Cannock Chase AONB

State of the AONB Report 2018

Final Report
Prepared by LUC for Cannock Chase AONB
August 2018

www.landuse.co.uk

Project Title: Cannock Chase AONB: State of the AONB Report 2018

Client: Cannock Chase AONB Partnership

Version	Date	Version Details	Prepared by	Checked by	Approved by
0.1	04/06/2018	Draft Report structure	Maria Grant	Diana Manson	Diana Manson
1.0	11/07/2018	Draft Report	Maria Grant Isabelle King	Diana Manson	Diana Manson
2.0	14/08/2018	Final Report	Maria Grant Isabelle King	Diana Manson	Diana Manson
3.0	29/08/2018	Final Report – amendments following comments	Maria Grant	Diana Manson	Diana Manson

www.landuse.co.uk

Cannock Chase AONB

State of the AONB Report 2018

Final Report
Prepared by LUC for Cannock Chase AONB
August 2018

Planning & EIA
Design
Landscape Planning
Landscape Management
Ecology
GIS & Visualisation

LUC BRISTOL
12th Floor Colston Tower
Colston Street Bristol
BS1 4XE
T +44 (0)117 929 1997
bristol@landuse.co.uk

Offices also in:
Edinburgh
Glasgow
Lancaster
London
Manchester

FS 566056 EMS 566057

Land Use Consultants Ltd
Registered in England
Registered number: 2549296
Registered Office:
43 Chalton Street
London NW1 1JD
LUC uses 100% recycled paper

Contents

1	**Introduction**	**1**
	Cannock Chase AONB: A nationally important landscape	1
	Purpose of the State of the AONB Report	2
	Structure of this report	2
2	**Method**	**6**
	Stage 1: Identification of available data and development of indicators	6
	Stage 2: Obtaining and processing available data and information	6
	Stage 3: Analysis and reporting	6
3	**Landscape Character and Planning**	**9**
	Statement of significance	9
	Structure of this Chapter	9
	Agricultural landscape character	9
	Woodland cover and management	16
	Settlement and planning	19
	Visual and perceptual qualities	22
4	**Biodiversity and geodiversity**	**32**
	Statement of significance	32
5	**Historic Environment**	**49**
	Statement of significance	49
6	**Visitor Management**	**62**
	Statement of significance	62
7	**People and socio-economic profile**	**71**
	Statement of significance	71
8	**Headline findings and next steps**	**80**
	Headline findings	80
	Next steps	83
Appendix 1		**84**
	Priority species and habitats	84

1 Introduction

1 Introduction

Cannock Chase AONB: A nationally important landscape

Cannock Chase is England's smallest inland AONB, with an area of 68 square kilometres. Designated in 1958, its key features include high landscape quality, biodiversity and geological interest, nationally important archaeological features and recreational value.

Situated in the county of Staffordshire in the West Midlands, the AONB is sandwiched between a series of developed areas. It lies to the north of Cannock, directly west of the market town of Rugeley, and to the south east of Stafford. At the core of the AONB is the largest surviving area of lowland heathland in the Midlands, with much of the area exhibiting an unspoilt, almost semi-wilderness character. Lowland heath is internationally scarce; therefore part of the site is designated as a Special Area of Conservation (SAC). The high population concentration in the surrounding area means that there are high recreational demands on the AONB, which need to be met without damaging this important landscape.

Topography is undulating with domed summits and incised valleys. The geology is diverse, with deposits of underlying pebble beds, glacial drift, sandstone and outcrops of Permo- Triassic rock. Soils are often sandy and free draining, constraining the viable land uses of the AONB. The majority of the landscape typology is forest heathlands, but areas of sandstone hills and heaths, farmland, sandstone estatelands and river meadowlands (following the River Trent and its tributaries) are also present. Part of the internationally rare lowland heath area is a designated SAC for its dry heathland and the species it supports including Cannock Chase berry, nightjar, skylark and six bat species. A number of habitats are also nationally designated as SSSIs. Mixed and coniferous forestry is a defining feature of the Cannock Chase landscape.

While the AONB remains predominantly unsettled, the impacts of human interactions with the environment throughout time are particularly prominent within the landscape, resulting in a strong sense of time-depth. There are numerous heritage assets within the area, including prehistoric remains such as Castle Ring (the largest Iron Age hillfort in Staffordshire) and medieval manors and parkland, including the Shugborough Estate (a Grade I registered park and garden). There is a wealth of industrial remains, with evidence of coal mining and iron working over a period of 700 years. The AONB also contains important military heritage, including the Grade I Registered German Military Cemetery and adjacent Commonwealth Military Cemetery. As well as the cemeteries the extensive remains of two Great War training camps also exist. These camps are represented by elements such as practice trench systems, hut lines, prisoner of war camps and military hospital remains along with the now-Scheduled terrain model of Messines, the only example of this type of terrain model to survive within the UK.

There are several small areas of existing settlement within the AONB including Cannock Wood, Brocton and Milford. Outside of these settlements, there are scattered houses along roads, recreation centres and farmsteads. Roads are generally minor; however the A460 cuts through the southern half of the protected landscape, introducing traffic noise and movement. Tranquillity may also be disturbed by industrial activity within the AONB, including at Rugeley Quarry.

Cannock Chase AONB is at a higher elevation than the surrounding countryside on a sandstone plateau; this means it offers views over the contrasting, more developed areas. This is particularly true at Castle Ring (the highest point within the AONB) which provides panoramic views. This contrasts with the densely forested areas of Cannock Chase where there is a feeling of enclosure and intimacy. The limited settlement and secluded nature of the AONB gives an overall feeling of wilderness. These features make the area a popular location for recreational activities, resulting in pressure on the valued landscapes of the AONB.

Purpose of the State of the AONB Report

1.1 At the time of writing this report, the management framework for the AONB is provided by the Cannock Chase AONB Management Plan 2014-2019. The Management Plan provides a vision to 2034 and is reviewed at five year intervals, with the new Plan due to be published in 2019 to cover the period up to 2024. A State of the AONB Report was produced in 2010 to provide evidence to underpin and support the current Management Plan.

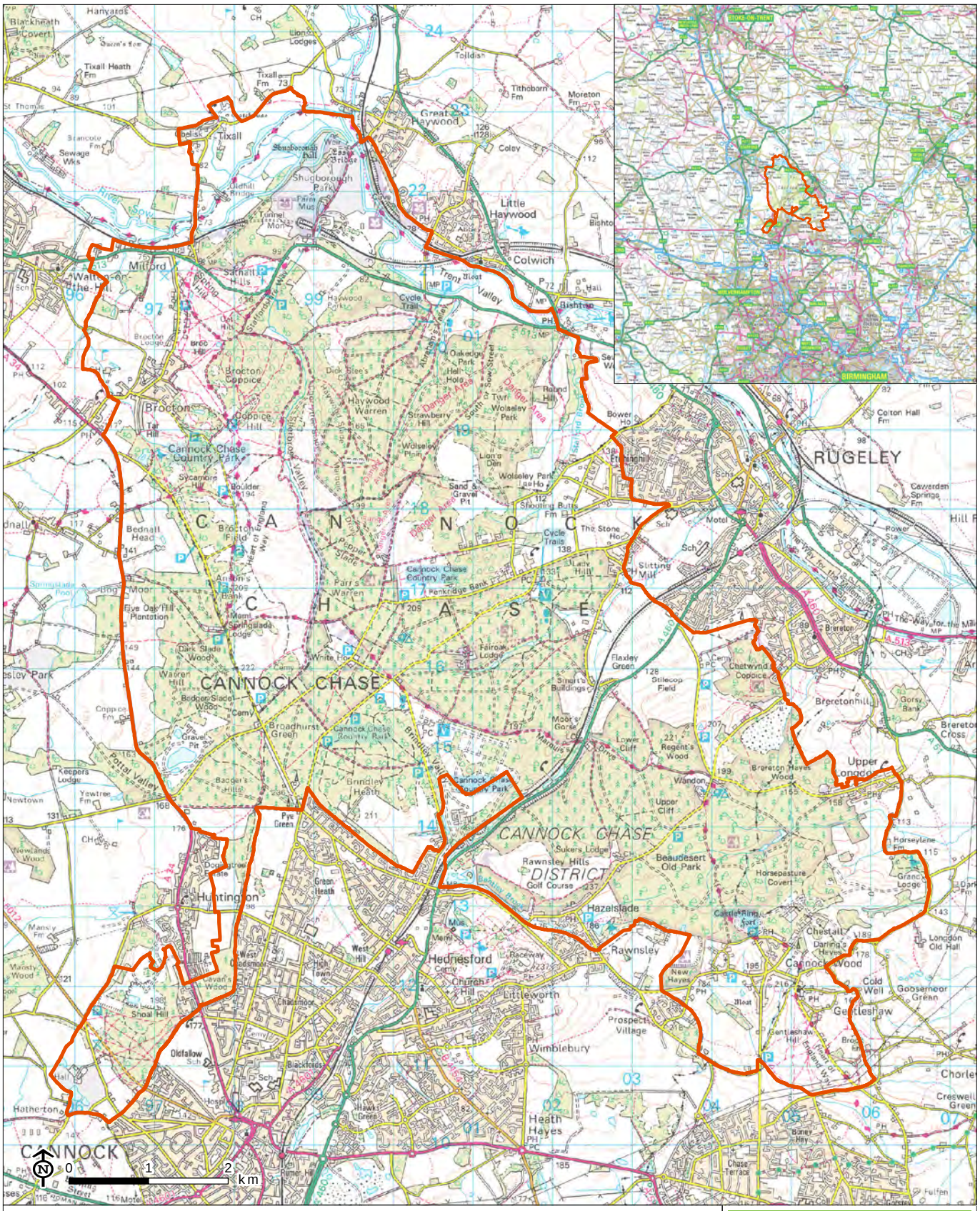
1.2 The aim of this State of the AONB Report is to draw upon all available data sources to produce an evidence base to underpin the new AONB Management Plan. It provides an updated and comprehensive baseline for future AONB condition monitoring and enables trends since the publication of the previous 2010 State of the AONB Report to be analysed and reasons behind trends to be explored.

1.3 **Figure 1.1** shows the AONB boundary and the wider context within which it sits. **Figure 1.2** shows an aerial photograph of the AONB area.

Structure of this report

1.4 This report is structured as follows:

- Chapter 2 sets out the methodology used to produce the report.
- Chapter 3 sets out the indicators for the Landscape Character and Planning theme, including Agricultural landscape character, Woodland cover and management, Settlement and Planning and visual and perceptual qualities sub-themes.
- Chapter 4 sets out the indicators for the 'Biodiversity and geodiversity' theme
- Chapter 5 sets out the indicators for the 'Historic Environment' theme
- Chapter 6 sets out the indicators for the 'Visitor Management' theme
- Chapter 7 sets out the indicators for the 'People and socio-economic profile' theme
- Chapter 8 sets out the summary headlines from each chapter and also outlines the next steps for monitoring within the AONB.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Source: Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 1.1: Location and extent of Cannock Chase AONB

CB:KS EB:Stenson_K LUC FIG1_1_10360_Location_A4P 20/07/2018

Cannock Chase Area of Outstanding Natural Beauty (AONB)

Cannock Chase
State of the AONB

Figure 1.2: Cannock Chase AONB – Aerial context

Source: ESRI, Natural England

Map Scale @ A4: 1:68,000

2 Method

2 Method

2.1 The methodology used to produce this 2018 State of the AONB report consisted of three main stages:

Stage 1: Identification of available data and development of indicators

2.2 The initial stages of this 2018 State of the AONB project involved a review of the indicators used in the existing 2010 study, exploring whether these indicators were still appropriate (i.e. reflecting the forces for change impacting upon the AONB landscape in 2018) and if updated data exists to review against the baseline set out in the 2010 report.

2.3 Information to inform the Statements of Significance was gleaned from the National Character Area profile for Cannock Chase and Cank Wood, the Cannock Chase Landscape Character Assessment (2017), the current AONB Management Plan, as well as other sources referenced in this document.

2.4 When selecting indicators, it was important to identify data sources which are likely to be updated on a regular basis in addition to assessing their usefulness in informing the current picture of AONB condition.

Stage 2: Obtaining and processing available data and information

2.5 The second stage involved compiling the relevant data from various sources, each of which has been referenced at the end of each theme section. A mixture of GIS data, reports and studies and survey data has been used to inform the reporting.

2.6 For many of the indicators in this report, a new baseline is being established against which the outcomes of future monitoring activity can be compared. This will also enable trends over time to be analysed so that the AONB can better understand forces for change on the wide variety of assets contained within the nationally protected landscape. Where possible, equivalent data was collected to allow direct comparison with the information contained in the 2010 State of the AONB Report, in order to analyse trends in the AONB since the 2010 Report.

2.7 It is important to note that where 2011 Census data has been used (predominantly in Chapter 7), the proportion of each census area (Middle Output Area, Lower Super Output Area or Output Area) within the AONB has been calculated and used to give approximate figures for an indicator. For example, if a Census Output Area has 25% of its area within the AONB, the data figures have been multiplied by 0.25 to approximate the figure for the AONB only.

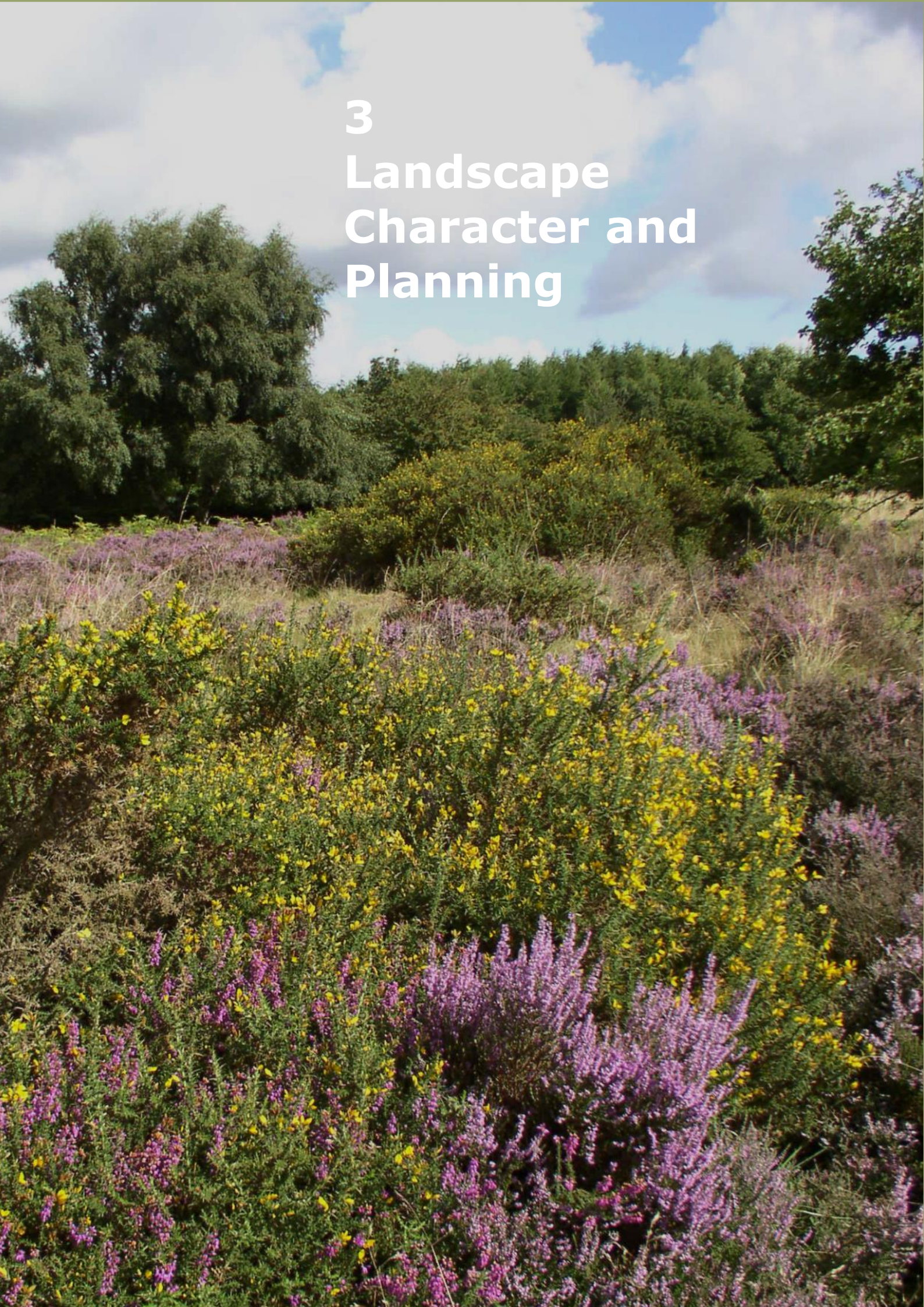
Stage 3: Analysis and reporting

2.8 As previously noted, wherever possible the data collated for this report has been compared with the data and analysis presented in the 2010 report to enable an exploration of trends and changes.

2.9 The results of the analysis are reported in the following themed chapters, which broadly align with the emerging structure of the 2019-2024 Management Plan. These chapters also comprise a number of subthemes to logically present the relevant analyses:

- Landscape character and planning

    - Agricultural landscape character
    - Woodland cover and management
    - Settlement and planning
    - Visual and perceptual qualities
- Biodiversity and geodiversity
- Historic environment
- Visitor management
- People and socio-economic profile



3 Landscape Character and Planning

3 Landscape Character and Planning

Statement of significance

3.1 Cannock Chase AONB is defined by a mosaic of different land uses, which together create a **unique patchwork landscape with contrasting textures and colours**. The expanses of unenclosed land contrast with the agricultural fields located in nearby countryside. The **lowland heathland habitat interspersed with areas of coniferous plantation forestry** is unusual in England, creating a strong sense of place. This is particularly significant as the area of lowland heathland is much reduced from its historic extent. Areas of farmland are typified by a **small-scale irregular field pattern**, divided by hedgerows. The settlement pattern comprises clustered farmsteads and roadside cottages, with **quiet rural character** despite the proximity to urban edges in some areas.

3.2 The present day character of the AONB landscape is strongly influenced by the historic land use and historic landscape character[1]. Amongst the heathland and forestry mosaic are a number of **historic estates**, containing distinctive landscape features including areas of **ancient oak woodland**, avenues of trees along lanes and **landmark historic buildings**.

3.3 Situated on an elevated sandstone plateau, the AONB offers **extensive, inspiring views over the surrounding area** from certain viewpoints. The Cannock Chase AONB is **largely unsettled and rural**, with settlement limited to small villages and scattered farms, often constructed in a **traditional vernacular of red brick**. There are some timberframed buildings of medieval to 17th century date. Sandstone was used for some of the more important buildings, particularly churches.

3.4 Within its wider context, the AONB provides an oasis from nearby urban development where **high levels of tranquillity and dark night skies** can be experienced, particularly in the heathland areas which tend to be isolated.

Structure of this Chapter

3.5 Landscape character is influenced by a number of different components. This chapter has therefore been split into a number of sub-themes as follows:

- Agricultural landscape character
- Woodland cover and management
- Settlement and planning
- Visual and perceptual qualities

Agricultural landscape character

Indicators selected for this sub-theme

3.6 The following monitoring indicators have been selected for the 'Agricultural landscape character' sub-theme:

- Patterns of agricultural land use and farm types
- Livestock numbers and types
- Area of land under agri-environment schemes
- Numbers of people employed in agriculture

[1] Further detail on the historic elements of the landscape is given in Chapter 5: Historic Environment.

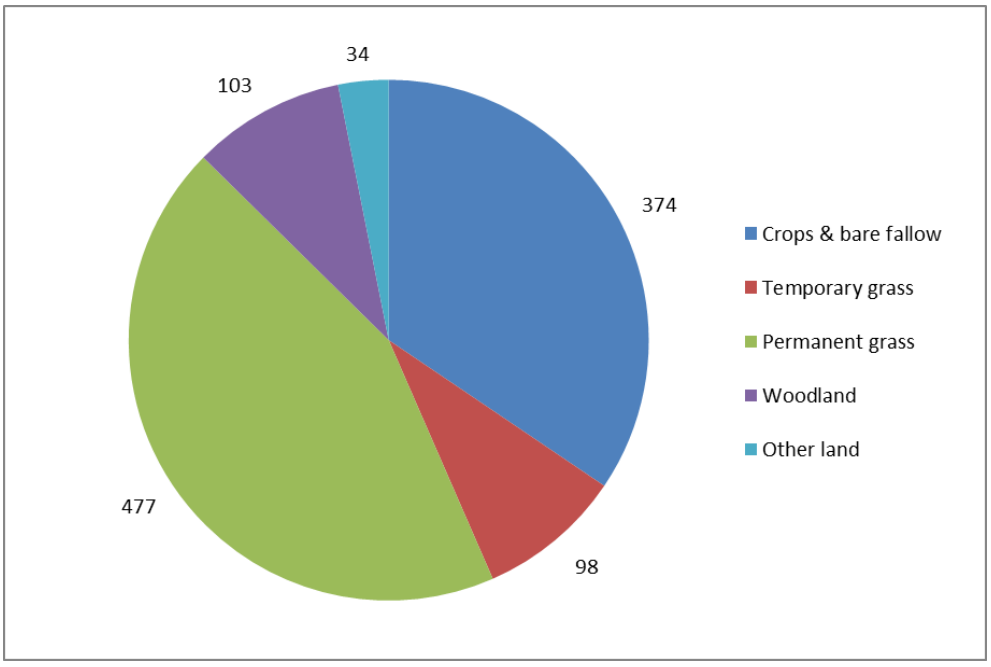
Summary headlines

- Permanent grass is the most common agricultural land use (48%) closely followed by crops and bare fallow (38%).
- The majority of the AONB land is non-agricultural (63%) due to the large areas of forestry and heathland. Agricultural land is Grade 3 and Grade 4.
- There has been an overall increase in livestock numbers between 2009 and 2016. Numbers of cattle and sheep have increased by 26% and 30.7% respectively, while numbers of poultry have risen by 133.3%.
- In 2016, a total of 53 people in the AONB were employed in the agricultural sector
- 31.5% or 2,165.4 ha of Cannock Chase AONB is included within an agri-environment scheme. Higher Level Environmental Stewardship Schemes comprise the majority (75%) of these schemes.
- There are two Countryside Stewardship Schemes within the AONB, covering an area of 136.4 hectares.

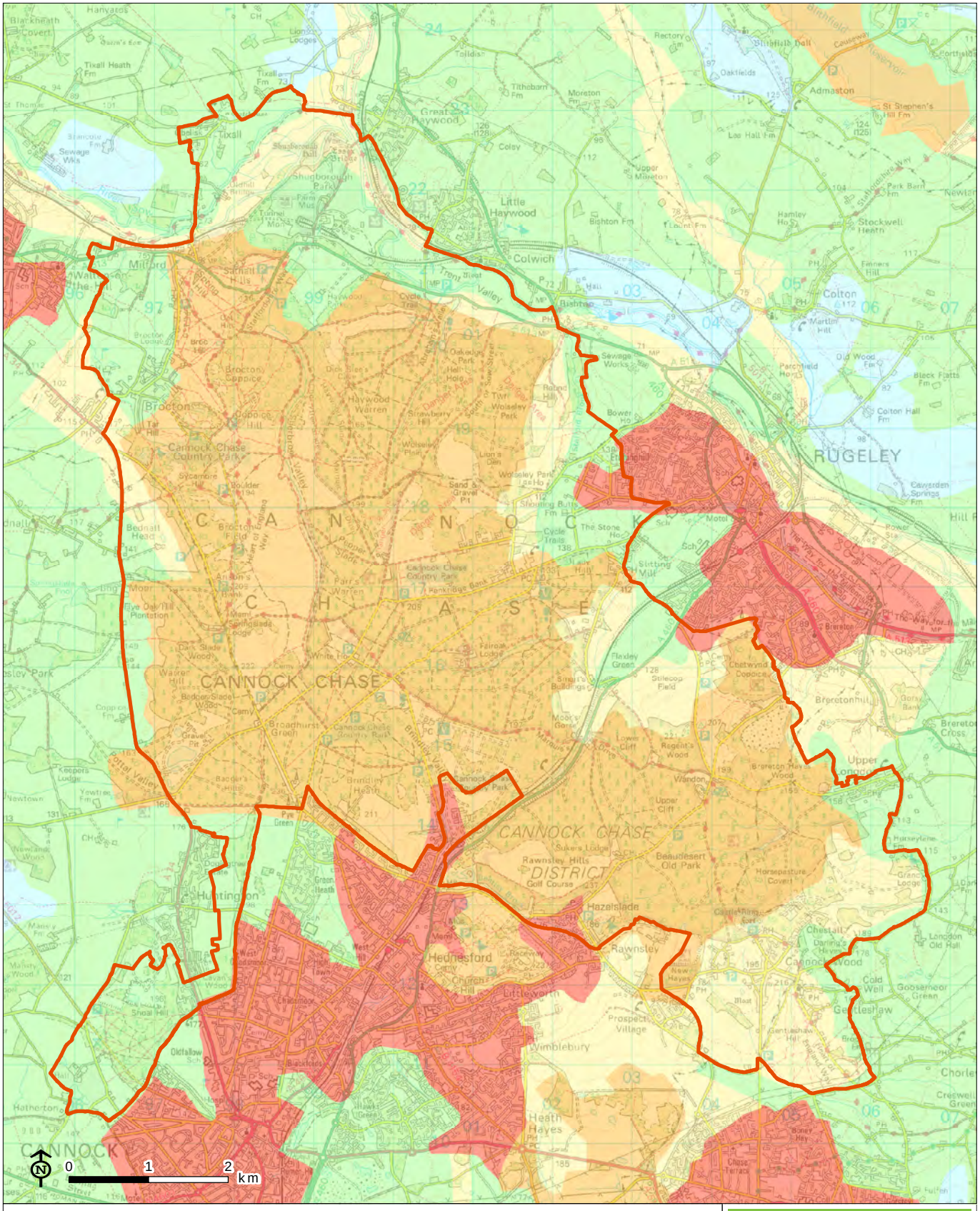
Analysis of indicator: Patterns of agricultural land use and farm types

3.7 The chart at **Figure 3.1** shows the area (in hectares) of land within the AONB dedicated to particular agricultural uses and farm types. Permanent grass is the most prominent agricultural land use accounting for almost half (477 ha or 48%) of the agricultural land within the AONB. Crops and bare fallow are also relatively common encompassing 38% (374 ha) of agricultural land use. Woodland, temporary grass and other land account for the remaining 14% of agricultural land cover.

Figure 3.1 Area of agricultural land use types within the AONB (ha), 2016



3.8 **Figure 3.2** shows the spatial distribution of the Agricultural Land Classification grades within the AONB. This illustrates that the majority of land within the AONB (63%) is non-agricultural. The majority of the agricultural land is Grade 3 (good to moderate quality agricultural land) mixed with patches of Grade 4 (poor quality) agricultural land. There is no Grade 1 or 2 agricultural land within the AONB. Beyond the AONB boundary (north west and north east), there are some areas of Grade 2 agricultural land. The edges of the AONB include some areas which are classified (in the agricultural land classification dataset) as urban, including the outskirts of Rugeley and Cannock.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Agricultural Landscape Classification

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban

Source: Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 3.2: Agricultural Land Classification

LUC

CB:KS EB:Stenson_K LUC FIG3_2_10360_ALC_A4P 20/07/2018

Analysis of indicator: Livestock numbers and types

3.9 This indicator examines livestock types and numbers within the AONB from 2009 to 2016, when the latest figures from Defra's June Agricultural Survey were released.

3.10 Livestock numbers from 2009 to 2016 are documented in **Table 3.1** below and illustrated in **Figure 3.3**. All livestock types (except horses) have shown an overall increase in numbers during this seven year period. Numbers of poultry have shown the greatest increase, showing a fourfold increase from 2009 to 2016, meaning poultry are now the most populous livestock type (2,891 individuals).

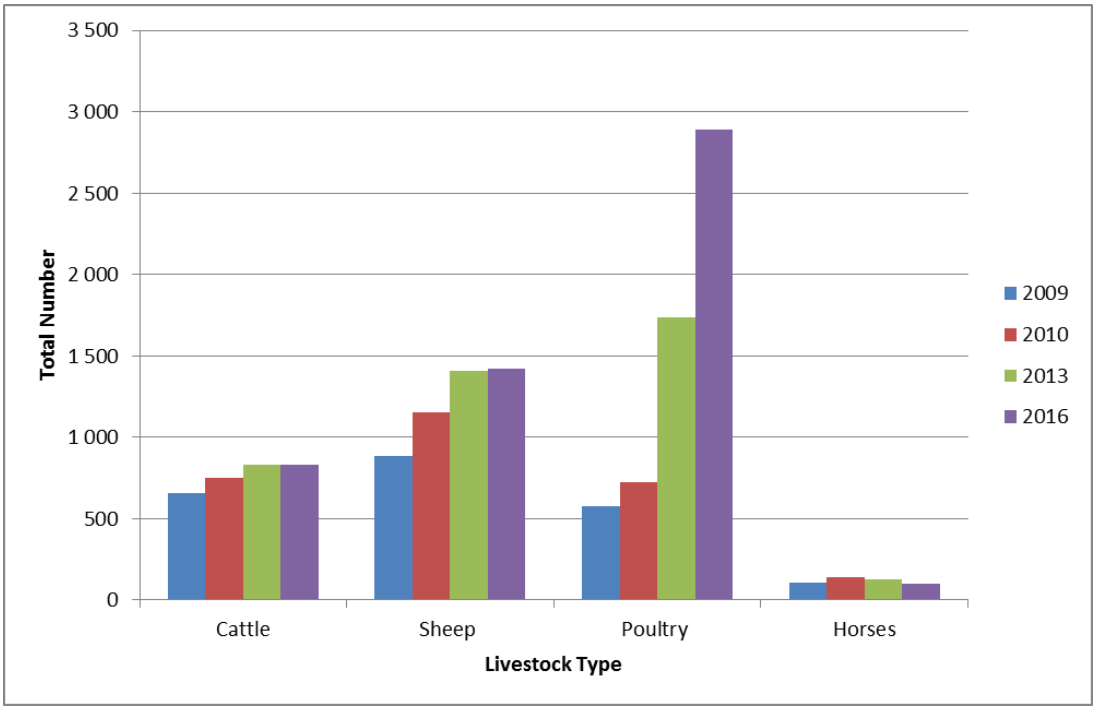
Table 3.1 Livestock types and numbers from 2009-2016

Livestock Type	2009	2010	2013	2016
Cattle	657	754	831	828
Sheep	882	1,153	1,408	1,422
Poultry	578	724	1,740	2,891
Horses	108	139	124	99

3.11 Both cattle and sheep have also seen marked population increases, with cattle experiencing a 26% growth in population and sheep a 30.7% increase. Combined, these livestock increases are likely to need larger amounts of grazing land. The number of horses in the AONB has remained relatively steady over the seven year period, rising slightly in 2010 before decreasing again to a total of 99 animals in 2016.

3.12 The overall increase in livestock numbers within the AONB needs to be carefully managed to avoid related issues including poaching of grassland and overgrazing. Conversely, increased numbers of grazing animals may have a positive impact on the management of the landscape, by preventing scrub encroachment and ecological succession of important heathland and grassland habitats. The increased numbers of livestock may be a result of intensification on existing holdings, or the creation of new holdings.

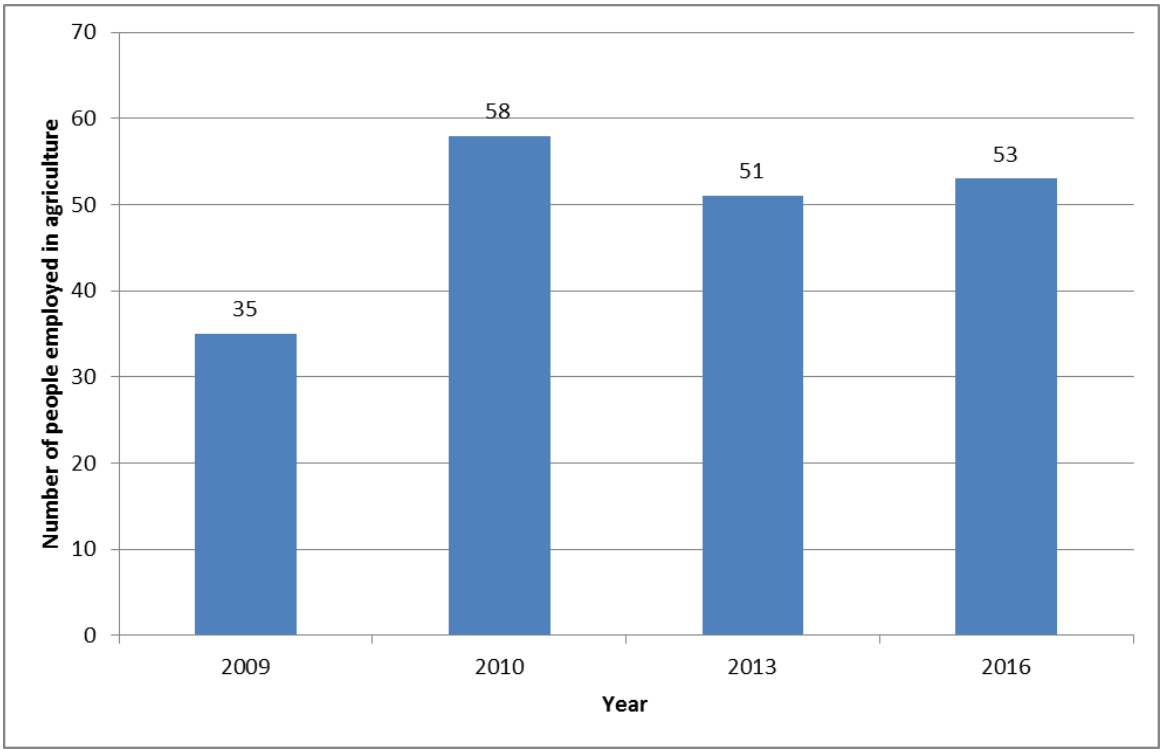
Figure 3.3: Livestock types and numbers from 2009-2016



Analysis of indicator: Numbers employed in agriculture

3.13 In the seven years prior to 2016, the number of people working within the agriculture sector has fluctuated as can be seen in **Figure 3.4**. There was a steep rise in the numbers employed in agriculture between 2009 and 2010 (from 35 to 58 people); however this may have been due to a change in the methodology or numbers being supressed in 2009 rather than a large actual change in numbers. Since 2010 the number of people working in agriculture has remained relatively steady, with 53 people employed as of 2016.

Figure 3.4 Number of people employed in agriculture, 2016



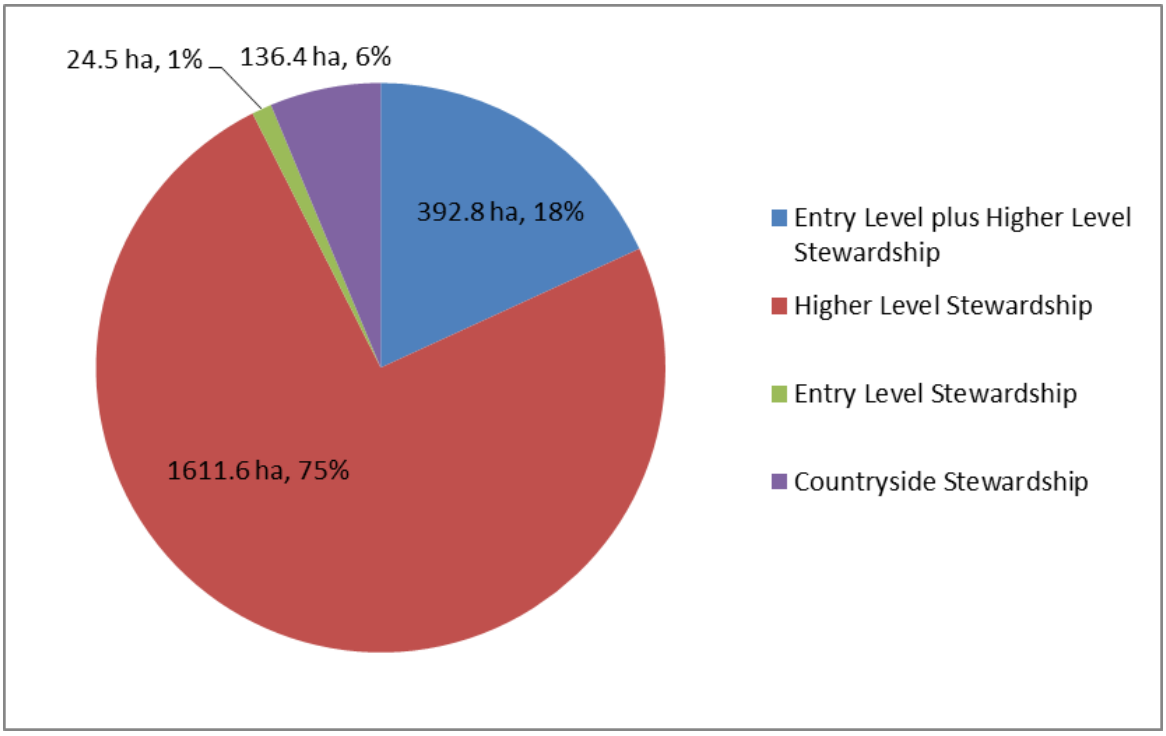
Analysis of indicator: Area of land managed under agri-environment schemes

3.14 **Figure 3.5** shows the area of land within the AONB which is managed as part of an agri-environment scheme. This information is also shown spatially in **Figure 3.6**. A total of 2,165.4 hectares in the AONB are managed as part of an agri-environment scheme, or 31.5% of the AONB.

3.15 Higher Level Environmental Stewardship Agreements cover an area of 1,611.6 hectares, or 75% of all scheme areas, while Entry Level plus Higher Level Environmental Stewardship covers 392.8 hectares, or 18% of all scheme areas. A number of these agreements are due to end in the next year, including a large scheme within Cannock Chase and Cank Wood (covering 1,287.5 ha). It will be useful to monitor whether these will be replaced by new Countryside Stewardship Schemes.

3.16 In comparison, a relatively small area is managed under Countryside Stewardship, likely due to the fact that this scheme was only opened to applicants in 2015. Currently, there are two Countryside Stewardship Agreements in the AONB, covering a total of 136.4 hectares (1.9% of the AONB or 6% of all scheme areas). The uptake of Countryside Stewardship Agreements to replace Environmental Stewardship Agreements as they expire will be an important factor to monitor during the next five-year management cycle of the AONB. However, the future of the current scheme as it stands now will also change as Britain leaves the EU and agri-environment schemes are reviewed by Defra.

Figure 3.5 Area of land under different types of agri-environment schemes (ha)



3.17 The spatial distribution of Environmental Stewardship Schemes is concentrated in the north western part of the AONB, with little coverage among the commercial forestry areas and in the south eastern part of the AONB.

Data sources

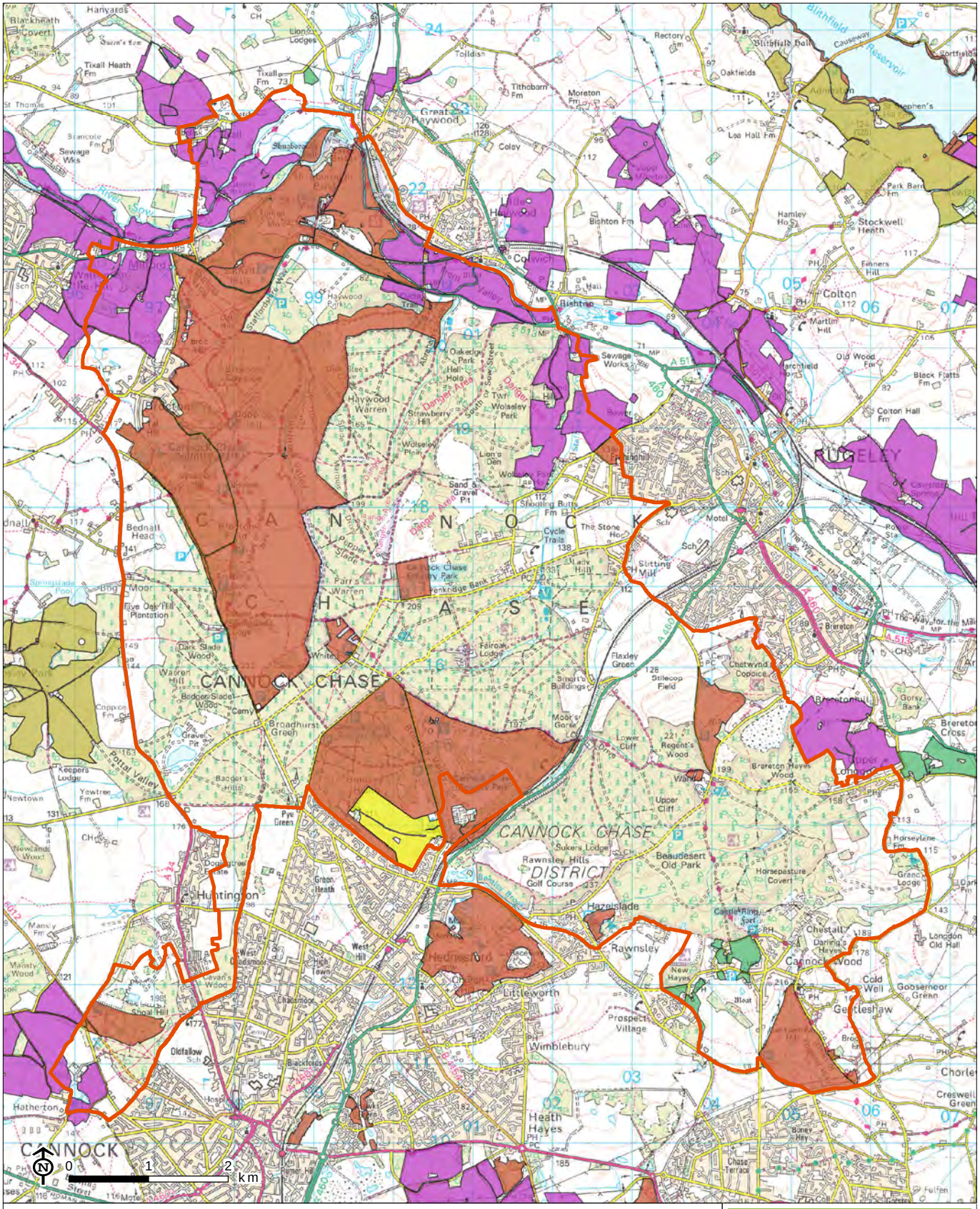
3.18 The data sources used for this sub-theme are as follows:

- Defra June Agricultural Survey (2009-2016)
- Natural England (data downloaded 2018)
- Natural England Protected Landscapes Monitoring Data (2018)

Recommendations for future monitoring and considerations for the Management Plan

3.19 The AONB should continue to monitor the indicators for agricultural land use every five years or as data become available from Defra. This will allow the AONB and partners to react to potential forces for change which may impact on the character and condition of the landscape (e.g. the grazing of increased numbers of livestock).

3.20 Of particular interest will be the monitoring of the extent of agri-environment schemes, particularly whether new Countryside Stewardship Schemes are established to replace Environmental Stewardship schemes which are due to finish in the next few years. The Management Plan should encourage landowners to take up Countryside Stewardship Schemes to help fund appropriate land management.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Countryside stewardship scheme agreement

Environmental stewardship scheme agreement

Entry Level Stewardship

Entry Level plus Higher Level Stewardship

Higher Level Stewardship

Organic Entry Level plus Higher Level Stewardship

Source: Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 3.6: Spatial distribution of agri-environment schemes

LUC

CB:KS EB:Stenson_K LUC FIG3_6_10360_Stewardship_Schemes_A4P 20/07/2018

Woodland cover and management

Indicators selected for this sub-theme

3.21 The following monitoring indicators have been selected for the 'Woodland cover and management' sub-theme:

- Extent and type of woodland cover
- Woodland management

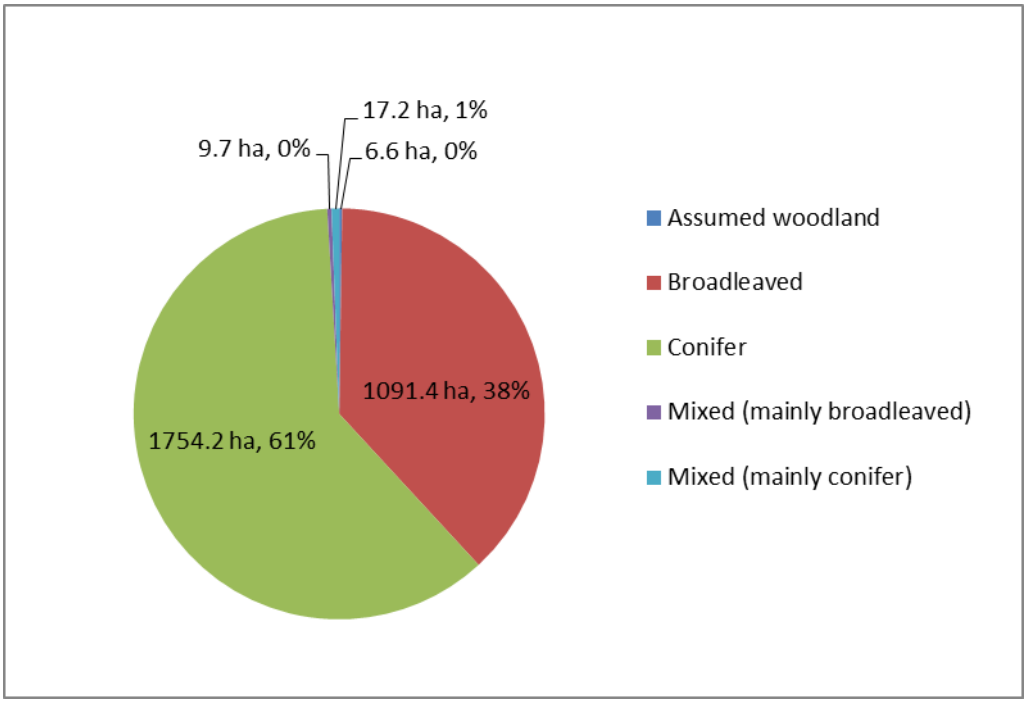
Summary headlines

- Woodland cover accounts for 2,879.1 hectares or 41.9% of the AONB.
- The most common woodland type is coniferous (1,754.2 hectares or 61% of all woodland areas), with broadleaved woodland covering 1,091.4 hectares or 38% of wooded areas.
- Ancient woodland comprises 160 hectares (2%) of the AONB.
- 82% of woodland in the AONB is actively managed. This is the highest figure of all AONBs in England.
- 56 hectares of woodland and 65 individual trees are managed as part of Environmental Stewardship schemes.

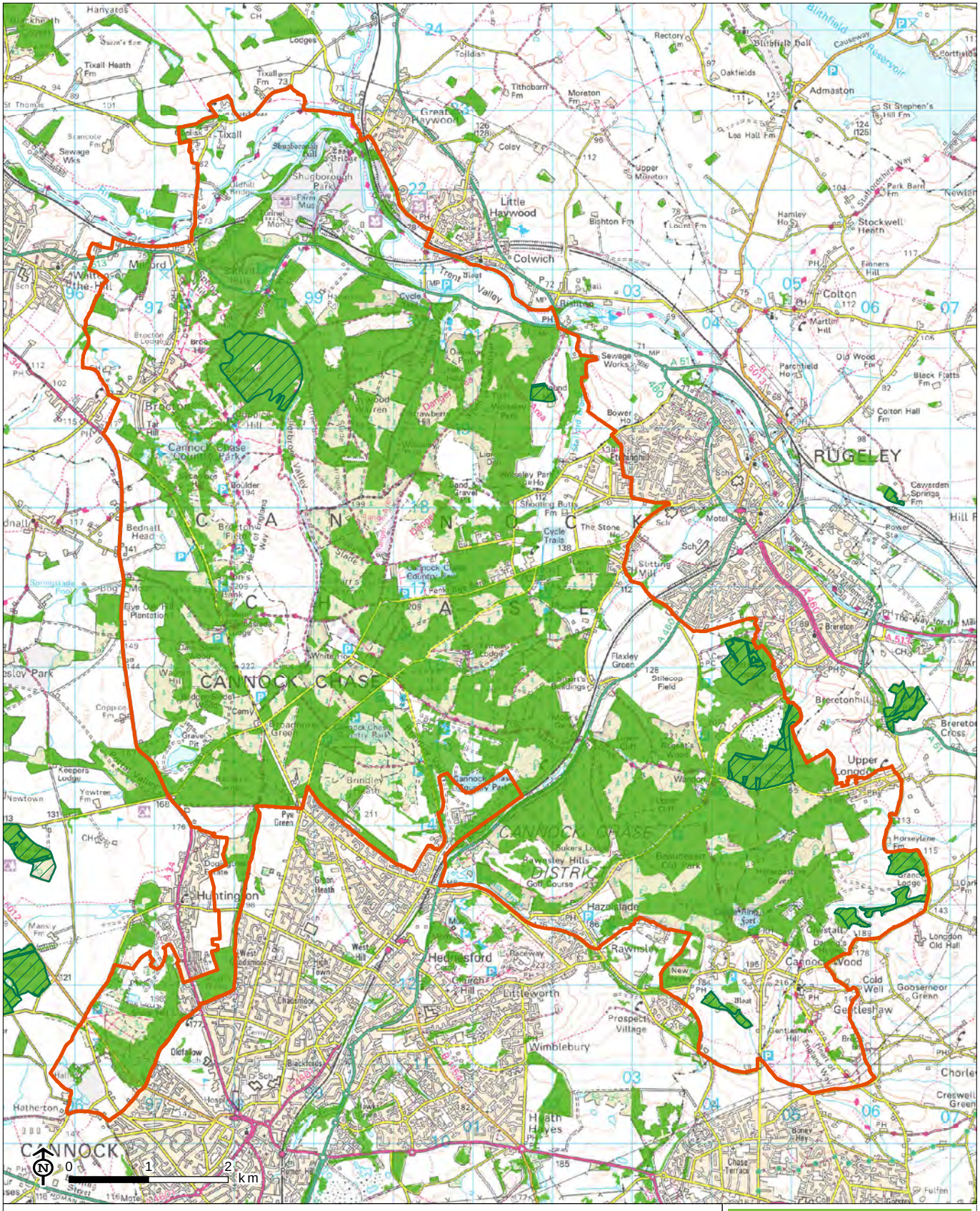
Analysis of indicator: Extent and type of woodland cover

3.22 **Figure 3.7** shows the distribution of different woodland types within the AONB according to the Forestry Commission National Forest Inventory. 41.9% (2,879.1 hectares) of Cannock Chase AONB is wooded, with the most common type being coniferous woodland covering 1,755 ha and making up 61% of all wooded areas. Much of the coniferous woodland within Cannock Chase is plantation forestry growing amongst the heathland. Broadleaf woodlands are also relatively widespread, covering 1,091.4 ha or 38% of the woodland cover. Mixed woodlands are less common and account for only 1% of all woodland cover.

Figure 3.7: Type and extent of woodland cover



3.23 The spatial extent of woodland cover is illustrated in **Figure 3.8**. Ancient woodland coverage is relatively low (given the wooded character of the AONB) and covers 160 hectares, or 2% of the Cannock Chase AONB.



Cannock Chase State of the AONB

Figure 3.8: Woodland cover

CB:KS EB:Stenson_K LUC FIG3_8_10360_Woodland_Cover_A4P 20/07/2018

Analysis of indicator: Woodland Management

3.24 According to the Forestry Commission's *England Managed Woodland Headline Performance Indicator*, 82% of woodland within Cannock Chase AONB is actively managed. This figure is the highest of the AONBs in England, reflecting the extensive forestry industry within the landscape.

3.25 As mentioned in paragraph 3.14, 31.5% of the AONB is managed as part of agri-environment agreements. 56 hectares of woodland is being managed and restored under Environmental Stewardship options - 46 hectares under option HC7: Maintenance of woodland, while eight hectares are under option HC8: Restoration of woodland.

3.26 65 individual trees are also managed as part of Environmental Stewardship agreements; 12 are managed under option EC1: Protection of in-field trees (arable), 48 are managed under option EC2: Protection of in-field trees (grassland) and 5 are managed under option HC5: Ancient trees in arable fields.

3.27 Equivalent data for woodland/trees managed as part of Countryside Stewardship agreements is not currently available.

Data sources

3.28 The data sources used for this sub-theme are as follows:

- Natural England (data downloaded 2018)
- Forestry Commission National Forest Inventory GIS data (downloaded 2018)
- Natural England Monitoring Data for Protected Landscapes (2018)

Recommendations for future monitoring and considerations for the Management Plan

3.29 Data presented for the indicators under this sub-theme should be revisited every five years to gain a picture of any key changes in woodland cover and condition. Woodland and individual trees are increasingly at risk due to disease/pests and the effects of climate change. Any incidences of tree disease and pests should be monitored.

3.30 The Management Plan should continue to promote the appropriate management of existing woodland to link up habitats and form wildlife corridors. Priorities for management include the conservation of ancient woodland, linking areas of ancient/broadleaved woodland and conserving/re-planting distinctive landscape and parkland trees. Plantation woodlands should be carefully managed for the benefit of the landscape e.g. the avoidance of clear felling. The reversion of conifer plantations to heathland should be considered where possible to create heathland corridors.

Settlement and planning

Indicators selected for this sub-theme

- Number and type of planning applications
- Number and type of dwellings

Summary headlines

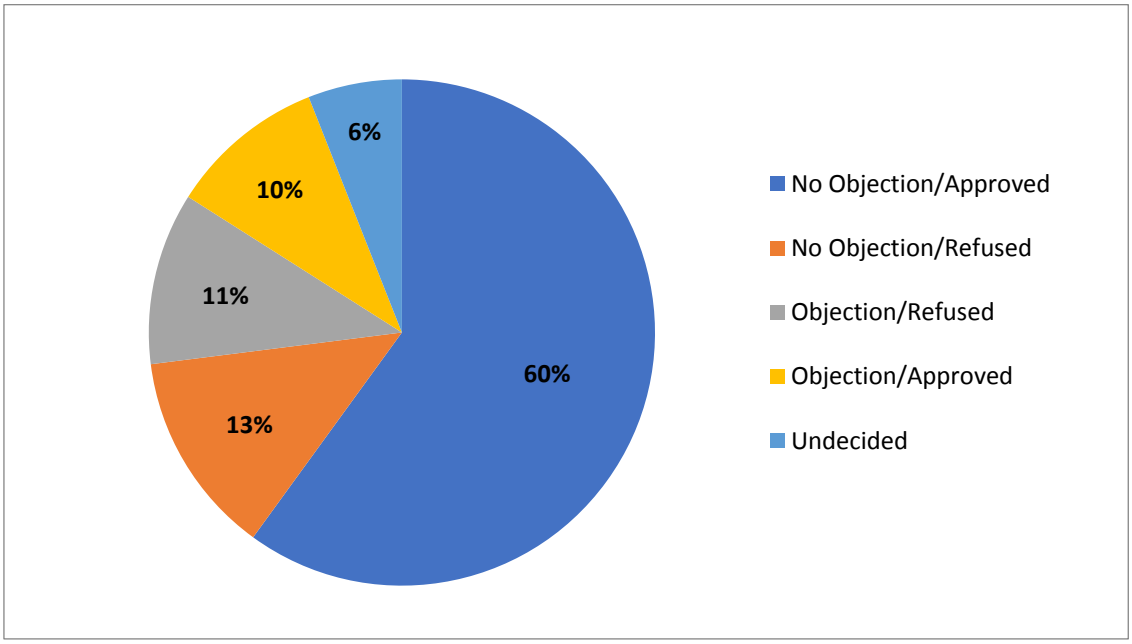
- 20% of all planning applications were for "alteration, extensions and replacement dwellings".
- There are a total of 3,811 dwellings in the AONB. 50% of these are detached buildings.
- 2017 had the highest number of planning applications since 2012.

Analysis of indicator: Number and type of planning applications considered by the AONB

3.31 Since 2013, there have been a total of 340 cases which the AONB have made formal comment on; 248 were development management cases, while 92 concerned other matters such as pre-application advice, appeals, and minerals/waste applications. The chart at **Figure 3.9** shows the proportion of AONB recommendations and outcomes of planning applications. Of the development management cases, 60% were approved with no objection from the AONB, while 10% were approved despite the objections of the AONB. Approximately half of these related to one site. 13% of cases were refused with no objection from the AONB; these were often within Green Belt land or refused on other grounds due to specific design or technical reasons, rather than the AONB designation being a driver for refusal.

3.32 For future monitoring work, it would be useful to collect data in a form that allows for a differentiation to be made between planning applications within the AONB boundary and those which the AONB have made formal comments on (which is the information included within the above paragraph).

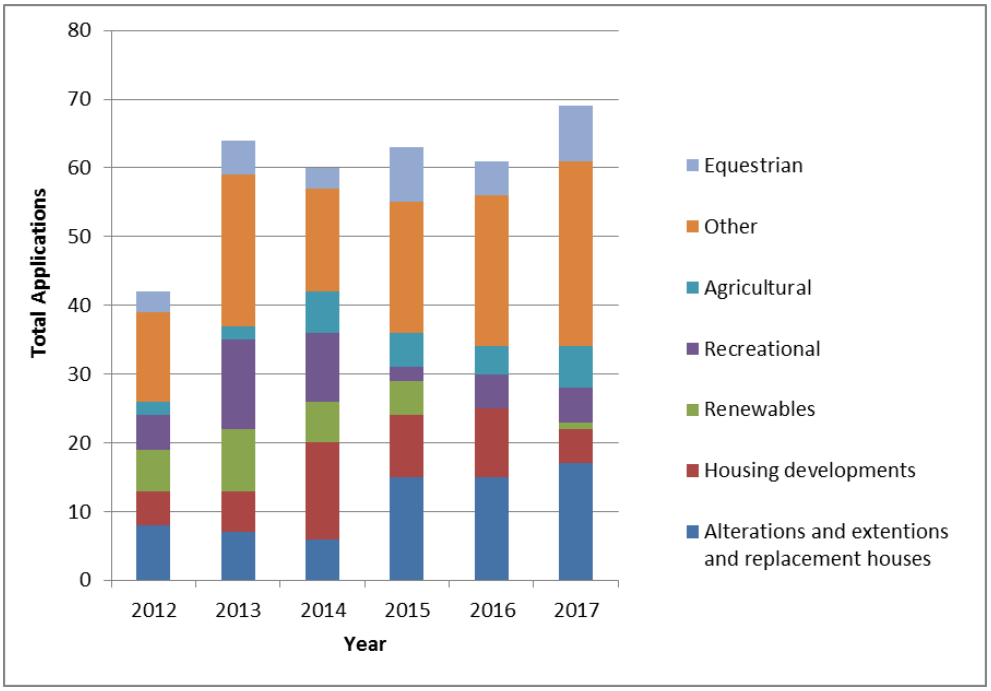
Figure 3.9: Planning applications - AONB recommendations and outcome



Please note: This information refers to all applications considered by the AONB Unit, including those outside the AONB boundary

3.33 **Figure 3.10** categorises the planning applications received between 2012 and 2017. The category with the most planning applications (with the exception of "other" which covers other matters) was "alteration, extensions and replacement dwellings"; totalling 20% of applications over the six year period. Planning applications in this category have increased in number in recent years, particularly between 2015 and 2017. Overall applications per year were highest in 2017.

Figure 3.10 Planning applications by type (2012-2017)



Please note: This information refers to all applications considered by the AONB Unit, including those outside the AONB boundary

3.34 Between 2012 and 2015 there were several applications relating to renewable energy installations per year, which then decreased markedly, with no applications of this type in 2016 and only one in 2017. These mainly related to single wind turbines, biomass facilities and an anaerobic digestion facility. These trends relating to renewable energy installations are likely to be as a result of changes to the feed-in tariff over this period, although these trends should be closely monitored as policy changes may lead to increased numbers of these applications in the future.

3.35 In recent years, there has been an increase in equestrian-related planning applications, providing evidence for the increased pressure of this type of land use within or close to the AONB.

Analysis of indicator: Number and type of dwellings

3.36 UK Census 2011 data indicates that there are a total of 3,811 dwellings in the AONB. These are broken down into different dwelling types in **Table 3.2** below. Detached dwellings account for approximately half of the AONB's total housing stock.

3.37 Spatially, the majority of dwellings are located close to the edges of the AONB within villages such as Cannock Wood, Brocton and Upper Longdon or on the edges of larger towns including Cannock and Rugeley.

Table 3.2: Number and type of dwellings in the AONB

Property Type	2011	2011 %
Detached	1,902	50
Semi-detached	1,284	33.7
Terraced	410	10.7
Maisonette	215	5.6
Total	3,811	

Source: ONS UK Census (2011)

Data sources

3.38 The data sources used for this sub-theme are as follows:

- Cannock Chase AONB Partnership Planning Protocol (2018)
- ONS Census Data 2011

Recommendations for future monitoring considerations for the Management Plan

3.39 It is advised that the AONB team review local authority weekly planning application lists to determine if all planning applications inside (and outside) of the AONB boundary are being circulated to the AONB for consultation.

3.40 Planning data collected by the AONB in the future should differentiate between those planning applications that are within the AONB boundary and those which are outside. Both are equally important for the AONB to consult on as changes outside the AONB have the potential to affect the sense of place within the protected landscape.

3.41 The AONB should continue to monitor the number and type of planning applications it is consulted on, on an annual basis. A review of this information should be conducted at least every five years through State of the AONB reporting.

3.42 The Management Plan should continue to promote the involvement of the AONB at all stages of the planning process, to ensure that the special qualities of the AONB are protected. This is equally important for development planning in the areas surrounding the AONB and areas within the protected landscape.

Visual and perceptual qualities

Indicators selected for this sub-theme

3.43 The following monitoring indicators have been selected for the 'Visual and perceptual qualities' sub-theme:

- Fixed point photography monitoring
- Levels of tranquillity
- Dark night skies

Summary headlines

- The visual and perceptual qualities of some areas within the AONB have changed significantly between 2004 and 2014, while other areas have remained remarkably unchanged.
- Cannock Chase generally has moderate levels of tranquillity, with higher levels of tranquillity experienced in the central parts of the protected landscape. Tranquillity is diminished close to adjacent urban areas, but still high relative to surrounding areas.
- Brocton Coppice was identified as the most tranquil area within the AONB by a local-level tranquillity survey in 2010.
- Cannock Chase has the highest levels of light pollution of any AONB, although night skies are still comparatively dark in the context of the surrounding urban areas.

Analysis of indicator: Fixed point photography

3.44 A Fixed Point Photography project has been running in the AONB since 2005, and involves photographs taken twice per year from 56 locations within the AONB. This photographic record provides a valuable resource documenting the visible changes (or the lack of change) within the landscape.

3.45 In a number of areas, scrub encroachment, ecological succession and self-seeded woodland have enclosed views, altering the visual and perceptual experiences of the landscape. (e.g. Fixed Point 6: Peace Vista, Fixed Point 22: Stile Cop [**Figure 3.11**], Fixed Point 15: Weetmans Bridge and Fixed Point 50: Rawnsley to Hazelslade.) Conversely, there are some areas where woodland clearance is evident (e.g. Fixed Point 53: Rugeley Quarry towards Kingsley Wood Road); creating open vistas in areas which formerly had an enclosed feel.

Figure 3.11: Fixed point photography from Point 22: Stile Cop in 2004 (top) and 2014 (bottom)

3.46 The loss or decline of mature in-field trees is evident in some parkland areas (e.g. Fixed Point 16: Tixall gatehouse and Fixed Point 30: Hatherton Park). The loss of these focal points in the landscape is dramatic and many parkland trees are increasingly at risk due to disease and the effects of climate change. This also illustrates the importance of proactive and planned replacement of parkland trees to maintain the traditional landscape character.

3.47 The introduction of horsiculture and its subsequent impact on the landscape is also visible in a number of locations. These impacts include the poaching of grass, installation of fencing/pony tape and associated clutter (e.g. Fixed Point 21: Slitting Mill and Fixed Point 25: Hayfield Hill, Cannock Wood [**Figure 3.12**])

Figure 3.12: Fixed point photography from Point 25: Hayfield Hill in 2004 (left) and 2014 (right)

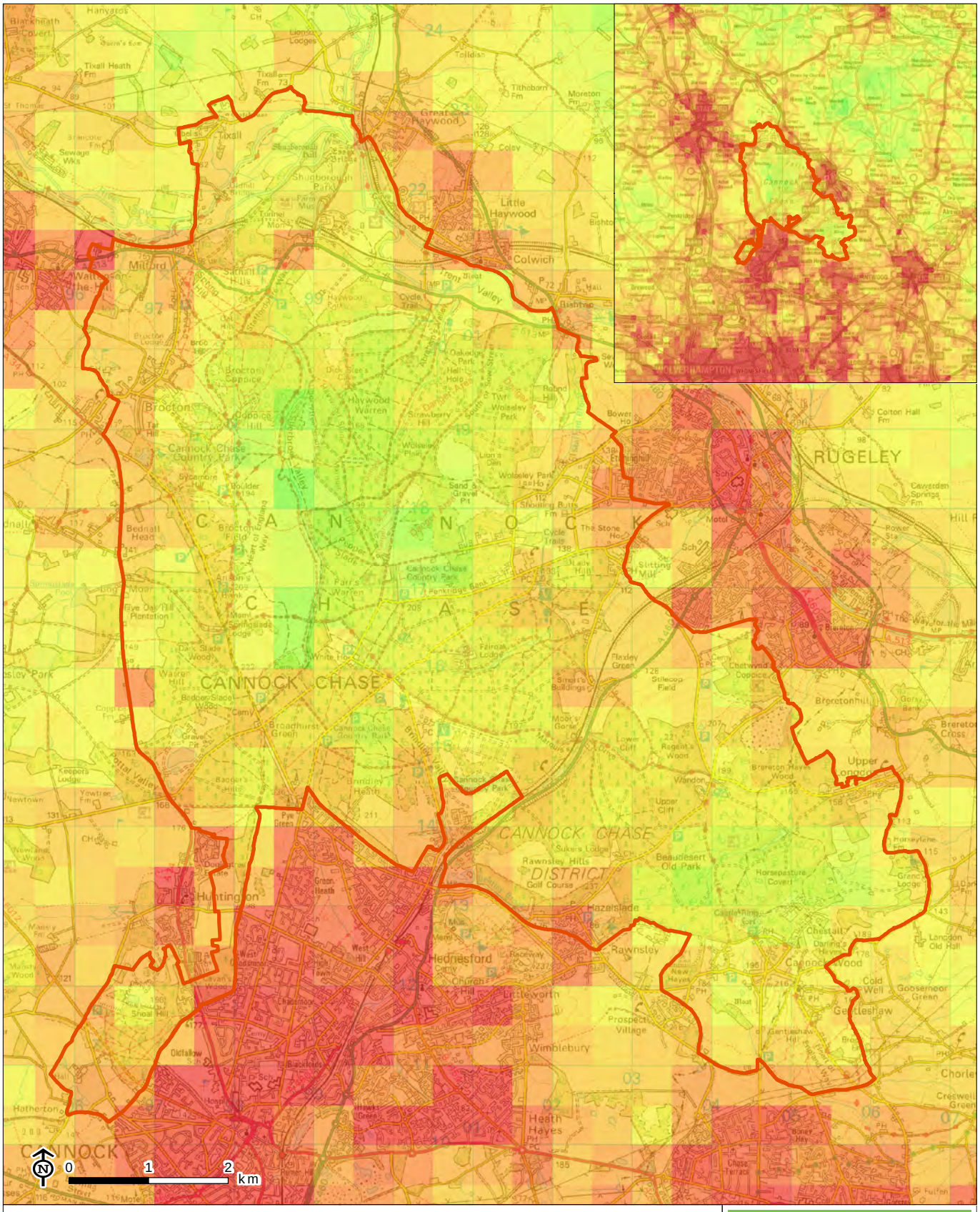
3.48 There are also a number of locations where little change is evident except for that associated with the changing seasons. These include many of the heathland areas, for example Fixed Point 3: Brindley Heath and Fixed Point 29: Shoal Hill [**Figure 3.13**].

Figure 3.13: Fixed point photography from Point 29: Shoal Hill

3.49 The results of the fixed point photography project illustrate the importance of appropriate land management and the affect that changes in management and land use can have on the visual and perceptual qualities of the landscape over a relatively short period of time.

Analysis of indicator: Tranquillity

3.50 The CPRE National Tranquillity mapping from 2006 shows that Cannock Chase AONB exhibits moderate levels of tranquillity throughout most of its area (as can be seen in **Figure 3.14**), with some more secluded areas of higher tranquillity. Closer to the outskirts of the AONB tranquillity levels are lower, particularly in close proximity to urban areas. However the AONB as a whole is relatively tranquil when compared to areas outside the AONB particularly land to the south in Cannock, where tranquillity is mostly low.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

National Tranquility Scale

Most tranquil

Least tranquil

Source: Campaign to Protect Rural England, Natural England

Map Scale @ A4: 1:500,000

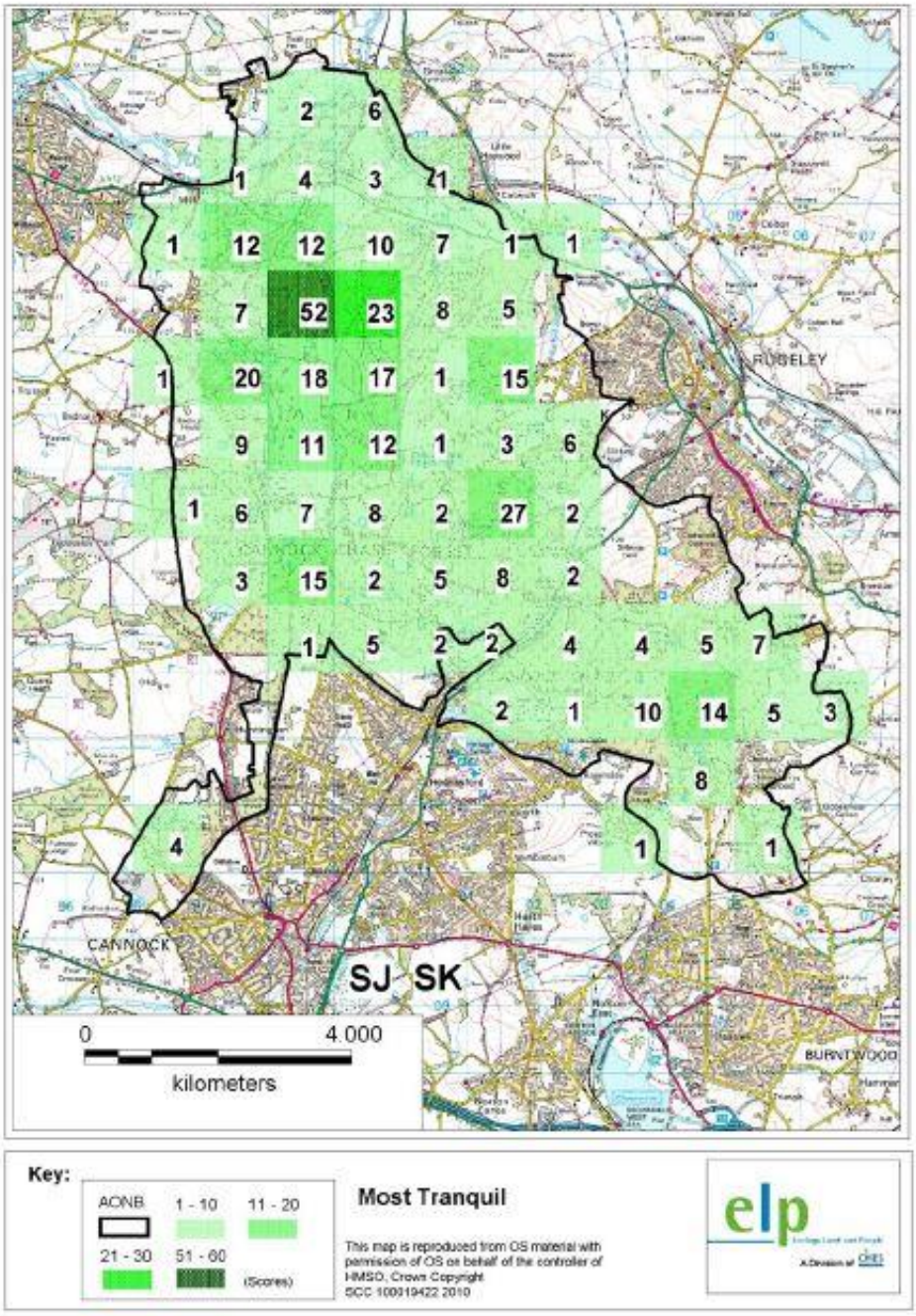
Cannock Chase State of the AONB

Figure 3.14: Tranquillity distribution

3.51 In 2010, a Peace and Tranquillity Study was undertaken for the AONB. The methodology of the survey involved dividing the AONB into one kilometre grid squares, and asking respondents to identify the place they thought was most tranquil and the place they thought was least tranquil, including the reasons why they identified these locations as tranquil/not tranquil.

3.52 A map illustrating the results of this study can be seen at **Figure 3.15**. The numbers on each of the grid squares indicate how many people thought that particular location was the most tranquil area in the AONB.

Figure 3.15: Areas identified as most tranquil in the 2010 Peace and Tranquillity Survey



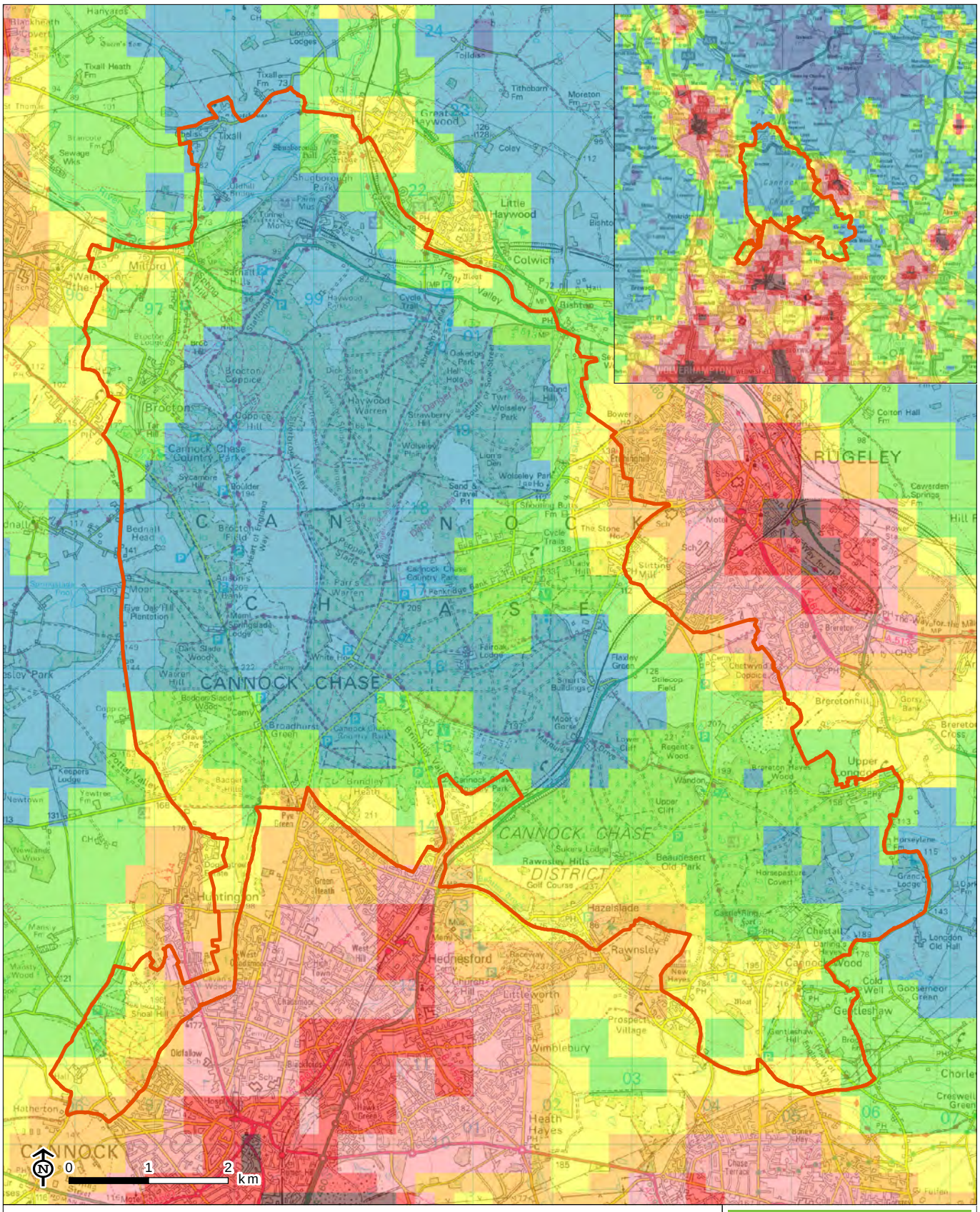
3.53 The survey identified that respondents most frequently used the word "quiet" and "peaceful" to describe why a site was tranquil. Factors that detracted from tranquillity included the "presence of other people", "traffic and cars", "busy", "noise" and "mountain bikes". The most tranquil area identified within this survey was Brocton Coppice with almost twice as many respondents than

any other square. Nevertheless, every grid square had at least one respondent stating they found tranquillity there, highlighting the subjective nature of tranquillity.

3.54 This study also gathered people's opinions on the temporal aspect of tranquillity, with many people stating that levels of tranquillity were reduced on weekends, due to the influx of visitors during these times.

Analysis of indicator: Dark night skies

3.55 Cannock Chase AONB has the highest average levels of light pollution when compared to all the other AONBs in England. This is likely as a result of its location, surrounded as it is by dense urban development emitting large amounts of light pollution which affect the AONB. However, Cannock Chase AONB still has relatively dark skies in the context of the surrounding area as can be seen in **Figure 3.16**.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Night Lights

(NanoWatts / cm2 /sr)

- >32 (high)
- 16 - 32
- 8 - 16
- 4 - 8
- 2 - 4
- 1 - 2
- 0.5 - 1
- 0.25 - 0.5
- < 0.25 (low)

Source: Campaign to Protect Rural England, Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 3.16: Tranquillity distribution

LUC

Data sources

3.56 The data sources used for this sub-theme are as follows:

- CPRE Tranquillity Maps (2006)
- CPRE Light Pollution and Dark Skies Maps (2016)
- Peace and Tranquillity in the Cannock Chase AONB. Red Kite Environment (March 2010)

Recommendations for future monitoring and considerations for the Management Plan

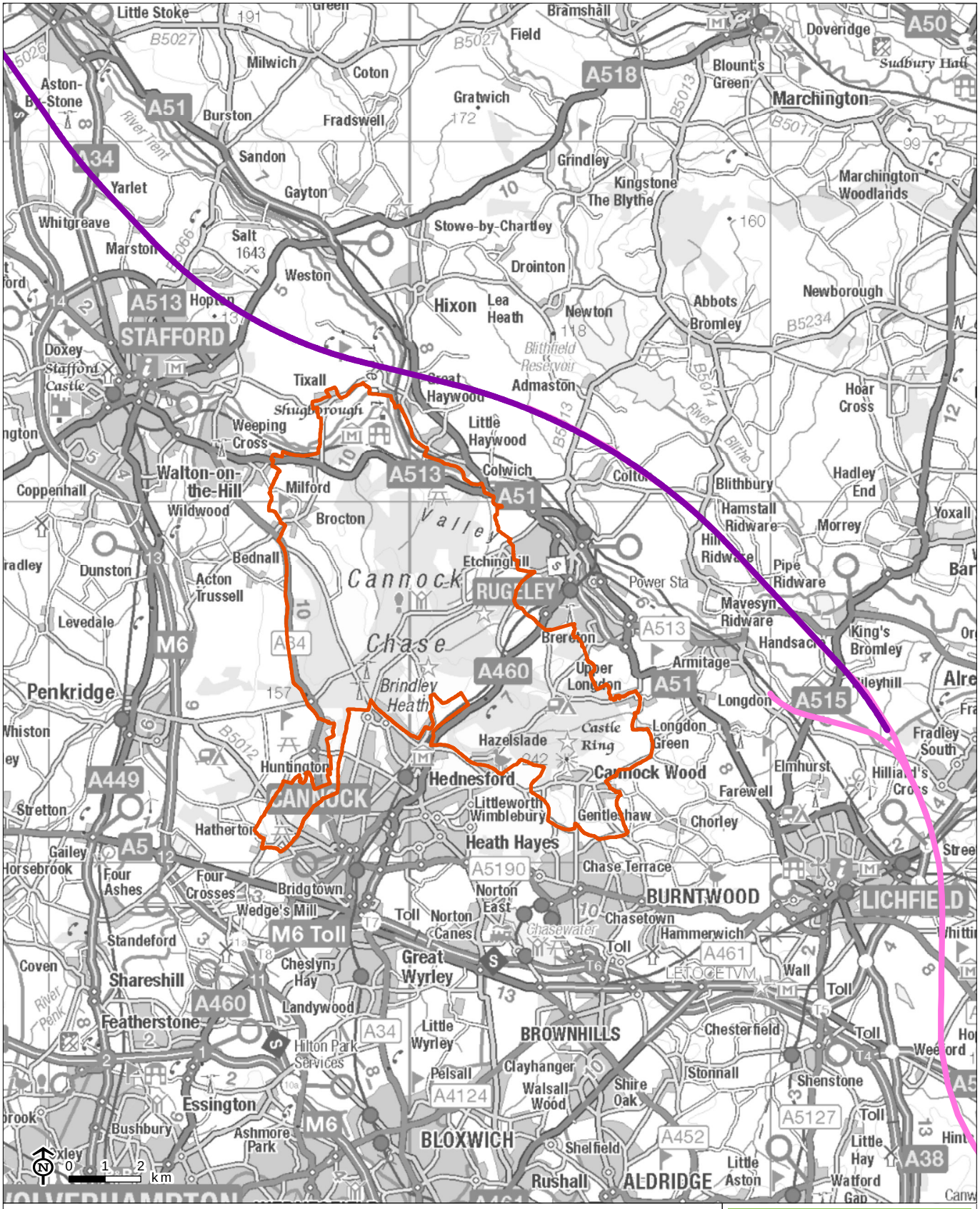
3.57 The Fixed Point Photography project provides a valuable record of visible change in the landscape and should continue to be updated twice per year. The AONB should also explore the potential of monitoring change using aerial photography, particularly as advances in drone technology have helped to make this more economical.

3.58 The Fixed Point Photography evidence base could be supported by the production of theoretical visibility mapping, which would help with the identification of key views in and out of the AONB (which the Management Plan should promote). This will enable the AONB to evaluate the likely impact of developments both within and outside the AONB on visual and perceptual qualities and will help the AONB to react in a proactive rather than reactive manner to protect key views. The Management Plan should include a policy on the protection of key views, in particular those which contribute to the special qualities of the protected landscape.

3.59 It is hoped that new tranquillity mapping will be available nationally before the next State of the AONB report in five years, as there is appetite within CPRE and others to re-visit this information. Modern techniques and better data availability will hopefully allow for more in-depth analysis and trends over time to be seen in greater detail.

3.60 The baseline set out in the 2010 Cannock Chase AONB Peace and Tranquillity Study could also be revisited to examine if there have been any notable changes in the perceptual qualities of the landscape.

3.61 The planned route for HS2 is located to the northeast of Cannock Chase AONB (see **Figure 3.17**) and is likely to have an impact on tranquillity and perceptual qualities within the landscape. The AONB and partners should work to ensure that these affects are adequately mitigated at all stages of this nationally significant infrastructure project, including at the design, construction and operational phases of the project.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

HS2 route (data source: HS2 limited)

HS2 route (data source: Lichfield District Council)

Cannock Chase State of the AONB

Figure 3.17: Location of HS2 Route in relation to Cannock Chase AONB

Source: HS2, Lichfield District Council, Natural England

Map Scale @ A4: 1:150,000

CB:KS EB:Stenson_K LUC FIG3_17_10360_HS2_A4P 20/07/2018

4
Biodiversity and geodiversity

4 Biodiversity and geodiversity

Statement of significance

4.1 The varied landscape contains many habitats which support a diverse range of plant, invertebrate and animal assemblages. These include the large tracts of **lowland heath habitat,** which are internationally designated as a Special Area of Conservation due to vast expanses of European dry heath and Northern Atlantic wet heaths which are Annex I habitats. The heathland is also significant as it represents an example of transitional heaths between northern heaths and southern counties and is also the largest area of this habitat in the Midlands. The heathland supports the main British population of hybrid bilberry (*Vaccinium intermedium*). Other species dependent on this unique landscape include important invertebrate populations of beetles and butterflies, European nightjar (*Caprimulgus europaeus*) and five bat species.

4.2 Other important habitats within the AONB include a range of **grassland habitats** and **ancient woodlands**. Within the Trent River Valley there is a **mosaic of important wetland habitats** which support valued native species including white-clawed crayfish. These include valley mires and flood plain grazing marsh. There are a number of historic parks such as Shugborough, Beaudesert, Teddesley and Wolseley, which are associated with **parkland and wood pasture** habitat. Brocton Coppice, which is part of Cannock Chase, is an important wood pasture site that adds significantly to the resource of **veteran trees,** including ancient sessile oaks which are up to 600 years old.

4.3 The former sites of quarrying and gravel pits have created **important geological exposures**, enabling the study of the underlying red sandstone and coal measures geology, which has influenced the historical land cover and industrial practices in Cannock Chase.

Indicators selected for this theme

4.4 The following indicators have been selected for biodiversity/geodiversity monitoring:

- Habitat extent and condition
- Presence/absence of indicator species (birds)
- Extent and condition of geological features

Summary headlines

- 18% of the AONB area is internationally designated as a Special Area of Conservation (SAC), primarily for the presence of large areas of European dry heath habitat.
- Cannock Chase has the highest percentage cover of lowland heath of any AONB (12%) in England.
- There are five Sites of Special Scientific Interest (SSSIs) within Cannock Chase, the majority of which are in an unfavourable recovering condition.
- During a 2017 bird survey, 19 bird species with red list status were sighted in the AONB.
- White-clawed crayfish have been recorded at three separate locations in the last three years.
- At least nine bat species have been recorded in the AONB in the last ten years.
- The small pearl-bordered fritillary butterfly has been recorded in the Sherbrook Valley and Oldacre Valley in most years since 2008.
- Water voles have not been recorded in the AONB since 2005.
- There are five Local Geological Sites (LoGs) within the AONB, four of which have a positive conservation status.
- Of the 13.6 km of rivers within the AONB, 29% have a good ecological status.

Analysis of indicator: habitat extent and condition

Designated nature conservation sites

4.5 The AONB contains extensive semi-natural habitats of international, national and local importance. In particular, it contains vast areas of internationally important lowland heathland. **Table 4.1** shows details of the designated nature conservation sites within the AONB. The spatial extent of these sites can also be seen on the map at **Figure 4.1**.

4.6 Within the AONB there is an internationally designated Special Area of Conservation (SAC), with an area of 1,244 ha making up 18.1% of the total AONB area. The SAC is designated for its areas of European dry heath and Northern Atlantic wet heaths with *Erica tetralix,* both of which are Annex I habitats. These heathlands also provide a habitat for the main British population of hybrid bilberry *(Vaccinium intermedium*). Cowberry (*Vaccinium vitis-idaea)* and crowberry (*Empetrum nigrum*) are also present, which are exclusive to northern latitudes. The SAC's habitats support important invertebrate populations including beetles and butterflies. The Amber listed European nightjar (*Caprimulgus europaeus*) and five bat species are also present within the SAC. This area is the most extensive area of lowland heathland in the Midlands.

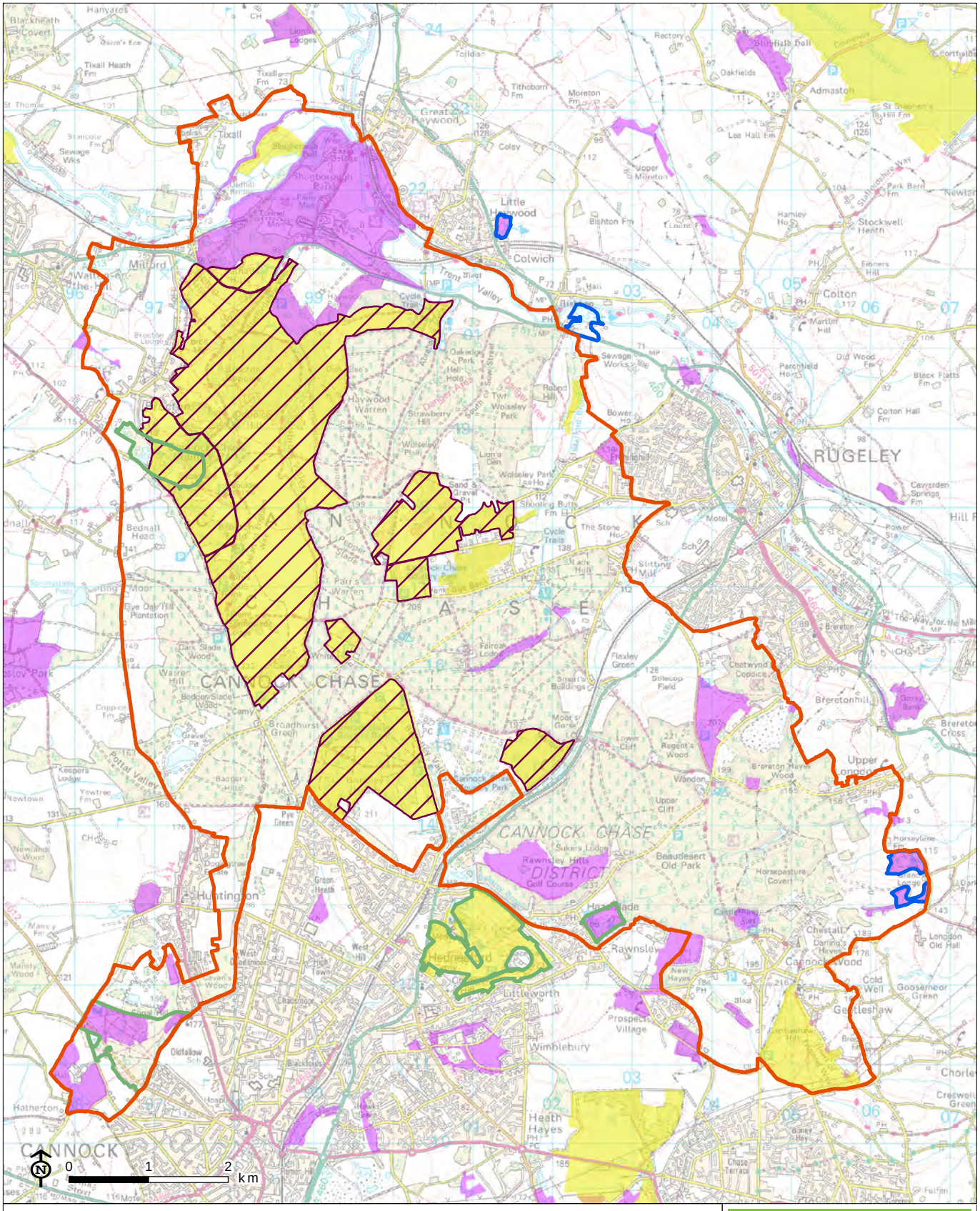
4.7 There are five SSSIs within the AONB which cover 1,392.2 hectares or 20.2% of the AONB. A large area of land falls within both the SAC and SSSI.

Table 4.1: Details of designated conservation sites in the AONB

Designation	Name	Total area (ha)	Area in AONB (ha)	% of site within AONB	% of AONB within designation
Special Area of Conservation (SAC)	Cannock Chase	1,244.0	1,244.0	100.0%	18.1%
Site of Special Scientific Interest (SSSI)	Cannock Chase	2,022.1	1,279.1	63.3%	18.6%
SSSI	Gentleshaw Common	80.5	78.6	97.7%	1.1%
SSSI	Milford Quarry	6.3	6.3	100.0%	0.1%
SSSI	Rawbones Meadow	21.3	21.3	100.0%	0.3%

Designation	Name	Total area (ha)	Area in AONB (ha)	% of site within AONB	% of AONB within designation
SSSI	Stafford Brook	6.9	6.9	100.0%	0.1%
Local Nature Reserve (LNR)	Brocton	40.9	40.9	100.0%	0.6%
LNR	Hazel Slade	13.3	13.3	100.0%	0.2%
LNR	Shoal Hill Common	74.5	74.1	99.5%	1.1%
Site of Biological Importance (SBI)	Beaudesert Golf Course, Rawnsley Hills	60.1	60.1	100.0%	0.9%
SBI	Brereton Hayes (north)	1.2	1.2	98.3%	0.0%
SBI	Brereton Spurs (Stile Cop)	38.5	38.5	100.0%	0.6%
SBI	Brocton Hall Golf Course	5.1	2.1	41.0%	0.0%
SBI	Castle Ring	7.0	7.0	100.0%	0.1%
SBI	Courtbanks Covert, Redmoor Wood	3.6	3.6	100.0%	0.1%
SBI	Etching Hill	7.8	7.8	100.0%	0.1%
SBI	Georges Hayes, Piggots Bottom and Square Covert	19.4	19.4	100.0%	0.3%
SBI	Hatherton Hall	30.2	30.1	99.6%	0.4%
SBI	Hazelslade Nature Reserve	15.0	15.0	100.0%	0.2%
SBI	Huntington	4.2	4.2	100.0%	0.1%
SBI	Morry Meadow	4.5	3.2	70.8%	0.0%
SBI	New Hayes Tip	23.3	9.2	39.3%	0.1%
SBI	Prospect Village (disused railway Newhayes Road-Rugeley Road)	2.2	0.0	0.2%	0.0%
SBI	Sevens Road	12.7	0.0	0.0%	0.0%
SBI	Shoal Hill	33.9	33.7	99.5%	0.5%
SBI	Shooting Butts Pool	0.1	0.1	100.0%	0.0%
SBI	Shugborough Hall	316.1	315.9	99.9%	4.6%
SBI	Startley Lane, Brereton Hayes	2.6	2.6	100.0%	0.0%
SBI	Stony Brook	11.5	11.5	100.0%	0.2%
SBI	Tixall Broad Water	9.6	9.2	95.0%	0.1%
Wildlife Trust Site	George's Hayes	10.7	10.7	100.0%	0.2%
Wildlife Trust Site	Piggot's Bottom and Square Covert	5.9	5.9	100.0%	0.1%

Source: Natural England (downloaded 2018)



- Cannock Chase Area of Outstanding Natural Beauty (AONB)
- Special Area of Conservation
- Site of Special Scientific Interest
- Local Nature Reserve
- Site of Biological Importance
- Staffordshire Wildlife Trust Sites

Source: Staffordshire County Council, Natural England, Staffordshire Wildlife Trust

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 4.1: Nature conservation designations

CB:KS EB:Stenson_K LUC FIG4_1_10360_Biodiversity_Designations_A4P 20/07/2018

Coverage of BAP Priority habitats

4.8 **Table 4.2** shows the coverage of various BAP Priority Habitats within the AONB. These are also shown spatially in the map at **Figure 4.2**.

4.9 Deciduous woodland is the most prevalent BAP Priority Habitat in the AONB, covering a total of 1,018.2 hectares, or 14.8% of the AONB. 160 hectares of this woodland is defined as ancient woodland (see paragraph **3.23** and **Figure 3.8)**.

4.10 12% (827.4 hectares) of the AONB is lowland heathland, a far higher percentage cover than any other AONB in England. Much of this habitat falls within the Cannock Chase SAC (see paragraph **4.6**) and SSSI (see paragraph **4.17**).

4.11 Wood-pasture and parkland covers 316.8 hectares, or 4.6% of the AONB. This is an important semi-natural habitat, which is often associated with the numerous historic estates throughout the AONB.

4.12 Floodplain grazing marsh is the next most common priority habitat covering 2.2% of the AONB. This habitat is concentrated in the northern parts of the AONB, adjacent to the corridors of the River Trent and the River Sow.

4.13 Exact figures on the area of BAP Priority habitats were not recorded as part of the 2010 State of the AONB Report, so it is not possible to undertake a detailed analysis of changes in BAP Priority habitat coverage.

Table 4.2: BAP Priority habitat coverage within the AONB

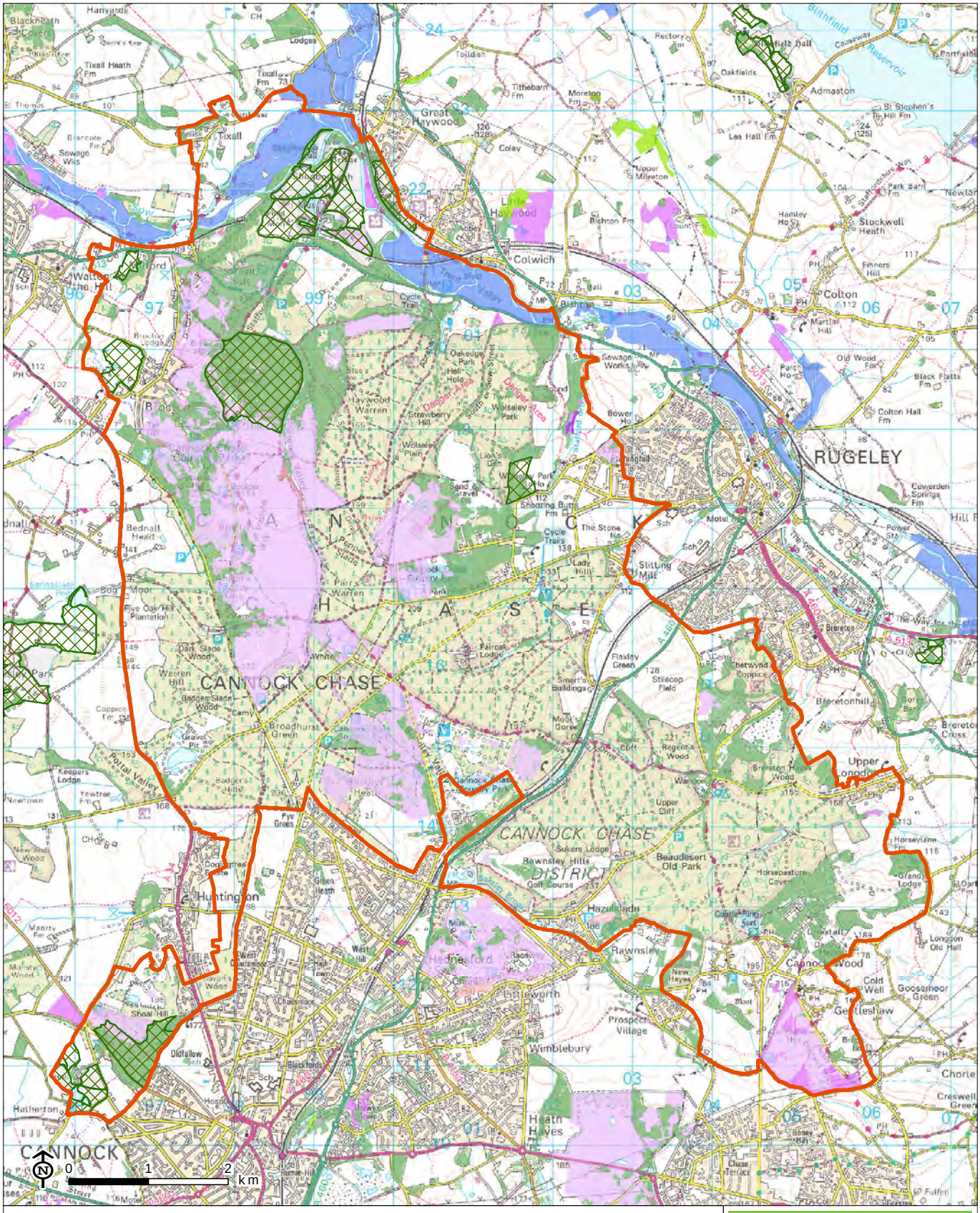
BAP Priority Habitat type	Area within AONB (ha)
Coastal and floodplain grazing marsh	148.2
Deciduous woodland	1,018.2
Good quality semi-improved grassland	35.3
Lowland dry acid grassland	5.1
Lowland fens	7.7
Lowland heathland	827.4
No main habitat but additional habitats present	257.4
Purple moor grass and rush pastures	1.7
Reedbeds	0.3
Traditional orchard	0.5
Wood-pasture and parkland	316.8

Source: Natural England (downloaded 2018)

Historic habitat extent: Link to Sutton Coldfield

4.14 The historic extent of Cannock Chase was much larger than the present area covered by the AONB designation. The heathland and grassland mosaic stretched from Cannock Chase to Sutton Coldfield, approximately 20 kilometres to the south east. Much of this valued habitat has now been lost to urban development and agriculture. **Figure 4.3** shows the spatial distribution of the remaining heathland and grassland priority habitats in this area.

4.15 It is important to restore and maintain these habitats and the linkages between them to ensure that that the internationally important habitats are ecologically robust and resilient by enabling the movement of species. The AONB should work with partners to see how habitat permeability can be improved and whether there is potential to restore any areas as part of this wider habitat network. Recently, a feasibility study has been undertaken in order to explore the designation of the historic extent of the heathland from Cannock Chase to Sutton Coldfield as a UNESCO reserve.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Priority Habitat

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi-improved grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland heathland
- Lowland meadows
- Purple moor grass and rush pastures
- Reedbeds
- Traditional orchard
- Wood pasture and parkland

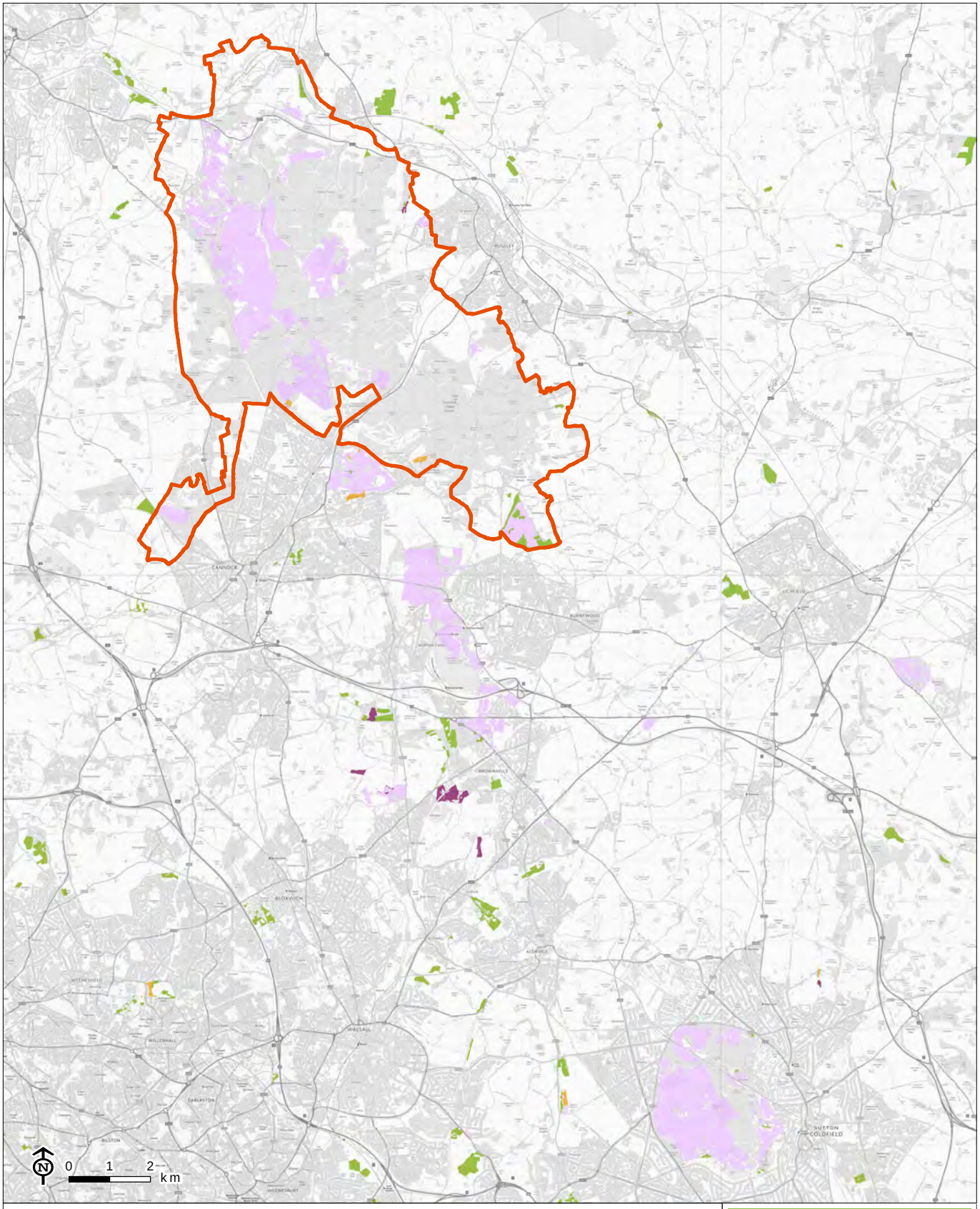
Source: Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 4.2: BAP Priority Habitat coverage in the AONB

CB:KS EB:Manson D LUC FIG4_2_10360_Priority_Habitats_A4P 20/07/2018



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Priority Habitat

- Good quality semi-improved grassland
- Lowland dry acid grassland
- Lowland heathland
- Purple moor grass and rush pastures

Source: Staffordshire County Council, Natural England

Map Scale @ A4: 1:133,000

Cannock Chase State of the AONB

Figure 4.3: Remaining heath and grassland habitat between Cannock Chase and Sutton Coldfield

CB:KS EB:Stenson_K LUC FIG4_3_10360_Biodiversity_A4P 20/07/2018

Condition of SSSIs

4.16 Within the AONB there are five SSSIs; namely Cannock Chase, Rawbones Meadow, Stafford Brook, Milford Quarry and Gentleshaw Common, covering an area of 1,392 ha collectively. The condition of these designated areas is shown in **Figure 4.4.** In 2016, 95% of all the SSSI area in the AONB was in an 'Unfavourable - recovering' condition.

4.17 Several units within Cannock Chase SSSI are assessed as being in a 'favourable' condition, in part thanks to floral diversity with good variation and a lack of negative indicator species. The 'favourable' units cover a total of 69 hectares. Parts of Stafford Brook SSSI are also in 'favourable condition. Some units within the Cannock Chase SSSI (comprising fen, marsh and swamp habitat) were in 'Unfavourable - no change' condition. These units cover 35.6 hectares.

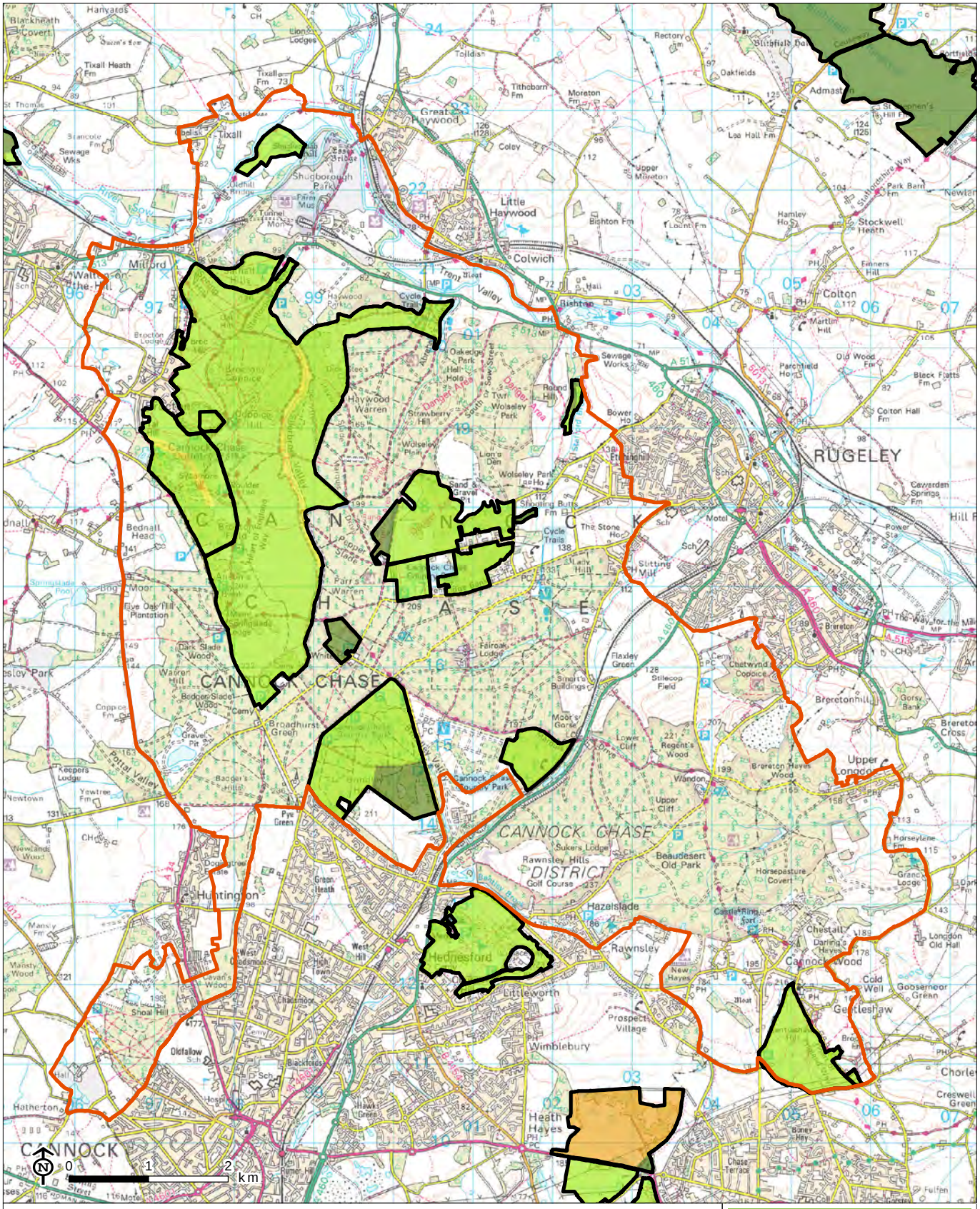
4.18 There have been few changes in the condition of the SSSIs since the 2010 State of the AONB Report, although some areas have declined from an 'unfavourable recovering' to 'unfavourable – no change'. This is likely to be as a result of water abstraction, diffuse pollution and inappropriate scrub control.

Analysis of indicator: Area of semi-natural habitat managed under agri-environment schemes

4.19 Natural England release annual data on the management of semi-natural habitats in AONBs as part of their Protected Landscapes Monitoring data. Headline findings for Cannock Chase AONB are as follows:

- 790 hectares of lowland heathland is managed as part of an Environmental Stewardship Scheme. The majority of this (747 ha) is managed under option HO2: Restoration of lowland heath.
- 80 hectares of low-input grassland habitat is managed as part of Environmental Stewardship Schemes.

4.20 Equivalent data for areas of semi-natural habitat managed as part of Countryside Stewardship Agreements is not currently available. Baseline data for this should be established during the course of the next Management Plan period.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

SSSI

SSSI condition

- Favourable
- Unfavourable recovering
- Unfavourable no change
- Unfavourable declining
- Destroyed

Source: Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 4.4: Condition of Sites of Special Scientific Interest (SSSI)

CB:KS EB:Stenson_K LUC FIG4_4_10360_SSSI_Condition_A4P 20/07/2018

Analysis of indicator: Presence/numbers of indicator species

Birds

4.21 Cannock Chase AONB provides valuable habitats for many bird species, including the largest area of lowland heath in the Midlands. The 2017 Cannock Chase Bird Survey Species Report highlighted the following trends:

- Annex I bird species found at Cannock Chase include nightjar, woodlark and Dartford warbler (likely to recolonise Cannock Chase).
- Resident, Red-listed species associated with the priority woodland and heathland habitats present at Cannock Chase include: grasshopper warbler, lesser redpoll, lesser spotted woodpecker, pied flycatcher, skylark, spotted flycatcher, tree pipit, turtle dove, willow tit, wood warbler, woodcock, yellowhammer, and linnet.
- In addition to those above, indicator bird species recommended by West Midland Bird Club and Royal Society for the Protection of Birds (RSPB) as requiring future monitoring include common redstart, willow warbler and chiffchaff.
- Bird species which are recognised as part of the designation of the five SSSIs within Cannock Chase AONB include: snipe, redshank, lapwing, skylark (within Rawbones Meadow SSSI), meadow pipit (Rawbones Meadow SSSI and Gentleshaw Common SSSI) and nightjar (Cannock Chase SSSI). With the exception of redshank and meadow pipit, all were identified in the AONB as part of the 2017 Cannock Chase Bird Survey.
- Target species that were absent from the 2017 survey included: honey buzzard, marsh tit, and whinchat.
- 30 of the target species birds were recorded to have breeding locations within Cannock Chase. These included: barn owl, barn swallow, bullfinch, common crossbill, common cuckoo, common raven, common redstart, Eurasian curlew, European nightjar, European stonechat, garden warbler, hobby, lesser redpoll, lesser spotted woodpecker, lesser whitethroat, little owl, long-eared owl, northern goshawk, peregrine falcon, pied flycatcher, reed bunting, siskin, spotted flycatcher, tree pipit, willow tit, willow warbler, wood warbler, woodcock and woodlark. Of these birds barn owl, barn swallow, garden warbler, willow tit and common crossbill were new breeding records in the 2010 Bird Survey, showing a sustained new breeding population.

Insect species

4.22 The number of insect species within the AONB is extensive and includes; black darter dragonflies (*Sympetrum danae*), bog bush crickets (*Metrioptera brachyptera*), welsh clearwing (*Synanthedon scoliaeformis*), Emperor moth (*Saturnia pavonia*), Angle-striped sallow (*Enargia paleacea*), Alder kitten (*Furcula bicuspis*), Anomalous (*Stilbia anomala*) and grass wave (*Perconia strigillaria*), all of which have been recorded in the AONB since 2008.

White-clawed Freshwater Crayfish

4.23 **Table 4.3** displays the locations where white-clawed freshwater crayfish *(Austropotamobius pallipes)* have been recorded since 2014. Count data was not provided for every site, however from the information available it can be determined that White-clawed Freshwater Crayfish are particularly abundant at the Rising Brook Area, where more than 15 individuals were found in 2015.

Table 4.3: Records of white-clawed freshwater crayfish in the AONB (2014-2016)

	Year of record		
Location	2014	2015	2016
Rising Brook		✓	
Brindley Heath Parish	✓		✓

	Year of record		
Stony Brook	✓		
Rugeley Parish, Sitting Mill			✓
Moor's Gorse			✓
Fallow Stream	✓	✓	
Hare's Hill	✓		
Longdon Parish Shropshire Brook	✓	✓	
Longdon Parish Upper Longdon			✓

Source: Staffordshire Ecological Record

Small Pearl-bordered Fritillary

4.24 The small pearl-bordered fritillary butterfly (*Boloria selene*) is protected as a BAP priority species and is identified as Near Threatened in the *'A new Red List of British Butterflies'* (Fox, R., 2010). This butterfly species has been recorded within Cannock Chase AONB, most years since 2008, with the latest in record occurring in 2016 within Sherbrook Valley. Annual surveys are conducted for both presence and habitat quality for this particular species. Some records show extensive numbers of individuals, with one survey in 2010 noting the presence of 103 adult butterflies. Information on the records of small pearl-boarded fritillary can be seen in **Table 4.4**.

Table 4.4: Records of small pearl-bordered fritillary in the AONB (2008-2017)

	Year of record									
Location	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Oldacre Valley area	✓	✓	✓	✓						
Sherbrook Valley	✓	✓	✓					✓	✓	
No location specified					✓					

Source: Staffordshire Ecological Record

Otter

4.25 Evidence of the Eurasian Otter (*Lutra lutra*) has been recorded a total of 13 times since 2007. A number of these records relate to specimens involved in accidents along the A513 road corridor. Otters have also been recorded at Canal Bridge and Milford.

Water vole

4.26 The Staffordshire Ecological Record holds no recent records for the European water vole (*Arvicola amphibious)*, with the last record of this species occurring in 2005.

Bats

4.27 Within the Cannock Chase AONB, eight different bat species have been identified in the last ten years including three Myotis species; Daubenton's Bat (*Myotis daubentonii*), Whiskered Bat (*Myotis mystacinus*), Natterer's Bat (*Myotis nattereri*) as well as a possible Brandts' Bat (*Myotis brandtii*). Records also include two nyctalus species; noctule bat (*Nyctalus noctula*) and lesser noctule (*Nyctalus leisleri*), common (*Pipistrellus pipistrellus*) and soprano pippistrelle (*Pipistrellus*

pygmaeus) and brown long-eared bats (*Plecotus auritus*). **Table 4.5** below lists all bat species records from the Staffordshire Ecological Record within the last 10 years.

Table 4.5: Records of bat species in the AONB (2008-2017)

Species	Year of record										Number of locations where species has been recorded
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Daubenton's Bat	✓	✓	✓								3
Whiskered Bat	✓										1
Natterer's Bat	✓		✓								3
Whiskered/Brandt's Bat			✓								1
Unidentified Myotis	✓			✓	✓		✓				5
Noctule Bat	✓	✓	✓	✓	✓		✓	✓	✓	✓	13
Lesser Noctule				✓			✓				3
Unidentified Nyctalus				✓							1
Common Pipistrelle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	21
Soprano Pipistrelle	✓		✓	✓	✓		✓	✓	✓	✓	15
Unidentified Pipistrelle	✓		✓	✓							4
Brown Long-eared Bat	✓	✓	✓	✓	✓	✓	✓	✓	✓		11
Unidentified bat	✓	✓		✓	✓	✓	✓	✓	✓		11

Source: Staffordshire Ecological Record

Heathland plants

4.28 The assemblage of heathland plants in Cannock Chase AONB is a primary reason for its designation as a Special Area of Conservation. Important plant species found on the heathland include hybrid-bilberry (*Vaccinium vitis-idaea x myrtillus = V. x intermedium*), round-leaved sundew (*Drosera rotundifolia*), great sundew (*Drosera anglica*), bog asphodel (*Narthecium ossifragum*), butterwort (*Pinguicula vulgaris*), cranberry (*Vaccinium oxycoccos*) and crowberry (*Empetrum nigrum subsp. Nigrum*). **Table 4.6** shows heathland species recorded since 2006. Some of these species recordings are the first recordings in multiple decades; including

Butterwort which was not recorded between 1986 and 2016 and bog asphodel which was not recorded between 1999 and 2016. Great Sundew has recently been recorded in the AONB for the first time in a century. All species records of heathland plants refer to field observations of the species. There are many historical records of Hybrid-bilberry, although in the last ten years there is only one record held by Staffordshire Ecological Record.

Table 4.6: Records of heathland species in Cannock Chase AONB since 2006

Species	Location(s)	Year(s) recorded
Hybrid-bilberry	Sherbrook Valley	2008
Round-leaved sundew	Gentleshaw Common SWT Nature Reserve	2010 and 2017
Bog asphodel	Gentleshaw Common SWT Nature Reserve	2016 and 2017
Butterwort	Sherbrook Valley	2016
Cranberry	Gentleshaw Common SWT Nature Reserve and Oldacre Valley area	2010 and 2017
Crowberry	Brocton/Oldacre Valley	2006

Source: Staffordshire Ecological Record

Grassland plants

4.29 Orchids are a striking feature within grassland areas. These include Bee Orchids (*Ophrys apifera*), which have been recorded in field observations in 2011 and 2016, at five different locations.

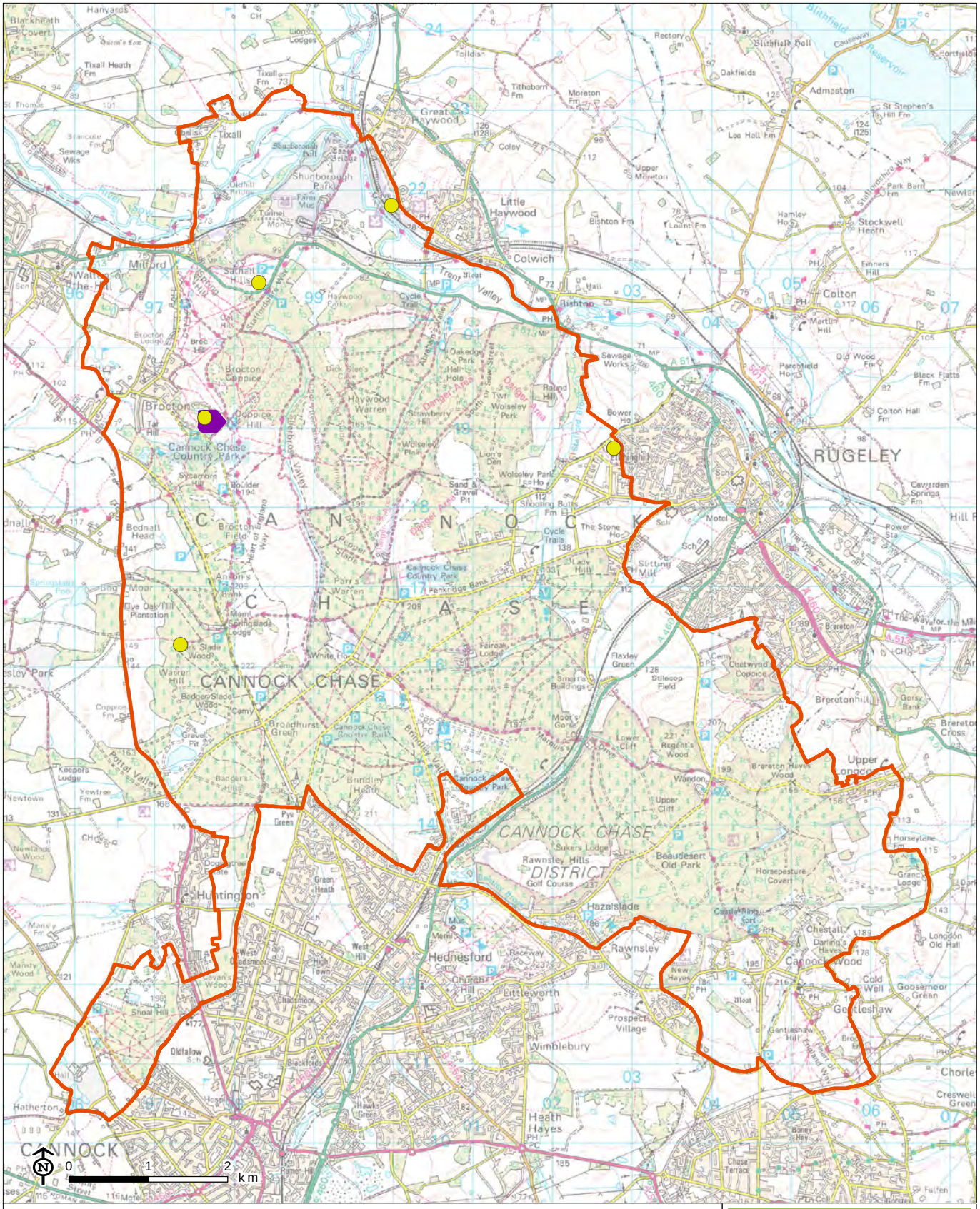
Analysis of indicator: Water quality

4.30 Aquatic habitats within the AONB which form valued habitats in their own right also serve as ecological corridors within the wider landscape. The data for this indicator has been derived from Natural England Monitoring for Protected Landscapes data (Water Framework Directive Ecological Status). As well as their current status, this data also contains Ecological Objectives which aim to improve waterbodies' status against the Water Framework Directive.

4.31 The river channels of the Rivers Trent and Sow meander through the northern part of the AONB. 3.7 km (29%) of the 13.6 km stretch of the river habitat that passes through the AONB currently has a 'good' status. The remaining stretches currently have a poor status. The ecological objectives state that the length of river with poor status should have fallen from 9.2 kilometres to 5.5 kilometres by 2027.

Analysis of indicator: Extent and condition of geological features

4.32 There are five Local Geological Sites (LoGs) within the AONB as shown spatially in **Figure 4.5** and listed in **Table 4.7.** The condition of these sites was surveyed in 2009. Four were assessed as being in good condition, while the fifth, Brocton Gravel Pit (West) has a poor declining status. Brocton Pit is also the largest of these sites in the AONB.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Milford Quarry Geological SSSI

Local Geological Site

Source: Staffordshire County Council, Natural England, Staffordshire Ecological Record

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 4.5: Designated geological sites

CB:KS EB:Stenson_K LUC FIG4_5_10360_Geological_Sites_A4P 20/07/2018

Table 4.7: Details of Local Geological Sites

LoG Name	Grid Reference	Description	Area (ha)	Condition status (2009)
Brocton Gravel Pit (West)	SJ974191	Well-exposed example of Triassic pebble beds.	10.54	Poor Declining
Cliffs Caves	SK000218	Fine exposure of Triassic building sandstone which also shows copper mineralisation in places.	0.12	Good Improving
Dark Slade Wood	SJ973163	Example of irregularly bedded sandstones and pebble beds with manganese deposits in cavities.	0.18	Good Steady
Etching Hill	SK027187	Topographical feature produced by a local variation in the hardness of the sandstone	0.04	Good Improving
Satnall Hills Quarry	SJ983208	Well-exposed example of the Cannock Chase Formation pebble beds.	0.27	Good Steady

Source: Staffordshire Ecological Record

4.33 One of the SSSIs in the AONB, Milford Quarry, is recognised for its geological value. The quarry is designated as a SSSI as it provides a visible cross section, allowing the three-dimensional exposure of Lower Triassic Bunter Pebble Beds. The SSSI is currently in an unfavourable recovering condition.

Data sources

4.34 The data sources used for this sub-theme are as follows:

- West Midland Bird Club Stafford Branch 2017 Cannock Chase Bird Survey Species report (2017)
- Staffordshire Ecological Record data (2018)
- State of the AONB Report Cannock Chase AONB (2010)
- Natural England Monitoring for Protected Landscapes Data (2018)
- Natural England GIS data (downloaded 2018)
- National Character Area Profile 67: Cannock Chase and Cank Wood

Recommendations for future monitoring and considerations for the Management Plan

4.35 National and local data held by the AONB should be collected and analysed every five years through State of the AONB reporting. This will allow for change over time to be monitored for the headline indicators.

4.36 The AONB should undertake condition monitoring of the LoGS and Milford Quarry SSSI as part of a five-year monitoring cycle.

4.37 Data for some species (including water vole), was sparse and no regular monitoring has been undertaken in recent years. The AONB should work with partners to reinstate the regular monitoring of important indicator species within the AONB to accurately monitor the status of key species. The Biodiversity Task and Finish Group have produced a monitoring document which

could be used as a framework for future monitoring and is included in this document as **Appendix 1**.

The Management Plan should promote projects which will lead to a better understanding of habitat connectivity within the AONB and surrounds. There is also a need to gather Phase 1 habitat survey data for the whole of the AONB area, to create a detailed baseline of existing habitats.

4.38 The Management Plan should include policies that protect against further habitat fragmentation and seek to ensure that the habitats within the AONB are robust against the predicted effects of climate change. This would also align with the Strategic Environment Opportunities detailed in the Cannock Case and Cank Wood National Character Area Profile, including *'SEO 1: Expand lowland heathland to increase habitat connectivity, improve resilience to climate change and improve water quality'*.

5 Historic Environment

5 Historic Environment

Statement of significance

5.1 The AONB has a **strong sense of time-depth**, with varied archaeological remains from numerous points in history. Despite being relatively unsettled in the present day, the area has been vastly altered and moulded by human use throughout time.

5.2 Some of the oldest remains within Cannock Chase date back to the prehistoric period. These include Castle Ring Camp, an **Iron Age castle hillfort** which is designated as a scheduled monument. Earlier Bronze Age remains have also been uncovered in the AONB, including **burnt mounds** and the scheduled Bronze Age barrow at Spring Hill. Evidence of Roman and early medieval presence within the AONB include ditched enclosures (e.g. north-west of Slitting Mill).

5.3 Cank Forest and Cannock Chase formed the largest area of woodland recorded in the Domesday Book. The Chase formed part of a **Royal Forest** in Norman times and was used for hunting until the early post-medieval period. The Royal Forest was a game preserve containing areas of both woodland and heath, although by the 17th century much of the woodland had been lost. The following centuries saw subsequent divisions of the land into small manors and deer parks. Some of these formed the basis of later **designed parkland** estates, including those at Shugborough, Beaudesert, Teddesley and Wolseley. **Commoners** had grazing rights on a large proportion of the land. The medieval period saw the large scale harvesting of woodland, drastically changing the character of the landscape and leading to enclosure which reduced the amount of common land. The Enclosure Acts of the 19th century created the pattern of the landscape which is visible today.

5.4 The AONB has been extensively used for a variety of industrial activity, including glassmaking, ironworking, coal mining and quarrying. Evidence of **coal mining** in the AONB is extensive, with the earliest recordings of mining dating to the 13th century and covering a period of 700 years. **Glass working** is likely to have commenced over a similar time period in Cannock Chase with the Wolseley family involved in glass making from the 1470's, although glass making here may have preceded this. **Ironworking** is likely to date back to the medieval period within the Chase; although became more significant around the 16th century. **Quarrying and gravel extraction** have left visible scars on the landscape, although these areas are often valued for biodiversity and geodiversity. The **Trent and Mersey Canal** formed an important route for the transport of goods during the Industrial Revolution.

5.5 The AONB was used extensively by the military after the grazing and woodland clearance of the 18th and 19th centuries created an area suitable for training. The AONB contained two **First World War training camps,** including one of the largest in England. Elements of these are still visible in the modern landscape. The topographic model of Messines Ridge (scheduled monument) is a unique feature and the only terrain model known to have been constructed in England during the war. Other military features within the AONB include the Commonwealth Cemetery and the German Military Cemetery (Grade I registered park and garden). RAF Hednesford was a training camp located close to Marquis Drive in use from 1940 until 1956 – elements of the camp are still legible in the modern landscape which forms part of the Cannock Chase Country Park.

5.6 The wealth and variety of heritage assets in Cannock Chase AONB contributes to its **unique sense of place** and provides an opportunity for the heritage of the area to be celebrated and interpreted.

Indicators selected for this theme

5.7 The indicators selected for monitoring the 'Cultural Heritage' theme are as follows:

- Number, condition of, and area covered by scheduled monuments
- Number, Grade and condition of listed buildings

- Number and condition of registered parks and gardens
- Conservation Areas
- Number and location of archaeological sites/features listed on the HER
- Management of archaeological/historic features through agri-environment schemes

Summary headlines

- Cannock Chase AONB contains seven scheduled monuments, which cover a total area of 11.28 hectares. These include features from the Iron Age, medieval period and the First World War. Castle Ring is the largest and most prominent of the scheduled monuments.
- There are two Grade I registered parks and gardens in the AONB; Shugborough Hall and the German Military Cemetery. Collectively, these cover 271.5 hectares, with Shugborough covering 267 hectares.
- There are 66 listed buildings within the AONB (eight Grade I Listed, seven Grade II* Listed and 51 Grade II listed buildings. The majority of Grade I listed buildings are contained within the grounds of Shugborough Hall.
- Five Conservation Areas are found within the AONB.
- There are 1,224 features included on the Historic Environment Record (HER) in the AONB. This has increased since the last State of the AONB report due to the extensive Lidar surveys that have been undertaken in recent years.
- None of the nationally designated heritage assets within the AONB are included on Historic England's Heritage at Risk register, although a number of assets are identified as being 'vulnerable'.
- 126 hectares of the AONB are managed for archaeological/historic features through agri-environment schemes. 37% of HER features are located within an active agri-environment scheme.
- Presence of 247 veteran trees and 134 veteran pollards.

Analysis of indicator: Number and area covered by scheduled monuments

5.8 There are a total of seven scheduled monuments in the AONB (see **Figure 5.1**), each of which is described in **Table 5.1**. Collectively, these monuments cover a total area of 11.28 hectares. The Castle Ring Hillfort is the largest and most visually prominent of these scheduled monuments, occupying the highest point within the AONB.

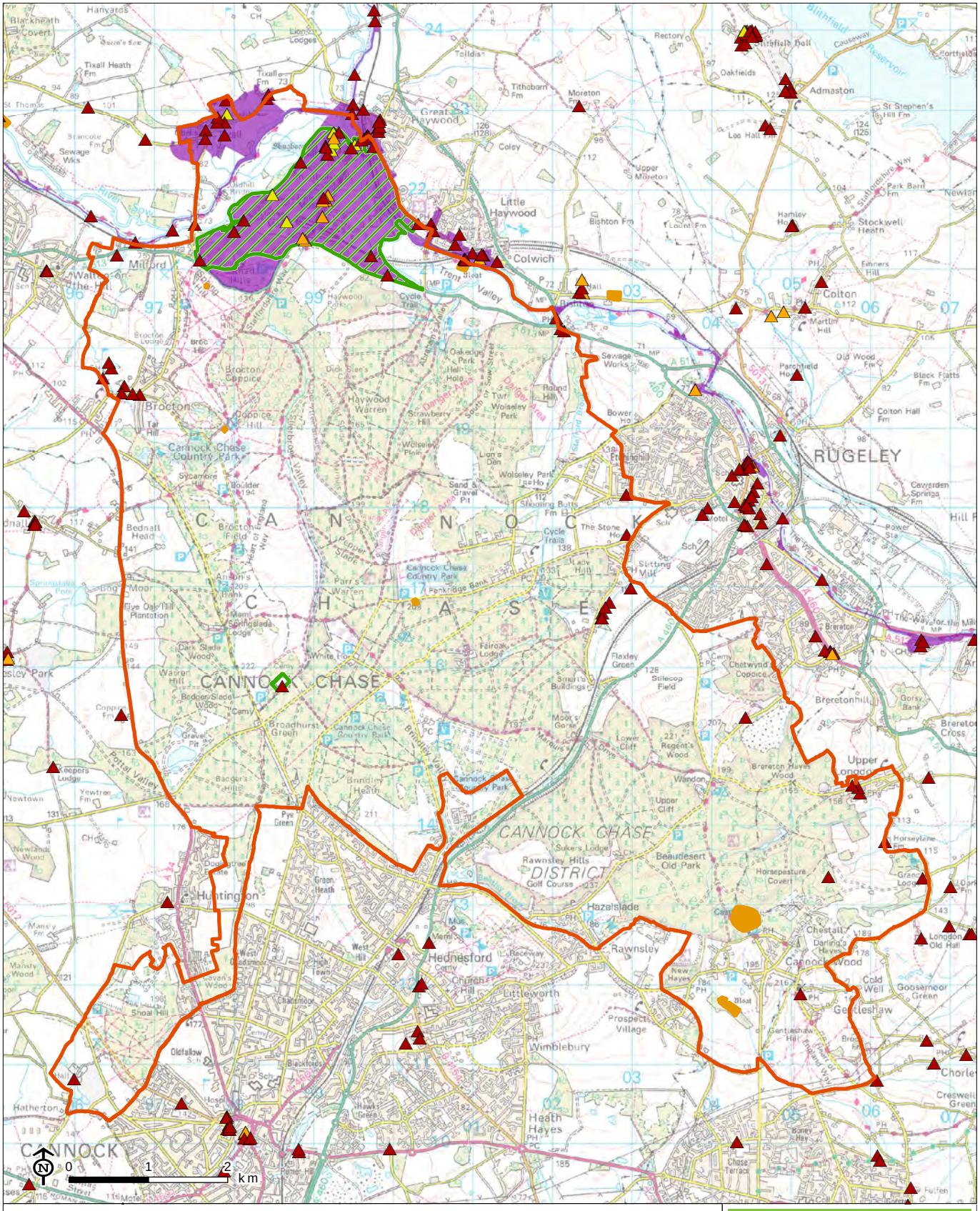
5.9 The Terrain Model of Messines was first designated as a scheduled monument in June 2017, increasing the number of scheduled monuments in the AONB since the 2010 State of the AONB Report.

Table 5.1: Name and area of scheduled monuments within the AONB

Name of scheduled monument	Description, significance and importance	Area within AONB (ha)
Castle Ring, A Multivallate Hillfort and Medieval Hunting Lodge	Castle Ring is the earthwork and buried remains of an irregular pentagonal-shaped, Iron Age hill fort and a small medieval hunting lodge. Castle Ring marks the highest point within the AONB and is a prominent feature in the landscape. The hunting lodge is thought to be a medieval building of high social status. A hunting lodge is confirmed in the reign of Henry II, which was abandoned early in his reign. Castle Ring is a good surviving example of this type of monument. The ramparts and ditches will retain archaeological information on the construction of the hillfort, and geophysical surveys have also provided information on the medieval	7.74

Name of scheduled monument	Description, significance and importance	Area within AONB (ha)
	reuse of this site.	
Essex Bridge, Great Haywood	Essex Bridge is an example of a particularly long and largely un-altered multi-span bridge. Dating to the medieval period, this structure would have originally been used for pedestrians and packhorses. The bridge is also listed as a Grade I listed building. Medieval multi-span bridges must have been numerous throughout England, but most have been rebuilt or replaced and less than 200 examples are now known to survive. As a rare monument type largely unaltered, surviving examples and examples that retain significant medieval and post-medieval fabric are considered to be of national importance. The pack-horse dates back to at least the 17th century, and an earlier timber bridge is likely to have predated it. Though reduced in its length, Essex Bridge still remains one of the longest, if not the longest surviving packhorse bridge in England. Archaeological features may also survive beneath and near to the existing structure, which will contain important information about any earlier timber bridges, its construction and use.	0.15
Moated site 160m south-west of St Michael and All Angels' Church	The monument includes a slightly raised grass-covered island which is rectangular in shape. The 10m moat is seasonally waterlogged and partly silted. The moated side at Church Farm is in a good state of preservation and includes upstanding earthwork remains on the island.	0.76
Moated site and bloomery in Courtbanks Covert	This medieval monument is an example of a moated site enclosing an island surviving as earthwork and buried archaeological deposits. Despite some disturbance through tree and scrub growth the moated site has experienced little modern development and therefore will contain archaeological and environmental deposits which will provide important information about the nature and use of the monument as well as medieval society, its economy and landscape in which it has been constructed.	2.08
Saucer barrow on Spring Hill	Saucer Barrow is an oval earthen mound surrounded by a bank and ditch. The monument is not known to have been excavated and will contain undisturbed archaeological deposits as the mound is in generally good condition. This feature is significant as it is a rare example of this class of monument found beyond southern England and will contain undisturbed archaeological deposits within the mound and upon the old land surface.	0.12
Terrain Model of Messines	The monument is a scale terrain model of the First World War battleground at Messines Ridge in Belgium. Built by the New Zealand Rifle Brigade in 1918 for training, the monument has since been covered over. The site is of importance as it is the only known terrain model constructed in England for training purposes during WWI. The model is in good condition and has the potential to enhance understanding of WWI tactics as well as serving as an important reminder of New Zealand's contribution to the war efforts.	0.15
World War I instruction model of a trench system, and associated earthwork and building remains 850m north west of Fairoak Cottages, Cannock Chase	The monument includes the earthworks and buried remains of a trench model, depicting a typical trench system in WWI at the former army camp of Roughly. A building that served as a Brigade Office is also included in the scheduling. Its importance as a monument comes from the rarity of such trench models that have survived in good condition, being virtually complete. The remains are also publically accessible and have educational potential.	0.28

Source: Historic England data (downloaded 2018)



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Conservation Area

Registered Park and Garden

Scheduled Monument

Listed building

- Grade I
- Grade II*
- Grade II

Source: Staffordshire County Council, Historic England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 5.1: Designated heritage assets within the AONB

CB:KS EB:Grant_M LUC FIG5_1_10360_Heritage_A4P 30/08/2018

5.10 None of the scheduled monuments within the AONB are currently on Historic England's Heritage at Risk Register. However, all of the scheduled monuments are considered to be in 'vulnerable' condition. Issues have been recorded at a number of the sites, including those listed below:

- Essex Bridge was damaged by a vehicle and repair works have since been undertaken by Staffordshire County Council.
- At Courtbanks Covert there have been some landscaping / fencing alterations in the area around the scheduled monument, plus potential development pressures in general area which may affect the setting of this asset. The moated site at Bloomery has had some disturbance from scrub growth, but remains in relatively good condition.
- Damage from mountain bikes has been recorded on Castle Ring.
- Other more generalised issues include tree and scrub growth, visitor erosion and unauthorised activities such as metal detecting, bonfires and barbeques.

5.11 Appropriate management actions should be taken in order to prevent further damage to scheduled monuments, e.g. limiting vehicle access to Essex Bridge. There should also be a continued monitoring effort of these assets to ensure their condition is maintained and improved where feasible.

Analysis of indicator: Number and classification of listed buildings

5.12 There are 66 listed buildings within the AONB; their distribution throughout the AONB can be seen in **Figure 5.1**. There are eight structures which are Grade I Listed, seven which are Grade II* Listed and 51 Grade II listed buildings. Most of the Grade I listed buildings are contained within Shugborough Hall registered park and garden, including the 17th century stately home which gives the parkland its name. Additionally, there are four Locally listed buildings.

5.13 In 2011, two Grade II Listed boundary stones on the Rugeley boundary were de-listed from the register of listed buildings.

5.14 None of the listed buildings within the AONB are currently on Historic England's Heritage at Risk Register

Analysis of indicator: Number of registered parks and gardens

5.15 There are two Grade I registered parks and gardens within the AONB, covering a total area of 271.5 ha. These are shown spatially in **Figure 5.1**.

- **Shugborough (268 hectares).** A large parkland area in the north of the AONB. Designed in the mid to late C18 with buildings in the Chinese and Greek Revival styles, associated with a country house. The formal garden layout by W A Nesfield dates from c 1855. Management of Shugborough was transferred to the National Trust in 2017, after being leased by Staffordshire County Council since 1966.
- **German Military Cemetery (2.6 hectares)**. This site was established in Cannock Chase in 1967 as a location for the graves of German and Austrian military personnel and civilians who died in both World Wars. There are also graves and memorials for people from New Zealand, Poland and Britain present at the site. The cemetery is maintained by the Commonwealth War Graves Commission.

5.16 According to the Historic England definitions, Grade I designation indicates that the sites are of 'exceptional interest'.

5.17 In addition to the German Military Cemetery, there is a Commonwealth cemetery which lies to the south of the German Military Cemetery. This site is considered to be of equal significance although at present it is not designated.

5.18 There are also a number of estates within the AONB which are not designated, but still make a strong contribution to the time-depth and sense of place in Cannock Chase AONB. These include Beaudesert, Tixall and Wolseley Park. It is important that the distinct estate character of these areas is preserved.

Analysis of indicator: Conservation Areas

5.19 There are five Conservation Areas in the AONB:

- Colwich and Little Haywood
- Great Haywood and Shugborough
- Staffordshire and Worcestershire Canal
- Tixall
- Trent and Mersey Canal

5.20 The spatial extent of these can be seen on **Figure 5.1**. **Table 5.2** contains a brief description of each Conservation Area, along with the total area covered by the designation and the area which falls within the boundary of the AONB.

Table 5.2: Conservation Areas within Cannock Chase AONB

Name of conservation area	Description	Total area (ha)	Area within AONB (ha)
Colwich and Little Haywood	Colwich and Little Haywood are two small villages in the north of Cannock Chase AONB with surviving historic buildings, mature trees, historic boundaries and dramatic views of Cannock Chase.	17.8	0.9
Great Haywood and Shugborough	Great Haywood is a linear village with a large concentration of historic buildings. Shugborough is a large area of parkland with frequent mature trees, landmark bridges and a collection of monuments and structures.	326.8	313.4
Staffordshire and Worcestershire Canal	Canal opened in 1772 that travels from south-west to north-east. Along its length are a number of historic locks and bridges, as well as groups of industrial buildings.	140.2	11.6
Tixall	A village and estate from the 16th century which has retained a number of original features despite the destruction of Tixhall Hall.	72.1	55.1
Trent and Mersey Canal	Canal opened in 1771, traveling west to east. Along its length are a number of historic locks and bridges, as well as groups of industrial buildings.	199.8	6.2

5.21 The Conservation Area Appraisals note frequent detractors and forces for change in the Conservation Areas; frequent examples include:

- The introduction of modern materials and features to historic buildings.
- Heavy traffic and large numbers of parked vehicles.
- Lack of unity in boundaries and paving.
- Repair and upgrade of structures with unsympathetic modern patterns.

5.22 None of the Conservation Areas in the AONB are listed on the Historic England Heritage at Risk Register. However, Colwich and Little Haywood Conservation Area is listed as 'Vulnerable' due to major development affecting the setting of the Conservation Area, street clutter and traffic signs, advertisements, new development and out-of-keeping roof coverings.

5.23 The AONB and its partners should work to preserve the positive characteristics of these areas through the planning system to reverse negative trends which have already impacts on Conservation Areas and prevent further negative impacts.

Analysis of indicator: Number and location of archaeological sites/features listed on the HER

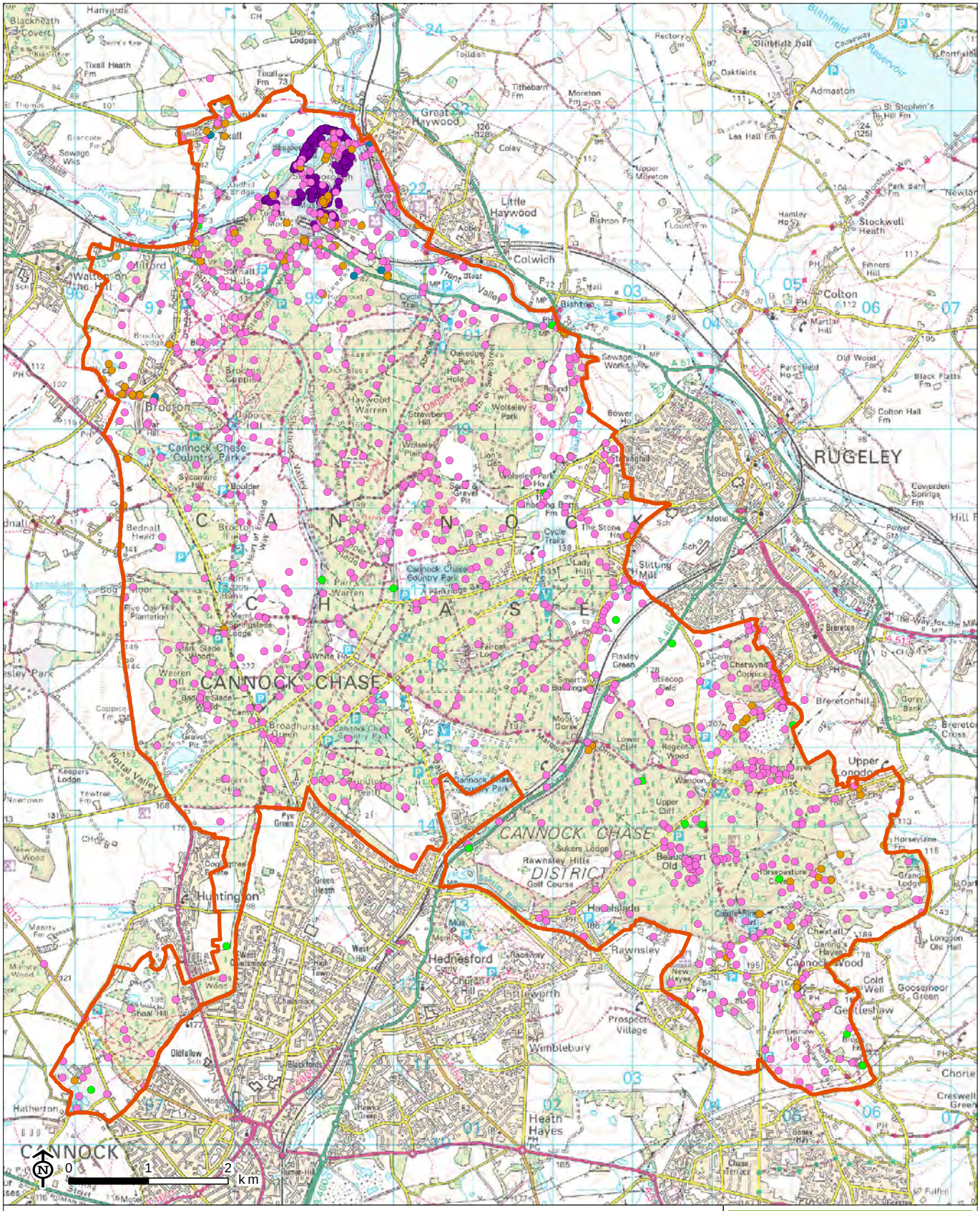
5.24 **Figure 5.2** displays the location of features contained within the Historic Environment Record (HER) within the Cannock Chase AONB. The number of entries for each category of HER is shown below in **Table 5.3.** There are a total of 1,224 entries in the HER within the AONB. Note that in some cases, HER records overlap with other designations including scheduled monuments and listed buildings. **Figure 5.3** shows the HER data presented by broad period, demonstrating the wide variety of heritage assets within the AONB.

5.25 The presence of Veteran Trees strongly correlates with the locations of historic parklands, while buildings tend to be clustered around the location of existing or former settlements as well as estates. In addition to the Veteran Trees in the HER, there are 144 Trees of Special Interest located within the AONB, which are mostly focused around Wolseley Park.

Table 5.3: Number of features in the AONB within each HER category

HER category	Number
Buildings	90
Findspot	18
Monuments	864
Place	5
Veteran Trees	247

Source: Staffordshire County Council Historic Environment Record (2018 data) and Forestry Commission (2018 data)



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Historic Environment Record

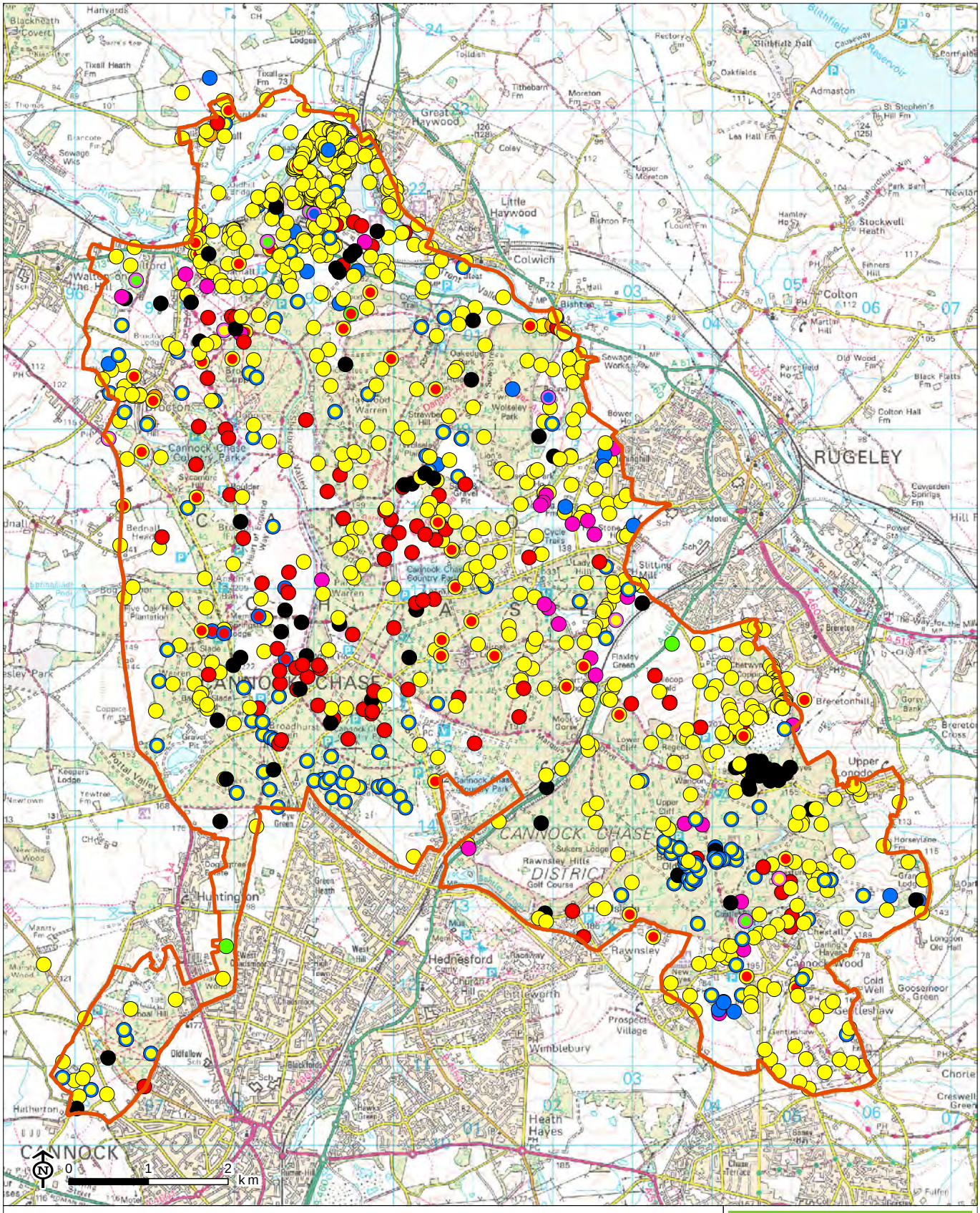
- Building
- Find spot
- Monument
- Place
- Veteran tree

Source: Staffordshire County Council, Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 5.2: Historic Environment Record features



Cannock Chase Area of Outstanding Natural Beauty (AONB)

HER broad period (dot)

◎ Outer circle = From period
Inner circle = To period

HER broad period (colour)

- Prehistoric
- Roman
- Early Medieval
- Medieval
- Post-medieval
- Modern
- Unknown

Source: Staffordshire County Council, Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 5.3: Historic Environment Record features by broad period

LUC

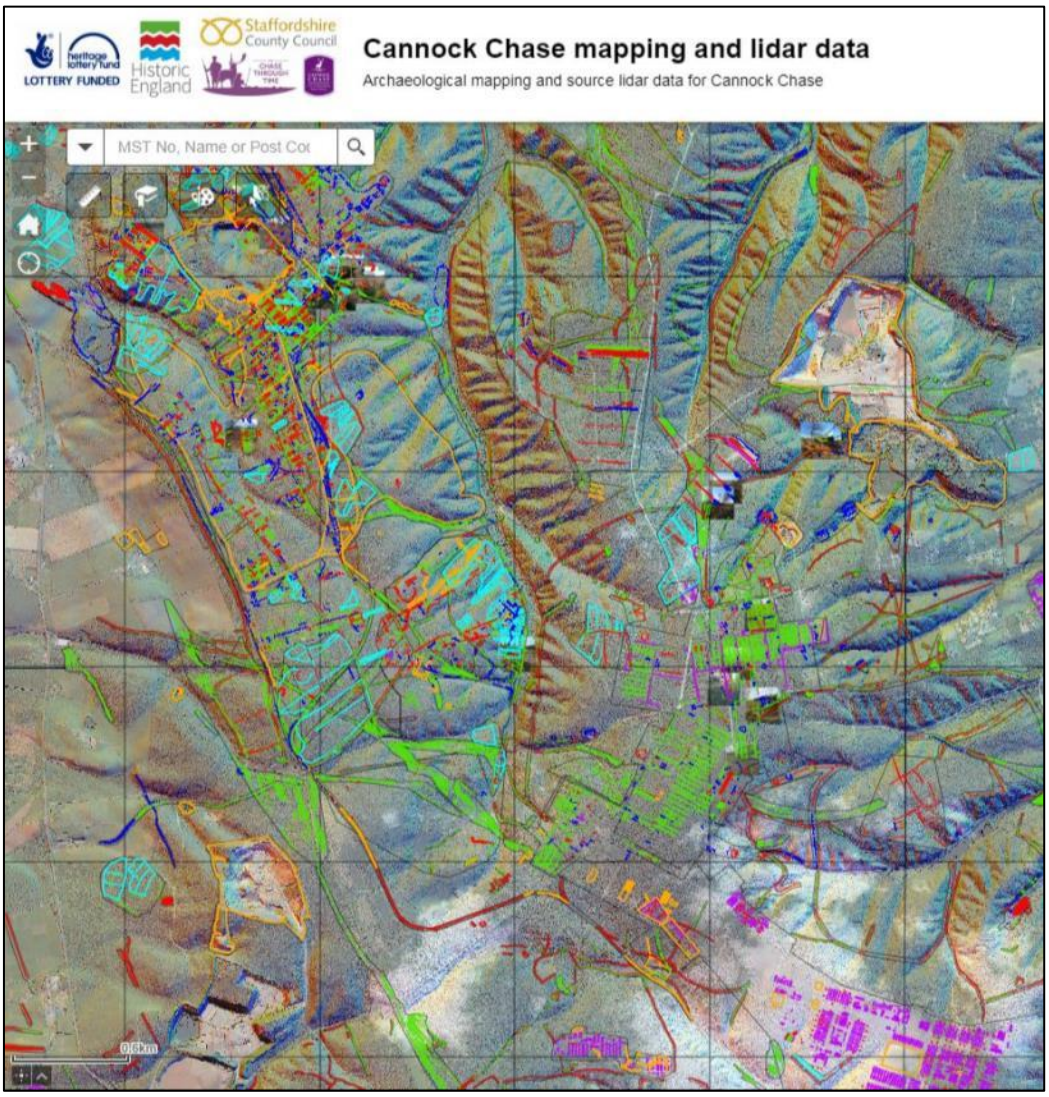
CB:KS EB:Manson D LUC FIG5_3_10360_HER_period_A4P 14/08/2018

5.26 Historic England and Staffordshire County Council have recently collaborated on an extensive research project called "The Chase Through Time", one element of which involved creating detailed mapping of heritage assets from LiDAR survey data. This project has uncovered a large amount of evidence for the Historic Environment Record, increasing the number of records significantly since the previous State of the AONB Report was completed in 2010. A screenshot of the Lidar GIS is shown below in **Figure 5.4**[2].

5.27 Although many of these features are non-designated in statutory terms, collectively they make a significant contribution to the sense of time-depth and rich heritage of the AONB. Therefore, appropriate management and understanding of these assets is imperative to preserve the strong sense of time-depth in the AONB.

5.28 Spatial analysis of the HER assets has indicated that many of them (41%) are located in woodland areas. These sites could be suffering impacts from tree (roots, planting, windthrow) and forestry operations.

Figure 5.4: Screenshot of Lidar data in Cannock Chase



[2] Figure 5.2 displays a screenshot image from the interactive web based map produced as part of this project. This is accessible at the following web address: https://services.historicengland.org.uk/cannock-chase-map/

Analysis of indicator: Management of archaeological/historic features through agri-environment schemes

5.29 A total 126 hectares (2%) of the AONB is managed for archaeological/historic features through agri-environment schemes[3]. **Table 5.4** below shows the area coverage of each of these Environmental Stewardship options.

5.30 Despite only covering a small proportion of the AONB, agri-environment schemes are an important source of funding for land management. Agri-environment schemes will also change following the exit of the UK from the European Union, so this indictor forms an important baseline for future monitoring.

5.31 It should also be noted that this indicator only considers agri-environment options which are specific to the Historic Environment (refer to paragraph 3.14 for more information on agri-environment schemes). However, given that the landscape of the AONB is particularly rich in heritage assets, other options (e.g. those conserving heath or wood pasture) can also act to manage the historic environment. 37% of all the HER assets (461 out of 1,224) are within an active Environmental Stewardship or Countryside Stewardship agreement holding.

Table 5.4: Area of land managed for archaeological/historic features through agri-environment schemes

Option code	Option name	Area (ha)
ED5	Management of archaeological features on grassland	14.5
HC12	Maintenance of wood pasture and parkland	5.5
HC13	Restoration of wood pasture and parkland	61.5
HD2	Take archaeological features out of cultivation	1.2
HD3	Low depth, non-inversion cultivation on archaeological features	15.0
HD4	Management of scrub on archaeological features	19.9
HD5	Management of archaeological features on grassland	8.4

Source: Natural England Monitoring for Protected Landscapes (2018)

5.32 Equivalent data for archaeological/historic features managed as part of Countryside Stewardship Agreements is not currently available.

Data sources

5.33 The data sources used for this sub-theme are as follows:

- Historic England GIS data (downloaded 2018)
- Historic England Heritage at Risk Register (2018)
- Staffordshire County Council Historic Environment Assessment Cannock Chase (2015)
- Staffordshire County Council Historic Environment Record (2018)
- Cannock Chase, Staffordshire: The Chase Through Time, Historic England Contribution (2018)

[3] Note that this indicator focuses on archaeological/

Recommendations for future monitoring and considerations for the Management Plan

5.34 The national and local data should be collected every five years, with trends over time monitored and analysed. The Historic England Heritage at Risk Register should be monitored annually. The condition of scheduled monuments should be monitored on an annual basis to inform the land management of these sites and identify any issues which may be rectified through a change in management. Given the wealth of heritage contained within the AONB, the AONB Partnership should work with relevant organisations to develop a strategy for the overall management of heritage within the protected landscape.

5.35 The AONB should also consider commissioning condition surveys of specific types of archaeological features of key importance to the AONB. Surveys could involve volunteers from local interest groups and make use of volunteer networks that are already established in the area (e.g. those involved in the Chase Through Time or the National Trust). The condition of historic environment features is more likely to change during the five-year Management Plan cycle, giving a valuable indication of forces for change on these features.

5.36 Archaeological features of key importance to the AONB include evidence relating to:

- The prehistoric landscape (including Burnt Mounds which are a distinctive feature of Cannock Chase).
- Medieval land management (particularly the designation of the area as a royal forest, manors and moated sites, medieval field systems and ridge and furrow and deer parks).
- Post-medieval land management including the formal designed parklands.
- Industrial activity (including coal mining over a period of 700 years).
- The 20th century military heritage, notably those from the First World War.

5.37 The recent completion of the Chase Through Time project has resulted in the identification of a high number of historic features, which need to be assessed in more detail to discern their significance, condition and vulnerability. The Management Plan should recommend that all significant heritage assets are identified and given appropriate recognition and protection. The AONB must work with partners including Historic England to achieve this. Where assets have been recognised or afforded protection through statutory listing, it should be ensured that their condition is monitored and action is taken to reverse any negative trends.

5.38 The Management Plan should encourage landowners to implement Countryside Stewardship Schemes as a source of funding for the management of archaeological features/landscapes (also see the recommendations made at the end of Chapter 3). Management of these features through Countryside Stewardship should be monitored over the course of the Management Plan, utilising the data collected by Natural England.

5.39 The Management Plan should recognise the relationship between land-use/management and the condition and preservation of archaeological features. Sites which are located on open heathland are likely to be better preserved than those under agriculture – albeit with localised impacts from scrub and gorse. Features within Open Access Land may be impacted by visitor erosion. The land management of areas designated for reasons other than heritage (e.g. SSSIs or ancient woodland) should also aim to conserve archaeological sites.

5.40 The Management Plan should also emphasise the importance of the cumulative value of non-designated assets within the AONB, which collectively create a strong sense of time-depth within the landscape. Overall, the Management Plan should plan positively for the future management of the AONB by promoting the rich heritage of the AONB and its surrounds.

6 Visitor Management

6 Visitor Management

Statement of significance

6.1 Cannock Chase AONB is an **important recreational resource** in close proximity to a number of densely settled urban areas and forms an undeveloped oasis where people can escape into nature. Opportunities to connect with nature can help to improve the **health and wellness** of the public. Of particular significance are the **vast areas of Open Access Land** and **dense network of footpaths and bridleways**. The AONB contains the largest area of Open Access Land in the region.

6.2 The landscape of the AONB is **suitable for a wide range of activities**, including walking, horse-riding and mountain biking. The AONB therefore provides a popular year round destination for both residents and people from the wider region. There is also an **economic benefit of recreation** in the AONB, with recreation providing opportunities to generate income which can be used for the benefit of the landscape.

Indicators selected for this theme

- Location and total length of Public Rights of Way
- Extent of Open Access Land
- Visitor types
- Popular visitor locations

Summary headlines

- The total length of Public Rights of Way in the AONB is approximately 157 kilometres. The majority (85%) of public rights of way are bridleways.
- 3,386.6 hectares (49%) of the AONB is Open Access Land.
- Estimated annual visits to the AONB in 2010/11 were approximately 2.3 million, up from an estimated 1.3 million in 2000.
- In a 2010/11 Visitor Survey, the majority of respondents (88%) who visited the AONB came from within 15 kilometres of the site.
- Most visitors to the AONB visit on a regular (daily or weekly) basis.
- The majority of visitors (77%) to the AONB travel by private car. Walking and cycling are popular methods of transport to areas on the edge of the AONB, close to urban development. Use of public transport is very low.
- Strava data indicates that the promoted mountain bike trails are very popular visitor attractions.

Analysis of indicator: Location and total length of Public Rights of Way

6.3 A map of Public Rights of Way and Open Access Land in the AONB is shown at **Figure 6.1**.

6.4 The total length of Public Rights of Way in the AONB is 157 kilometres. Lengths by type of Public Right of Way are shown in **Table 6.1**. Spatially, these paths are concentrated in the Cannock Chase SAC. An assessment of footpath extent in the SAC (2012) noted that the total ground footprint of paths in the SAC is 36 ha (3.1%).

Table 6.1: Public Rights of Way in the AONB

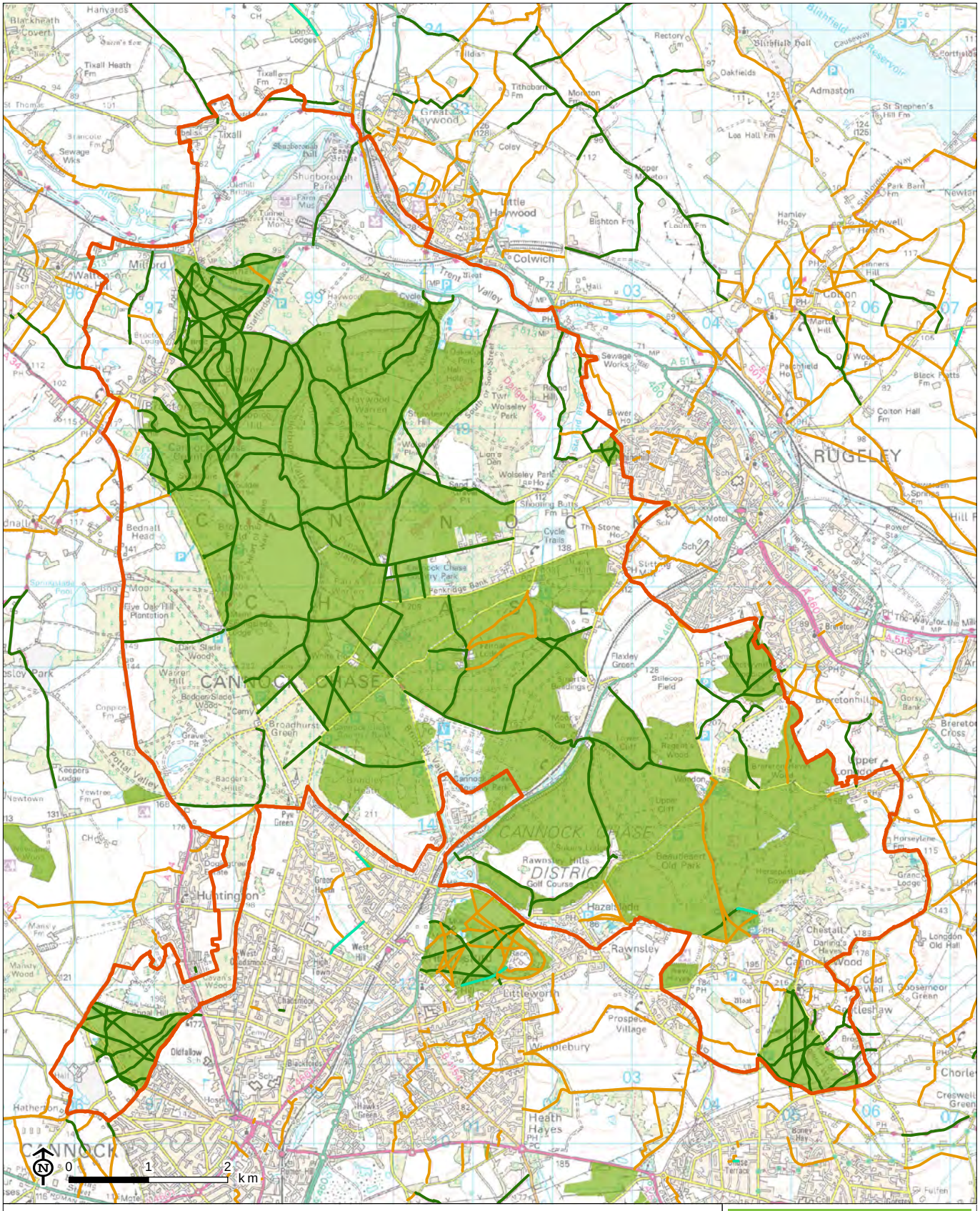
Type of PRoW	Length in the AONB
Footpath (km)	23.6
Bridleway (km)	133.0
Byway Open to All Traffic (km)	0.3

6.5 Condition information on the Public Rights of Way is not available, although it is acknowledged that path erosion can be an issue, particularly in popular visitor locations. A 2012 study of the impacts of recreation on Cannock Chase SAC noted that path erosion is a result of multiple factors including the path cover type, past vehicle use, users travelling in groups and short-cutting (creation of desire lines as well as inappropriate use of paths (e.g. horses and cycles used on footpaths)).

6.6 The Connecting Cannock Chase Lowland Heathland Restoration Project report (2014) noted that horse riders tend to cause the most erosion damage to paths, creating wide muddy tracks. By contrast, biking activities tend to have minimal impacts with most users following the same trajectory, roughly keeping within a 30cm area at the centre of the path. The report also noted that dog fouling and horse excrement can lead to significant nutrient enrichment of soils close to rights of way, bringing nutrients in from outside of Cannock Chase. In soils that are normally nutrient poor, this can have the effect of altering plant composition. This report also noted that heather species are particularly sensitive to trampling compared to other types of vegetation.

Analysis of indicator: Open Access Land

6.7 A total of 3,386.6 hectares of the AONB is Open Access Land. This is 49% of the Cannock Chase AONB area. Spatially, the Open Access Land is focused in the central parts of the AONB and is often coincident with the forestry and heathland areas, as shown in **Figure 6.1**.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Open access land

Public rights of way

Byways open to all traffic

Bridleway

Footpath

Source: Staffordshire County Council, Natural England

Map Scale @ A4: 1:68,000

Cannock Chase State of the AONB

Figure 6.1: Public Rights of Way and Open Access Land

CB:KS EB:Stenson_K LUC FIG6_1_10360_PRoW_A4P 20/07/2018

Analysis of indicator: Visitor types

6.8 The most recent visitor survey for the whole of the AONB was conducted in 2010-11, with the subsequent report completed in 2012. Prior to this, Staffordshire University completed the first visitor survey of the AONB in 2000.

6.9 These Visitor Surveys were primarily in-situ surveys, using volunteers to interview people encountered within the AONB.

Profile of recreational users in the AONB

6.10 The 2010/11 Visitor Survey divided respondents into three age groups. The most frequent age demographic in the survey was 41-60 year olds, comprising 48% of respondents. 36% of respondents were aged 18-40, while 16% were over 65.

6.11 The age results from the 2000 Visitor Survey were not directly comparable, although showed a similar age profile with higher numbers of people aged 41-60 visiting the AONB than other age categories.

6.12 In the 2010/11 survey, 88% of visitors to the AONB travelled a distance of 15 kilometres or less. This is a similar trend as that noted in the 2000 survey, which reported that 70% of visitors travelled from within 10 miles (16.1km) of their destination.

Number of visitors and frequency of visits

6.13 The 2010/11 survey estimated that annual visits to the AONB were approximately 2.3 million. This has increased significantly from the 1.3 million estimated annual visits in 2000.

6.14 The 2010/11 Visitor survey found that the majority of respondents visited the AONB on a weekly or daily basis. Far fewer people surveyed said that they visited once per month or once per year (although the nature of the in-situ survey means that the chance of encountering people who visit the AONB less frequently is reduced). This is likely to be linked to the fact that many of the visitors live in close proximity to the AONB. Similar trends were noted as part of the 2000 Visitor Survey.

Modes of transport

6.15 The results of the 2010/11 Visitor Survey indicated that the vast majority of visitors to the AONB travel via private car (77% of respondents). In the 2000 Visitor Survey 81% of visitors travelled to the AONB by car.

6.16 Walking and horse riding are popular method to travel to some specific locations within the AONB, including Castle Ring and Gentleshaw Common.

6.17 The 2010/11 Survey recorded low usage of public transport to visit the AONB, with less than 1% of people using these methods. Very low use of public transport by visitors was also noted in the 2000 Survey.

Popular activities within the AONB

6.18 According to the results of the 2010/11 Visitor Survey, the most popular activities in the AONB are as follows (percentage indicates activity being undertaken at the time of observation, many visitors will participate in more than one activity):

- **Walking –** 34%. Walking is a popular activity throughout the AONB, although Birches Valley and Marquis Drive were the most popular locations for walkers.
- **Dog walking –** 26%. Dog walking is a popular activity throughout the AONB, with many dog walkers visiting the AONB on a daily basis.
- **Horse riding –** 2%. Although horse riding is a less popular activity in the AONB, it is noted that it can have a greater impact on paths and erosion of heathland. Two sites, Abraham's Valley and Springslade Lodge, have proven to be the most popular for this activity with 235 (37%) of all horse riders surveyed at these locations. According to the 2012 SAC Survey, 37% of horse riders visited the AONB on a daily basis.
- **Cycling** – 24% - Since the 2000 survey, participation in cycling based activity has increased within the AONB. Birches Valley is shown to be the primary location for cycling based activities within the AONB with almost 50% of all recorded visitors surveyed in 2010/11 participating in this

activity. A Visitor Impacts Mitigation Report (2012) commissioned to understand how to mitigate the impact of increased visitor numbers to Cannock Chase SAC notes that alternative sites are unlikely to deter mountain bikers from using the SAC as alternative sites are likely to be smaller. This highlights the importance of appropriate management of visitors in this location.

Analysis of indicator: Popular visitor locations

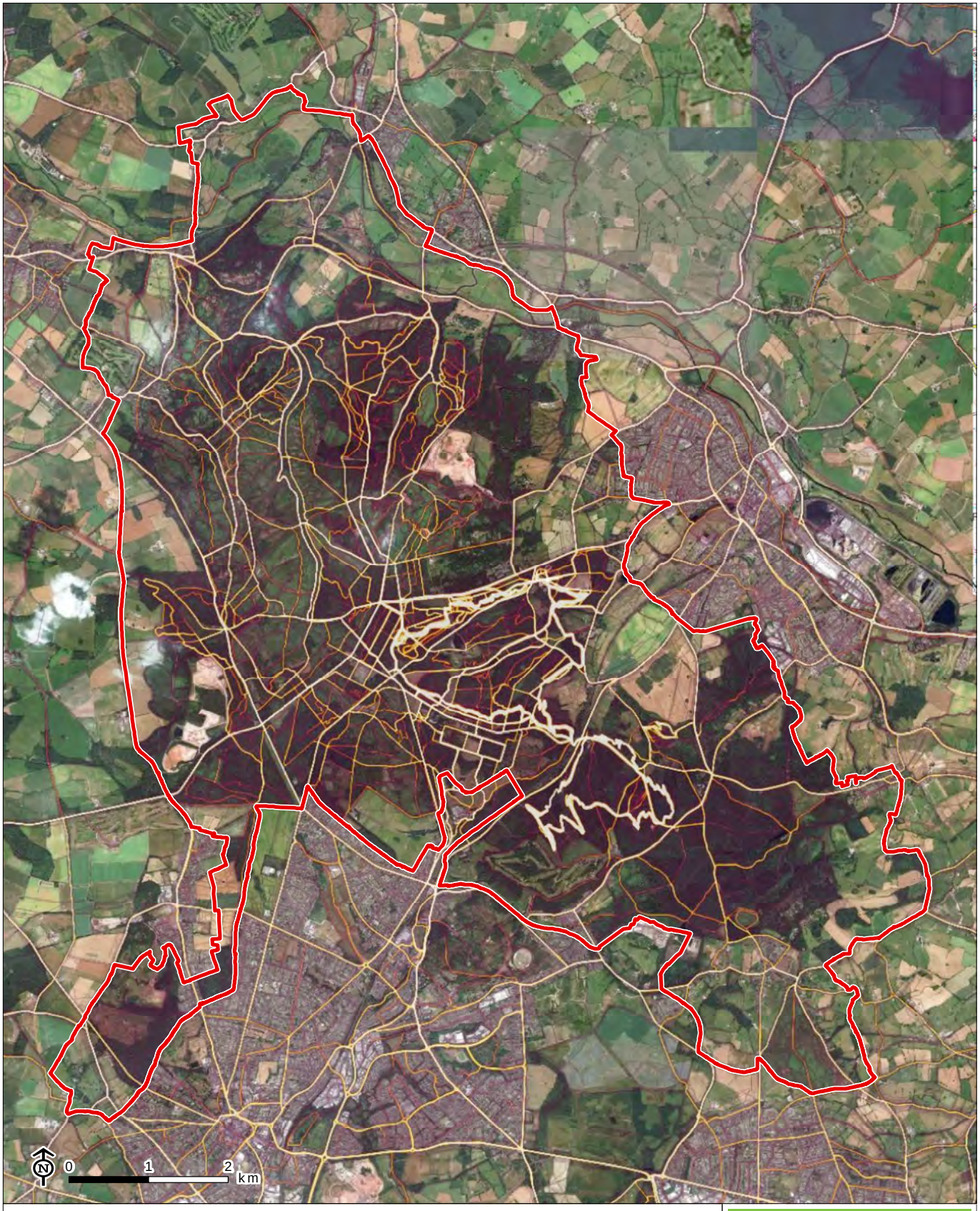
6.19 The locations with the greatest proportion of visitors during the 2010/11 survey were:

- Birches Valley (15.3% of respondents)
- Marquis Drive (11.1% of respondents)
- Whitehouse Car Park (6.6% of respondents)
- Moor's Gorse (6.5% of respondents)
- Seven Springs (5.5% of respondents)
- Brocton Coppice (5.1% of respondents)

6.20 In the 2000 survey the most popular locations were identified as Milford Common, Marquis Drive, Birches Valley, Seven Springs, the Sherbrook Valley and Castle Ring. It should be noted that the in-situ nature of both visitors surveys means that the results cannot be directly compared as there are many outside variables which may influence the popularity of locations. However, there are more similarities than differences between the most popular locations in the two separate visitor surveys.

6.21 Strava heat mapping[4] as shown in **Figure 6.2** illustrates the use of Public Rights of Way with the non-agricultural areas of land within the AONB being particularly well used by visitors. Strava heat mapping, when filtered to show cycling activity only, shows that bike trails such as the "Follow the Dog" and "The Monkey" (see **Figure 6.3**) are particularly well used.

[4] These heat maps illustrate relative levels of activity in the AONB (i.e. the data is not quantifiable) with the 'brighter' areas indicating higher levels of use by people using the Strava app.



Cannock Chase Area of Outstanding Natural Beauty (AONB)

Recreation activity

High activity

Low activity

Source: Natural England, Strava

Map Scale @ A4: 1:68,000

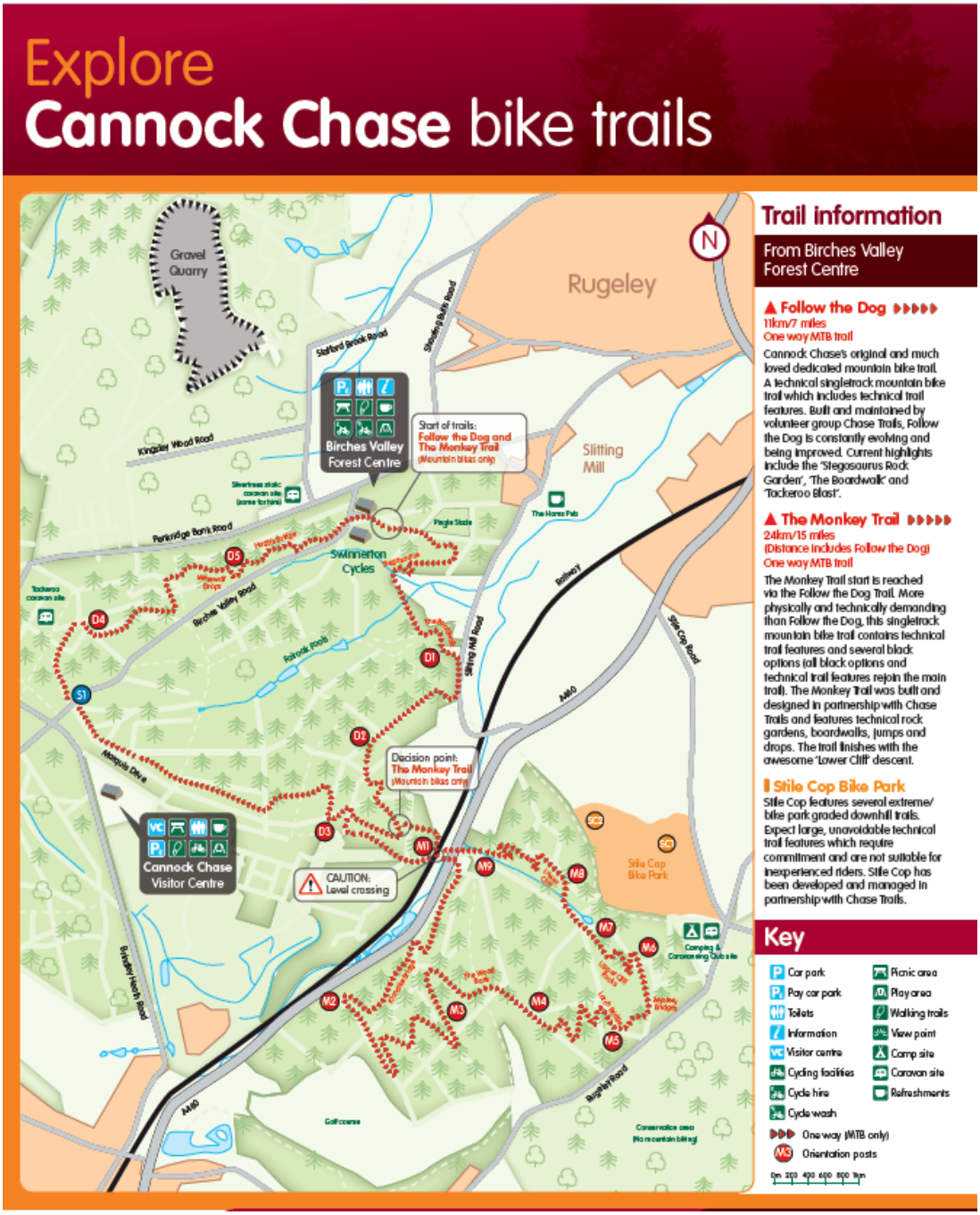
Cannock Chase
State of the AONB

Figure 6.2: Strava heat map showing relative levels of recreational activity within the AONB

LUC

CB:KS EB:Stenson_K LUC FIG6_2_10360_Strava_Heat_Map_A4P 28/08/2018

Figure 6.3 Cannock Chase bike trail routes



Data sources

6.22 The data sources used for this sub-theme are as follows:

- Cannock Chase AONB: Visitor Survey Analysis. Lepus Consulting (2012)
- Strava data (downloaded June 2018)
- Cannock Chase SAC – Footpath Extent Assessment. Devon Biodiversity Records Centre (2014)
- Evidence Base relating to Cannock Chase SAC and the Appropriate Assessment of Local Authority Core Strategies. Footprint Ecology (2009)
- Cannock Chase SAC Visitor Survey. Footprint Ecology (2012)
- Impacts of Recreation of Cannock Chase SAC. Footprint Ecology (2012)

- Cannock Chase SAC Visitor Impacts Mitigation Report. Footprint Ecology (2012)
- Cannock Chase AONB Visitor Survey 2000. Staffordshire University (2000)
- Cannock Chase SAC: Guidance to Mitigate the Impact of New Residential Development. South Staffordshire Council (2014)
- Report on the Connecting Cannock Chase Lowland Heathland Restoration Project. Staffordshire Wildlife Trust (2014)

Recommendations for future monitoring and considerations for the Management Plan

6.23 Appropriate visitor management is important for Cannock Chase AONB, particularly due to the heavy usage of the site due to its close proximity to a number of large urban areas and limited alternative destinations offering a similar visitor experience.

6.24 The AONB and partners should be involved in undertaking regular condition monitoring of Public Rights of Way in partnership with Staffordshire County Council to ensure that the monitoring work undertaken by the council is also useful for AONB monitoring purposes.

6.25 A number of recent studies undertaken on behalf of the SAC and the AONB have noted the likely impacts of increased visitor numbers, including damage to plant communities on the heathland as a result of increased traffic emissions.

6.26 To monitor visitor numbers, desires and trends, the AONB could consider conducting brief online surveys on a more frequent basis (which are less onerous in terms of time and planning), with more extensive in-situ surveys undertaken every 5-10 years.

6.27 A Visitor Impact Mitigation Strategy for the SAC (2009) noted that Cannock Chase has a very high visitor density compared to similar heath habitats. Visitor density at Cannock Chase SAC is 1,024 visitors per hectare (annually) compared to Dorset Heaths and Thames Basin Heaths which have visitor densities of 680 and 842 visitors per hectare (annually) respectively. This evidence further illustrates the importance of regular and consistent condition monitoring in order to prevent and address visitor impacts, particularly on the internationally designated site.

6.28 The Management Plan should contain policies which promote a balance between the conservation and enhancement of the protected landscape and recreational activity in a positive way. This should include the promotion of joint working to implement an appropriate visitor management strategy.

7 People and socio-economic profile

7 People and socio-economic profile

Statement of significance

7.1 The population density within the AONB is low, with the limited settlement of the area contributing to its **rural, wilderness character**. This is particularly significant when the AONB is compared with the densely populated urban areas which are located nearby. There are good levels of **community involvement** within the AONB, with many people taking part in organised **recreational and educational activities.**

Indicators selected for this theme

- Population trends
- Levels of deprivation
- Education and involvement within the AONB

Summary headlines

- The estimated population within the AONB in 2016 was 9,256, which has increased from an estimated population of 9,171 at the time of the 2011 census.
- The population within 10 kilometres of the AONB is estimated to be 491,582, up from 481,055 during the 2011 census.
- Population density within the AONB is generally very low, with the majority of the AONB having less than 10 people per hectare.
- The population of the AONB generally comprises older adults, with the most populous age group being those aged 50-59 (2016).
- Levels of deprivation are low across much of the AONB, although there is an increase in deprivation near the edges of the AONB boundary, associated with Rugeley and Cannock.
- Conversely, levels of deprivation against the 'Barriers to Housing and Services' indicator are relatively high, which may be due to a lack of provision of services including shops and schools.
- In 2015-2016, more than 200 people took part in events focused on awareness and practical tasks in the AONB.

Analysis of indicator: Population trends

Total population size

7.2 The total population within the AONB is 9,256, according the ONS 2016 estimates. The total population within the AONB during the 2011 census was 9,171. Within 10km of the AONB boundary, the 2016 population was 491,582, up from 481,055 during the 2011 census.

7.3 The SAC and the Local Authorities have produced guidance to mitigate the impact of new residential development, which note that increased levels of housing within 15 km of the SAC would have an adverse effect on the integrity of the protected site if not properly mitigated. This area is considered to be the Cannock Chase SAC Zone of Influence. Mitigation of impacts from increased users of the SAC (as a direct result of increased housing) would have associated costs in the form of strategic access management costs. Population increases within the 15 km Zone of Influence are likely to continue, with subsequent impacts on the AONB as outlined in the previous chapter.

Population density

7.4 Population density is very low within the AONB, with most of the area having less than 10 people per hectare (**Figure 7.1**). This reflects the limited settlement within the AONB. The edges of the AONB near Rugeley and Cannock have a higher population density of 20-30 people per hectare. While it is to be expected that population density in the rural area of the AONB will be relatively low, large population increases in nearby urban areas can cause management issues within the AONB which often relate to increased numbers of visitors and traffic levels.

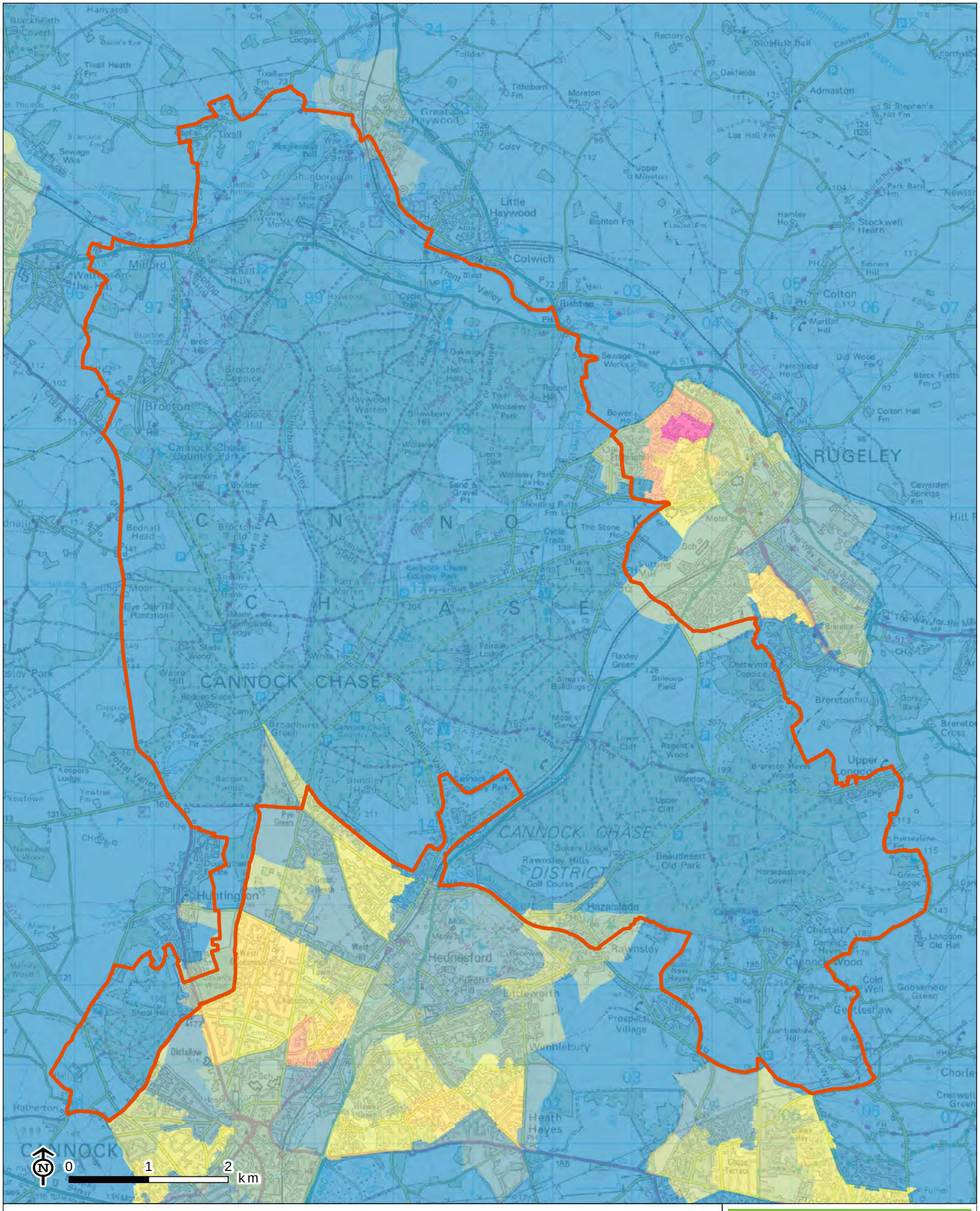
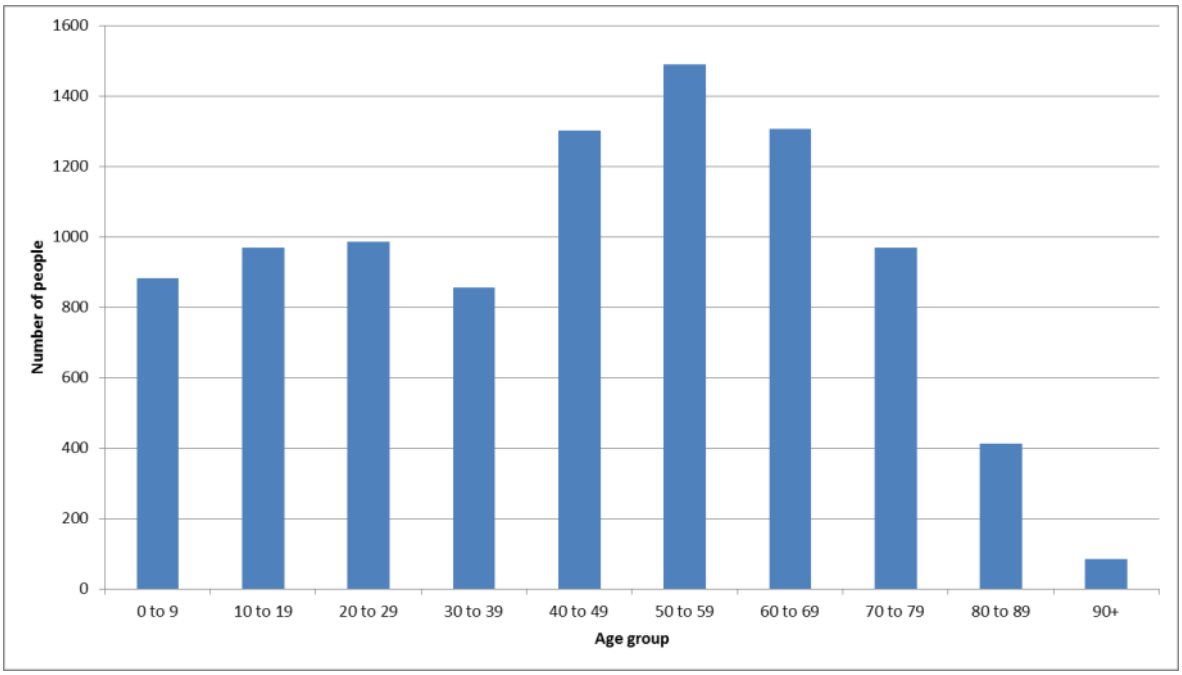


Figure 7.1: Population density

Age profile

7.5 The chart at **Figure 7.2** illustrates the number of people within each age bracket residing in the AONB. The age group with the greatest number of people is those aged 50 to 59, illustrating that the many people living within the AONB are older adults. An ageing population living within the AONB may increase demand for more easily accessible access routes around the AONB. There are a relatively low number of people aged 30-39.

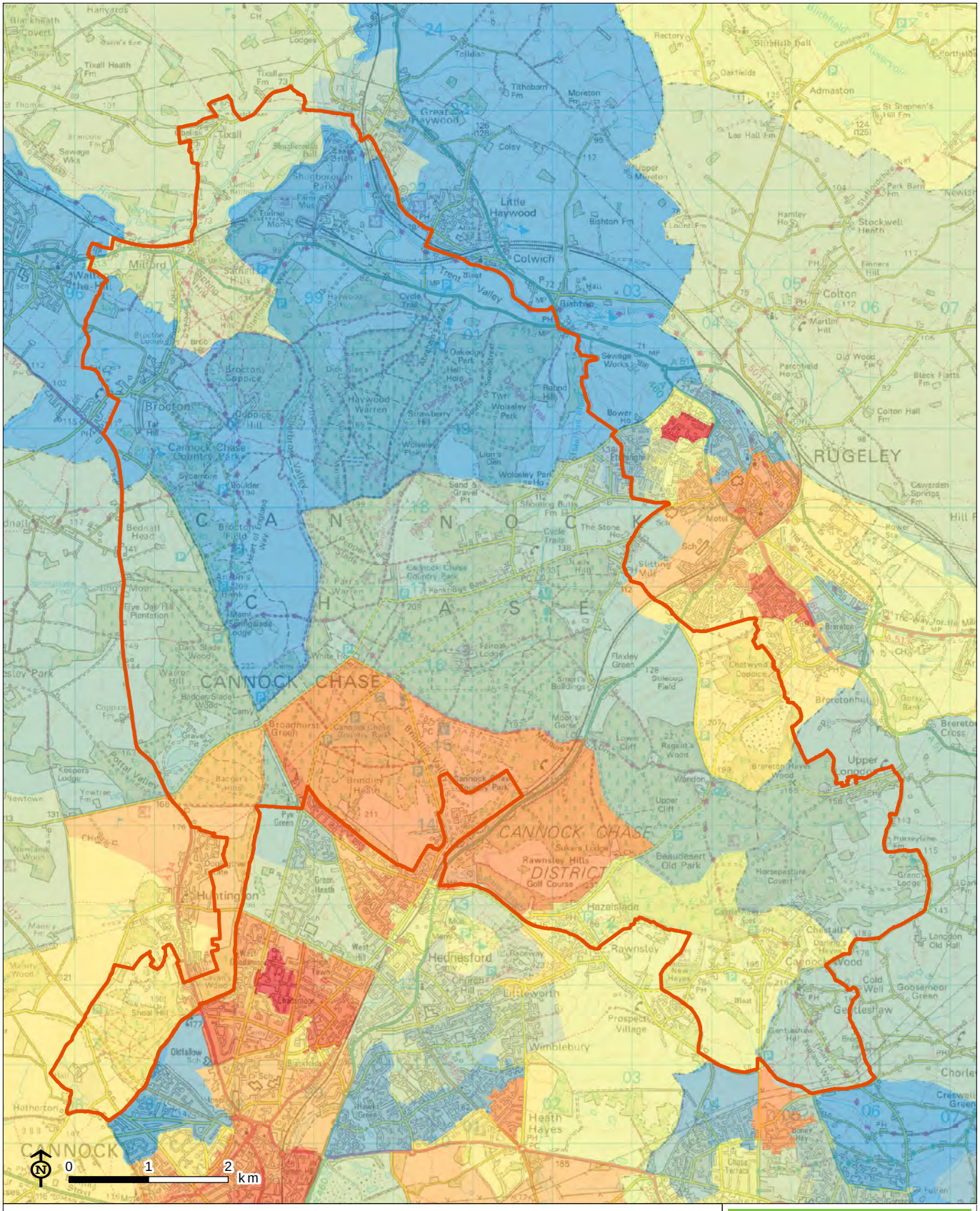
Figure 7.2: Age of AONB Residents (2016)



Analysis of indicator: Levels of deprivation

7.6 The majority of the AONB has relatively low levels of deprivation as recorded in the 2015 Index of Multiple Deprivation. In parts, deprivation levels are amongst the lowest in the country (See **Figure 7.3**). Areas with slightly larger population densities of 20-30 people per hectare tend to correlate with greater levels of deprivation, including near Cavan's Wood between Huntington and Cannock.

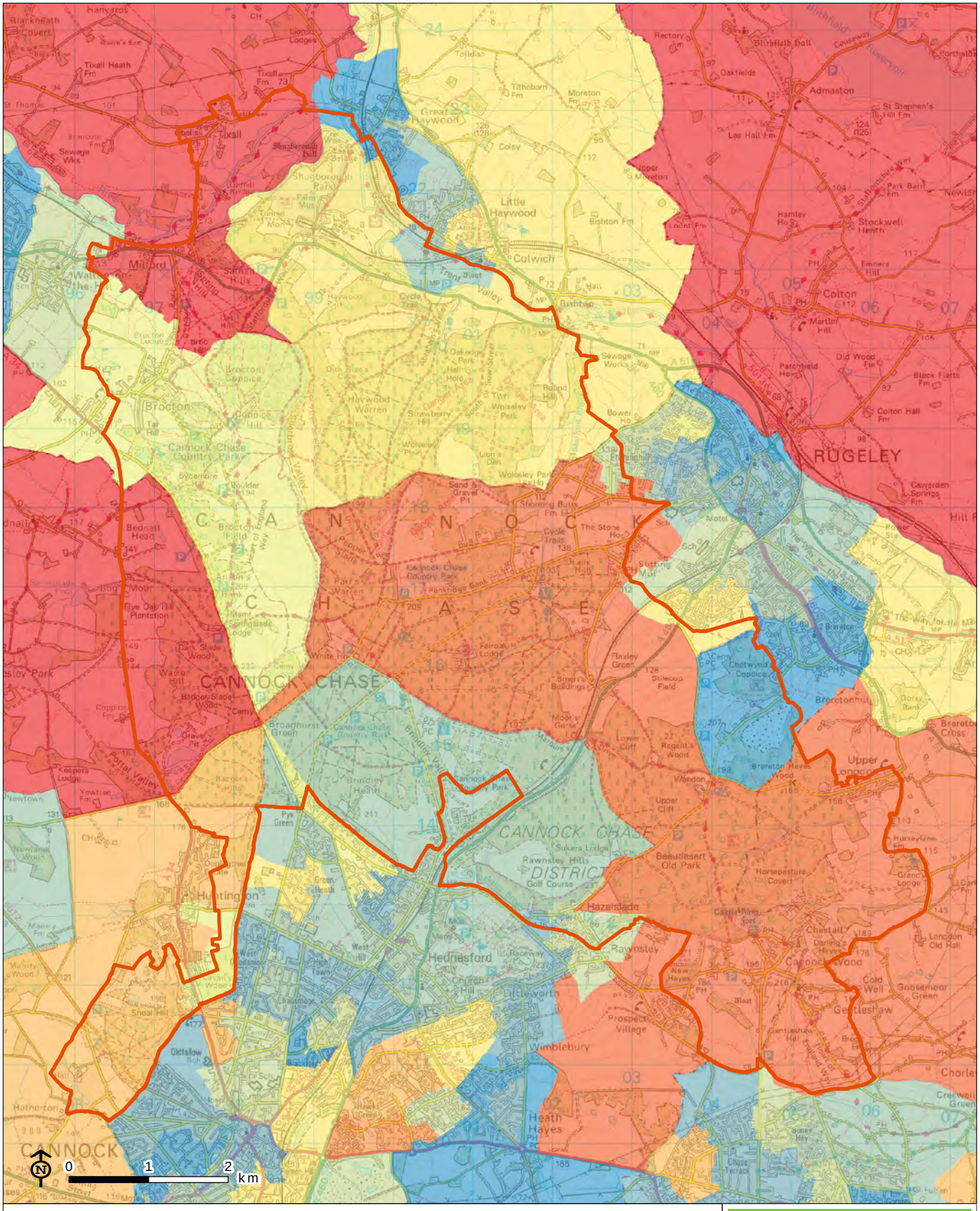
7.7 The Barriers to Housing and Services Domain is relatively high throughout most of the AONB compared to the overall IMD (**Figure 7.4**), which may be due to a lack of provision of services including shops and schools. Areas closer to Cannock and Rugeley have lower levels of deprivation, as these developed areas have better access to these facilities. This could also be due to house prices being higher in some areas (e.g. the north of the area close to Stafford is more expensive than Rugeley).



Cannock Chase State of the AONB

Figure 7.3: Cannock Chase AONB Index of Multiple Deprivation (IMD)

CB:KS EB:Stenson_K LUC FIG7_3_10360_IMD_A4P 20/07/2018



Cannock Chase State of the AONB

Figure 7.4: Cannock Chase AONB Barriers to Housing and Services Deprivation Indicator

CB:KS EB:Stenson_K LUC FIG7_4_10360_IMD_Housing_Services_A4P 20/07/2018

Analysis of indicator: Education and involvement within the AONB

7.8 The AONB releases Annual Reports which give a brief overview of the previous year, including information on Awareness Days and Community Work.

7.9 In **2015-2016**, more than 200 people took part in events focused on awareness and practical tasks in the AONB including heathland management, bracken bashing, balsam pulling and holly management.

7.10 Five walks were delivered by the AONB Unit and Partners, including two bird walks delivered by West Midlands Bird Club.

7.11 Twenty two volunteer days were conducted including a variety of activities including litter picking, birch removal, Himalayan Balsam removal, bundle beech creation, wetland management, tree planting in Brocton Coppice, bracken bashing, holly management and willowherb removal.

7.12 In **2013-2014** more than 150 people took part in events during the year focused on awareness and practical tasks in the AONB. This equated to around 70 days of work donated to the AONB.

7.13 Two litter picking sessions were held, two sessions removing invasive species (Himalayan balsam and Willowherb) and 21 sessions of heathland and woodland management. A willow weaving event was also held with 15 volunteers learning techniques using woodland products.

7.14 Over 20 volunteers took photographs for the fixed point photography landscape monitoring project. Working with the Forest of Mercia Project Team, a survey of the condition of signs and waymarkers and their position began, starting with the Heart of England Way.

7.15 Volunteers have also completed the Veteran and Notable Trees survey at Shugborough. The survey included the exact location of each tree, its condition and a photo to identify it. The next stage is to look at similar trees in the wider AONB area, but to include tree health in conjunction with the OPAL (Open Air Laboratories) scheme.

7.16 In **2012-2013**, more than 200 people took part in events focused on awareness and practical tasks in the AONB. This equated to around 75 days of work donated to the AONB.

7.17 There were eleven walks led by six different partners and members of the AONB Unit including an event where a party of 50 Nordic Walkers from Clwydian Range and Dee Valley AONB were met by 11 Cannock Chase AONB volunteers for a walk from Milford Common. Three walks testing out routes for Walsall Ramblers Cannock Chase AONB walks were held. A Great War themed walk also helped deliver a Day Walk Leader's qualification.

7.18 Two litter picking sessions were held, two sessions removing invasive species (ragwort and Himalayan balsam) and eight sessions of heathland and woodland management. A willow weaving event was also held with 17 volunteers learning techniques using woodland products.

7.19 Fourteen volunteers received training from the National Trust and Staffordshire County Council to survey Veteran and Notable Trees on the Shugborough Parkland. Ten volunteers surveyed signs and waymarkers along the Heart of England Way from Milford Common to Gentleshaw Common. Training for this project was delivered by the Forest of Mercia Project Team.

Data sources

7.20 The data sources used for this sub-theme are as follows:

- Cannock Chase AONB Annual Reports (2012-2016)
- Ministry of Housing, Communities & Local Government Index of Multiple Deprivation 2015
- ONS Population Estimates (2016)
- ONS Census 2011

Recommendations for future monitoring and considerations for the Management Plan

7.21 As the national census is only repeated on a 10-year basis, it has not been possible to give up-to-date data for a number of indicators which are based on census data. It is envisaged that for the next State of the AONB Report, data from the 2021 census will be available and it will be possible to update these indicators and make direct comparisons to the data collected in 2011.

7.22 The AONB teams should collect detailed annual data on numbers of volunteers and events delivered by the AONB team and partners, in order to accurately monitor trends. Future surveys could also ask respondents about education and involvement in the AONB, to better understand how local communities and volunteers can contribute to the monitoring and maintenance of the protected landscape. The data should be captured in a structured manner to allow for analysis of trends.

7.23 The new Management Plan should continue to promote the involvement of volunteer groups in the monitoring and management of the AONB, enabling the people who live and work in the landscape to input into the future of the nationally protected landscape.

8
Headline findings and next steps

8 Headline findings and next steps

Headline findings

8.1 A summary of headline findings for each of the themes/sub-themes is included here, along with some next steps which look forward to the next round of AONB monitoring.

Agricultural landscape character

- Permanent grass is the most common agricultural land use (48%) closely followed by crops and bare fallow (38%).
- The majority of the AONB land is non-agricultural (63%) due to the large areas of forestry and heathland. Agricultural land is Grade 3 and Grade 4.
- There has been an overall increase in livestock numbers between 2009 and 2016. Numbers of cattle and sheep have increased by 26% and 30.7% respectively, while numbers of poultry have risen by 133.3%.
- In 2016, a total of 53 people in the AONB were employed in the agricultural sector
- 31.5% or 2,165.4 ha of Cannock Chase AONB is included within an agri-environment scheme. Higher Level Environmental Stewardship Schemes comprise the majority (75%) of these schemes.
- There are two Countryside Stewardship Schemes within the AONB, covering an area of 136.4 hectares.

Woodland cover and management

- Woodland cover accounts for 2,879.1 hectares or 41.9% of the AONB.
- The most common woodland type is coniferous (1,754.2 hectares or 61% of all woodland areas), with broadleaved woodland covering 1,091.4 hectares or 38% of wooded areas.
- Ancient woodland comprises 160 hectares (2%) of the AONB.
- 82% of woodland in the AONB is actively managed. This is the highest figure of all AONBs in England.
- 56 hectares of woodland and 65 individual trees are managed as part of Environmental Stewardship schemes.

Settlement and planning

- 20% of all planning applications were for "alteration, extensions and replacement dwellings".
- There are a total of 3,811 dwellings in the AONB. 50% of these are detached buildings.
- 2017 had the highest number of planning applications since 2012.

Visual and perceptual qualities

- The visual and perceptual qualities of some areas within the AONB have changed significantly between 2004 and 2014, while other areas have remained remarkably unchanged.
- Cannock Chase generally has moderate levels of tranquillity, with higher levels of tranquillity experienced in the central parts of the protected landscape. Tranquillity is diminished close to adjacent urban areas, but still high relative to surrounding areas.
- Brockton Coppice was identified as the most tranquil area within the AONB by a local-level tranquillity survey in 2010.
- Cannock Chase has the highest levels of light pollution of any AONB, although night skies are still comparatively dark in the context of the surrounding urban areas.

Biodiversity and geodiversity

- 18% of the AONB area is internationally designated as a Special Area of Conservation (SAC), primarily for the presence of large areas of European dry heath habitat.
- Cannock Chase has the highest percentage cover of lowland heath of any AONB (12%) in England.
- There are five Sites of Special Scientific Interest (SSSIs) within Cannock Chase, the majority of which are in an unfavourable recovering condition.
- During a 2017 bird survey, 19 bird species with red list status were sighted in the AONB.
- White-clawed crayfish have been recorded at three separate locations in the last three years.
- At least nine bat species have been recorded in the AONB in the last ten years.
- The small pearl-bordered fritillary butterfly has been recorded in the Sherbrook Valley and Oldacre Valley in most years since 2008.
- Water voles have not been recorded in the AONB since 2005.
- There are five Local Geological Sites (LoGs) within the AONB, four of which have a positive conservation status.
- Of the 13.6 km of rivers within the AONB, 29% have a good ecological status.

Historic Environment

- Cannock Chase AONB contains seven scheduled monuments, which cover a total area of 11.28 hectares. These include features from the Iron Age, medieval period and the First World War. Castle Ring is the largest and most prominent of the scheduled monuments.
- There are two Grade I registered parks and gardens in the AONB; Shugborough Hall and the German Military Cemetery. Collectively, these cover 271.5 hectares, with Shugborough covering 267 hectares.
- There are 66 listed buildings within the AONB (eight Grade I listed, seven Grade II* listed and 51 Grade II listed buildings. The majority of Grade I listed buildings are contained within the grounds of Shugborough Hall.
- Five Conservation Areas are found within the AONB.
- There are 1,224 features included on the Historic Environment Record (HER) in the AONB. This has increased since the last State of the AONB report due to the extensive Lidar surveys that have been undertaken in recent years.
- None of the nationally designated heritage features within the AONB are included on Historic England's Heritage at Risk register, although a number of features are identified as being 'vulnerable'.
- 126 hectares of the AONB is managed for archaeological/historic features through agri-environment schemes. 37% of HER features are located within an active agri-environment scheme.
- Presence of 247 veteran trees and 134 veteran pollards.

Visitor Management

- The total length of public rights of way in the AONB is approximately 157 kilometres. The majority of public rights of way are bridleways.
- 3,386.6 hectares (49%) of the AONB is Open Access Land.
- Estimated annual visits to the AONB in 2010/11 were approximately 2.3 million, up from an estimated 1.27 million in 2000.
- In a 2010/11 Visitor Survey, the majority of respondents (88%) who visited the AONB came from within 15 kilometres of the site
- Most visitors to the AONB visit on a regular (daily or weekly) basis.
- The majority of visitors (77%) to the AONB travel by private car. Walking and cycling are popular methods of transport to areas on the edge of the AONB, close to urban development. Use of public transport is very low.
- Strava data indicates that the promoted mountain bike trails are very popular visitor locations.

People and socio-economic profile

- The estimated population within the AONB in 2016 was 9,256, which has increased from an estimated population of 9,171 at the time of the 2011 census.
- The population within 10 kilometres of the AONB is estimated to be 491,582, up from 481,055 during the 2011 census.
- Population density within the AONB is generally very low, with the majority of the AONB having less than 10 people per hectare.
- The population of the AONB generally comprises older adults, with the most populous age group being those aged 50-59 (2016).
- Levels of deprivation are low across much of the AONB, although there is an increase in deprivation near the edges of the AONB boundary, associated with Rugeley and Cannock.
- Conversely, levels of deprivation against the 'Barriers to Housing and Services' indicator are relatively high, which may be due to a lack of provision of services including shops and schools.
- In 2015-2016, more than 200 people took part in events focused on awareness and practical tasks in the AONB.

Next steps

8.2 The combination of pressures on the AONB landscape presents a challenge for its management, particularly in light of increasing environmental (including climate change), social and economic pressures. Its high scenic qualities and the recreational opportunities it provides are likely to continue to spur further pressure on recreational sites, especially in light of population increases in nearby urban areas.

8.3 There are also more widespread changes which are not specific to the AONB but nonetheless will have an impact, including changes in agricultural land management, spurred on by uncertain economic conditions (not least relating to Britain's withdrawal from the EU), a changing climate and an ageing population of farmers.

8.4 This document sets out a series of recommendations for monitoring to inform future State of the AONB reporting, which it is hoped will underpin a robust Management Plan with specific and achievable objectives. In turn, the Management Plan will help to conserve and strengthen the nationally designated landscape for future generations to enjoy.

Appendix 1
Priority species and habitats

Task and Finish Group Indicator Framework

Priority sites, habitats & species and geodiversity

Designated sites are the Cannock Chase SAC and the Cannock Chase, Gentleshaw Common, Milford Quarry, Rawbones Meadow and Stafford Brook SSSIs. Several Local Wildlife Sites lie within the AONB boundary, these include Shugborough, Shoal Hill and Hatherton Hall (and others). Local Geological Sites (LoGS) within the AONB are Brocton Quarry West, Cliff Caves at Great Haywood, Dark Slade Wood, Etching Hill and Satnall Hills Quarry.

Ancient woodland sites include Brocton Coppice, Chetwynd Coppice, Brereton Hayes, Georges Hayes, Piggot's Bottom, Alfred's Coppice, Round Hill and Redmoor Wood.

Important habitats are dry and wet heaths, woodland habitats (sessile oak woodland, scrub, alder woodland, wood pasture, parkland), fen and valley mire and veteran trees.

Lepidopteran interest includes small pearl bordered fritillary, Welsh clearwing, woodland moths (including angle-striped sallow and alder kitten) and heathland and grassland moths (including the anomolous, and grass wave). Other invertebrate interest includes white-clawed crayfish, bog bush cricket, green tiger beetle, saproxylic species associated with wood decay (including hazel pot beetle), the wetland beetle *Gnypeta velata*, early successional invertebrates (particularly species of ants, bees and wasps), black darter dragonfly.

Bird interest includes the Annex one heathland species nightjar, woodlark and Dartford warbler. Other important species include birds of woodland and scrub (redstart, tree pipit, wood warbler, pied flycatcher, lesser-spotted woodpecker, willow tit and willow warbler) and farmland habitats (turtle dove, yellowhammer, grasshopper warbler, linnet and cuckoo).

The AONB is important for several bat species, whilst regionally important populations of adder, grass snake and common lizard are known to be present. Botanical interest includes the hybrid bilberry and species of wet heath, acid grassland and woodland.

Invasive species requiring monitoring and action in AONB include *Phytophthora*, Himalayan balsam, Japanese knotweed, ragwort, parrot's feather, *Crassula*, Rhododendron. The potential impacts of grey squirrel on tree health and native wildlife is acknowledged but currently difficult to identify effective actions. Signal crayfish present a threat to white-clawed crayfish populations.

Monitoring Actions (for recommendation to management plan review):

- Size and distribution of the white-clawed crayfish population is monitored at least once during the management plan cycle.
- Annual surveys on presence and habitat quality for small pearl bordered fritillary in Sherbrook Valley and other appropriate sites.
- Report on the invertebrate nature conservation interest and required conservation actions, covering Odonata, Lepidoptera, Diptera, Coleoptera, Hymenoptera and Orthoptera.
- Floral audit of the AONB to identify populations of species of conservation interest, to include lower plants and fungi.
- Assessment of priority habitats outside of the boundary of the designated sites.

- Bat survey of species present across the AONB and health of populations, informing habitat maintenance and/or enhancement, and understanding bat movements between the AONB and surrounding areas to inform species conservation across the landscape.

- Bespoke monitoring for priority bird species (including redstart, cuckoo, nightjar, woodlark, Dartford warbler) to understand status and required conservation actions.

- Full bird survey of AONB to be repeated in 2022.

- Site Condition Monitoring of the five LoGS and Milford Quarry SSSI as part of a five-year monitoring cycle.

- Assessment and continued monitoring of invasive species in targeted areas of the AONB,

Site/habitat/species/ species assemblage:	**Monitoring action (actions in bold for inclusion in AONB management plan)**	**Lead**	**Support**
SAC qualifying features			
European dry heaths	Conservation status assessment	NE	All
Northern Atlantic wet heaths with Erica tetralix	Conservation status assessment	NE	All
SSSI notified features			
Dry heath (include hybrid bilberry)	Condition assessment	NE	SCC
Early successional invertebrates – bees, wasps and ants associated with the dry heath	Condition assessment. NE Field unit due to survey early successional invertebrates at CC SSSI plus several other SSSIs across Cannock Chase AONB in 2018.	NE	SCC
Wetland invertebrates – including *Gnypeta velata*	Condition assessment of wetland areas in 2018.	NE	SCC
Wet heath	Condition assessment	NE	SCC
Sessile oak wood pasture	Condition assessment	NE	SCC, NT
Saproxylic/wood decay invertebrates associated with the sessile oak wood pasture, including Hazel pot beetle.	Condition assessment. Survey for Hazel pot beetle needs doing as per recommendation in last survey (specialist required)	NE	SCC, NT
Alderwood	Condition assessment	NE	SCC, NT
Fen/valley mire communities	Condition assessment	NE	SCC
Gentleshaw Common	Assessment of impacts on wetland areas from fire damage. Monitor mire community.	NE	SWT
Local Wildlife Sites			
Shugborough, Shoal Hill, Hatherton Hall	Condition assessment	SWT	Owners (NT, CCDC, SSDC)

Site/habitat/species/ species assemblage:	Monitoring action (actions in bold for inclusion in AONB management plan)	Lead	Support
Other sites of importance			
Hednesdford Arenas	Condition assessment	SCC	
Habitats and species of Principal Importance			
Invertebrates (general)	**Report on the invertebrate nature conservation interest and required conservation actions, covering Odonoata, Lepidoptera, Diptera, Coleoptera, Hymenoptera and Orthoptera.**	tbc	SCC, FC, NT
White-clawed crayfish	**Health of the white-clawed crayfish population is monitored at least once during the management plan cycle**	SWT	FC, SCC
Dragonflies (notably black darter)	Five yearly surveys focussed on black darter.	tbc	SCC, FC, NT
Bog bush cricket	A survey at key locations/habitats.	SCC	Staffs Invert Group
Small pearl-bordered fritillary	**Annual surveys on presence and habitat quality for small pearl bordered fritillary**	BC	SCC, NT
Other butterfly species (notably green hairstreak, white-letter hairstreak, small heath, Dingy Skipper)	Butterfly Transects as part of national monitoring scheme.	BC	
Welsh clearwing	Pheromone surveys to map distribution. Identification of suitable mature birch trees.	BC	Staffs Invert Group
Emperor moth	Pheromone surveys to (supporting general moth trapping) to assess population health.	BC	Staffs Invert Group
Woodland moths: Angle-striped sallow *Enargia paleacea;* Alder kitten *Furcula bicuspis* (mentioned on SSSI notification).	Moth trapping to establish continued presence of species.	Staffs Invert Group	BC, FoCC
Heathland/grassland moths: Anomalous *Stilbia anomala;* grass wave *Perconia strigillaria* (mentioned on SSSI notification)			
Heathland bird assemblage: nightjar, woodlark, Dartford warbler	**Full bird survey of AONB to be repeated in 2022** **Bespoke monitoring for priority bird species (including redstart, cuckoo, nightjar, woodlark, Dartford warbler) to understand status and required conservation actions**	WMBC, FC	RSPB, SCC, NT
Woodland/scrub assemblage: redstart, tree pipit, wood warbler, pied flycatcher, lesser-spotted woodpecker, willow tit, willow warbler			
Farmland bird assemblage: turtle dove, yellowhammer, grasshopper warbler, linnet, cuckoo			
Vulnerable birds of prey (peregrine, goshawk, long-eared owl)	Annual species monitoring and protection	WMBC, FC	RSPB
Herpetofauna: Adder, common lizard, grass snake and great-crested newt.	Survey planned for 2018 (take advice on future work).	SARG (uk capacity	SCC, SWT, FC

Site/habitat/species/ species assemblage:	Monitoring action (actions in bold for inclusion in AONB management plan)	Lead	Support
		at present)	
Bat assemblage: five spp. noted in SSSI notification	**Bat survey to better understand species present across the AONB and the health of these populations to inform where habitat needs to be maintained and/or improved to protect them into the future, and to understand bat movements between the AONB and surrounding areas to inform conservation of species across the landscape.**	Staffs Bat Group	SCC, NT, FC
Heathland plants: Hybrid - bilberry, Round-leaved sundew, Great Sundew Bog asphodel, Butterwort, Cranberry, Crowberry	**Floral audit of the AONB to identify populations of species of conservation interest**	SCC	SWT, NT, FC
Woodland plants: wild daffodil			
Grassland plants: Bee Orchid, Yellow-wort, Yellow Bartsia			
Geological Features - Brocton Quarry West, Cliff Caves at Great Haywood, Dark Slade Wood, Etching Hill and Satnall Hills Quarry LoGS	**Site Condition Monitoring of the five LoGS and Milford Quarry SSSI as part of a five-year monitoring cycle.**	GCStaffs	NE
Invasive species			
Phytophthora sp.	**Assessment/Monitoring (across AONB)**	SCC, FC, NT	
Himalayan Balsam	**Assessment/Monitoring (Seven Springs)**	SCC	
Japanese Knotweed	**Assessment/Monitoring (A460 & Sister Dora)**	SCC	
Ragwort	**Assessment/Monitoring (focused on bridleway network across AONB)**	SCC	
Parrot's Feather, Crassula	**Assessment/Monitoring (Brindley Heath, Milford Quarry, Sister Dora)**	SCC	
Rhododendron	**Assessment/Monitoring (Seven Springs)**	SCC, FC, NT	
Grey squirrel	Effective actions not yet identified.		
Signal crayfish	See actions for white-clawed crayfish		