networks are particularly dense through woodland areas and the Jubilee Trail, a long distance footpath, cuts across the area. Landowners should be supported in efforts to develop better access for visitors.

Ancient woodland with old coppice



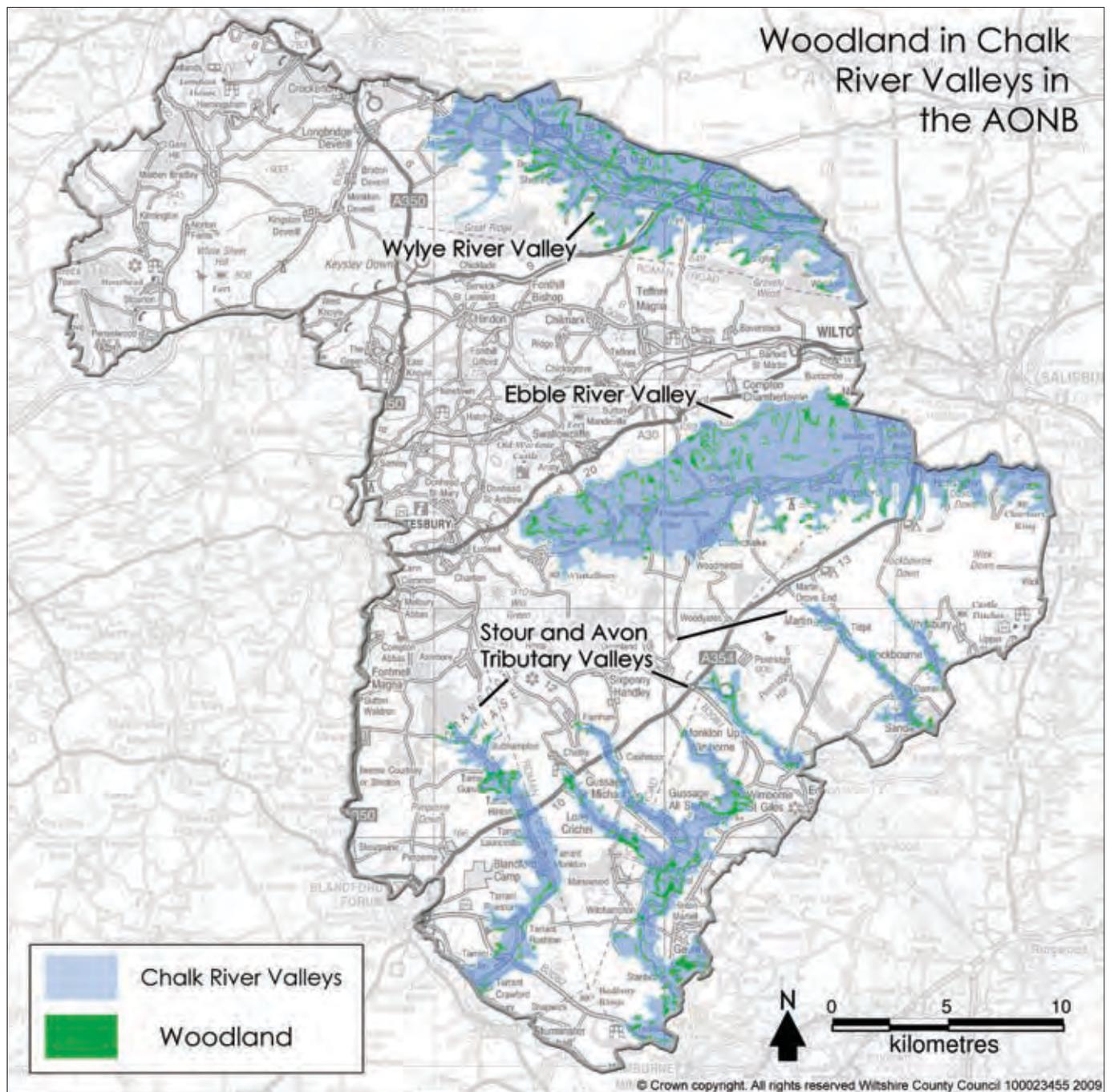


The people of Great Wishford celebrate Oak Apple Day

# Chapter 5

# Chalk River Valleys

Figure 5.1 Map showing the woodlands of the Chalk River Valleys.



# Landscape Character Areas

- Wylde River Valley
- Ebbel River Valley
- Stour and Avon Tributary Valleys

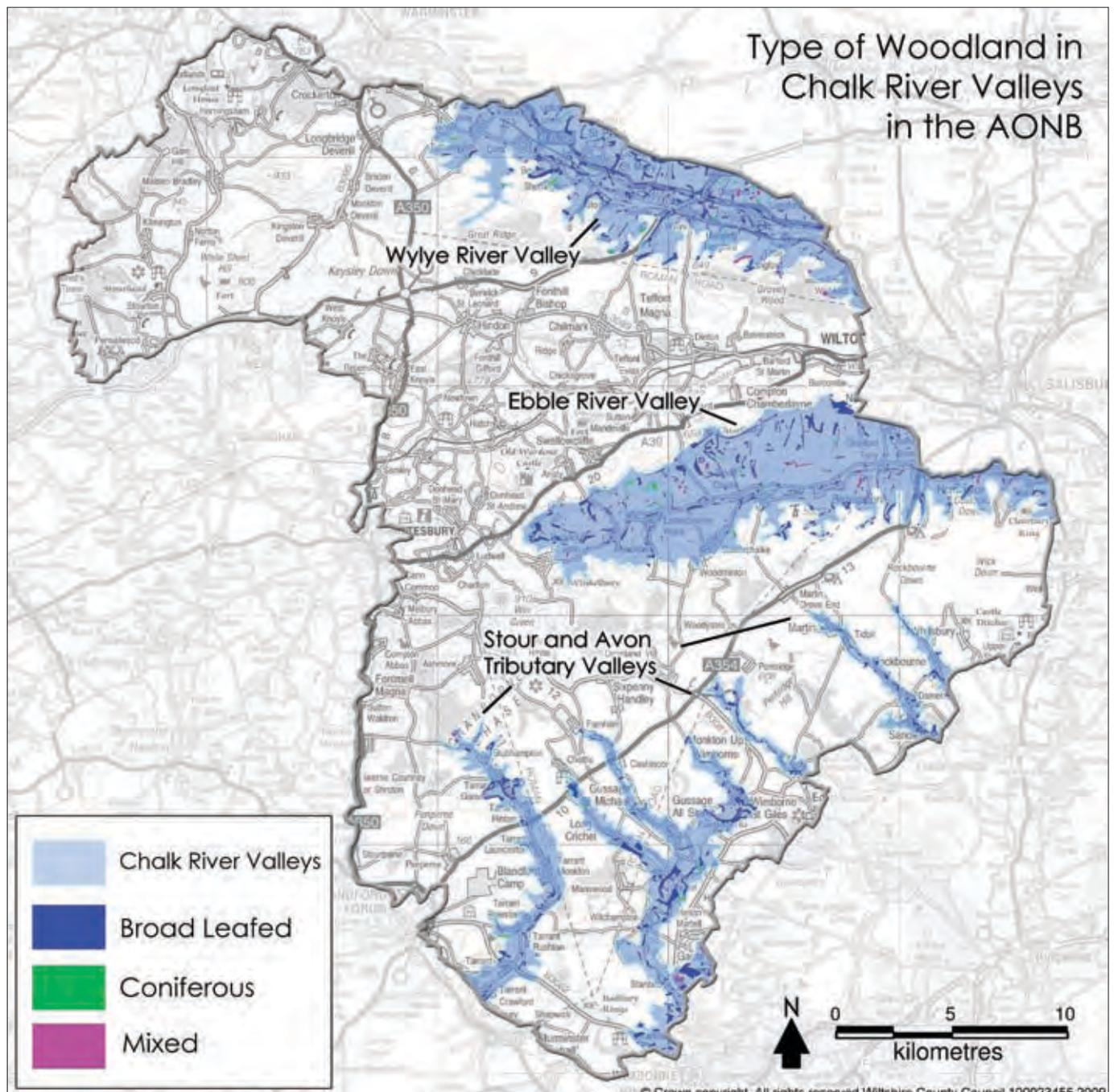
# 5.1 Introduction to the Chalk River Valleys

- Covers 19,559 hectares (20%) of the AONB.
- The rivers which emerge from the underlying chalk strata are a key element of the landscape. The clear, fast flowing chalk streams are an internationally important habitat and one of the

special qualities for which the area was designated as an Area of Outstanding Natural Beauty.

- In physical terms, the valleys they form can be divided into two groups:
  - the valleys which follow lines of weakness in the underlying chalk, often associated with retreating escarpments to the south, these streams flow 'across' the chalk landform, from west to east. The Wylde and Ebbel fall into this category.

Figure 5.2 Woodland of the Chalk River Valleys displayed by type





- the valleys which arise from the dipslope of the chalk, tending to flow 'down' the landform, from north to south. The Tarrant and Allen, that flow into the Stour, and the Crane and Allen, that flow into the Avon, fall into this category.

### 5.1.1 Wylde River Valley

This character area does not include the whole of the Wylde Valley. It extends from Sutton Veny to Stapleford and encompasses the floodplain of the river and its steeply enclosing valley sides to the skyline. To the south is the large, open expanse of the West Wiltshire Downs while to the north Salisbury Plain stretches out beyond the AONB boundary.

The River Wylde has carved a deep valley through the chalk following a line of structural weakness along a geological fault. The channel meanders across a flat valley floor forming a corridor which maintains a constant width of about 1 kilometre. The steepest valley sides support unimproved chalk grassland and hanging woodland while the less steep valley sides provide opportunities for the cultivation of arable crops or improved pasture. The valley floor is a rural landscape where sheep and cattle graze the floodplain within irregular fields bound by intermittent hedgerows. This is an intimate landscape and its variety in texture, colourful villages and country houses provide visual interest and the floodplain retains a peaceful quality.

### 5.1.2 Ebbel River Valley

This character area is centrally located within the AONB. It stretches from Berwick St John in the west where the two sections of the Fovant and Chalke Escarpment wrap around to enclose the head of the valley. Its easterly extent is defined by the AONB boundary; in reality the river valley continues beyond the boundary to join the River Avon south of Salisbury. The Ebbel Valley is a shallow valley through which the fast flowing stream follows a largely straight course along a narrow floodplain with willow and poplar frequently planted on the banks. Visual connectivity to the surrounding downland landscape is emphasised by the predominant arable land use and large fields.

### 5.1.3 Stour and Avon Tributary Valleys

The Stour and Avon Tributary Valleys character area occupies the series of parallel valleys formed by the streams that intersect the southern dipslope of the chalk towards the south-eastern boundary of the AONB. The area includes the valleys of the Tarrant and Allen that flow into the Stour and the valleys of the Crane and Allen Rivers that flow into the Avon.

These streams, emerging from the chalk dipslope, have eroded shallow valleys into the upper chalk. Most of the valley sides are in arable cultivation interspersed with unimproved chalk grassland or woodland and there are willows and poplars planted on the banks. These valleys provide an intimate landscape contrasting with the adjacent

open chalk downs. The designed landscapes surrounding country houses provide additional interest in the form of avenues and copses.

## 5.2 General Description of the Woodland

- 1,125 hectares of woodland in the Chalk River Valleys, 8% of the total woodland cover in the AONB.
- The river valleys are not wooded landscapes, only 6% of the area is covered in woodland.
- This woodland tends to be mixed or broad leaved in character with the majority of woodlands having been established after 1750.
- The majority of it is poorly connected to broad-leaved veteran woodland.
- Within this landscape character type in particular, there is a lack of detail on the oldest maps and on the 1750 mapping that can cause inaccuracies in determining the origin of woodlands. Small woodlands and withy beds may not appear on the old maps and therefore some of the river valleys woodlands may be older than they would appear to be.
- In the Chalk River Valleys there has been relatively little woodland loss in the last 100 years.

- On the north side of the Wylde and Ebbel, and to a lesser extent within the Allen Valley, there has been the creation of a large number of thin linear and sometimes sinuous woodland plantations continuing a pattern of 19th century woodland creation.

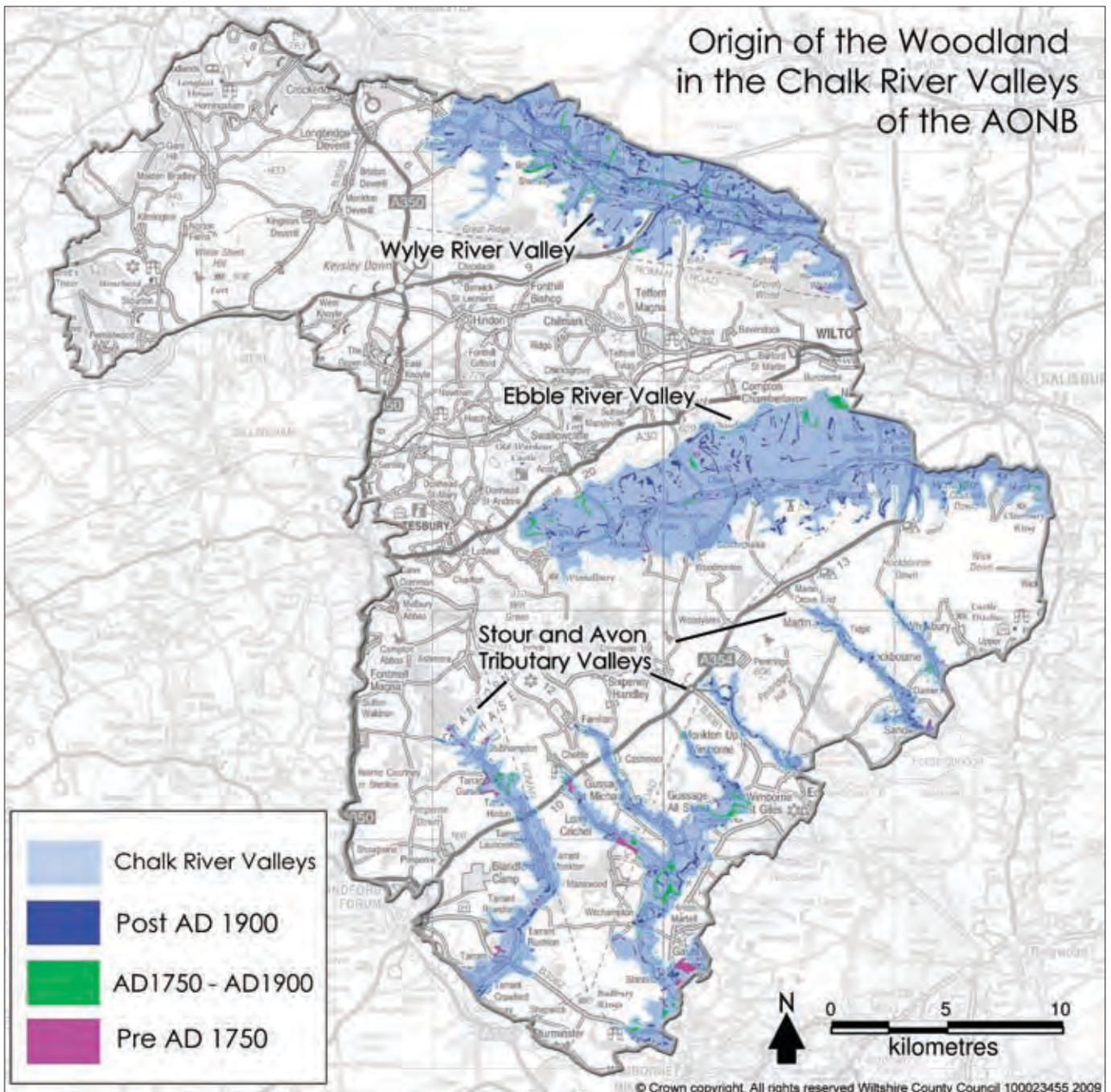
### 5.2.1 Woodland of the Wylde River Valley

Within this character area, woodland

is restricted to small clumps and linear shelterbelts scattered in a haphazard pattern across the valley. It is mostly of relatively recent origin, and includes broadleaved, mixed and coniferous types. There is a low level of connectivity, but some of the older woodlands are associated with the fringes of Grovelly and Great Ridge. However, tree cover is a vital part of the landscape along the valley floor. Lines of willows and poplars follow field boundaries and the past and present courses of the Wylde and its tributaries. These, in combination

with the greens of the meadows, give the valley floor a pastoral, sheltered character which contrasts with the more exposed open downs. Wet woodland and withy beds have been replaced by poplar plantations or drained. The valley sides are more wooded, steeper sections are occasionally clothed in hanging woodland. Many of the hill-tops and rounded bluffs on the valley sides are capped with characteristic small copses and plantations.

Figure 5.3 Woodland on the Chalk River Valleys displayed by origin





### 5.2.2 Woodland of the Ebble River Valley

This is an open landscape, but the small amount of woodland forms an important feature. The regular occurrence of small copses, shelterbelts and avenues gives a textured quality to the landscape and an impression of more tree cover than is actually the case. In addition, small broadleaved woodland belts and scattered trees line the narrow floodplain and are conspicuous along the course of the river. The now fragmented beech avenue which rises from Broad Chalke to Knowlton Hill forms a valuable landscape feature within the valley, providing a 'tunnelled' lane up the hillside. Woodland is a fairly uncommon feature of this character area, it is of recent origin (predominantly 20th Century) and is poorly connected to veteran broadleaved woodland.

### 5.2.3 Woodland of the Stour and Avon Tributary Valleys

The narrow valley bottom is distinguished by the mature willows and poplars which form a dense ribbon of trees tracing the course of the river. These seven valleys are smaller and narrower than the Wiltshire valleys and are too small to have extensive plantations or to have retained large woodlands. The woodlands that occur are mostly broadleaved and are easy to date if they are related to parklands, which many of them are. There was a good deal of planting in the 18th and 19th Centuries but some woodlands do date from before 1750

and were included into later planned landscapes. The woodland of these valleys is better connected to veteran broadleaved woodlands than is the case in the Wiltshire valleys, especially in the Allen Valley.

## 5.3 Cultural Heritage

### 5.3.1 General Character

In comparison with other Landscape Character Types the woodlands in the Chalk River Valleys contain little known archaeology. This is due to the intensive management of the valley bottoms obscuring earlier traces of human activity and the fact the archaeology may be buried under alluvium. Much of the known archaeology is found on the valley sides and tops and includes hillforts, field systems and ancient settlements.

### 5.3.2 Woodland Archaeology

Several Bronze Age Round Barrow cemeteries are sited within woodland in the Wylde and Allen Valleys. The Wylde valley is also associated with undated field systems on both its northern and southern slopes recorded mostly as crop marks but existing as extant earthworks on occasion. These systems are overlain by woodland in several locations suggesting that the woodlands may contain evidence for them as well as the enclosure with which they are often associated. The larger expansions of woodland are often associated with historic landscape parks and gardens as at Crichel

House, Wimborne St Giles and Eastbury House.

## 5.4 Ancient and veteran trees

The floodplain trees, many of which are old if not actually ancient, provide habitat and an important focus for the foraging of birds, invertebrates and bats. The shade afforded over the stream itself is important in creating patterns of light and shade that regulate weed growth in the stream and the spatial distribution of aquatic habitat. Careful management of the floodplain and riverside trees is a vital component of maintaining the high quality of the chalk streams. There are occasional ancient trees associated with houses and villages in the valleys, which need to be individually preserved.

## 5.5 Climate change adaptation

Wessex Water has carried out research into the effect of climate change on the rivers of the AONB given the likely scenarios through to 2025. This has indicated that the rivers will be more affected by changes in temperature than changes in flow rate. This is because the ground water temperature may rise from its current annual average of 11°C to 13°C. This will be accompanied by greater diurnal and annual thermal variation. The effect of this will be to make a large proportion of the river no longer amenable to brown trout and other important species. The thermal effects will be accompanied by an

increase in storm flow that may increase turbidity and pollution washing into the river. Tree planting can do a lot to ameliorate these effects. Tree cover on the banks of the river will slow storm water down, causing it to drop a lot of the silt and pollutants that might cause harm before it reaches the river. Tree cover also reduces water temperature (100 metres of 100% broadleaved canopy over the river reduces water temperature by 4°C). This could retain trout and other classic chalk stream biodiversity in river reaches that would otherwise lose them.

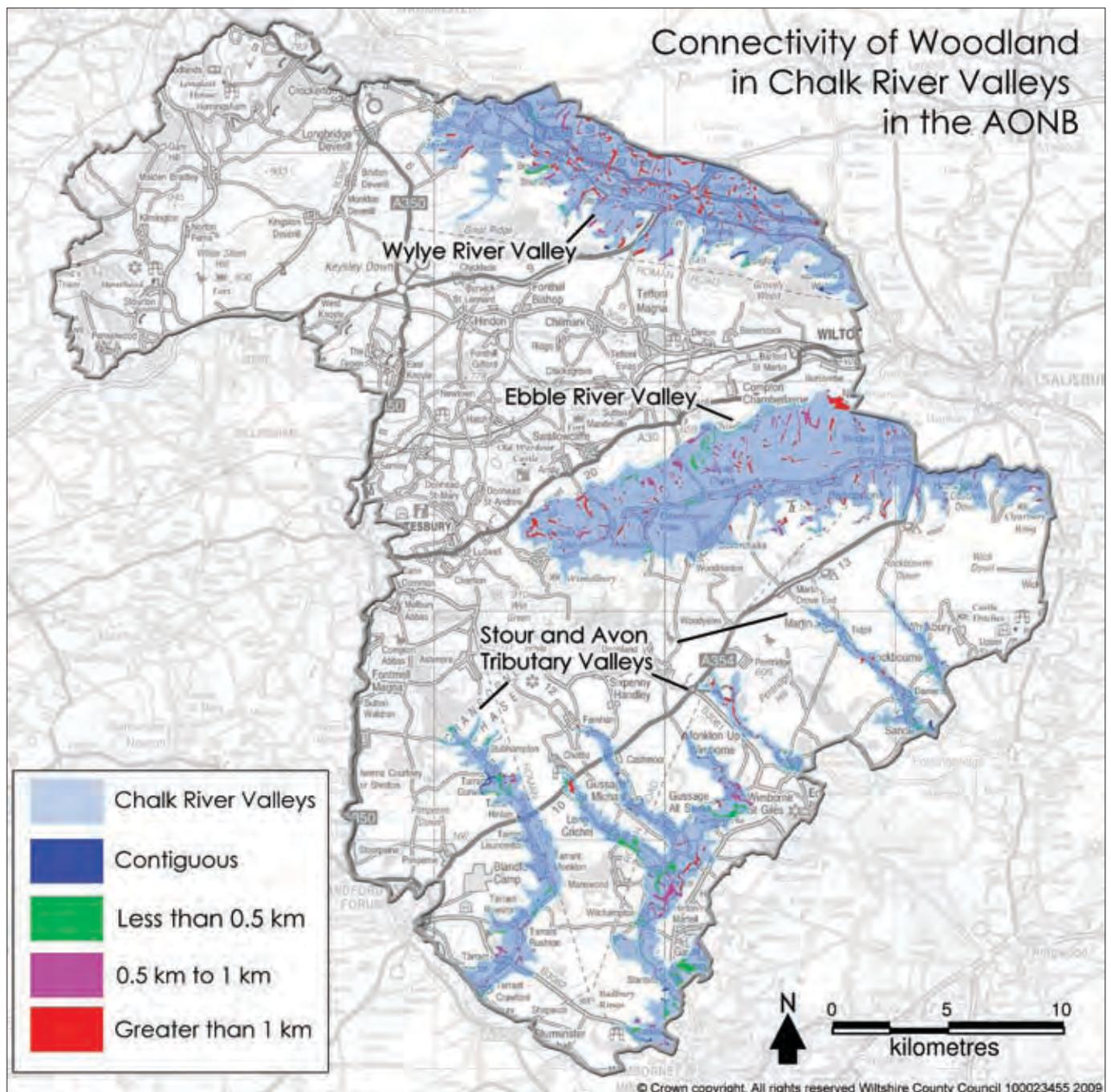
## 5.6 Opportunities for future management

Opportunities for new woodland planting in this character type are small. However, there is a great need for hedgerows and hedgerow trees to be replaced where they have been lost, particularly to replace the elm that was lost in the 1970s. In particular, the comparatively dense

structure of ash and willow and other moisture loving trees should be retained along field boundaries and the course of the river by pollarding being favoured over removal of large or damaged trees. A new generation of floodplain trees could be planted and existing trees protected from damage by livestock.

There was once a much greater amount of wet woodland in the valleys. Restoring alder and willow wet woodlands would provide wildlife habitat for species such as otter and

Figure 5.4 Woodland on the Chalk River Valleys displayed by Connectivity with semi-natural habitats





Riverside trees are characteristic and provide wildlife habitat

increase the capacity of the valleys to absorb flooding, retain summer water levels in the rivers levels and reduce pollution. Owners of poplar plantations have a good opportunity to add to the wet woodland resource. The plantations of poplar, which often look out of place due to their great height in the low level open landscape of the valley and produce timber with a greatly reduced market, could be clearfelled and replanted with alder and other natives.

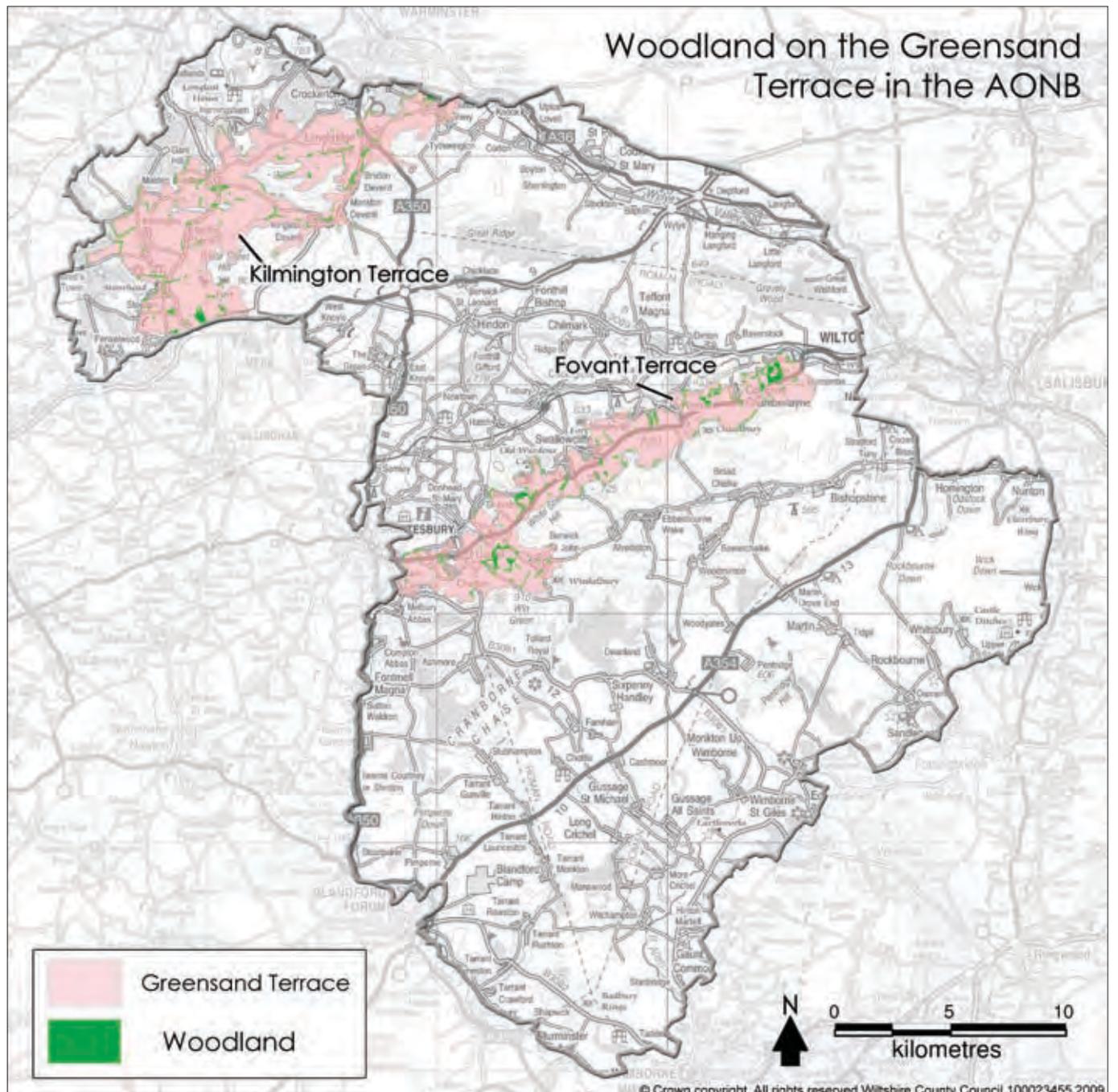
Around villages and houses, particularly in new development, the use of native planting should be encouraged as screening and exotic species, such as Leyland Cypress or Western red cedar hedging, removed. Characteristic arboreal landscape features, such as the beech avenue which rises from Broad Chalke to Knowlton Hill, should be reinforced.

New woodland planting should not be placed on or beside archaeological or historic structures such as barrows, earthworks and water meadows.





Figure 6.1 Map showing the woodlands of the Greensand Terraces.



# Chapter 6

# Greensand Terraces

## Landscape Character Areas

- Fovant Terrace
- Kilmington Terrace

## 6.1 Introduction to the Greensand Terraces

- Covers 9,186 hectares (9%) of the AONB.
- Level terraces that lie between the greensand hills and chalk escarpments.
- The geology has given rise to rich brown earths which are well suited for arable cultivation and improved pastures.
- The large rectangular fields which dominate the terrace landscapes are characteristic of Parliamentary inclosure of a probable late 18th or early 19th century date.
- Calcareous subsoils tend to be found at the foot of the chalk escarpment and it is here that mixed woodland typically marks the transition and edge of the terrace.

### 6.1.1 Fovant Terrace

Centrally located within the AONB, this distinctive terrace forms a platform between the undulating greensand hills of the Donheads, Swallowcliffe and Fovant to the north and the dramatic chalk escarpment



to the south. The area extends from the outskirts of Shaftesbury in the west to Barford St Martin in the east. It is a flat, open landscape offering good agricultural opportunities for arable and livestock farming. Mixed woodland nestles at the foot of the adjacent chalk escarpment forming a transitional belt and marking the distinctive change in landform. Coniferous plantations at the junction with the escarpment provide a more abrupt contrast. Localised changes in landform are most marked towards the settlement of Charlton, where the land becomes more undulating and tree cover increases.

### 6.1.2 Kilmington Terrace

The Kilmington Greensand Terrace is located within the north western part of the AONB. Bound along its entire western edge by the greensand hills that run from Penselwood through Maiden Bradley to Longleat, and along its southern edge by the West Wiltshire Downs Chalk Escarpment, the terrace is located neatly between the two elevated landscapes on either side. This is an uncluttered landscape that affords unobstructed views to the hills beyond. It is a flat, open landscape offering good agricultural opportunities for arable and livestock farming. It contains the upper reaches of the River Wylde which crosses the Greensand terrace following the line of two geological faults.

## 6.2 General Description of the Woodlands

- 222 hectares of woodland in the Character Type; only 2% of the total woodland cover of the AONB.
- The very small amount of woodland in this character type (only 2.5% of the Greensand Terraces is woodland) tends to be broadleaved with a significant element of coniferous plantation.
- The woodland has a range of origins and is moderately well connected to other woodlands.
- Minimal woodland loss or gain compared to other areas apart from the creation of a few small regular blocks in the northern part of the character type.

### 6.2.1 Woodland of the Fovant Terrace

Belts of natural ash woodland occur along the boundary with the chalk escarpment where the soils are more calcareous. These woodland belts are an important visual component as they mark the transition to the escarpment landscape. Occasional mixed woodland game covert blocks planted at right angles to the escarpment interrupt the smooth, open character of the terrace and do not compliment the character of the native woodland. Generally, tree cover is quite even but sparse towards the west of the area and,

combined with the more undulating landform, provides a greater sense of enclosure. Occasional small blocks of veteran woodland also remain; forming an important ecological component of the landscape area. However, the type, origins and connectivity of these woodlands is very mixed, further confirming that woodland is not playing a significant role in the character of the area.

### 6.2.2 Woodland of the Kilmington Terrace

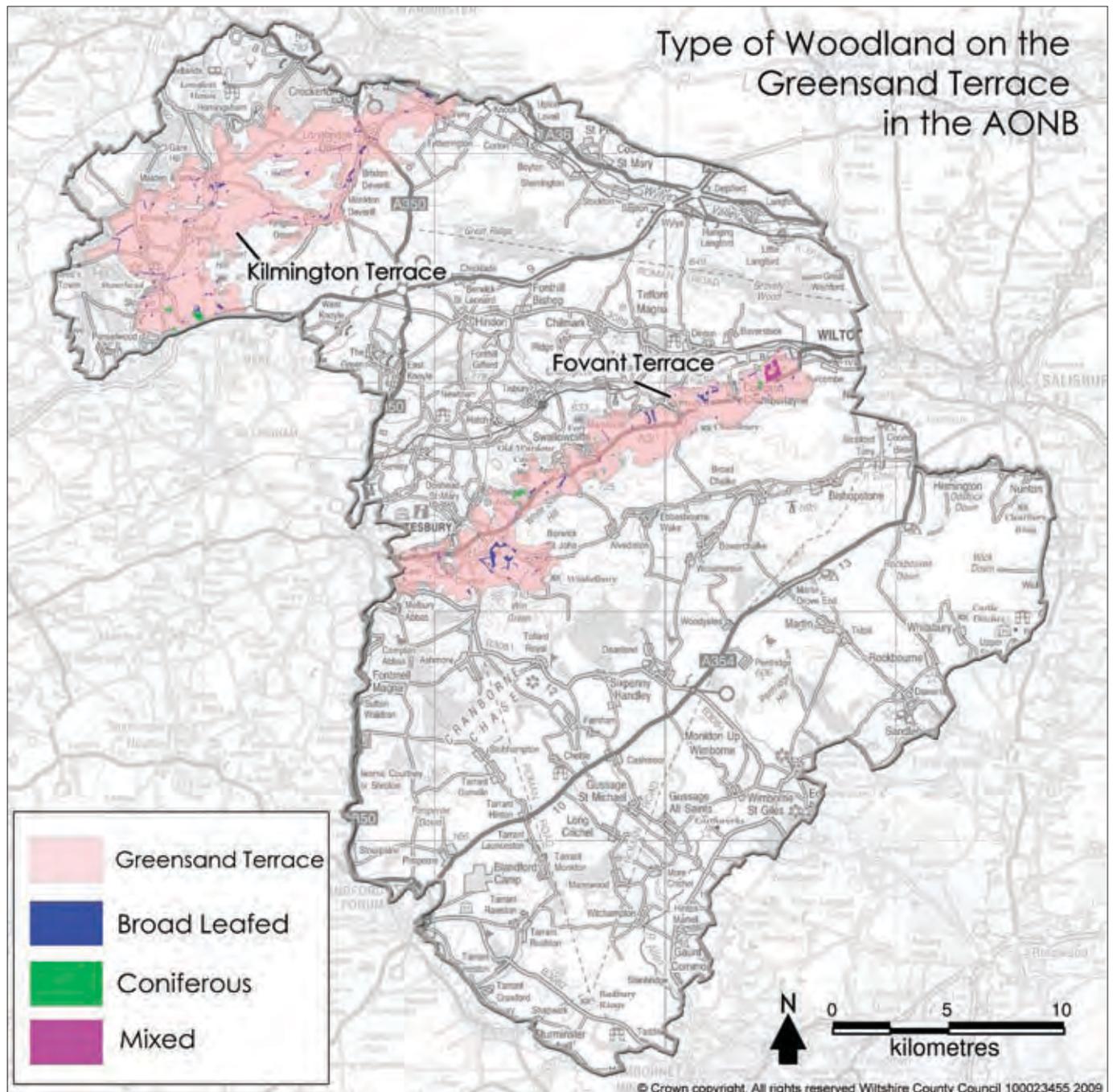
The Kilmington Terrace has a range of land uses, both arable and permanent and rotational pasture, and has retained some excellent ancient trees in hedgerows, river banks and beside springs. Occasional shelterbelts, the majority of which comprise relatively recent broadleaved plantation, occur throughout the character area, and compliment the older woodlands and isolated copses.

## 6.3 Cultural Heritage

### 6.3.1 General Character

The continuity and intensity of arable cultivation on the Greensand terrace has meant that little archaeology has survived. However, the henge west of Sutton Verby is likely to have been a social focus for late Neolithic communities dispersed within the wider landscape and Bronze Age

Figure 6.2 Woodland of the Greensand Terraces displayed by type





round barrows, such as those beside the River Wylve west of Kingston Deverill, may indicate the continued importance of the river in a largely pastoral economy dependant to a large extent on the adjacent downland grazing.

### 6.3.2 Woodland Archaeology

Little of the known archaeology on the Greensand Terrace falls within woodland, this is especially notable when compared with other landscape character types. Exceptions include late medieval settlements, undated enclosures and linear features and unassociated findspots of variable dates. Woodlands are also associated with parkland as at Ferne House.

## 6.4 Ancient and veteran trees

The ancient trees that survive do so, generally speaking, in spite of recent management and not because of it. A few trees, remnants of hedgerows and copses that have been wholly or partly removed, still exist and some of them are truly remarkable. Most of them are ash or oak, but there are also individual hawthorns of relatively great antiquity and some of the houses and gardens have retained very large trees. Because of their scarcity, the pressures from development and the intensity of agricultural operations around them, these trees require special attention and care.

## 6.5 Climate change adaptation

A changed climate in line with the scenario envisaged in the introduction to this document holds opportunities for an increased role for trees in the landscape. In the future hedgerow and in-field trees will play an important role in providing shade and shelter for livestock. While arable crops will not be replaced by trees, there may be good returns to be made from orchard crops. The changing pattern of cropping over the next ten to fifteen years may see considerable tree planting in this currently open landscape.

## 6.6 Opportunities for future management

The Greensand Terraces have been, and always will be, predominantly agricultural in land use. There are very limited opportunities for any significant woodland establishment in this character type. Indeed, any significant interruption of the open views across the terraces to the dramatic escarpment would be detrimental to the conservation of landscape character.

At a smaller scale, landowners could be seeking to restore gappy hedgerows, planting additional hedgerow trees and restoring hedgerows to their former locations where farming operations allow it. The woodland at the base of the escarpment should be allowed to

thicken and expand both along the contour and onto the margin of the terrace. This may be through planting, but could also be achieved through natural regeneration if deer, rabbit and hare browsing is controlled. On the Kilmington Terrace, additional planting of individual trees and small woodlands along the course of the River Wylve should also be encouraged. The coniferous plantations that interrupt the landscape, intruding on the character of the deciduous woodland and on the visual relationship between scarp and terrace, should ultimately be removed and replaced with natural woodland or scrub that can offer the same service as game covert without the loss of character.

The area is largely devoid of woodland of any extent and much of what is there is of recent origin. It is therefore unlikely that there will be significant archaeology within the woodlands, but a few of the woodlands at the base of the scarp are larger and may be of more ancient origin in which case care should be taken as any surviving archaeology would be of great value.





Figure 6.3 Woodland on the Greensand Terraces displayed by origin

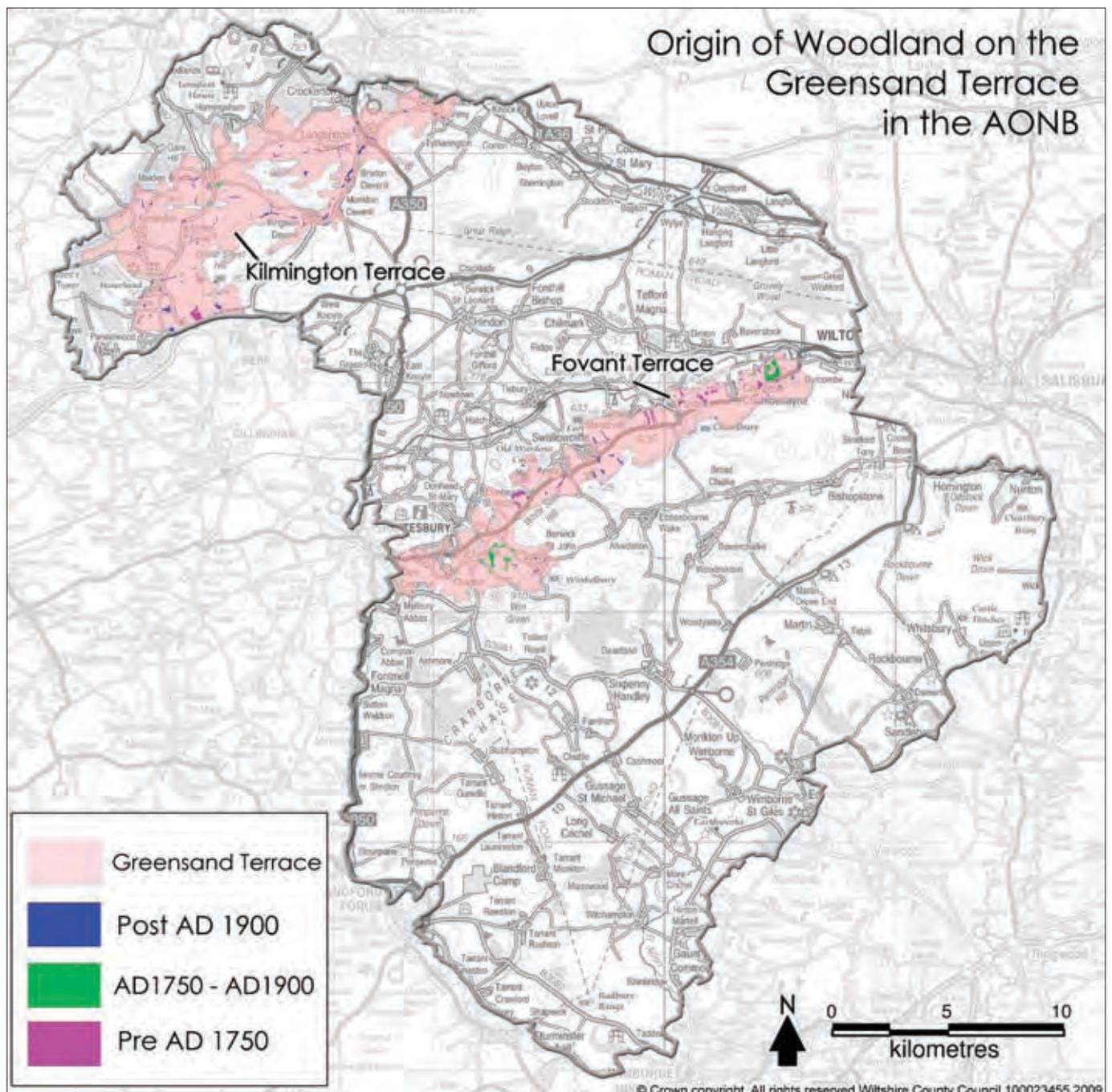
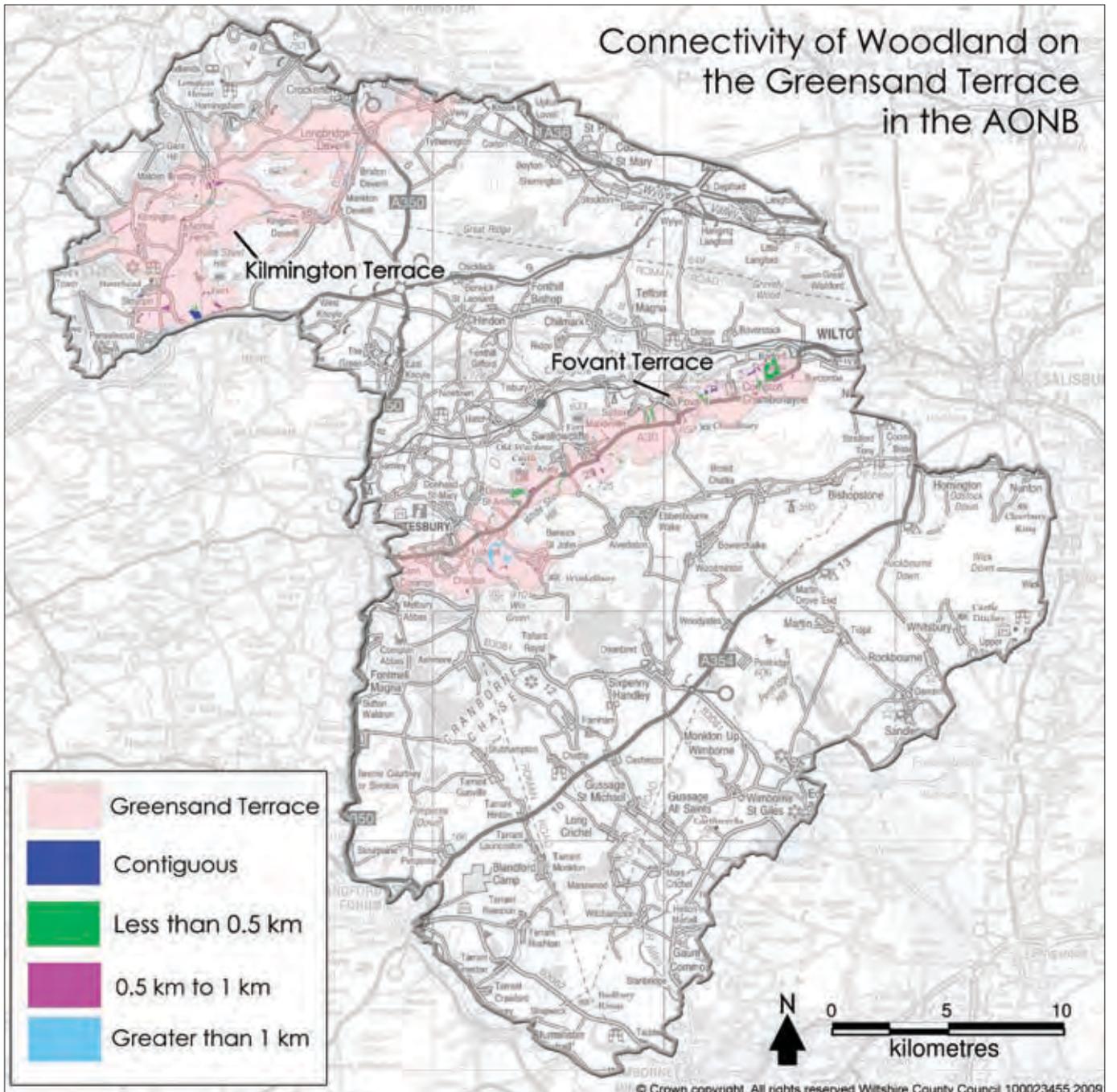




Figure 6.4 Woodland on the Greensand Terraces displayed by Connectivity with semi-natural habitats





Charles Buckler and Major provide horse logging services from the farm at Penselwood

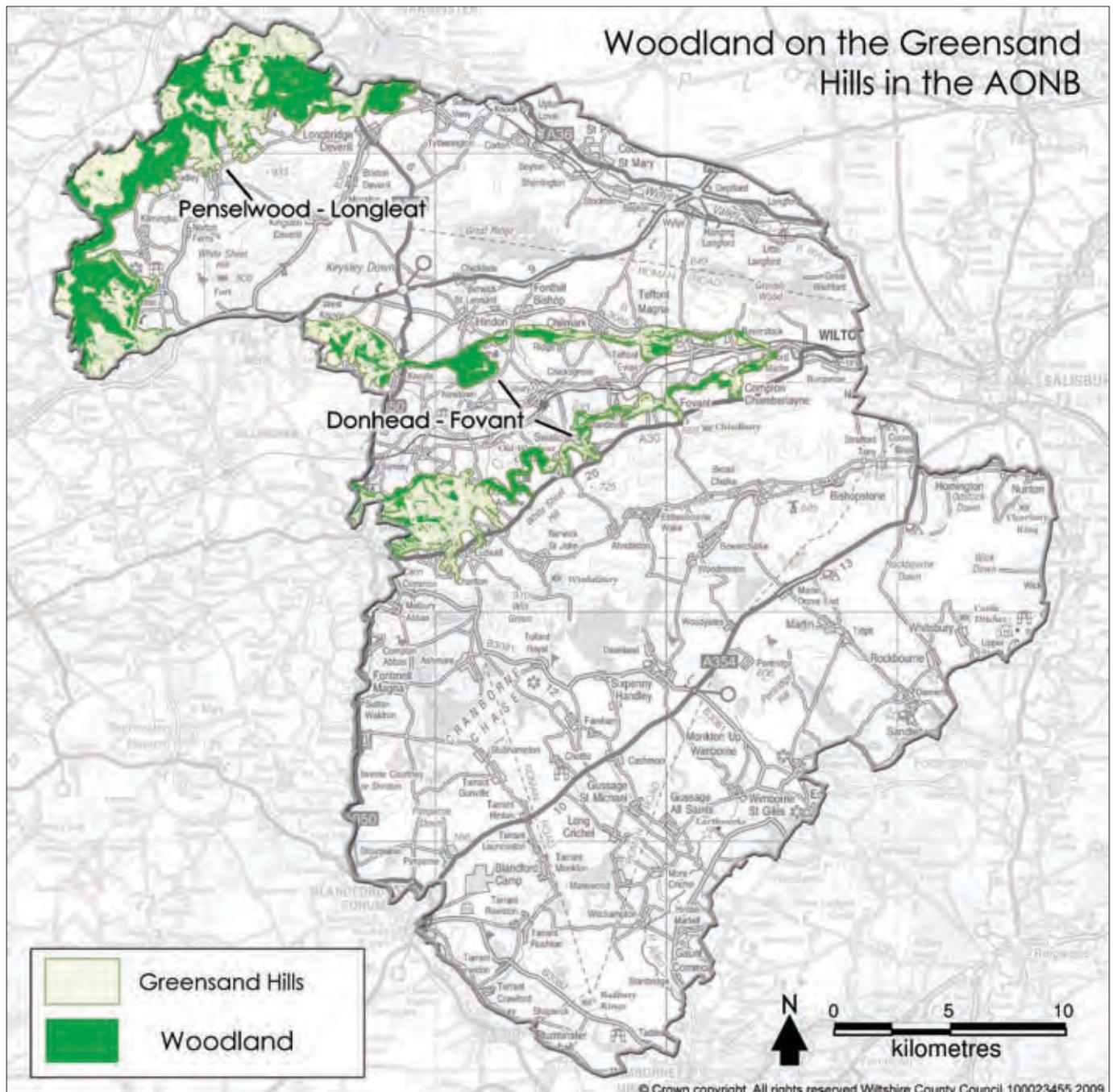
# Chapter 7

# Greensand Hills

## Landscape Character Areas

- Donhead to Fovant Greensand Hills
- Penselwood to Longleat Greensand Hills

Figure 7.1 Map showing the woodlands of the Greensand Hills.



# 7.1 Introduction to the Greensand Hills

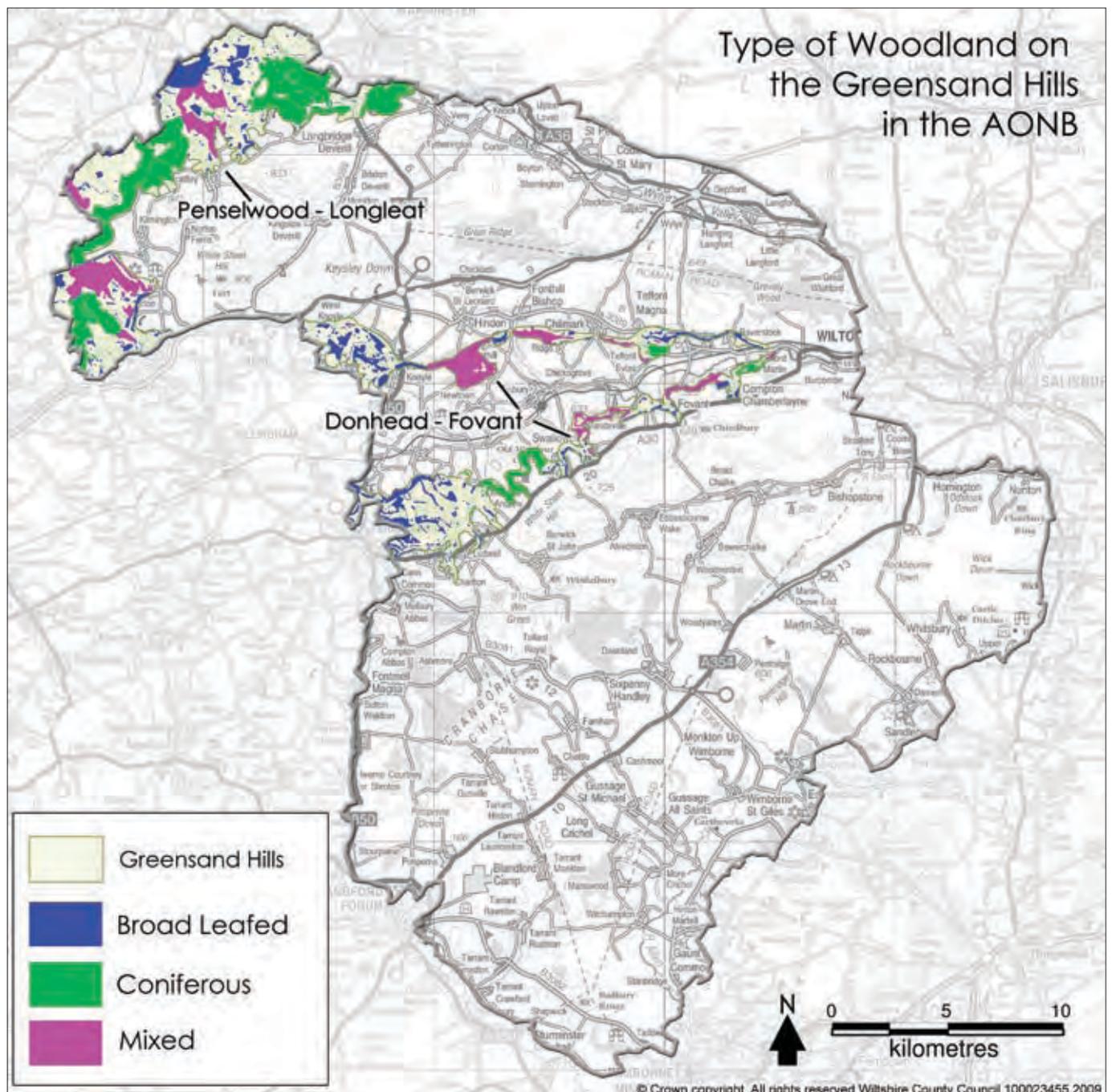
- Covers 9,811 hectares (10%) of the AONB.
- Marks the transition from the clay vales to the elevated chalk.
- Located to the north and south of the Vale of Wardour and along the north-western boundary of the AONB between Penselwood and Warminster.

- Tributaries of the major rivers have eroded it to expose underlying deposits.
- Characterised by tight valleys, sunken lanes and are typically covered in woodland.
- Historically provided desirable locations for large houses and parklands as well as providing strategic sites for fortified settlements and buildings where they have commanding views over the adjacent lowlands.

## 7.1.1 Donhead to Fovant Greensand Hills

The Donhead to Fovant Hills character area wraps around the rolling valley landscape of the Vale of Wardour in a narrow band that widens towards the west around East Knoyle and Shaftesbury. To the south, the hills form a transition from the Vale to the flat landscape of the Fovant Greensand Terrace and to the north the hills lead from the Vale to the upland chalk landscape

Figure 7.2 Woodland of the Greensand Hills displayed by type





of the West Wiltshire Downs. The Upper Greensand of the hills has been eroded into a series of rounded knolls by tributaries of the River Nadder, many of which have carved deep combes. The steep slopes are clothed in woodland, the irregular outlines of which indicate early assart incursions and inclosure of fields. Ancient sunken lanes, enclosed by high banks and shaded by trees, produce strongly framed views. Historic estates and parkland are typical, such as Fonthill Abbey and Phillips House.

### 7.1.2 Penselwood to Longleat Greensand Hills

These hills form the transition between the high chalk hills of the West Wiltshire Downs and the clay valley of the Frome that lies beyond the AONB boundary. The interface of the hills with the terrace landscape is clearly defined by a change in density of contours and the amount of woodland. It is a landscape with a steeply undulating landform; the hills are joined by sunken lanes that writhe through secretive valleys where fluvial erosion of the Frome and Stour tributaries has exposed older rocks. Extensive woodland is a unifying characteristic, the hills are clothed in deciduous woodland and fine coniferous plantations. In the valleys the fields are predominantly small and of an irregular form. Extensive landscaped parks surrounding large country houses at Longleat and Stourhead are the greatest examples of what is common in the area: large houses with significant gardens and small parks. Neatly laid hedges,

tree clumps, avenues and grazing animals associated with private estates contribute to the scenic beauty of the area.

## 7.2 General Description of the Woodland

- 4,670 hectares of woodland, representing 31% of the total woodland cover in the AONB.
- The most wooded character type in the AONB; almost half of it is covered in woodland.
- Dominated by coniferous plantations, most of which were established prior to 1900 or have been planted to replace broadleaved woodland.
- There is moderate connectivity with broadleaved veteran woodlands.
- The existing large belt of woodland covering the majority of the area has seen the piecemeal addition of woodland along its edges.
- There has been clearance of three or four small areas of woodland within the main belt of woodland over the last century.

### 7.2.1 Woodland of the Donhead to Fovant Greensand Hills

This area contains a mosaic of permanent pasture and mixed woodland with fen and neutral meadows on the valley floors. The

woodlands are also a complex mix of types and origins. The steep slopes along the northern and southern sides of the Vale of Wardour are clothed in woodland.

Although there are some large areas of broadleaf woodland, mainly around the western end of the Character Area (East and West Knoyle and Semley), plantations of Douglas fir, larch and Norway spruce predominate, giving the hills a very different character to the chalk downs. The sandy influence of the soils is visible in the presence of acidic woodlands and the variations in soil moisture yield a variety of plant communities. Hang Wood SSSI is a good example and includes wet ash-field maple woodland grading to acid oak-hazel-ash woodland. The site has a history of traditional coppice management and supports a rich ground flora with species such as bluebell, dogs mercury and sweet woodruff.

A belt of oak woods, some of which have been converted to conifer production, occur on the Greensand Hills to the north of Shaftesbury spanning the AONB boundary around Motcombe and Sedgehill. They can be seen in the AONB at East and West Knoyle and Semley and the Donheads. Much of the woodland around East and West Knoyle was present prior to 1750 and has been complimented by the Woodland Trust plantation at Mackintosh-Davidson Wood. The pre-1750 woodland around Semley has been added to as the commonland has scrubbed up and formed natural woodland. One of these is Gutch Common

SSSI which comprises a mosaic of habitat types including wet and dry acid woodland, open bracken stands and a neutral meadow. This habitat diversity has resulted in the site supporting a wide range of plant species, together with a good range of woodland birds. Botanically, Gutch Common is not unlike much of Fonthill Woods and the woodlands around East Knoyle. Many of these woodlands are producing crops of timber from coniferous species, the revenues from which can support the commercially unproductive broadleaved woodlands.

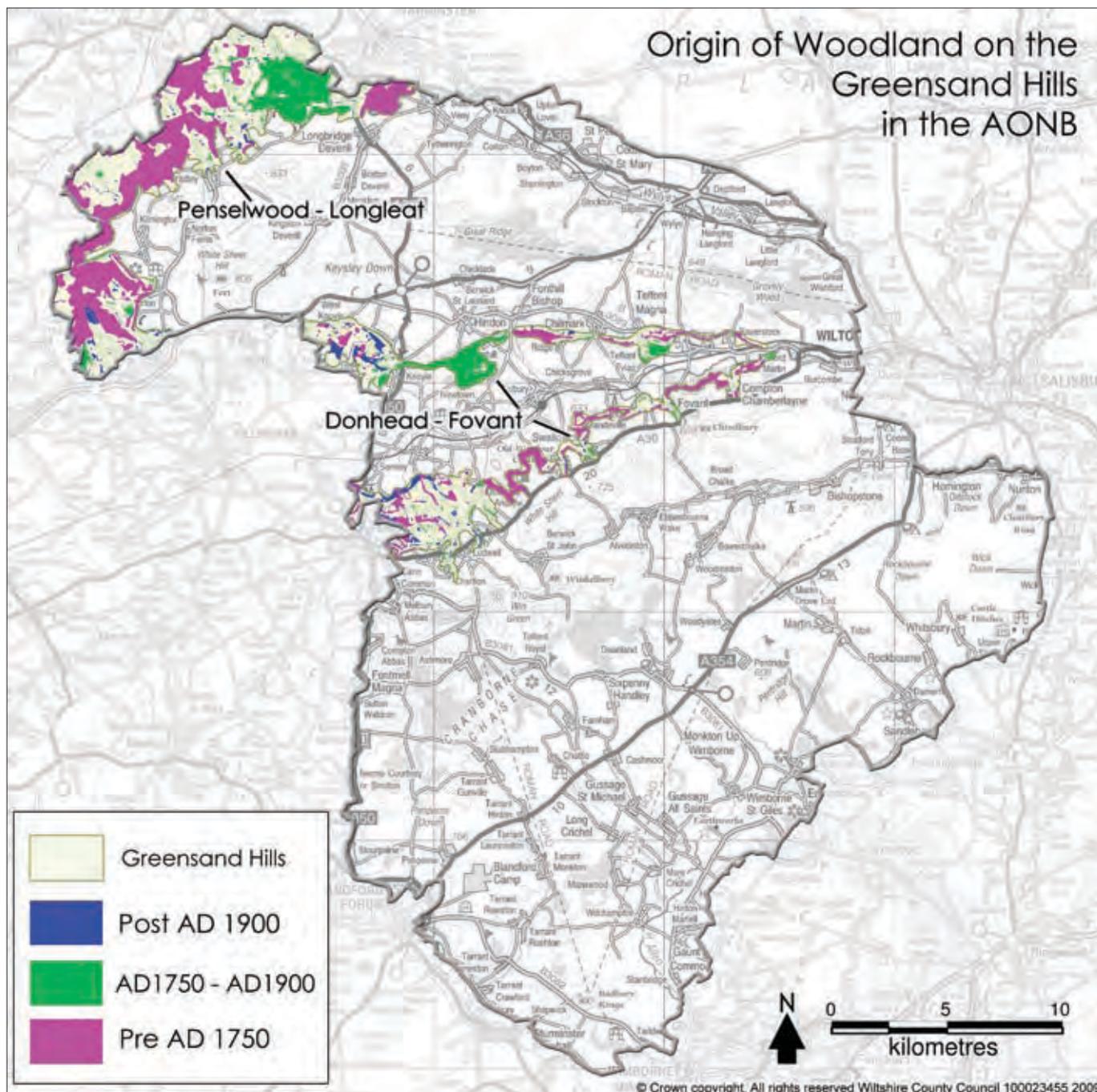
Around Donhead St Mary, and on the slopes along the southern side of the Vale of Wardour, hill top woodlands give way to pasture as the land drops away towards the valley below. Many of these woodlands are producing excellent crops of timber from coniferous species, but this can be hampered greatly by the presence of invasive plants such as rhododendron and cherry laurel. The woodland of this area are generally very well connected, but this is not the case in the 19th Century plantations around Fonthill. These woodlands are a significant

part of the tree cover of this area and their comparatively recent establishment hides the fact that they were established amongst a well wooded landscape, as attested to by the presence of many ancient hedgerow trees and artefacts such as woodbanks.

### 7.2.2 Woodland of the Penselwood to Longleat Greensand Hills

Long-established woodland is perhaps the most distinguishing

Figure 7.3 Woodland on the Greensand Hills displayed by origin





feature of this character area and much of it has been replanted with exotic coniferous species. Figure 7.3 displays the origins of the woodland, the ancient hunting forest of Selwood is clearly defined and the 19th Century planting at Longleat Plantation is also clearly picked out. There is very little recent establishment except around the forest edge. This area has a long history of forest management and the generally very high quality of the coniferous plantations, particularly the Douglas fir, is testimony to this heritage. Some substantial areas of broadleaved woodland remain. Longleat Woods SSSI provides an example of nationally important woodland of medieval origin managed as high forest. In contrast, Bradley Woods SSSI is an extensive area of lowland alder woodland, with oak and hazel dominating on the drier ground. The site has largely been managed under a coppice regime, and supports a rich ground flora. Many plant species are present which indicate a long continuity of woodland cover, for example dog's mercury, yellow archangel and ramsons. It also holds several locally restricted plants such as marsh violet and thin-spiked wood sedge, however the most notable feature of this woodland is its exceptional diversity of bryophytes and lichens. The connectivity to veteran broadleaved woodlands is very high, particularly around Stourton and in the vicinity of Colehill where place names suggest the presence of long established woodland and the uses to which it was put.

## 7.3 Cultural Heritage

### 7.3.1 General Character

The strategic importance of the hills as transitional landscapes is reflected in the presence of Bronze and Iron Age hillforts and earthwork enclosures. The continuing strategic importance of the landscape is evident through the presence of a number of castles, such as the motte and bailey earthworks at Coneygore and Zeals Row, to the south, and Woodhouse Castle and Hale's Castle further north. Some of the larger areas of woodland, plantation and parkland reflect the locations of a number of substantial landscaped estates, such as Wardour Castle, Phillips House and Fonthill. The present day wooded character of the area reflects the history of the area as a boundary land that became valued as hunting grounds. The Penselwood to Longleat area owes much to the medieval Royal forest of Selwood. The presence of large areas of commercial forestry reflects the former presence of deer parks and landscaped parkland along the fringes of the Nadder Valley.

### 7.3.2 Woodland Character

The woodlands of the Greensand Hills are associated with several prominent archaeological sites. In the woodland of the Longleat-Penselwood Hills these sites include Bronze Age Round Barrows, the Iron Age Hillforts of Kenwalch's Castle and Roddenbury, the Iron Age quern stone quarries at Pen Pits and a Medieval Motte and

Bailey Castle. There are also a number of undated features and enclosures. The woodlands here are also associated with medieval and post medieval settlement sites including the edge of Witham Friary. Finally their form in places relates to their inclusion as part of two large historic parklands – Longleat and Stourhead. In the woodland of the Donhead-Fovant Hills notable sites include ancient Field systems, Iron Age Hillforts, Romano British Settlements, Medieval Deer Parks, medieval quarries. The fact that these woodlands have never been subject to systematic survey across their whole extent suggests that there may be much archaeology still to discover

## 7.4 Ancient and veteran trees

The Greensand Hills have such a profusion and diversity of ancient and veteran trees that it would take more than the space available here to do them justice. Great oaks can be found looming out of hedgerows all over the Greensand Hills, ancient crab apples form groves along the ridge above Semley, huge ash and oak adorn the fields throughout the Donheads and many of the larger gardens in the area have massive specimens of both native and exotic species, often with a bench beneath them or a swing slung from a lower bough. The section given in the General Introduction applied to this character type more than any other: the ancient and veteran trees of our landscapes are a key component that we cannot do without and they need to be recognised and included

in land management planning so that their conservation is ensured.

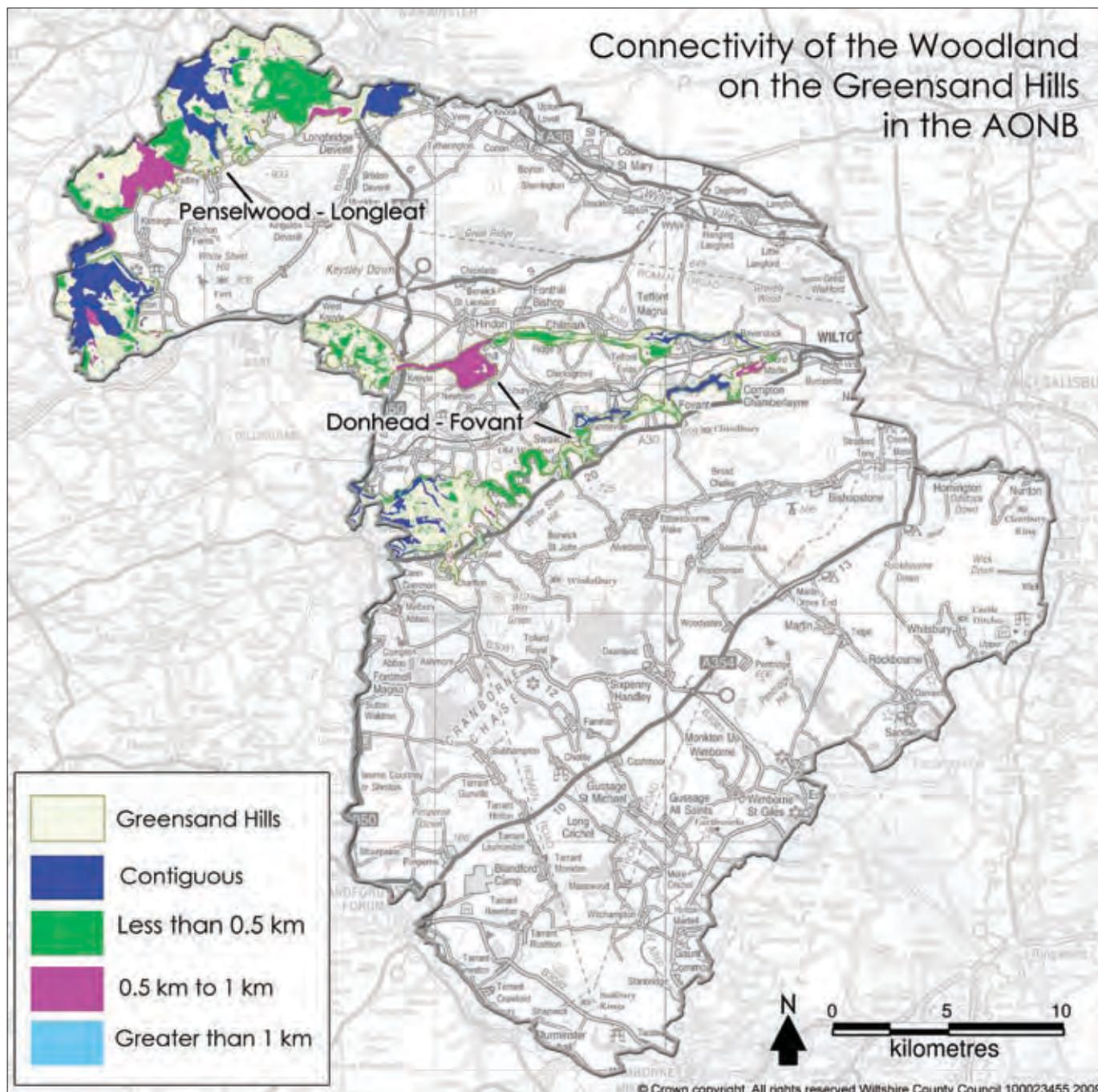
## 7.5 Climate change adaptation

The scenario presented in the introduction to this document suggests that in the foreseeable future the woodlands of the Greensand Hills will have a longer thermal growing season, be exposed to less frost, exhibit different natural regeneration rates, have a surfeit of

winter water and a deficit in summer water. Native woodland plant communities are likely to change in response to this, possibly forming new communities not currently recognised. Some plant and invertebrate species may only survive if they can move to different places, such as further up hill or to a different aspect. The increase in temperature and atmospheric CO<sub>2</sub> will lengthen the growing season. This may be beneficial to some species such as oak, but detrimental to others such as ash. Overall, the AONB should

become a better place to grow trees. The plants that compete with trees will also do well; bracken, bramble and gorse are likely to grow faster under climate change and will require more vigorous management. The outlook for conifer production is therefore pretty rosy, especially for Douglas Fir and Corsican Pine. However, Norway spruce could cease to be a productive species so a greater mix of trees could be encouraged as it is gradually removed from plantations. The markets for the timber are impossible

Figure 7.4 Woodland on the Greensand Hills displayed by Connectivity with semi-natural habitats



to predict and have recently proved to be more unstable than anyone could have foreseen. Therefore the prudent forester on the Greensand Hills will use the good soils and improving climate to produce quality timber that can be sold into high value markets. Some of the Greensand Hills locations are very wet. This is likely to increase and it could create operational and silvicultural problems as slopes become harder to work, soils become more prone to mechanical damage and increased winter rainfall raises the water table enough to kill roots (thereby reducing effective rooting depth and making trees more vulnerable to summer droughts). A drive for high quality timber and a move towards more natural regeneration in restocking plans will mean a greater necessity for deer, rabbit and squirrel control. The ancient and veteran trees mentioned in the paragraph above will be at particular risk from high winds associated with storms.

## 7.6 Opportunities for future management

There are greater opportunities for woodlands in this character area than any other part of the AONB. To retain the character of these landscapes it will be necessary to conserve the woodland, parkland and the mosaic of pastures and meadows that function as clearings within the woodland. Woodland conservation and management is the key activity in this process. The area not only holds some of the most admired estate forestry in the country, but also some exceptional broadleaved veteran woodland of high nature conservation importance. The management of woodlands of high nature conservation value is currently supported by the profitable production of timber from short rotation coniferous plantations. Therefore the mix of high quality timber and high quality nature conservation needs to be retained.

All the larger woodlands should have long-term forestry plans and



landowners may be able to realise greater benefits by working together with their neighbours. The parkland should have equally long-term conservation plans. Where pre-1750 woodland has been replanted with conifers, the aim should be to eventually create a mixed species, structurally diverse stand where natives predominate and natural regeneration provides replacements for harvested trees. Native woodland habitats and their associated flora should be encouraged along with natural tree regeneration, which will require firm action to be taken against alien invasive plant species such as rhododendron and Japanese knotweed as well as cooperative deer management. Wherever possible, veteran broadleaved woodlands should be expanded by additional planting on the perimeter or the conversion of mixed and coniferous stands to appropriate native stand-types. Woodlands could include elements of wood pasture and open space where appropriate, to conserve the mosaic of semi-natural habitats such as fen meadow, unimproved neutral grassland, meadows and wet flushes. Harvesting should be responsive to the management needs of the forest as well as the available markets, but this will depend upon local markets, for example in wood fuels, generating a constant, if low value, demand.

Most of the archaeology of this area will be found in wooded areas. Therefore any forest plan and planned operation should have cognisance, as far as is possible, of the archaeology of the area and an expectation that undiscovered

archaeology will lie within the area of the plan or operation.

Exotic trees in parklands are at risk from the arrival of new pests and diseases, just as are the native trees. These factors may make historically authentic tree plantings as part of parkland conservation and restoration increasingly difficult. Therefore the free-standing copses and small woods that are such a feature of the AONB should be increased in size and buffered, especially in exposed situations. Management around existing veteran trees needs to be planned and improved by instigating measures such as removing cultivation from around the tree, reducing grazing pressure under the canopy and stopping livestock damaging the bark, reducing fertilizer or pesticide drift on to the tree's roots and foliage.

### 7.6.1 Penselwood to Longleat Greensand Hills

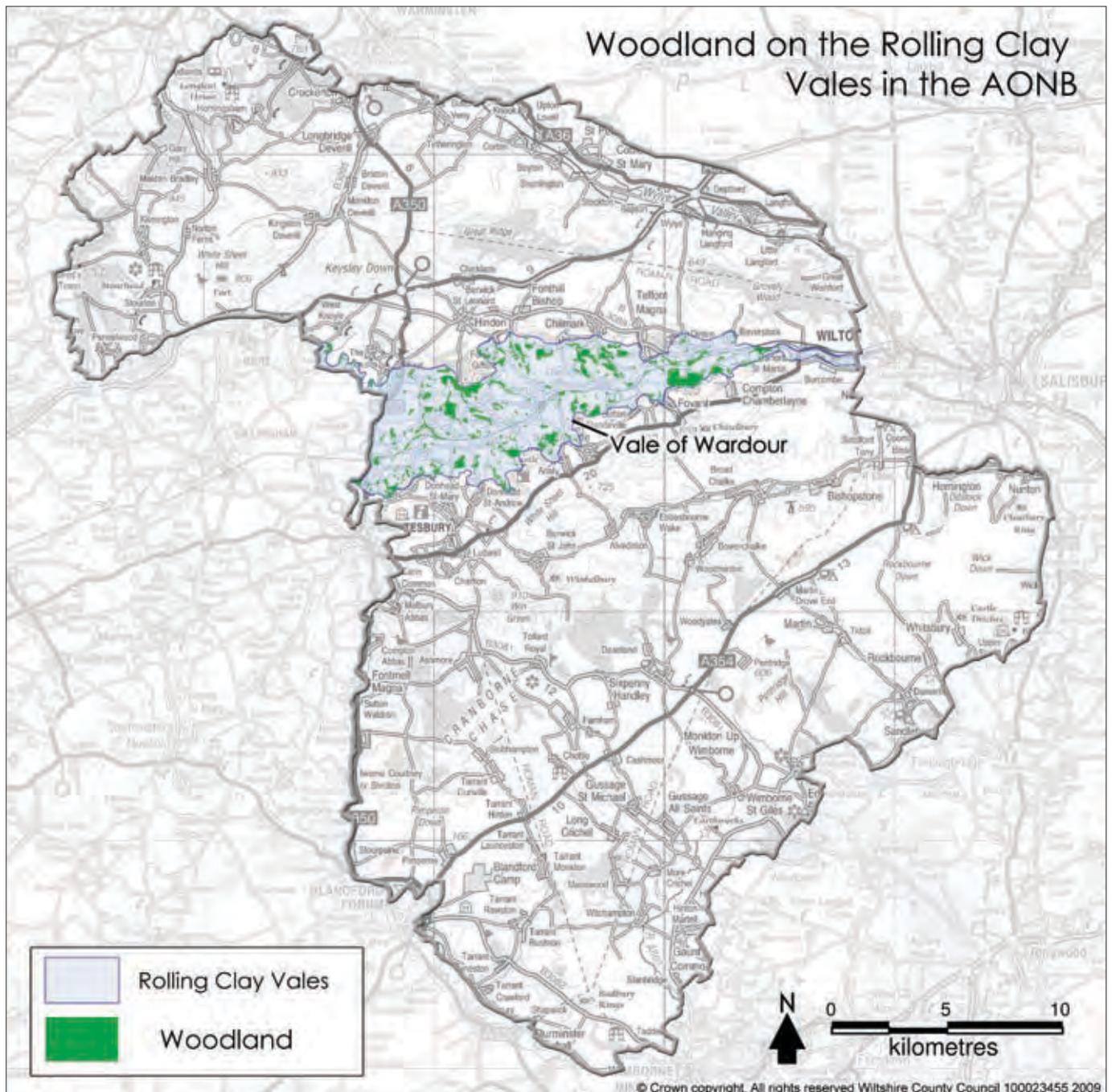
This is a landscape of significant leisure and recreation interest including the attractions of Centre Parcs Holiday Village, Longleat Estate and National Trust properties including Stourhead, King Alfred's Tower, Cockroad Wood and Cley Hill Fort. There are also many local forest walks and three long distance Public Rights of Way routes. Woodland recreation is already well developed in this area and there will be opportunities to extend and improve its provision in the future. Landowners should be supported to do so by those people and organisations that offer support and advice and be particularly encouraged to work and plan collaboratively.



# Chapter 8

# Rolling Clay Vale

Figure 8.1 Map showing the woodlands of the Rolling Clay Vale.



## 8.1 Introduction to the Rolling Clay Vale

- Covers 6,431 hectares (7%) of the AONB.
- To the north and south of the vale the land rises to the greensand hills.
- To the east, beyond Barford St Martin, the Vale narrows to follow the River Nadder to Wilton.
- To the west the vale is interrupted by the greensand hills around Sedgehill before expanding into Blackmoor Vale.
- The River Nadder and its tributary, the Sem, wind across the landscape. The Sem flowing west to east and the Nadder flowing south to north before the rivers meet to the northwest of Wardour Castle. At this point the rivers become one, The Nadder, which then flows eastwards before meeting with the River Wylye at Wilton.
- The Vale of Wardour is a wide open vale that provides a contrast to the adjacent chalk downland and is characterised by its small scale fields divided by lush hedgerows and scattered with woods and copses.
- It has a strong wooded character with large trees and scattered woodland.

## 8.2 Woodland of the Rolling Clay Vale

There are 739 hectares of woodland in the Vale of Wardour; 5% of the total woodland cover. Most of the woodland was present prior to 1750 and is either broadleaved or mixed in character. This woodland demonstrates a high level of connectivity with broadleaved veteran woodland areas except in the 19th Century planting around Fonthill. However, these woodlands are of greater ecological interest

than it might appear from the mapping as the ancient trees of the hedgerows and other landscape features indicate that this woodland was created in a diverse and wooded landscape. The AONB study of the historic aspects of the landscape (the Historic Landscape Characterisation) can be used to give an indication of the history of woodland contraction and expansion in the last 100 years. In the Rolling Clay Vales the edges of the Vale have seen piecemeal loss of woodland along its edges, especially in the area to the north of Semley Hill, in the area near Summerleaze, at Teffont Evias and at Haredene Wood. Woodland creation has also occurred, albeit at a much smaller scale, and mostly abutting or adjacent to existing woodlands.

Areas of woodland vary both in terms of size and shape with larger woodland swathes occurring at the base of the Greensand Hills such as south of Fonthill Abbey Wood and at Compton and Fovant Woods. Here, the woodland appears to roll off the surrounding hillsides and into the Vale forming a strong connection between the two landscapes. Woodland occurring to the west of the character area, on the Kimmeridge Clay geology, is generally broad leaved, smaller, more fragmented and of a loose and sinuous nature in comparison with the more regular, geometric form of woodland occurring to the east of Tisbury. Woodlands associated with large country houses and historic parkland are also a feature, for example at Pythouse and Phillips House. Shelterbelts also occur within this character area and large in-field trees, particularly open-grown oaks and alder along the course of the River Nadder, maintain the wooded character across the farmland. So although the Vale of Wardour is dominated by arable agriculture and pastoral land uses, the area has retained its tree cover (with the obvious exception of the elm that was lost in the 1970s). This is vital to the ecological integrity of the landscape, particularly for the bats of the caves at Chilmark Quarries Special Area for Conservation (which holds the largest UK wintering roost of the rare Bechstein's bat and both Lesser and Greater Horseshoe bats)

and Fonthill Grottoes SSSI that need the mix of woodland and pasture in which to find food.

## 8.3 Cultural Heritage

### 8.3.1 General Character

A small number of monuments, including a reported stone circle/henge at Tisbury (reputedly dismantled in the 18th century to form part of the grotto at Old Wardour), a Bronze Age round barrow and field system east of Fonthill, and an enclosure at Baverstock, point to the range of social and economic activities during the prehistoric period. The vale landscape contrasts markedly with the chalk downland to the north, displaying little evidence now of any prehistoric settlement. The layout of fields, farms and villages illustrate the pattern of medieval settlement, clearance and farming, and the post-medieval process of agricultural improvement and estate development. The key visible historic components are the small irregular fields, particularly in the west, suggesting early clearance of woodland and enclosure, the water meadows in the lower reaches of the vale; the Medieval settlement pattern and deserted medieval villages, as at South Ugford and Wyck; and the large country houses with extensive estates, including some landscaped parkland and remnants of Medieval Deer Parks.

### 8.3.2 Woodland Archaeology

Very little of the known archaeology of the Rolling Clay Vales falls within woodlands – the exceptions being several medieval/late medieval settlements, undated enclosures and isolated find spots. This is in contrast with the surrounding Donhead-Fovant Hills. However much of the woodland is associated with historic parkland including Wardour, Pythouse and Fonthill.



Figure 8.2 Woodland of the Vale of Wardour displayed by type

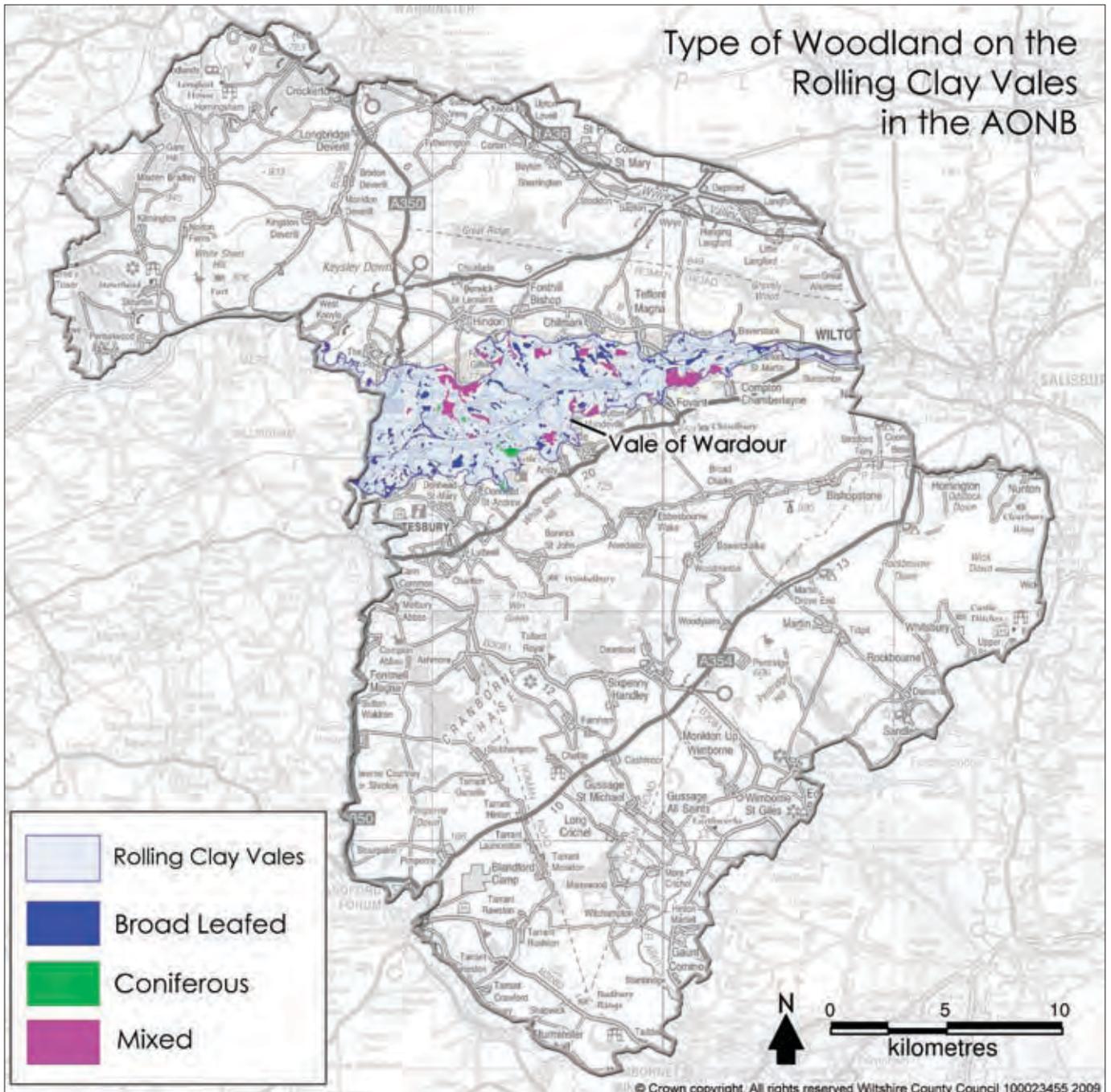
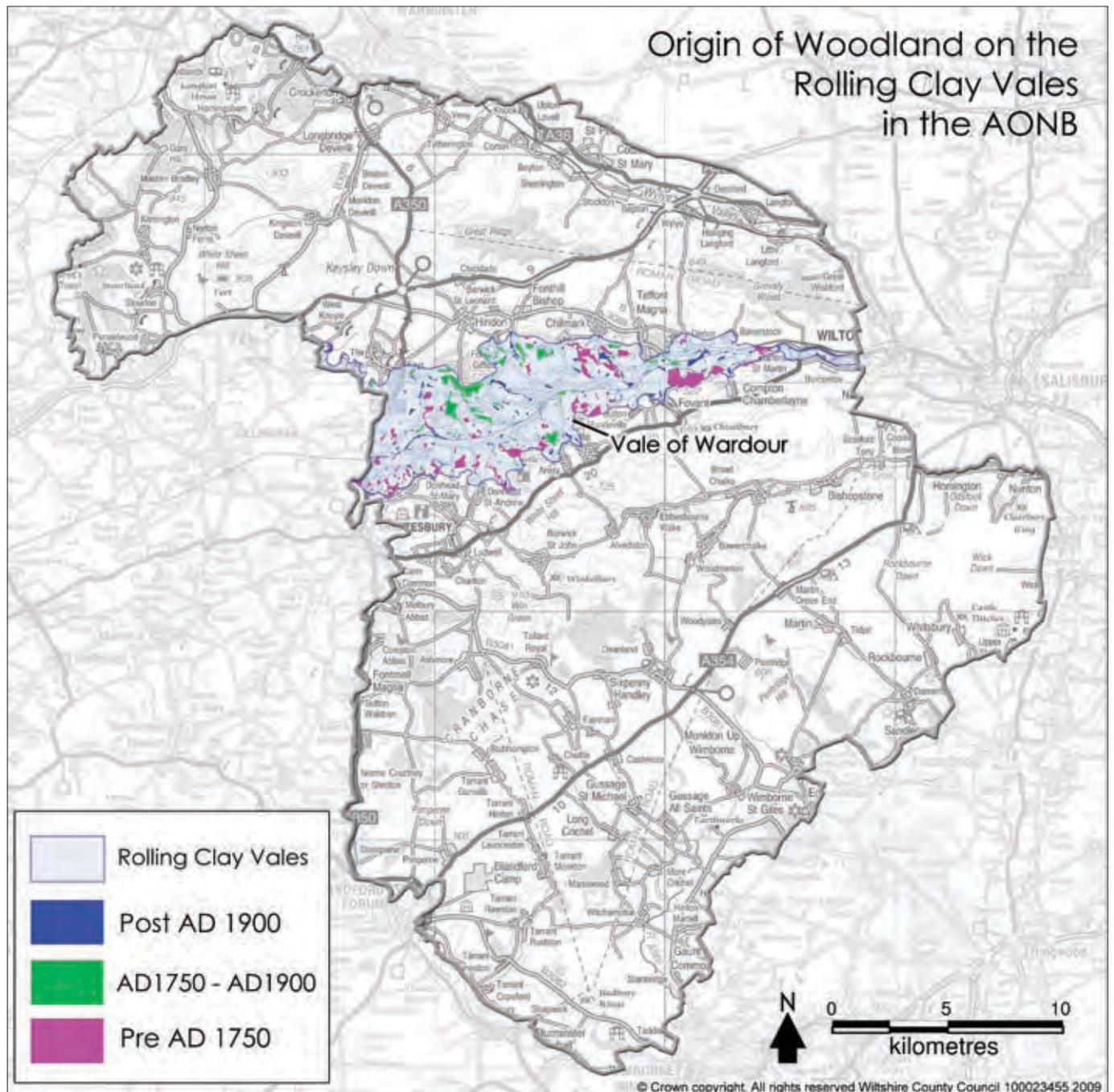




Figure 8.3 Woodland on the Vale of Wardour displayed by origin





## 8.4 Ancient and veteran trees

The Vale of Wardour and Nadder Valley holds an internationally important aggregation of ancient and veteran trees. The great oaks of Pythouse Park, the limes around Wardour, the apple and pear trees in and around the villages and the hedgerow ash along the Nadder Valley are just a few examples, but certainly not the only ones. In this largely pastoral landscape it is vital that trees be protected from livestock. Sheep, cattle and in particular horses can kill trees by trampling around the roots and removing bark from the trunk. Some simple measures such as leaving fallen branchwood around the base of the trees or protecting individual trees with fencing can ensure that these important trees are enjoyed by generations to come.

## 8.5 Climate change adaptation

There are climate change implications for the ancient trees, the parkland and field trees that are so bound up in the character of the vale. These trees will become vulnerable to storms, waterlogging, drought and new or invigorated pathogens.

A programme of replacement as trees get older and protection for existing trees by buffering their root systems from livestock and other damage will be essential in

conserving important trees. Climate change may also bring an opportunity to enhance the landscape of the vale with increased woodland cover around the rivers Sem and Nadder. These two streams are very different in that the Sem is a clay stream that flows into the Nadder, a chalk stream, at their confluence between Wardour and West Hatch.

There will be a need for additional trees in the vicinity of the rivers for three reasons. The first is flood relief; areas of wet woodland can absorb flood waters, slowing down the flow and holding water in the upper reaches. Secondly to remove silt and pollutants; areas of woodland can intercept storm flows coming off surrounding land that would otherwise carry silt and pollutants such as fertiliser and pesticides into the river system. Lastly, tree cover reduces the temperature of the water. Wessex Water research has revealed that the biggest threat to the chalk streams from climate change is increased average temperature and increased thermal variation. Shading the stream surface with tree cover for 100 metres reduces the average annual temperature of the water by 4°C. This will be the only sustainable way of preserving populations of brown trout and other characteristic chalk stream biodiversity.

## 8.6 Opportunities for future management

The opportunities in this character type lie more in the management of trees than woodlands. In this respect, the overriding requirement in the Vale is to conserve and enhance the arboreal elements of the landscape, particularly the in-field trees, parkland and hedgerow trees. It is vital that new trees are planted or singled from hedgerows to go on to be the large, mature, and eventually the veteran, trees of the future.

In some places, such as parklands and gardens, the use of exotic species will be justified by garden design and the replacement of like-for-like, but generally there should be a presumption that native species will be used. Any new woodland planting in the Vale should be native, with a strong presumption against exotic species.

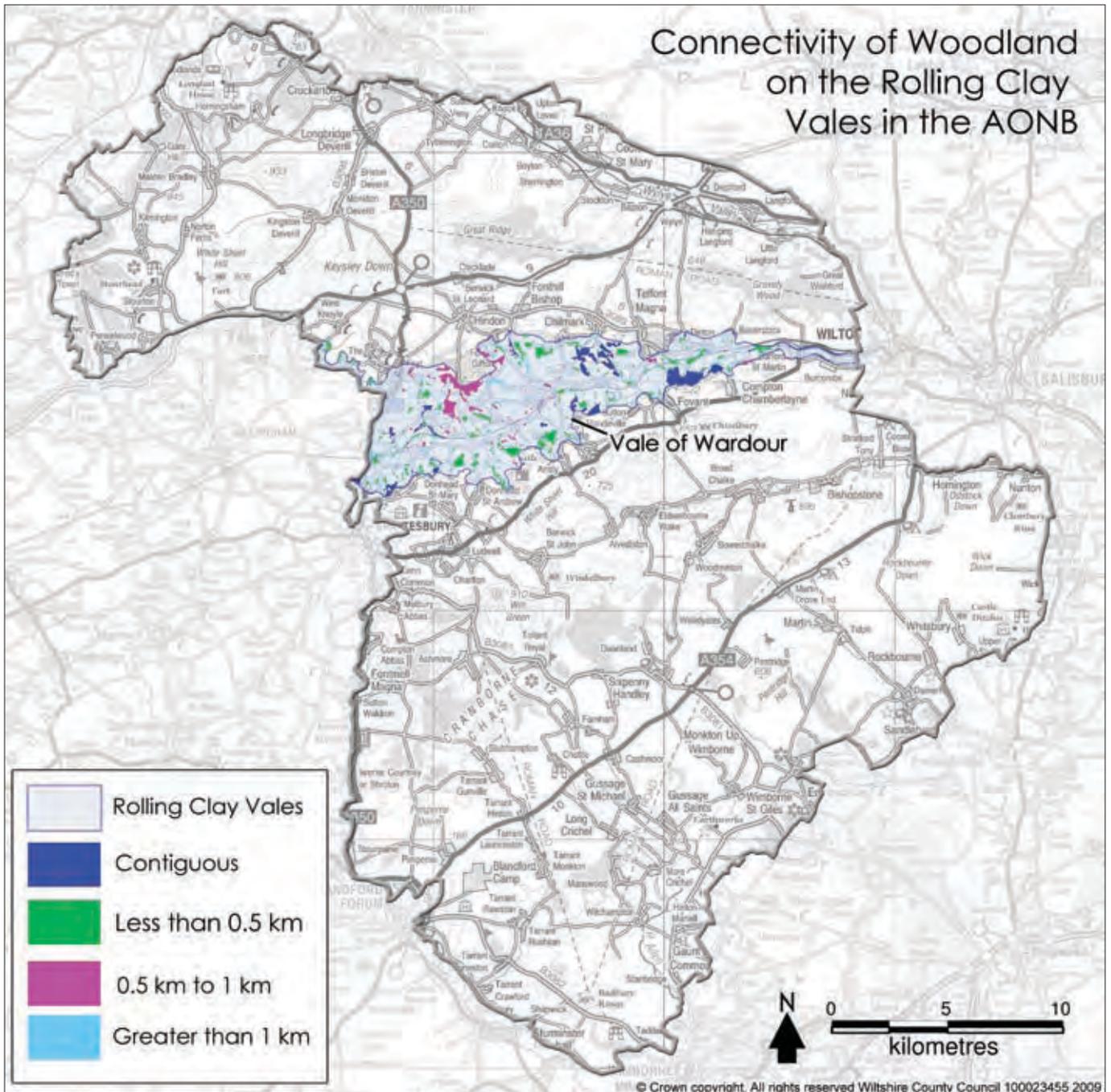
The location of new woodlands could enhance the connectivity between existing woodlands and between woodlands and semi-natural habitats such as old hedgerows, ponds, streams and species-rich grasslands. The management of trees and woodlands in the Vale should, among other objectives such as game shooting, have at its heart the aim of conserving the ancient pattern of irregular mixed and broadleaved woodlands interspersed with small fields and to join these up with species-rich hedgerows.





Avenue plantings are characteristic of the planned landscapes around Fonthill

Figure 8.4 Woodland on the Vale of Wardour displayed by Connectivity with semi-natural habitats





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