Farming, Forestry and the Equestrian Sector in the Cotswolds AONB

Update 2015

Report for

Cotswolds Conservation Board

November 2015

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1.1 Farming and forestry account for 95% of the land area of the Cotswolds Area of Outstanding Natural Beauty (AONB), and are the principal influences on its special qualities, which the Cotswolds Conservation Board (the Board) is charged to conserve and enhance. These special qualities in turn influence economic activity within the Cotswolds, particularly tourism.

1.2 The Board wishes to understand recent trends in farming and forestry in the AONB and consider potential future changes. This study also provides an opportunity to investigate elements such as land prices, commodity and input prices and the area's growing equine sector which has a direct and indirect impact on the landscape.

1.3 The objectives of the study are to:

- Update the 2009 farming and forestry study, and identify significant changes and trends
- Review land prices, commodity prices and cost of inputs
- Assess the current position of the equine sector within the Cotswolds AONB
- Forecast likely trends for the coming decade (to 2025)
- Propose policies and actions to promote and guide change in farming, forestry and the equine sector
- Align the conclusions of the study to the Cotswolds AONB Management Plan 2013-2018.

1.4 The approach taken during the study included: an inception meeting; the collation and analysis of data; a review of literature; appraisal of future trends and impacts; and reporting.

Current state and trends

1.5 Many of the projected trends identified in the 2009 study have occurred in practice. In farming, these include: an increase in the area of some crops such as maize; a decrease in rough grazing; reducing livestock numbers, in particular dairy cattle (23.5% reduction over 2007-2013); fewer, larger commercial farms and more smaller, non-commercial farms; and a steady decline in the farm labour force (4,152 on commercial holdings in 2013). In forestry, most of the previously projected trends continue, including: a gradual shift towards broadleaved woodland and away from coniferous woodland; and very limited new woodland creation. There is also evidence of adaptation to climate change in both sectors in terms of management decisions and practices.

1.6 However, there are also some different trends which have arisen as a result of policy and market changes, and natural events. In farming, these include: a decrease in the area of wheat and an increase in spring barley; a strong uptake of agri-environment schemes (now covering 80% of Utilisable Agricultural Area and bringing in over £9m to the Cotswolds economy each year); stable organic production; and growth in on-farm renewable energy. There has been significant volatility in output and input prices, leading to a recent downturn in farm income (farm gate income is estimated to be around £111 m.). In the meantime, farmland prices have continued to rise, tripling in the period 2004-2014. In forestry, the main event has been the increase in timber and wood fuel prices and, associated with this, more woodland management; however the arrival in the UK of the ash disease *Chalara*

fraxinea poses a very significant threat, particularly to the Cotswolds which has a high percentage of ash trees. This disease has been discovered in a number of woodlands in the Cotswolds and so is expected to take hold in the AONB over the next 10 years.

1.7 While farming and forestry remain the dominant land uses in the Cotswolds, the equestrian sector is also important despite occupying a much smaller area. It is estimated that the equestrian sector has a gross output of around £76 million (around 70% of total farmgate income), and employs around 1,000 directly and 2000-4,000 indirectly. The equestrian sector also provides a high quality recreational activity for a large number of people in the AONB, either directly through riding (over 50,000 riders each year, making riding the most popular form of recreation, after walking and cycling, that takes people into the landscape to appreciate the natural beauty of the AONB) or through watching sporting events in or close to the AONB. The Cotswolds is particularly significant amongst the UK's protected landscapes as a centre for equestrian sport, particularly National Hunt racing and Three Day Eventing.

Future trends

1.8 Looking ahead over the next ten years to 2025, we can expect many of the current trends to continue however some new or accelerated changes can also be anticipated. These include: more mixed farming practices as farmers seek more resilient farming systems and enterprises, and improved soil and water management; more beans and fallow in response to greening requirements, decreasing agri-environment scheme participation due to scheme changes; fewer new renewable energy projects due to reductions in subsidy; and a slow-down in the growth of farmland prices. In the forestry sector, the recent pick-up in woodland management is expected to continue as long as prices remain favourable, however significant numbers of ash trees are likely to be lost with the spread of *Chalara fraxinea* into the Cotswolds. The leisure equestrian sector can be expected to grow gradually which may lead to an increase in the area of land used for equestrian purposes.

Impacts

1.9 The potential impacts of these new or accelerated changes on the special qualities of the Cotswolds AONB include: marginal changes in the mix of land use and cropping, with more fallow and more mixed farms; better managed soils; changes in the extent and quality of dry stone walls and hedges due to scheme changes; loss of environmental quality and/or habitat on farmland due to land leaving agri-environment schemes; and loss of ash and beech due to pests and diseases.

1.10 The key issues identified in the last management plan have changed as follows. While there are good long term prospects in agriculture, significant volatility in prices and incomes is challenging, with lower prices and a strong exchange rate resulting in significantly reduced farm incomes this year. Farm diversification and the restructuring /splitting up of farms could accelerate as a result of changes in farm income. Farm management is now more complicated as a result of recent changes in the Common Agricultural Policy and associated schemes, and rural skills and employment are likely to be adversely affected by the loss of agri-environment scheme income. There is likely to be continued divergence in land use between fewer larger and more commercial farm holdings and a growing number of small non-commercial land holdings, leading to further losses in moderately-sized family-run farms. In woodlands, there is likely to be more management due to improved timber/wood fuel prices however tree pests and diseases, linked to climate change and

other factors, can be expected to have a significant impact in the near future. The use of land for equestrian purposes could grow potentially affecting landscape character.

Recommendations

1.11 Drawing on the findings of this study, a number of recommendations for policies or actions have been identified for the consideration of the Board. These are additional to those made in the 2009 study.

1. Support farmers and their advisers to enable them to make the most of the new schemes – Basic Payment Scheme and Countryside Stewardship – in terms of selection of options and access to funding, for the benefit of farm businesses and the Cotswolds environment.
2. Identify gaps and issues arising from the reduced agri-environment scheme funding in order to influence the scheme when reviewed and encourage and support alternative mechanisms to maintain the environmental investment made through Environmental Stewardship; these could include voluntary measures and/or Payments for Ecosystem Services initiatives.
3. Gather examples of good practice relating to climate change adaptation in the Cotswolds, in order to demonstrate what steps can be taken locally by farmers and foresters, and the potential business and environmental benefits.
4. Liaise with the Forestry Commission (and other bodies such as Natural England) to gain the latest advice on the spread of *Chalara fraxinea*, and its expected impacts, and obtain guidance on desirable management strategies and actions. In turn, it will be important to work with woodland owners and managers to prepare for the spread of *Chalara fraxinea* in the Cotswolds and manage its effects.
5. Recognise the contribution that the equestrian sector makes to the AONB in terms of its value to the rural economy, its popularity as a landscape-based recreational activity and the way that it adds to the sense of place and cultural identity of the Cotswolds. Alongside, however, acknowledge the challenges such as adverse impacts on the landscape in certain places.
6. Develop closer links with equestrian sector organisations such as the British Horse Society and with groups such as the Mid Cotswold Tracks and Trails Group to pursue areas of work identified in the AONB Management Plan. This could involve broadening the scope of the successful Cotswold Voluntary Wardens group.
7. Ensure that Cotswolds LEADER, Gloucestershire ESIF and other key local funding streams help address the existing and new issues facing farming, forestry, rural business and the natural environment in the Cotswolds AONB. Be clear on the link between AONB priorities and funded projects, and ensure no harm to the special qualities of the AONB
8. Undertake research to fill gaps in the evidence base relating to farming, forestry and the equestrian sector; working with sector bodies and key businesses.

2 Introduction

Background

2.1 The Cotswolds Area of Outstanding Natural Beauty (AONB) is the largest AONB in the country, covering a total of 790 sq. miles or 2,038 sq. km.

2.2 Farming and forestry account for 95% of the land area of the AONB. Farming and forestry have been the principal influences on the development of the special qualities of the Cotswolds which the Cotswolds Conservation Board (the Board) is charged to conserve and enhance. These special qualities in turn influence economic activity within the Cotswolds, particularly tourism.

2.3 To aid understanding of the issues, and inform policy and action, the Board commissioned the 'Cotswolds Farming Study' in 2003 and subsequently 'The Future of Farming and Forestry in the Cotswolds AONB' in 2009. Since then, the sector has been affected by the recession, pressure on consumer and government budgets, changes in the market place and prices, and in 2014-15, the introduction of a new Common Agricultural Policy (CAP) regime and associated schemes.

2.4 The Board published a new Cotswolds AONB Management Plan in 2013 covering the period 2013-2018, and work is underway on its successor.

2.5 It is now timely to revisit the 2009 study in order to understand recent trends and consider potential future changes in farming and forestry in the AONB. The revisit also provides an opportunity to investigate elements such as land prices, commodity and input prices and the area's growing equine sector which has a direct and indirect impact on the landscape.

Objectives

2.6 The objectives of the study are to:

- Update the 2009 farming and forestry study, and identify significant changes and trends
- Review land prices, commodity prices and cost of inputs
- Assess the current position of the equine sector within the Cotswolds AONB
- Forecast likely trends for the coming decade (to 2025)
- Propose policies and actions to promote and guide change in farming, forestry and the equine sector
- Align the conclusions of the study to the Cotswolds AONB Management Plan.

2.7 The study specifically takes account of the impacts on the Cotswolds of changes incorporated under the new CAP regime 2014-20 which includes the new Basic Payment Scheme, greening measures and revised cross compliance conditions. Concurrent with these changes is the cessation of the Environmentally Sensitive Area and Environmental Stewardship schemes together with the introduction of the new, and more focused, Countryside Stewardship scheme.

Approach

2.8 The approach taken during the study included: an inception meeting; the collation and analysis of data; a review of literature; appraisal of future trends and impacts; and reporting.

Structure of report

2.9 The report considers current state and trends in relation to each sector – farming, forestry and equestrian. Future trends and impacts are then assessed. Conclusions and recommendations, linking to the Cotswolds AONB Management Plan, are then set out for the consideration of the Board.

3 Farming in the Cotswolds – current state and trends

3.1 This section updates the farming figures and trends produced in the 2009 report and identifies significant changes.

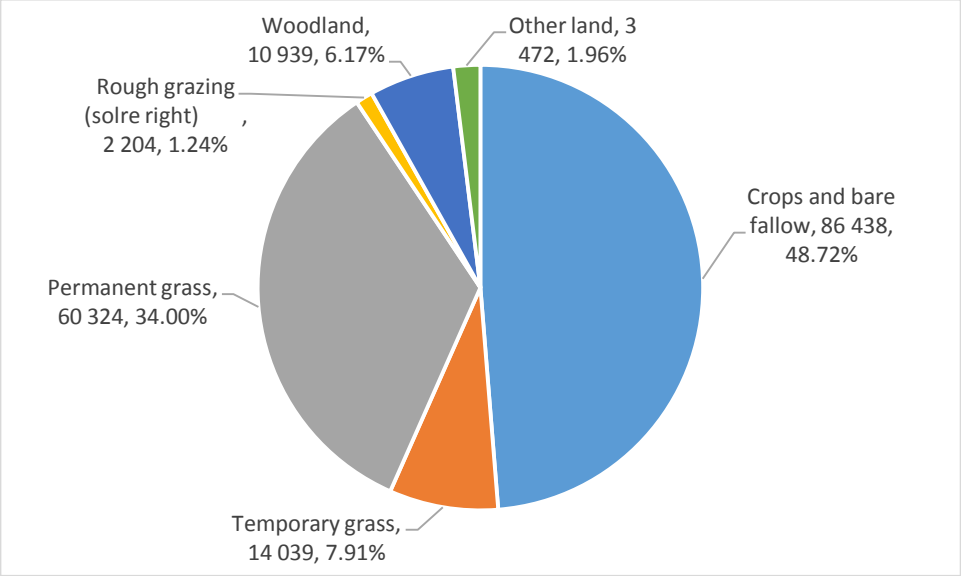
3.2 The analysis is based on the latest data from the Defra June Survey (the most recent data available for the AONB was published in November 2014 but relates to 2013), the Farm Business Survey and other relevant sources. It is important to note that Defra June Survey data from 2009 onwards is based on commercial holdings only, not all holdings as previously. This means that comparisons between the 2013 data (used in this study) and the 2007 data (used in the 2009 study) and resulting trends need to be treated with caution; greater reliance can be placed on the direction of change than the precise figures.

Land use

3.3 Agricultural land in the Cotswolds AONB comprises 177,415 ha according to the 2013 Defra June Survey. This is 87% of all land within the AONB.

3.4 The main land uses are crops and fallow (48.72% of total agricultural area), permanent grass (34.00%) and temporary grassland (7.91%). Other key land uses are woodland[1] (6.17%) and rough grazing (1.24%). See Figure 3-1.

Figure 3-1: Cotswolds AONB – Land Use, 2013 (ha)



Source: Defra June Agricultural Survey

3.5 The AONB has a slightly higher proportion of land in crops and fallow, and temporary grass, and a slightly lower proportion of permanent grassland compared to England (the figures for which are 46.19%, 7.35% and 36.02% respectively) The AONB has significantly more woodland on farm holdings and significantly less rough grazing compared to England (3.58% and 5.19% respectively).

[1] This only incudes woodland on commercial holdings; it excludes woodland on non-commercial holdings and larger blocks of woodland which do not farm part of agricultural holdings.

Trends

3.6 There has been a slight increase in the area of agricultural land recorded compared to 2007 (+ 0.6%). This is most likely to be the result of more land being covered by the survey, rather than a change on the ground *per se.*

3.7 Crops and fallow remains the most important land use in the AONB. However it has increased significantly since 2007 (41.29%), reversing a previous downward trend. The main reason for this is likely to be the removal of the set-aside requirement from 2008 onwards. Since 2007, the area of crops and fallow has increased by at least 13,604 ha[2]

3.8 Temporary grass has increased slightly since 2007 and permanent grassland and rough grazing have both decreased. It would appear that there has been a slight shift from permanent grass and rough grazing into cropping and temporary grass, although this could be partly due to the omission of non-commercial, mainly grassland holdings from the survey. Permanent and temporary grass together continue to fluctuate (39.66% in 1990, 37.15% in 2002, 43.79% in 2007 and 41.91% in 2013). Rough grazing, on the other hand, has continued to decrease in area (from 3.46% in 1990 to 3.3% in 2002 to 2.1% in 2007 to 1.24% in 2013).

3.9 There has been a slow but steady increase in the area of woodland on farm holdings (from 4.21% in 1990 to 5.64% in 2002 to 6.13% in 2007 to 6.17% in 2013).

Farms

3.10 There are a total of 1,646 commercial farm holdings in the Cotswolds AONB with an average size of 107.79 ha according to the 2013 survey. However it is important to note that farm holdings do not equate with farm businesses, many farm businesses cover several holdings.

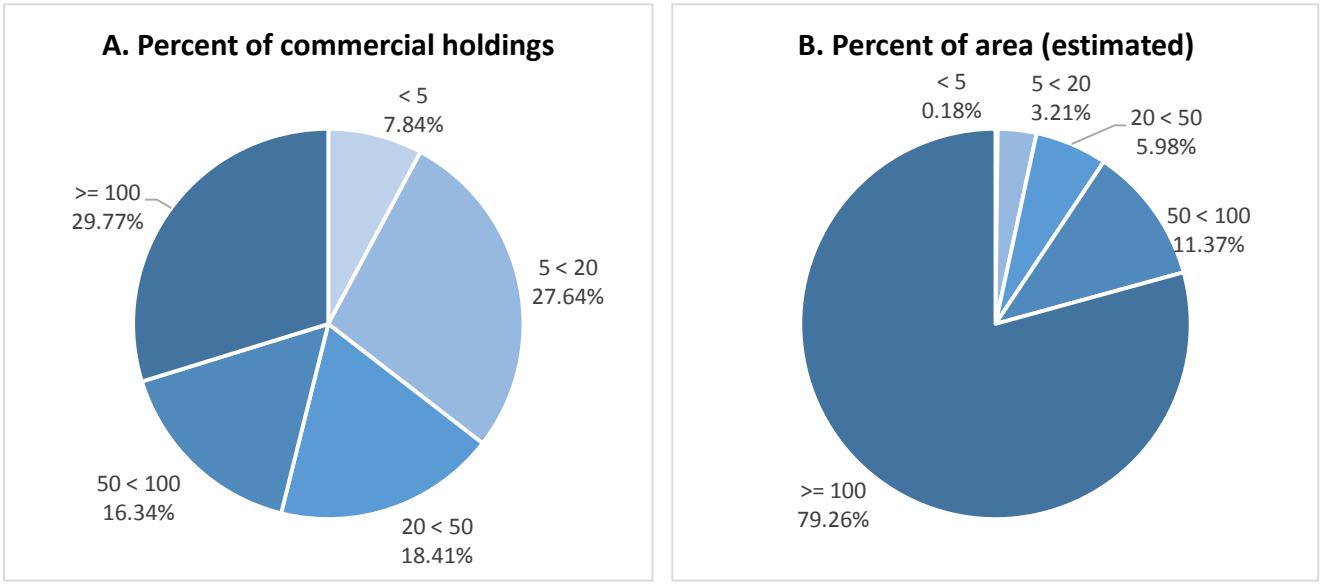
3.11 The most numerous categories by size are those over 100ha (29.77%), followed by those in the 5-20ha range (27.64%), 20-50ha range (18.41%) and 50-100ha range (16.34%). 7.84% are under 5ha. The AONB has a greater proportion of large holdings over 100 ha compared to England (26.27%).

3.12 An estimate can be made of the area occupied by each size category of holding (assuming that holdings in the 0-5ha range have an average size of 2.5ha, those in the 5-20ha range have an average size of 12.5ha, etc. and those over 100ha make up the balance). Based on these assumptions, commercial holdings smaller than 5ha occupy just 0.2% of the agricultural area of the AONB while those over 100ha occupy 79% (compared to 74% in England).

3.13 Figure 3-2 shows the breakdown of holdings by number and area.

[2] This is an underestimate given the change in the Defra June Survey methodology from 'all holdings' to 'commercial holdings', as indicated in Section 3.2.

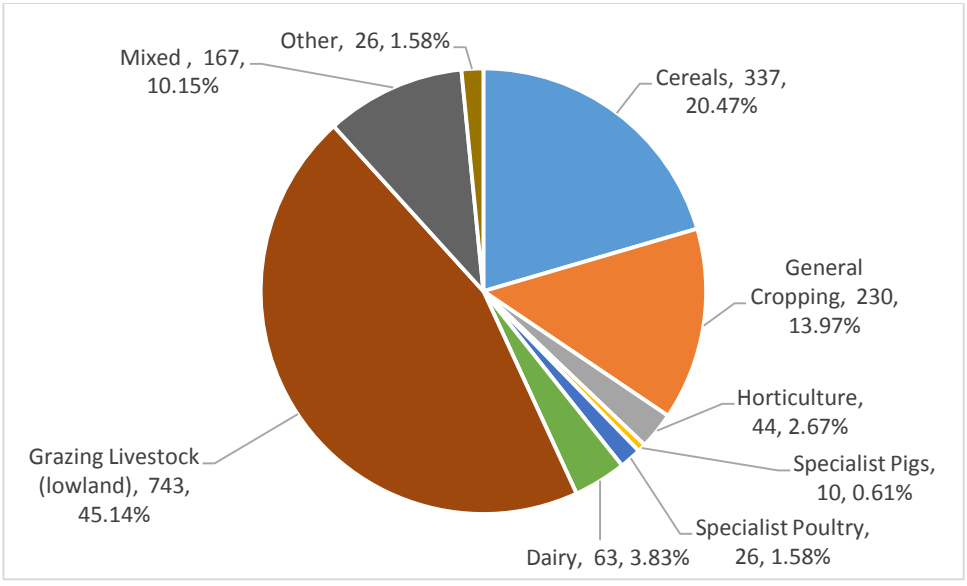
Figure 3-2: Cotswolds AONB – Farm Size, 2013 (% of commercial holdings and area)



Source: Defra June Agricultural Survey

3.14 In terms of farm type, there are most commercial holdings in the grazing livestock category (45.14%). The next numerous categories are cereals (20.47%), general cropping (13.97%) and mixed (10.15%). There are only 63 farms classified as dairy (3.83%), although there will also be dairy cattle on other types of farm. See Figure 3-3. The AONB has a higher proportion of grazing livestock farms compared to England, and a lower proportion of cereals, general cropping and dairy farms.

Figure 3-3: Cotswolds AONB – Farm Type, 2013 (number of commercial holdings)



Source: Defra June Agricultural Survey

Trends

3.15 There has been a significant decrease in the total number of holdings recorded, from 3,434 in 2007 to 1,646 in 2013, however this is likely to be principally due to the change in survey

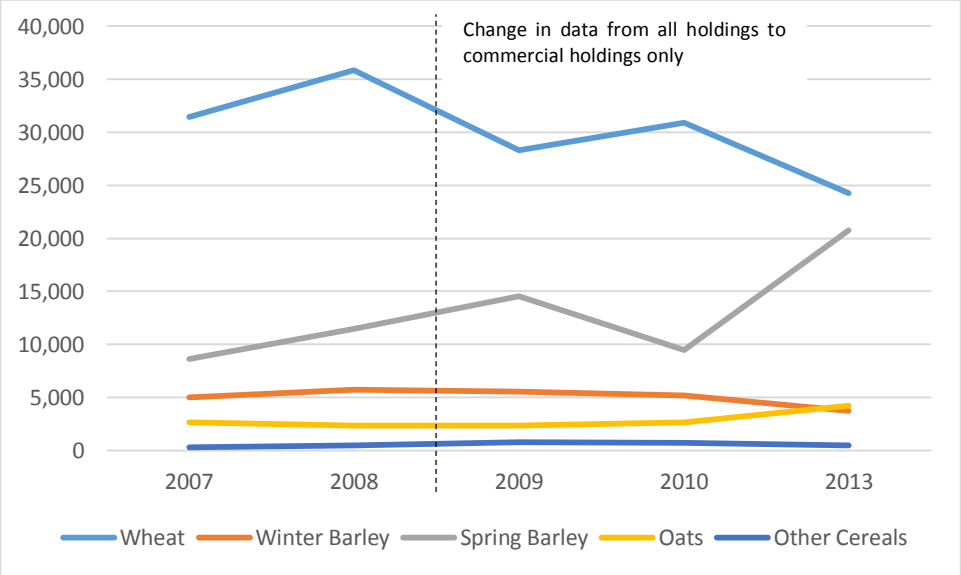
methodology from all holdings to commercial holdings only. It is worth noting that holdings under 5ha accounted for 43% of all holdings in 2007 (1,484 holdings) and only 7.84% of commercial holdings in 2013 (129 holdings); the 1,355 holdings which comprise the difference will be small, non-commercial holdings. The removal of these from the survey would account for 76% of the reduction in the total number of holdings over the period.

3.16 The number of farms by farm type has also changed significantly, with a big reduction in the proportion categorised as 'other'. This category accounted for almost half of all holdings in 2007, compared to only 1.6% in 2013. Again the main factor will be the change in survey methodology from all holdings to commercial holdings, but there has also been a change in the methodology for categorising farm types[3]. There is likely to be a strong correlation between the very small holdings excluded from the survey in 2013, and the farms categorised as 'other'.

Cropping

3.17 The main crops grown in the AONB are winter wheat (24,287ha in 2013), spring barley (20,741ha) and oil seed rape (15,871ha)[4]. Changes in cropping over the period 2007 to 2013 are shown in Figures 3-4 and 3-5.

Figure 3-4: Cereal cropping in the Cotswolds AONB, 2007-2013 (ha)

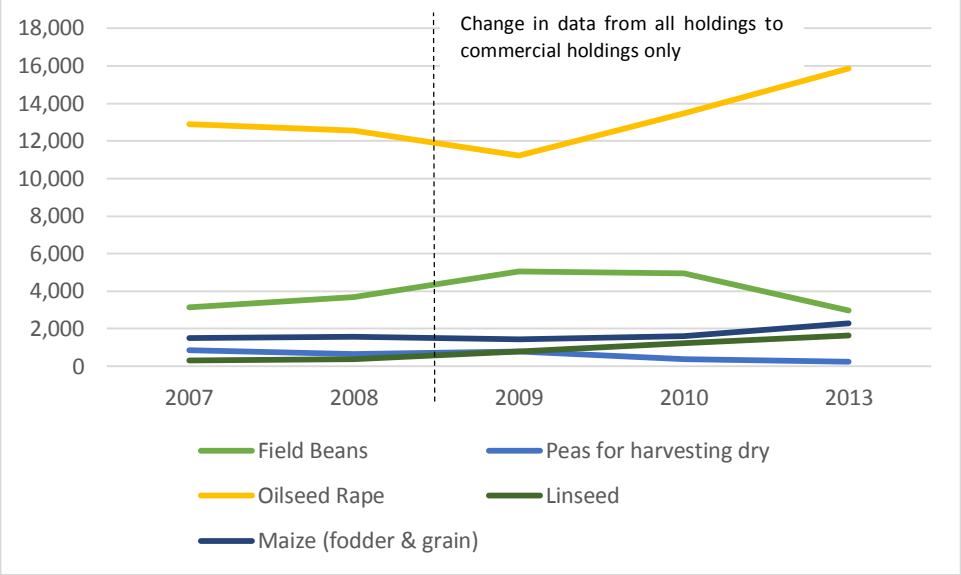


Source: Defra June Agricultural Survey

[3] From 2010 onwards the Defra June Survey methodology for classifying farm types changed to one based on Standard Outputs as opposed to Standard Gross Margins as previously used.

[4] In 2013, there was more spring barley grown in the Cotswolds than oil seed rape grown in the Cotswolds, although this was in part due to the difficult planting conditions for winter wheat in late 2012.

Figure 3-5: Other cropping in the Cotswolds AONB, 2007-2013 (ha)



Source: Defra June Agricultural Survey

Trends

3.18 Analysing trends in cropping is complicated by the change in survey methodology between 2008 and 2009. A key event was the abolition of set-aside, which accounted for 7,882 ha in 2007, but a notional zero in 2008; a proportion of land formerly in set-aside went into wheat and spring barley while some continued to be managed as fallow or field margins. While the area of wheat has fluctuated downwards over the period to 2013[5], there has been a steady increase in the area of spring barley[6]. There has also been a steady increase in oil seed rape, although more recently this trend has reversed due to a reduction in market prices and evolving cropping patterns. Other recent trends include a reduction in the area of winter barley and field beans (although, again, this is likely to have been reversed this year in response to greening requirements, see Section 3.24 below), and an increase in the area of oats, linseed and maize. Anecdotal evidence also suggests an increase in the number and area of game strips linked to commercial game shooting.

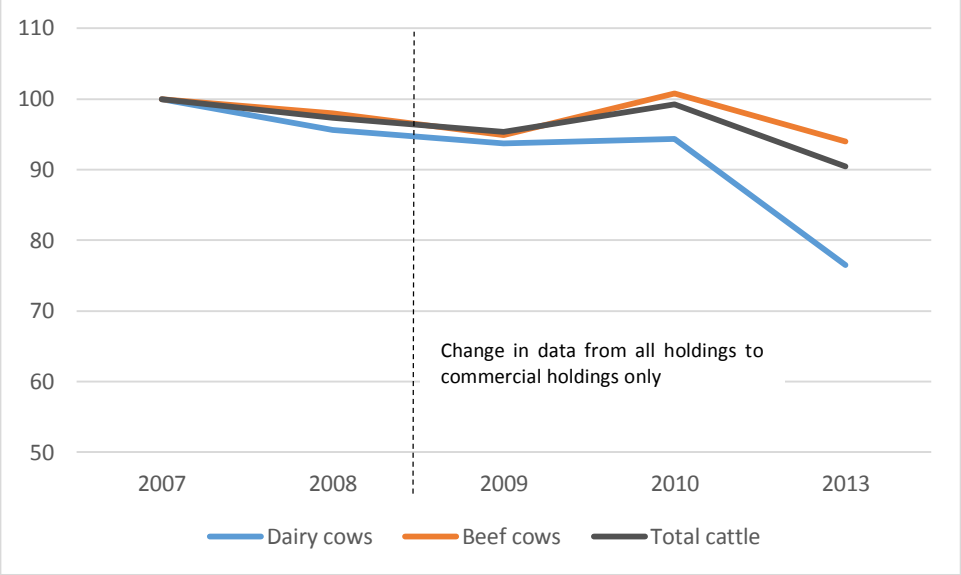
Livestock

3.19 Changes in livestock numbers in the AONB over the period 2007 to 2013 are shown in Figure 3-6 to 3-8.

[5] This may be partly influenced by the increasing prevalence of blackgrass in the Cotswolds, as elsewhere, and the decreasing effectiveness of chemical control, prompting some farmers to adopt alternative approaches including rotational management in the form of spring cropping and fallows/leys. This practice can be expected to be adopted more widely in future (Pers.Comm. Oliver Fairweather, Agrii, 5 November 2015)

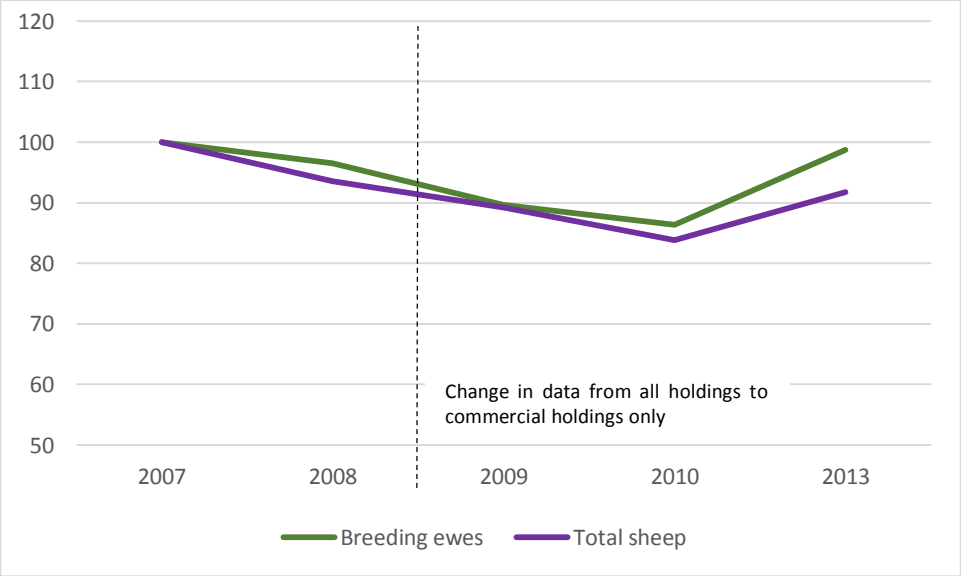
[6] In 2013, there was more spring barley than oil seed rape grown in the Cotswolds, although this was in part due to the difficult planting conditions for winter crops in late 2012.

Figure 3-6: Number of cattle in the Cotswolds AONB, 2007-2013 (Index, 2007=100)



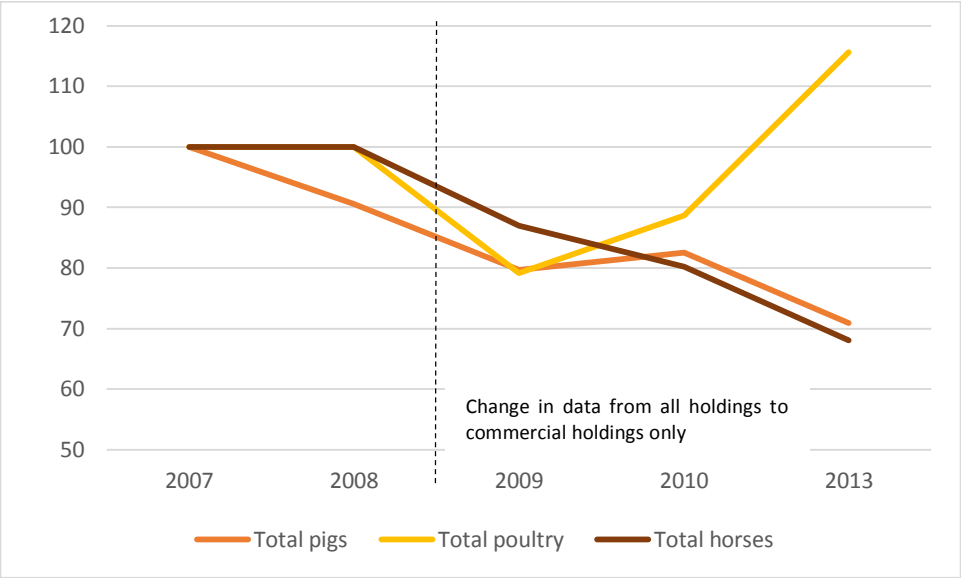
Source: Defra June Agricultural Survey

Figure 3-7: Number of sheep in the Cotswolds AONB, 2007-2013 (Index, 2007=100)



Source: Defra June Agricultural Survey

Figure 3-8: Number of other livestock in the Cotswolds AONB, 2007-2013 (Index, 2007=100)



Source: Defra June Agricultural Survey

Trends

3.20 Subject to the change in survey methodology between 2008 and 2009, there has been a decrease in the number of most types of livestock over the period 2007-2013. The number of dairy cows has decreased by a significant 23.5% to 8,812 in 2013, with the number of beef cows also decreasing, by 6% to 10,128; the total number of cattle has decreased by 9.5% to 63,217. There has been a marginal reduction in the number of breeding ewes, by 1.3% to 109,454 in 2013, whereas total sheep numbers have decreased by 8% to 237,088. While the total number of pigs has decreased over the period by 29% to 16,361 pigs, poultry numbers have fluctuated reaching 791,695 in 2013, an increase of 15% on 2007. The survey that the number of horses has decreased by 32% to 4,433 horses, although it is important to note that this figure excludes horses on non-commercial and equestrian holdings (see Section 5).

Agricultural labour

3.21 The agricultural labour force in the AONB stands at 4,152, including 2,532 farmers, 183 salaried managers and 1,436 employees, see Table 3-1. 56% of farmers, 31% of managers and 55% of employees are part-time or casual.

Table 3-1: Cotswolds AONB – Agricultural Labour, 2013

Type	Full time	Part time	Casual	Total
Farmers	1,121	1,411	n.a.	2,532
Salaried Managers	127	56	n.a.	183
Employees	641	504	292	1,436
Total	**1,889**	**1,971**	**292**	**4,152**

Source: Defra June Agricultural Survey

3.22 The agricultural labour force in the Cotswolds has continued to decline, with a 17.3% decrease in total labour from 5,021 in 2007 to 4,152 in 2013; however this dramatic drop needs to be caveated by the change in survey methodology. Detail by type of labour shows a 34% reduction in part-time farmers (730 individuals); there is likely to be a correlation between these part-time farmers and the non-commercial farmers now omitted from the survey. If, for sake of example, these farmers were added back in, then the decrease in total labour would reduce to just 3%, which is more consistent with previous trends (there was a 6% decrease over the period 1990-2007).

3.23 Labour intensity, expressed as the Number of Whole Time Equivalent (WTE) labour over Total Agricultural Area has fallen in the Cotswolds AONB from 0.018 WTE/ha to 0.016 WTE/ha over the period 2007-2013. This is a continuation of a previous downward trend, but will also be influenced by the change in survey methodology; commercial holdings are likely to have less labour and more capital per hectare. The compulsory national living wage due to be introduced in April 2016 is expected to hit farming businesses hard[7] and is likely to put further downward pressure on employment.

Land tenure

3.24 The total agricultural area that is owner-occupied in the AONB is more than twice the area rented. Owner-occupied land has decreased slightly in area from 68.9% of the total in 2007 to 67.2% in 2013. Rented land (that held on tenancies of more than one year) has increased from 31.1% in 2007 to 32.8% in 2013. It is reasonable to expect commercial holdings to have more rented land in order to capitalise on economies of scale, relative to all holdings.

Basic Payment Scheme

3.25 The Basic Payment Scheme (BPS) replaced the Single Payment Scheme (SPS) on 1 January 2015 under the new CAP regime 2014-2020. Key changes relative to the SPS include the following:

- Only 'active farmers' may claim
- Minimum claim size is 5ha, compared to 1 ha previously
- Eligible land and eligible/ineligible features are defined differently
- BPS entitlements replace SPS entitlements
- Farmers are obliged to meet greening measures to claim the full BPS payment. The three measures are:
    - Crop diversification - a farmer must cultivate at least 3 crops on his arable land with none accounting for more than 70% of his arable area and the third accounting for at least 5%.
    - Ecological focus areas (EFA) – a farmer must have EFAs which add up to the equivalent of at least 5% of their arable land. EFAs can be made up of buffer strips, catch crops, cover crops, fallow land, hedges and nitrogen-fixing crops (including field beans and peas).

[7] A compulsory national living wage rate of £7.20/hour will be introduced in April 2016. This rate is a jump of almost 11% from the current national minimum wage of £6.50/hour and is set rise to a £9/hour minimum by 2020 for employees aged 25 and older, see http://www.fwi.co.uk/news/farm-leaders-concerned-about-effect-of-living-wage.htm

- Maintaining permanent grassland - at national level

- Exemptions from greening measures apply to organic farmers and those with less than 30ha of arable land
- The payment rate of €244/ha in lowland England is less than under SPS.
- Payments of over €150,000 per farm are subject to a 5% deduction

3.26 Cross compliance, which applies to BPS and agri-environment and woodland schemes, has been simplified. The number of Statutory Management Requirements (SMR) has been reduced from 18 to 13, and rules on Good Agricultural and Environmental Condition (GAEC) are reduced from 15 to 8. Notable changes include:

- New rules for soils (GAEC 1) and no requirement for a soil protection review
- New rules for landscape features (GAEC 7), including an extended no trimming season for hedges and trees.

3.27 There is no data available yet on the impact of the new BPS and cross compliance measures in the Cotswolds, including the uptake of different greening measures although a balance is likely to have been used, including more buffer strips, fallow and nitrogen-fixing crops.

Agri-environment schemes

3.28 In March 2015, there were 985 Environmental Stewardship (ES) agreements covering 123,725 ha in the Cotswolds AONB (70% of the total agricultural area in the AONB)[8], see Table 3-2. The classic scheme agreements have now ended[9] and, as yet, no farmers have yet entered the new Countryside Stewardship scheme.

3.29 Land in Entry Level Stewardship (ELS) or Organic Entry Level Stewardship (OELS) only accounted for 53,560 ha (43% of the total area in Environmental Stewardship), with land in an agreement with some form of Higher Level Stewardship (HLS) accounting for 70,165 ha (57%).

3.30 The total annual cost of Environmental Stewardship in the AONB is £9.14 million, which equates to an average of £74/ha, although this masks a wide variance in annual and capital payments actually received by farmers and landowners.

[8] This equates to 80% of the Utilisable Agricultural Area (154,858ha) and 61% of all land in the AONB (204,109ha based on GIS) according to Natural England estimates (March 2015).

[9] Classic schemes included the Environmentally Sensitive Area (ESA) and (old) Countryside Stewardship schemes; the last agreements under these schemes ended in 2014.

Table 3-2: Cotswolds AONB - agri-environment scheme participation (March 2015)

Scheme	Number of agreements	Area of land under agreement (ha)[10]	Annual Cost[11]
Entry Level plus Higher Level Stewardship	335	56,496	£5,586,894
Entry Level Stewardship only	518	46,768	£1,351,153
Higher Level Stewardship only	13	507	£90,358
Organic Entry Level plus Higher Level Stewardship	61	13,162	£1,714,995
Organic Entry Level Stewardship only	58	6,792	£395,592
Total	**985**	**123,725**	**£9,138,992**

Source: Natural England, 2015 (statistics correct as at 31 March 2015.)

3.31 The Countryside Stewardship (CS) scheme - the new agri-environment and woodland scheme under the Rural Development Programme for England 2014-2020 - was launched in 2015. It replaces Environmental Stewardship, the England Woodland Grant Scheme and capital grants under Catchment Sensitive Farming. There are three strands:

- Higher Tier, for the most environmentally important sites and woodlands, including SSSIs;
- Mid Tier, which addresses widespread environmental issues such as reducing diffuse water pollution, improving the farmed environment for farmland birds and pollinators, with specific priorities and targets in different geographical areas; and
- Capital Grants, which support the restoration of hedgerows and other boundaries (including stone walls), improving water quality, woodland creation (establishment), woodland improvement and tree health, implementation plans and feasibility studies.

The scheme also provides support for organic conversion and management and access to a facilitation fund.

3.32 CS is a competitive scheme with limited funding. Applicants to CS are encouraged to select options and capital items that are closest to the environmental priorities for their area, and applications are scored accordingly. The priorities for the Cotswolds are set out in a statement of priorities (covering biodiversity, water historic environment, woodland priorities, landscape, multiple environmental priorities and other) and an accompanying priorities map[12]. The scheme includes a package of options to benefit wild pollinators, farmland birds and other farm wildlife.

3.33 There is no data on uptake of CS in the AONB yet, as the scheme is still open to applications this year. Nationally, however, it is anticipated that coverage will reduce from around 70% of total farmland under ES to around 40% under CS, although the

[10] Total area under Environmental Stewardship (including its different levels) within the Cotswolds AONB

[11] Total annual cost of agreements within the Cotswolds AONB, based on partial areas of each agreement within the protected landscape, multiplied by the pro rata annual agreement costs. Annual agreement costs based on total agreement costs (annual and capital) divided by length of agreement.

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

effectiveness and quality of agreements is expected to improve thanks to better targeting and scoring. The reduction in area will come predominantly from farmland currently in the ELS. Designated and other nationally important sites (mostly semi-natural habitats) should qualify for the Higher Tier of CS but competition for more 'ordinary' farmland for the Mid Tier of CS is likely to be fierce. Similar changes can be expected in the Cotswolds, although total coverage as a percentage of farmland is likely to be higher than the national average due to the environmentally important features of the area.

Organic production

3.34 Data on the area of land in organic production in the AONB is not available, however land needs to be registered organic or in conversion to organic in order to be in OELS or Organic HLS (OHLS). This equated to 19,954 ha in March 2015 (11.2% of the total agricultural area of the AONB). This is around 6% higher than the 18,800ha estimated to be in organic production in 2007. This increase compares to a decrease of 2.6% in the South West and 9% in England over the same period. Care needs to be taken with the estimated figures, but this suggests that organic production has not suffered the same level of decline in the Cotswolds as elsewhere (which has been mainly driven by a reduced organic price premium). This could link to the higher uptake and support provided by OELS and OHLS in the AONB relative to other areas.

Farming by Landscape Character Area

3.35 This report does not update the analysis of farming across the AONB by Landscape Character Area set out in the 2003 study. However, it is worthwhile restating that there is a mix of farming across all landscape areas, although the balance of farming systems and enterprises varies from one area to another.

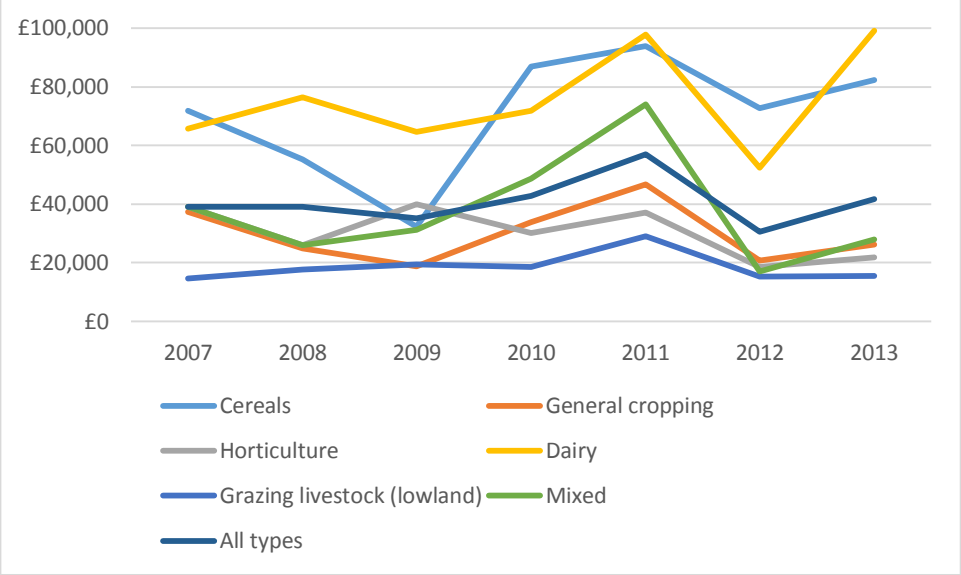
3.36 Crops and fallow are concentrated along the lower, flatter, more productive South East side of the AONB, however the large High Wold 'plateau' area is also important for arable farming. Most grassland is concentrated on the steeper, less productive slopes along the escarpment to the West of the AONB and in the river valleys. While beef cattle tend to be reasonably spread across the AONB, there are noticeable concentrations of dairy cows to the South East and sheep in the North West. There are relatively high densities of beef cattle and sheep in the productive grassland of the valleys.

Farm Income

3.37 Farm financial data is not available for the AONB. However Defra Farm Business Survey data is available at national and regional level and this provides an indication of the changes in farm income being experienced by farms in the Cotswolds. Trends in Farm Business Income (the income measure favoured by the Defra Farm Business Survey)[13] for the South West region over the period 2007/8 to 2013/14 are shown in Figure 3-9.

[13] Farm Business Income (FBI) represents the return to all unpaid labour (farmers, spouses and others with an entrepreneurial interest in the farm business) and to all their capital invested in the farm business including land and farm buildings. FBI equals: total output from agriculture (includes crop and livestock valuation change) plus total output from agri-environment schemes plus total output from diversification plus Single/Basic Payment Scheme less expenditure (costs, overheads, fuel, repairs, rent, depreciation, paid labour) plus profit/(loss) on sale of fixed assets.

Figure 3-9: Farm Business Income in South West England, 2007/8 to 2013/14



Source: Rural Business Research (accessed 1 October 2015)

3.38 There has been a 5.6% increase in Farm Business Income across all sectors over the period 2007-2013, however this trend masks significant variations by farm type and significant fluctuations from year to year. Increases are recorded for cereals, dairy and grazing livestock farms (14.9%, 50.9% and 5.6% respectively) with decreases for general cropping, horticulture and mixed farms (-30.0%, -44.2% and -28.2% respectively). There was a notable dip in Farm Business Income in 2012/13; this relates to the cold wet winter of 2012 which disrupted autumn drilling and affected livestock output, as well as reduced global prices for crops. Farm Business Income recovered in 2013/14 but has since deteriorated again; this is explored further below with an analysis of output and input prices.

3.39 One enterprise which will have contributed to improved farm incomes on many farms is renewable energy. Nationally, there has been rapid uptake in renewable energy technologies on farm over the past five years, stimulated by the Feed-in Tariffs and more recently the Renewable Heat Incentive. The most popular technologies include: solar photovoltaics; wind; and biomass heat. Many farmers in the Cotswolds have also invested in renewable energy to cut costs and generate additional income.

Output and Input Prices

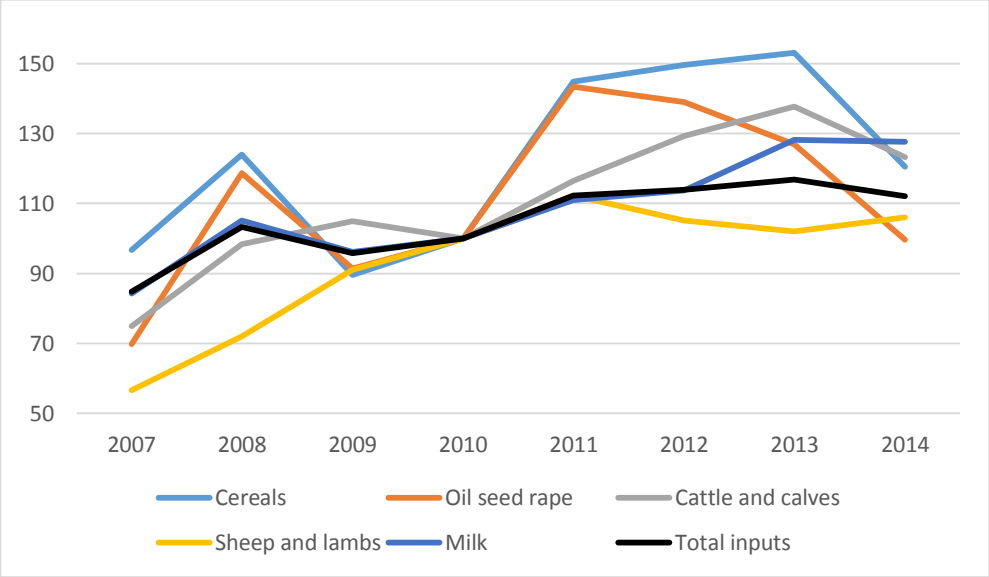
3.40 Farm Business Income is heavily influenced by changes in agricultural output and input prices. There has been significant volatility in both output and input prices over the period 2007-2014, influenced as they are by global commodity markets and the large number of factors feeding into these, see Figures 3-10 and 3-11.

3.41 The recent dip in output prices for cereals and oil seed rape in 2014 has continued into 2015. The latest figures also show the well-publicised reductions in the price of milk, and sheep and lamb; the index shows 94.5 for milk and 90.8 for sheep and lamb in July 2015, relative to a baseline of 100 in 2010. It is notable that sheep and lamb prices have not kept up with total input prices over the period 2011-2014, with other output prices also falling behind total input prices in 2015. Cattle and calf prices have in contrast made a bit of a recovery in 2015.

3.42 The variations in the prices of different types of input is plain to see from Figure 3-11. The spike in fertiliser prices in 2008 is noticeable. Other trends include the increase in the price of livestock feedstuffs in 2013, and the steady increase in energy and lubricants over the period.

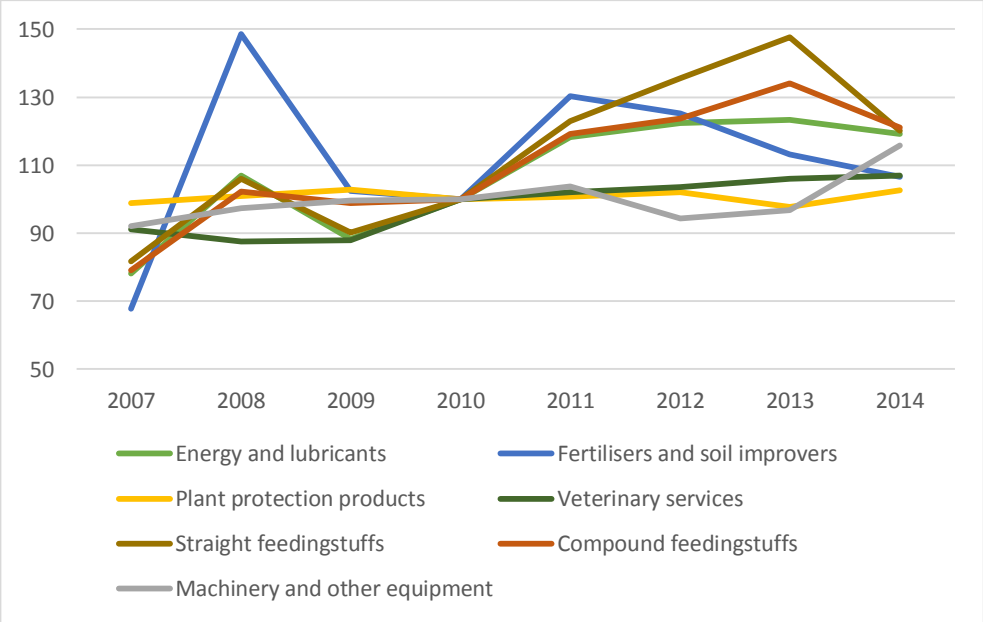
3.43 While the Agricultural Prices Index is for the UK as a whole, farmers in the Cotswolds are likely to have seen similar price pressures and volatility, challenging profitability.

Figure 3-10: Relative changes in selected output and total input prices 2007-2014 (Index, 2010 = 100)



Source: Defra Agricultural Prices Index

Figure 3-11: Relative changes in selected input prices 2007-2014 (Index, 2010 = 100)



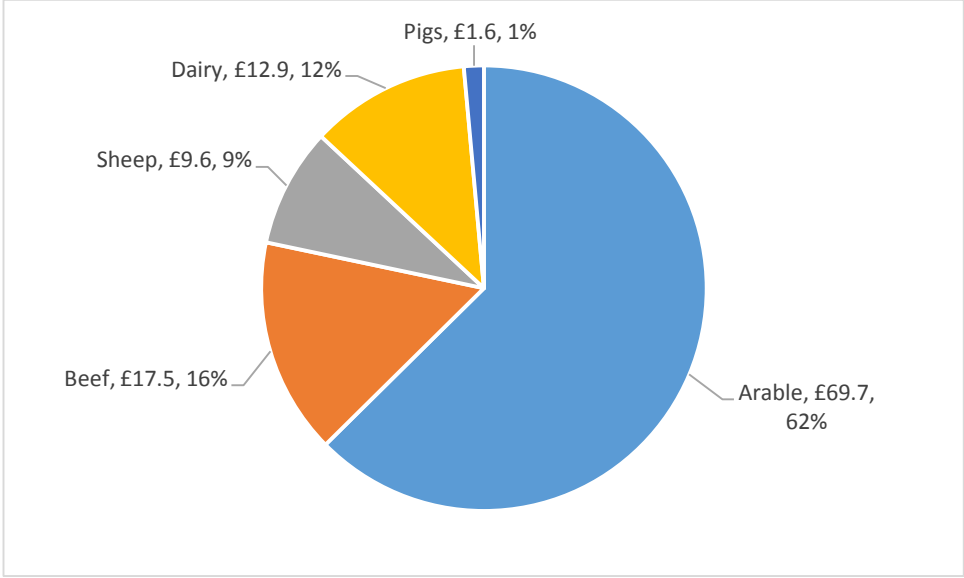
Source: Defra Agricultural Prices Index

Farmgate income

3.44 Farmgate income for the AONB can be estimated using 2013 June Survey data for different types of crop and livestock, together with estimated average physical yields for the area, and average prices[14]. The estimate is crude in that it assumes no net trade of livestock into or out of the AONB (for instance it assumes that all lambs born to breeding ewes in the AONB are fattened in the AONB), but does give an indication of the value of the farming sector to the area

3.45 Using this basis, total farm gate income for farms in the AONB is estimated to be around £111 million; a 5% increase on the previous estimate made in 2009. The breakdown by sector is: arable (62%); beef (16%); dairy (12%) and sheep (9%) and pigs (1%).

Figure 3-12: Cotswolds AONB - estimated farm gate income (£ million)



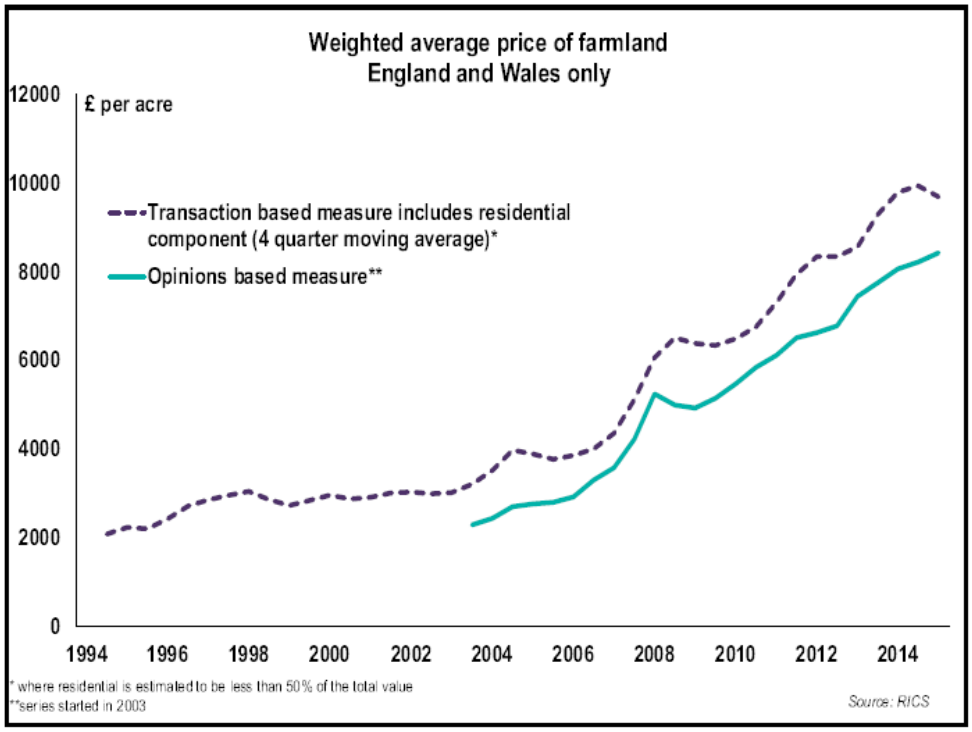
Land prices

3.46 There is no single source of data on agricultural land prices in the Cotswolds, however evidence can be gathered from a number of sources including the RICS Rural Market Survey and individual firms of Chartered Surveyors.

3.47 Over the past ten years, the price of farmland has tripled from around £3,000/acre in 2004 to nearly £10,000/acre in 2014. The RICS/RAU Rural Land Market Survey provides the national picture, see Figure 3-13. This shows a transactions based measure (which is based on actual sales and includes a residential component where its value is less than 50%) and an opinion based measure (a hypothetical estimate by surveyors of the value of bare land only). The transaction based measure is obviously higher due to the inclusion of the residential component.

[14] Farmgate income assumptions. Based on 2013 June Survey data for the Cotswolds AONB. Uses average prices for 2015/16 (sourced Farmers Weekly, Oct 15 and consultants' own judgements; it takes into account projections for 2016 based on Nix Farm Management Pocketbook 2015). Yield data based on Nix Farm Management Pocketbook 2015 and consultants' own judgements.

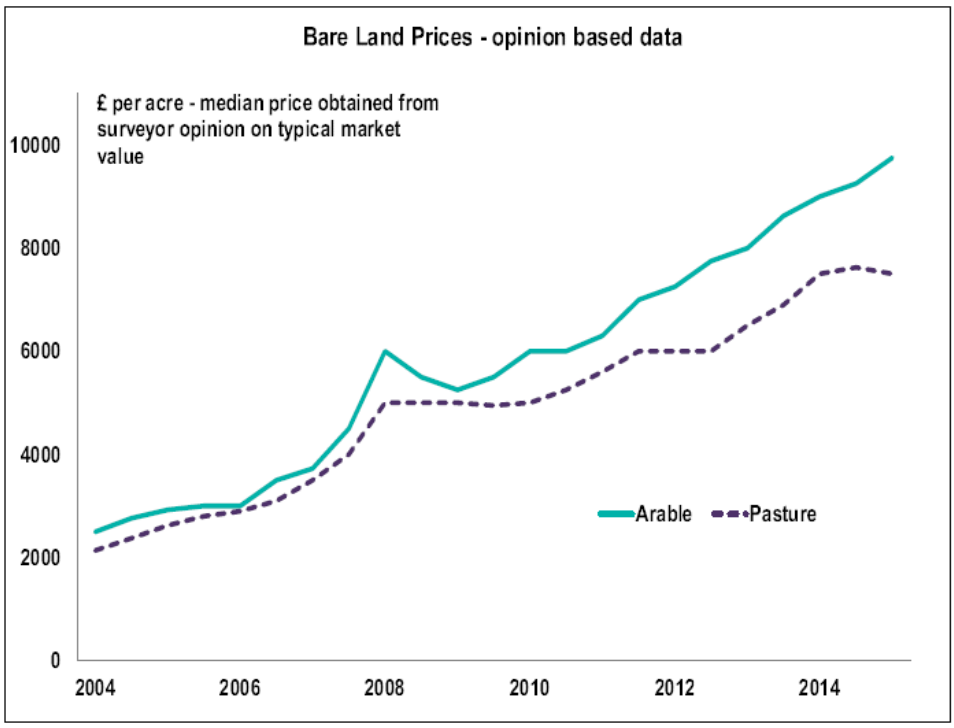
Figure 3-13: Farmland prices in England and Wales



RICS/RAU Rural Land Market Survey H1 2015

3.48 The RICS/RAU Rural Land Market Survey also provides regional data and trends for both arable and pasture land, using the opinions-based measure. The three regions relevant to the Cotswolds - South West, South East and West Midlands - all show similar trends. The South West is selected as an example (see Figure 3-14) and shows increases in the value of both types of land with a gradually increasing gap between arable and pasture prices.

Figure 3-14: Farmland prices in South West England



RICS/RAU Rural Land Market Survey H1 2015

3.49 The latest farmland price data relevant to the Cotswolds, compiled from different sources, is shown in Table 3-3. This indicates arable values averaging around £9,000-10,000/acre and pasture values averaging around £7,000-8,000/acre. Farmland prices will exceed these averages for smaller parcels, where the quality is high, and/or where there is particular demand (for example from adjoining farmers and landowners looking to expand or secure particular parcels of land). We are aware of one large block of arable land near Snowshill which fetched around £20,000/acre in 2013 for example. Conversely, lower prices can be expected for land which is of poorer quality or restricted in some other way.

Table 3-3: Farmland prices in/around the Cotswolds 2014/15

Source/Region	**Arable £/acre**	**Pasture £/acre**
RICS/RAU Rural Land Market Survey H1 2015		
South West	9,750	7,500
South East	10,000	8,000
West Midlands	10,000	8,000
Knight Frank Farms View 2015 - Central and West England, and Wales		
Cotswolds	9,000-12,000	5,750-7,000
Savills Market Survey - Agricultural Land 2015		
South West (Prime arable)	9,000	-
Strutt and Parker English Farmland Market Review 2014 Round-up		
Central England	9,651	8,111

3.50 Farmland prices are expected to continue to increase over the next twelve months, but not as fast as previously. Prices for high quality land can be expected to diverge further than lower quality land. While farmers have been the predominant buyers of farmland, demand from existing and new non farmers (lifestyle purchasers) is increasing again, after a dip during the recession. This resurgence can be expected to be particularly strong in the Cotswolds; the principal reasons for buying farmland cited by non-farming buyers include residential, sporting and capital investment, including tax benefits[15].

[15] Savills Market Survey - Agricultural Land 2015

4 Forestry in the Cotswolds – current state and trends

4.1 This section provides a summary of the available data on the current area and type of forestry in the Cotswold AONB and then identifies the changes and trends since 2009.

4.2 The main source of data for the current area and type of forestry in Great Britain is now contained within the National Forestry Inventory (NFI) Report issued by the Forestry Commission and now forms the basis of future reporting on forestry land use statistics. The NFI provides a record of the size and distribution of forests and woodland and is a continuous inventory – this data is now updated on annual basis, so the annual changes over the last 3 years can be analysed, see Section 4.5 and Table 4-1 below. The elements of this inventory are a digital map constructed from remote sensing (satellite imagery) data and an on-going programme of ground survey work. It was first published in 2011 and covered the year 2010. The latest version was published in 2015 and covers the year 2014. Prior to that, and for the year 2009 (and previously) when the forestry statistics were last reviewed for the Cotswold AONB, the forestry statistics were derived from the Forestry Commission's National Inventory of Woodland and Trees (NIWT), which was compiled on a different basis to the current NFI. There are a number of methodological differences, the most significant being that NIWT excludes woodland areas under 2ha, whereas the NFI includes all woodlands over 0.5 ha. Thus the NFI data shows a higher level of woodland cover and so is not directly comparable.

4.3 As was the case for the NIWT data, the NFI data is published on a country and regional level. However, it is now possible to provide the data for specific areas and the Forestry Commission has kindly provided this data for the Cotswold AONB area which is set out and discussed below.

Area and Type of Woodland Cover

4.4 Woodland cover in the Cotswolds AONB is estimated to be 26,370 ha in 2014 (12.9% of the AONB area), based on latest available Forestry Commission data. This represents a significant increase on the previous estimate of 20,657ha reported in 2009 and is primarily due to the change in coverage and methodology used as explained above. The 2014 inventory estimates that woodlands between 0.5 ha and 2 ha amount to just over 3,000ha; these would have been previously excluded in 2009.

4.5 As the NFI and NWIT data are not directly comparable, data from the first NFI in 2011 and the latest NFI have been reviewed and are set out in see Table 4-1. As can be seen, there has been little change, but this is to be expected, as the long rotation in forestry means that there is unlikely to have been significant change in the area or nature of forestry in the AONB, unlike farming.

Table 4-1: Cotswolds AONB – Woodland Cover

Data Source at 31st March	Cotswold Total Area (Ha)	
	NFI 2011	NFI 2014
Interpreted Forest Type (IFT)	**26,256.0**	**26,369.8**
Assumed Woodland	389.6	332.8
Broadleaved	19,556.3	19,557.8
Conifer	2,971.7	2,969.0
Felled	52.3	57.4
Ground Prep	134.9	170.1
Low Density	0.0	19.0
Mixed Mainly Broadleaved	760.7	763.8
Mixed Mainly Conifer	1,092.4	1,095.6
Young Trees	1,178.0	1,264.1
Coppice	3.6	3.6
Shrub	116.4	116.4
Interpreted Open Area (IOA)[16]	**286.7**	**294.9**
Agricultural Land	18.1	18.1
Base Area	3.8	3.8
Grassland	234.0	249.5
River	0.6	0.6
Urban/Buildings	7.3	7.3
Other Vegetation	7.2	0.0
Open Water	15.6	15.6

Note: Total woodland area recorded in the 2011 and 2014 woodland map by interpreted forest type and open interpreted area, referenced to 31st March 2014.

Source: Forestry Commission National Forestry Inventory 2015

4.6 Assumed woodland in Table 4-1 refers to areas that have not yet been restocked with trees, and/or contain trees that are less than 10 years old (as the technology used for the new NFI fails to detect stands less than 5 to 10 years old). The areas classified as assumed woodland are those areas under a Forestry Commission Grant Scheme which are likely to have either been felled and are waiting to be restocked, or which have been newly planted.

4.7 The NFI shows that the majority of the woodlands are classed as broadleaved (i.e. 74%), which means that they contain at least 80% broadleaved species. However it is difficult to ascertain from the new NFI the estimated percentage of woodland cover for each of the main tree species.

4.8 Ash and beech are the predominant broadleaved species in the AONB, and were estimated to make up approximately 60% of the broadleaved species in 2009. This is still likely to be

[16] Interpreted Open Areas are defined as any open area that is 20m wide and ≥0.5 ha in extent and is completely surrounded by woodland IFT's

the case in 2014. Ancient beech woods tend to be concentrated along the scarp and 'incised valleys', whereas mixed oak, ash, sycamore and maple tend to be concentrated on the lower slopes. There are in addition areas of lowland wood pasture and parkland, associated with large estates, and some large blocks of conifer plantation.

Ancient Woodlands

4.9 The area of woodland in the AONB on ancient woodland sites is 9,485 ha (36% of the woodland area). This includes Ancient & Semi-Natural Woodland (6,192ha) and Plantations on Ancient Woodland Sites (3,292 ha), see Table 4-2.

Table 4-2: Cotswolds AONB – Woodland Cover on Ancient Woodland Sites

Type	Area (ha)	% of AONB
Ancient & Semi-Natural Woodland	6,192	3.0%
Plantations on Ancient Woodland Sites	3,292	1.6%
Total area in AONB	**9,485**	**4.6%**

Source: Forestry Commission National Forestry Inventory 2015

4.10 Ancient woodland, especially beech, is a particularly distinct feature of the Cotswolds – being prominent on the scarp and incised valleys. Part of this woodland is additionally recognised and protected, for example the Cotswold Beechwoods Special Area of Conservation.

New Tree Planting

4.11 Most of the new tree planting undertaken over the last 20 years has taken place on farms and has been in the form of new mixed broadleaved woodland. This new planting has been largely stimulated by the Forestry Commission's woodland grant schemes and the supplementary Farm Woodland Premium Scheme. Motivations include improving shooting and screening land from roads.

4.12 Defra June Survey data suggests that the area of woodland on farms has increased by 123ha over the period 2009 to 2014, see Table 4-3, however year-on-year comparisons must be treated with caution (due to changes in the number and source of survey responses and survey methodology). Thus based on this data, the areas of new planting are expected to be very low over the last 5 years. This is in line with regional and national trends over the same period.

Table 4-3: Cotswolds AONB – Woodland on farms

Year	Area (ha)	% of total agricultural area in AONB	June Survey coverage
2007	10,816	6.1	All holdings
2013	10,939	6.2	Commercial holdings only

Source: Defra June Agricultural Survey

4.13 Practical reasons for the limited tree planting over the past five years are expected to be broadly similar to those outlined in 2009 and include:

- The less certain but potentially bright future for agriculture, resulting in owners having less inclination to take land out of production and plant it with trees.
- The grant system is perceived to be complex.
- Increasing numbers of deer, resulting in the need to erect costly deer fencing reducing the net grant received.
- The CAP reforms and the impending uncertainties about future agricultural support schemes and woodland grants.

Forestry labour

4.14 There are no reliable published data on the numbers of people employed in the forestry sector within the AONB area. Indeed any estimate would be problematic as many of the forest management companies and contractors that work within the AONB are located outside the area and vice-versa, those companies located within the AONB also operate outside the area. A preliminary online search indicated a distinct lack of forestry contractors in the area and the initial evidence is that there are few forestry contractors actually based in the AONB.

4.15 Previous regional studies have suggested that declining economic viability has had a knock-on effect on forestry employment. These studies have cited that there has been a decline in the number of woodland workers and contractors - lack of assured work has led many to seek other forms of employment outside the forestry sector. However, over the last five years there has been an increase in woodland management activities, in particular thinning and felling, as a result of higher timber prices. Anecdotal evidence suggests that this work is being undertaken by large national based companies such as UPM Tilhill Forestry, who are not directly located in the AONB, particularly where the scale of operations is sufficient to justify the use of a timber harvester. There are also still a number of 'one man bands' operating, particularly in the smaller parcels of woodland, though many of these operators do not have websites and/or do not appear on 'internet searches' for forestry/timber contractors. There is also some suggestion that many of these sole operators are over 50 years old, and this may be another reason why such operators are less likely to use a website to advertise.

Forestry income

4.16 A range of factors influences forestry business income and the economic viability of woodland management. These include not only timber income but also financial incentives (both grants and tax concessions), as well as non-timber income, in particular sporting.

4.17 Timber income is dictated firstly by timber sales and secondly by the costs of management. Timber sales reflect the quantity and quality of timber produced, and in turn the likely markets for that timber and the market price. Expenses include the costs of harvesting (i.e. thinning and felling) and the costs of management including the preparation of management plans, felling licences and other regulations, as well as other supervision and advisory services.

4.18 Timber prices have increased over the last five years. Delivered prices for softwood timber offered by both the sawlog and wood processing sectors are reported to have increased by 30-40% since 2009. The hardwood market has also improved, in particular, firewood

prices. Whilst it is impossible to predict with any certainty what will happen to timber prices over the next 10 years, there are signs that the longer term prospects also look reasonable.

4.19 The increase in timber prices over recent years has decreased the number of woodlands that are uneconomic to manage with obvious implications for management activity. However, smaller woodlands, particularly those with poor/difficult access still generally remain uneconomic to actively manage.

Climate change and other pressures on woodlands in the Cotswolds AONB

4.20 The UK Climate Impacts Programme (UKCIP) updated its climate change scenarios from 2002 and published a new report in 2010. The general predictions are broadly similar – i.e. all areas of the UK will get warmer. The winters are predicted to become wetter and summers drier with more frequent and severe periods of summer drought and increased incidence and severity of storms and flooding. The predicted impact on woodlands is also expected to be broadly similar. However, there is now a greater recognition and concern about the potential risks posed and a greater emphasis on the desirability of increasing the resilience of our woodlands.

4.21 The main risks identified by the Forestry Commission (and others) are briefly summarised as follows:

- Increased wind damage is expected due to the increased incidence of severity of storm damage and flooding. Creating wind firm edges and careful planning of felling coupes will become all the more important, particularly for those woodlands located in more exposed situations.
- Whilst the current range of broadleaved and conifer species (assuming that suitable species have been planted initially) are expected to be suitable across much of England, more sensitive tree species, such as beech on shallow free draining soils, particularly in southern England are predicted to be at risk from the warmer drying summers. The Cotswolds AONB contains a high percentage of beech trees, as well as many sites with thin, shallow soils and so it is likely that a decline in both yield and health of such trees will be experienced.
- Pests and diseases of forest trees, both those present in the UK and those that may be introduced, are believed by many in the forestry industry, including the Forestry Commission, to represent a greater threat to woodlands than the direct effects of climate change. This links to the fact that UK woodlands are dominated by a very narrow range of tree species. The conifers are dominated by the four main timber producing species being spruce, pine, fir and larch and the broadleaved species are dominated by oak, ash, beech, sycamore and birch. These same species are also the main species in the Cotswold AONB, with the exception of birch. The risks associated with an over reliance on just a few key species has been highlighted by serious outbreaks of disease such as the *Phytophthora ramorum* infection of larch and C*halara fraxinea* infection of ash (see Section 4.22). High squirrel and deer populations also pose significant threats. Pole stage beech (aged 10 to 40 years) is particularly vulnerable to squirrel damage and high deer populations in many woodland areas are making restocking by both planting and natural regeneration both problematic and expensive.

Ash and the potential impacts of Chalara

4.22 *Chalara fraxinea* poses a particular threat to the Cotswolds AONB due to a high percentage of ash trees in the area. *Chalara fraxinea* infection is already widespread in the UK and is now present in the Cotswolds AONB. Whilst it is difficult to accurately forecast the speed and extent of the infection, various research reports suggest that the disease could spread to most of the UK within five years. Evidence to date has shown that young trees and regeneration will die quickly once infection is present. Pole stage trees are dying 3-5 years after infection. It is expected that mature trees will survive longer, but are also expected to die, but lasting up to 15 years – their symptoms will include progressive crown dieback and then they are expected to start to die due to the combined effects of *Chalara* and other pathogens/pests. Thus it is expected that a high proportion of the ash will be badly damaged or dead throughout both the UK and the Cotswold AONB within 20 years.

4.23 The potential loss of ash in the Cotswold AONB will have significant impacts on the landscape. These together with the social impacts will be greatest in respect of individual trees in hedgerows, on roadsides and along rides, as well as woods heavily used by the public and in urban situations. There are also likely to be significant ecological and economic impacts. Ash is an important component in mature woodlands, is resistant to squirrel damage, is a successful natural regenerating species and has scope to produce sought after quality timber. Furthermore, woodland owners will incur additional costs in a number of ways as followings:

- Destruction and removal of ash and restrictions on management activity where statutory Plant Notices are issued.
- Felling and tree surgery work (e.g. roadside trees) to comply with health and safety obligations.
- Surveying woods to monitor the arrival and progress of the disease and reporting this to the authorities.
- Other issues are likely to include the felling of ash before the optimum felling age and substitution by less satisfactory species in future production. Widespread felling of affected ash can be expected to increase supply to the firewood market, potentially exerting downward pressure on prices.

4.24 There are, of course, a number of mature trees and shrub species that could be used to replace the dead ash; however, these will have various impacts on the conservation of associated species. Thus it is recommended that guidance and close liaison is sought with bodies such as the Forestry Commission and Natural England to gain up to date advice.

The ash resource and the desirability of further information

4.25 An estimate of the area of ash in the Cotswold AONB can be gained from the NFI and is estimated to be 4,500 ha. However, it should be noted that the ash content present in the woodlands will vary from 100% to less than 5% so the total area with ash trees present will be considerably more. Clearly for those woodlands where the canopy cover of ash is higher (e.g. over 50%), the impacts will be severe, and thus a great understanding of the varying ash content within the Cotswold AONB would be helpful. Likewise, the age profile, as the disease manifests itself differently in those different growth stages is also useful if there is a desire for the potential impacts to be more accurately forecasted. Whilst the NFI data provides a useful overview of the forestry statistics for the Cotswolds AONB, a field inspection of all these ash woodlands would be necessary to gain the level of data required to make these more detailed assessments.

5 Equestrian sector in the Cotswolds – current state and trends

5.1 This section of the report provides the first assessment that has been undertaken of the scale and significance of the equestrian sector in the Cotswolds AONB. It is based on the best available existing information which has been checked with knowledgeable stakeholders such as the British Horse Society and with a small number of individual businesses.

Structure of the equestrian sector

5.2 In this report, the equestrian sector is defined as the organisations, businesses and individuals involved in the pursuit of horse riding for sport or pleasure. A number of recent reports[17,18] have provided detailed segmentations of the sector and the types of activity and organisations that are involved in it. These show that, at its most simple, the sector can be split into three main parts as follows:

The keeping and riding of leisure horses

5.3 This includes private owners of ponies and horses (including hunters); livery yards that provide pasturing and stabling to private owners; riding stables that provide horses and ponies for hacking or more formal yard-based lessons; pony clubs; hunts which organise events such as point-to-points; and polo clubs.

The keeping and riding of professional horses

5.4 There are several different types of 'professional horses', almost all of them kept for sporting purposes. They include thoroughbreds which are bred for racing 'on the flat' or over jumps; sport horses (bred for show jumping, dressage, eventing and endurance racing); and polo ponies. Individuals and businesses involved in this part of the sector include horse owners, breeders with stallions at stud, trainers, racecourses and eventing courses, and the staff that work for them including stable lads and jockeys.

Ancillary trades

5.5 Both the leisure and professional parts of the sector require a range of supporting services. These include vets, farriers, feed and straw merchants, saddlers, clothing suppliers, insurance providers and bloodstock auctioneers. In many cases, these services are provided by specialist companies servicing the equestrian sector.

Quantifying the extent of the sector in the AONB

5.6 In the limited time available for this study, two separate approaches have been followed to gather evidence on the size and character of the equestrian sector in the Cotswolds AONB.

- Firstly national research on the characteristics and size of the sector has been reviewed and an initial (and approximate) estimate has been made of what this might mean for the Cotswolds on a pro-rata basis.

[17] The Henley Centre (2004). A Report of Research on the Horse Industry in Great Britain. Report to Defra and the BHIC. March 2004. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69259/pb9255-bhic-report-040318.pdf

[18] British Horse Industry Confederation (2005). Strategy for the Horse Industry in England and Wales. Prepared by the BHIC in partnership with Defra, DCMS and the Welsh Assembly Government. December 2005. http://www.bhic.co.uk/downloads/full-strategy-report.pdf

- Secondly, searches of information available on the internet have sought to identify equestrian businesses located in or near the Cotswolds. This provides information on 'key players' and their distribution across the AONB, although it is recognised that there is a not insignificant 'informal' element to the sector.

Making estimates based on national research

5.7 There have been a number of research studies aimed at understanding the economic value and other characteristics of the equestrian sector in Great Britain. The first in recent times was a study by KPMG for the British Horseracing Board (BHB) in 1996. Although the data are now somewhat out of date, it provided comprehensive analysis of the structure of the professional racing and breeding sector.

5.8 In 2003, the British Horse Industry Confederation together with Defra and the Welsh and Scottish Governments commissioned the Henley Centre to undertake the underpinning research for the 2005 Strategy for the Horse Industry in England and Wales. The Henley Centre Report, published in 2004, remains the most comprehensive study of the whole sector[19].

5.9 The British Equestrian Trade Association undertakes a National Equestrian Survey every 4-5 years, the most recent being in 2011[20]. The survey highlights spending patterns and changing trends over the past five years since the previous survey in 2006.

5.10 In recent years, the British Horseracing Authority has commissioned regular studies of the Economic Impact of British Racing, the most recent being produced by Deloitte in 2013[21]. A number of other organisations, such as the British Horse Society, produce leaflets containing statistics about the sector drawing on other sources[22].

5.11 There are no regional or local studies on the sector that can provide information about the situation in the Cotswolds, so this study has sought to draw on the national data (most of which covers Great Britain) and calculate equivalent figures for the AONB on a pro rata basis. Establishing what proportion of the size of the national equestrian sector is located in the AONB requires significant assumptions to be made. A simple approach would involve taking the proportion of the population who live in rural areas in GB and the Cotswolds (making the assumption which is clearly not perfect, that horse ownership is predominantly restricted to people living in rural areas). Based on the classification of rural areas used by the Office of National Statistics[23], in 2011 the AONB had 118,397 people living in areas classified as rural[24]. This population is 1.05% of the rural population in Great Britain. This takes no account of regional differences in horse ownership and other forms of involvement in the equestrian sector.

5.12 A more sophisticated approach would involve using one of the equestrian professions, such as farriers, as an indicator for the distribution of horses across Great Britain. All horses that are ridden normally require shoeing and it is a reasonable assumption that the number of farriers in an area is a fair reflection of the number of horses. A search of farriers (who

[19] The Henley Centre (2004)

[20] British Equestrian Trades Association (2011). National Equestrian Survey. Survey conducted by Sportswise. http://www.beta-uk.org/pages/industry-information/market-information.php

[21] British Horseracing Authority (2013). Economic Impact of British Racing. Report by Deloitte. http://www.britishhorseracing.com/wp-content/uploads/2014/03/EconomicImpactStudy2013.pdf

[22] British Horse Society (2013). Equestrian Statistics. http://www.bhs.org.uk/~/media/BHS/Files/PDF%20Documents/Equestrian%20Statistics.ashx

[23] See http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/2011-rural-urban/index.html

[24] Data from the 2011 population census, at Census Output Area level

must be registered to operate) using the facility on the Farriers Registration Council's website shows that there are 46 registered farriers based in the AONB (and a further 60 located in a 5km buffer around the AONB)[25]. Taken as a proportion of the 2,858 registered farriers in GB[26], this suggests that the AONB has 1.6% of GB farriers (and a further 2.1% in the 5km buffer around the AONB).

5.13 A similar approach can be taken for racehorse trainers who must be licensed by the British Horseracing Authority. Of the 596 licensed trainers in Great Britain (flat and national hunt), 32 are located in the AONB (plus nine in the 5km buffer)[27], showing that the AONB accounts for 3.8% of Great Britain trainers (and a further 1.5% in the surrounding buffer).

5.14 These relatively crude measures of the size of the sector suggests that the number of horses kept per head of the rural population (the leisure sector) is slightly higher than the average for rural Great Britain as a whole and that the number of racehorse trainers (the professional sector) is around three times greater than one would expect to find in an area of rural Britain the size of the AONB.

5.15 These assumptions can be applied to national data on the size of the sector, assuming the Cotswolds account for 1.5% of the Great Britain's leisure sector, 3.8% of its professional sector and 2% as an average across both sectors. A range of figures are presented in Table 5-1. These figures do not include information for locations such as Cheltenham Racecourse which can be attributed directly to the AONB (covered further below).

Table 5-1: Cotswolds AONB - National equestrian data and estimates

Topic	GB data	Percent applied to the Cotswolds	Estimate in the Cotswolds
Source for GB data: BETA National Equestrian Survey 2011			
No. of people who rode in 2010-11	3,500,000	1.5%	52,500
No. of people who rode once a month 2010-11	1,500,000	1.5%	22,500
No. of horse owners	451,000	1.5%	6,765
No. of privately owned leisure horses	900,000	1.5%	13,500
No of professionally owned horses	88,000	3.8%	3,344
Expenditure on upkeep and care of horses	£2,800,000,000	2.0%	£56,000,000
Other spending associated with horse owning	£557,000,000	2.0%	£11,140,000
Gross output of the equestrian sector	£3,800,000,000	2.0%	£76,000,000
Source for GB data: Henley Centre Report 2004			
Direct employment	50,000	2.0%	1,000
Indirect employment	100,000-200,000	2.0%	2,000-4,000
Horse breeding sales	£143 M	2.0%	£2,858,380
Value of riding lessons	£500 M	1.5%	£7,500,000
Value of livery	£354 M	1.5%	£5,310,000
Value of leisure riding	£71 M	1.5%	£1,061,250
Leisure competitions and shows	£35 M	1.5%	£525,000
Association membership	£20 M	1.5%	£300,000
End consumer horse owner spend	£1,340 M	1.5%	£20,100,000
End consumer spend on riding	£260 M	1.5%	£3,900,000

[25] Postcode addresses from http://www.farrier-reg.gov.uk/find-a-farrier/ were clipped to the boundary of the AONB and a 5km buffer using GIS analysis by this study.

[26] *Pers. Comm*. the Farriers Registration Council, 8 July 2015.

[27] Postcode addresses from http://www.britishhorseracing.com/race-info/trainers/trainers-map/ were clipped to the boundary of the AONB and a 5km buffer using GIS analysis by this study.

5.16 Headline figures from Table 5-1 are as follows:

- There are likely to be around 13,500 horses kept for leisure purposes in the AONB owned by around 6,800 people. In addition, there may be a further 3,300 professional horses (e.g. thoroughbreds and sport horses) kept in the AONB. The value of horses bred in the AONB is likely to be around £2.8 million a year.
- Based on the national data, it may be that around 50,000 people in the AONB ride at least once a year of whom slightly fewer than half ride on a regular basis (once a month or more). This would suggest that around a third of the population in the AONB ride at least once a year which may be an over-estimate. The value of riding lessons taken in the AONB is likely to be around £7.5 million a year, the value of livery services a further £5.3 million and the additional value of leisure riding a further £1.0 million.
- The number of people who work directly in the equestrian sector (e.g. at stables and training yards and as farriers and equine vets) in the AONB is likely to be around 1,000 people with up to four times this number working in related sectors.
- The total value to the local economy arising from the sector may be £56 million from expenditure on the upkeep and care of horses (such as their purchase, feed, bedding and veterinary care) and a further £11 million from other spending associated with horse owning (such as lessons, clothing and other equipment).
- It is possible that the total output of the sector is worth £76 million to the local economy (this figure is based on the nationally-derived data and takes no account of local data from locations such as Cheltenham Racecourse).

Notable equestrian activities in the Cotswolds AONB

5.17 The following information is drawn from internet searches and reviews of published lists of businesses undertaken by this study. It should be emphasised that the research has been far from exhaustive and the information should therefore be regarded as provisional. Further study would undoubtedly produce a more detailed picture of the sector.

The keeping and riding of leisure horses

5.18 Businesses and activities in this part of the sector include riding schools, hunts, pony clubs, point-to-point racing and polo playing.

5.19 As noted above, there is no readily available data on private horse owners located in the Cotswolds. Although all horses have to be registered and hold a passport, there are many different horse passport issuing organisations and no central database on the number of passports issued in different areas of the UK.

5.20 A search of the www.cotswolds.info website[28] lists 13 riding stables in the AONB and a further five within 5km. The location of these businesses (along with others described below) are shown in Figure 5-1. This shows these are found throughout the central part of the AONB. It is likely that further research would find further riding schools, particularly in the southern part of the AONB.

5.21 There are nine hunts whose country extends over part of the Cotswolds. These are, from north to south, the Warwickshire, the Croome and West Warwickshire, The North Cotswold, The Heythrop, The Cotswold, The Cotswold Vale Farmers', The Berkeley, The Vale of the White Horse and The Duke of Beaufort's. The Master of Foxhounds Association, the body that represents hunts in the UK, is based at Daglingworth near Cirencester.

[28] http://www.cotswolds.info/equestrian/riding-schools.shtml

5.22 All of the hunts maintain active pony clubs which organise competitions and shows for young riders. Several of the hunts organise point-to-point races for amateur jockeys to ride over jumps. Meetings take place in the AONB at Paxford (organised by The North Cotswold Hunt), Andoversford (The Cotswold), Cocklebarrow (The Heythrop) and Didmarton (The Duke of Beaufort's). Meetings take place just outside the AONB at Woodford (The Berkeley) and Siddington (The Vale of White Horse). Another activity of the hunts, which is not directly related to the keeping of horses but is regarded as a valuable service by farmers, is the collection of fallen stock to feed to the hounds.

5.23 There are four Polo Clubs in the AONB. These are the Edgeworth Polo Club near Stroud, the Longdole Polo Club at Birdlip, the Cirencester Polo Club at Cirencester and the Beaufort Polo Club at Westonbirt. The Ladyswood Polo Club is just outside the AONB at Sherston near Malmesbury.

5.24 As noted above, riding is a popular leisure activity and much of this takes place as 'hacking' (riding through the countryside) on public rights of way accessible to horses. Analysis of spatial data on the network of Public Bridleways, Restricted Byways and Byways Open to All Traffic (also known as BOATs) reveals that there is a total of 1,184 km of off-road routes accessible to horse riders in the AONB (893 km of Public Bridleways, 261 km of Restricted Byways and 30 km of BOATs) excluding the part of the AONB in Warwickshire (for which GIS data was not available to this study)[29]. These routes are mapped in Figure 5-2. The map shows that in most areas of the AONB, the routes do not form a connected network and horse riders are often obliged to travel along public roads (there is a total of 2,221 km of minor roads in the AONB) which can give rise to significant safety issues for riders and other road users. A number of long distance riding routes have been developed that use a mixture of Public Bridleways and Restricted Byways/BOATs, minor roads and permissive routes negotiated with landowners. These routes include the Sabrina Way which runs through five counties from Gloucestershire to Derbyshire, including a significant stretch through the Cotswolds[30]. The British Horse Society, as well as local groups such as the Mid Cotswold Tracks & Trails Group[31], are working to improve and expand the off-road network of tracks and trails for horse riders.

The keeping and riding of professional horses

5.25 This part of the sector in the AONB includes racehorse breeding and training, bloodstock auctioneering, National Hunt racing and Three Day Eventing.

5.26 There are likely to be a significant numbers of bloodstock breeders based in the AONB but, like holders of leisure horses, there is no publicly accessible central database that can be used to identify them.

5.27 A search of the trainers database maintained by the Directory of the Turf [32] reveals 23 licensed trainers located in the AONB and a further 9 within 5km of the AONB. The majority of these are licensed to train for both flat and jump races but in practice most are more active in the jump (National Hunt) sector. As Figure 5-1 shows, training yards are

[29] GIS data for Public Rights of Ways sources from Gloucestershire, Wiltshire, Worcestershire, Oxfordshire, South Gloucestershire and Bath and North East Somerset Councils was downloaded from the website www.rowmaps.com and clipped to the AONB boundary.

[30] http://www.bhsaccess.org.uk/ridemaps/

[31] http://www.midcotswoldtrails.org.uk

[32] http://www.directoryoftheturf.com

found throughout the AONB but there is a particular concentration in the north of the AONB around Stow on the Wold and Moreton in Marsh.

5.28 The trainers with the greatest number of horses in training and with the greatest number of winners include Jonjo O'Neill whose yard is at Temple Guiting near Cheltenham (and is consistently one of the most successful National Hunt trainers in the country), Nigel Twiston-Davies at Naunton near Cheltenham, Kim Bailey at Andoversford and Tony Carroll at Cropthorne near Pershore.

5.29 The auctioneering firm of Brightwells has been holding bloodstock sales, most of National Hunt horses, at Cheltenham Racecourse since 2009. In 2014 six sales took place with a total turnover of almost £12.3 million.

5.30 Cheltenham Racecourse, which is 1.2 miles outside the AONB, is the pre-eminent Jump racecourse in Great Britain with 445,722 racegoers in 2012 (second only to Ascot as the most visited racecourse)[33]. During the week of the Cheltenham Festival which takes place in March, visitors make a very significant contribution to the tourism sector in the central western area of the AONB in accommodation providers, pubs and restaurants. Other racing fixtures at Cheltenham take place during October, November and December.

5.31 The AONB is also the location for the premier Three Day Eventing course at Badminton. The Badminton Horse Trials take place in May and are one of an international series of the highest level of Three Day Events which also includes the Olympics and Burghley Horse Trials. Like the Cheltenham Festival, the Badminton Horse Trials are televised and have a global audience.

Ancillary services

5.32 A search of the Royal College of Veterinary Surgeon's 'Find a Vet' online database[34] reveals ten practices registered to treat horses located in the AONB and a further 14 practices located within 5km of the AONB. All these practices treat a range of animals (specialist equine practices being limited to particular concentrations of racing activity such as Newmarket and Lambourn).

5.33 As already mentioned, there are 46 registered farriers based in the AONB and a further 60 within 5km. Most of these are likely to be full time businesses (especially the 31 farriers who hold diplomas from the Worshipful Company of Farriers) but a few will have other professions such as blacksmithing or farming.

5.34 Information collected by the Board[35] and a search of an online trade database[36] reveals seven businesses in the AONB supplying saddlery and other equipment related to riding. There are a further nine within 5km of the AONB.

5.35 A range of other businesses associated with the equestrian sector will be located or will operate, in the AONB. These include feed and straw merchants who will source some of their raw materials from local farmers (e.g. oats, high quality meadow hay and wheat straw) and businesses associated with the equestrian, supplying saddlery and clothing.

[33] British Horseracing Authority (2013)
[34] http://findavet.rcvs.org.uk
[35] http://www.cotswoldsaonb.org.uk/UserFiles/File/General/Horse%20Riding%20in%20the%20Cotswolds%20AONB.doc
[36] www.directoryoftheturf.com

Figure 5.1 Selected Equestrian Businesses in and within 5km of the Cotswolds AONB

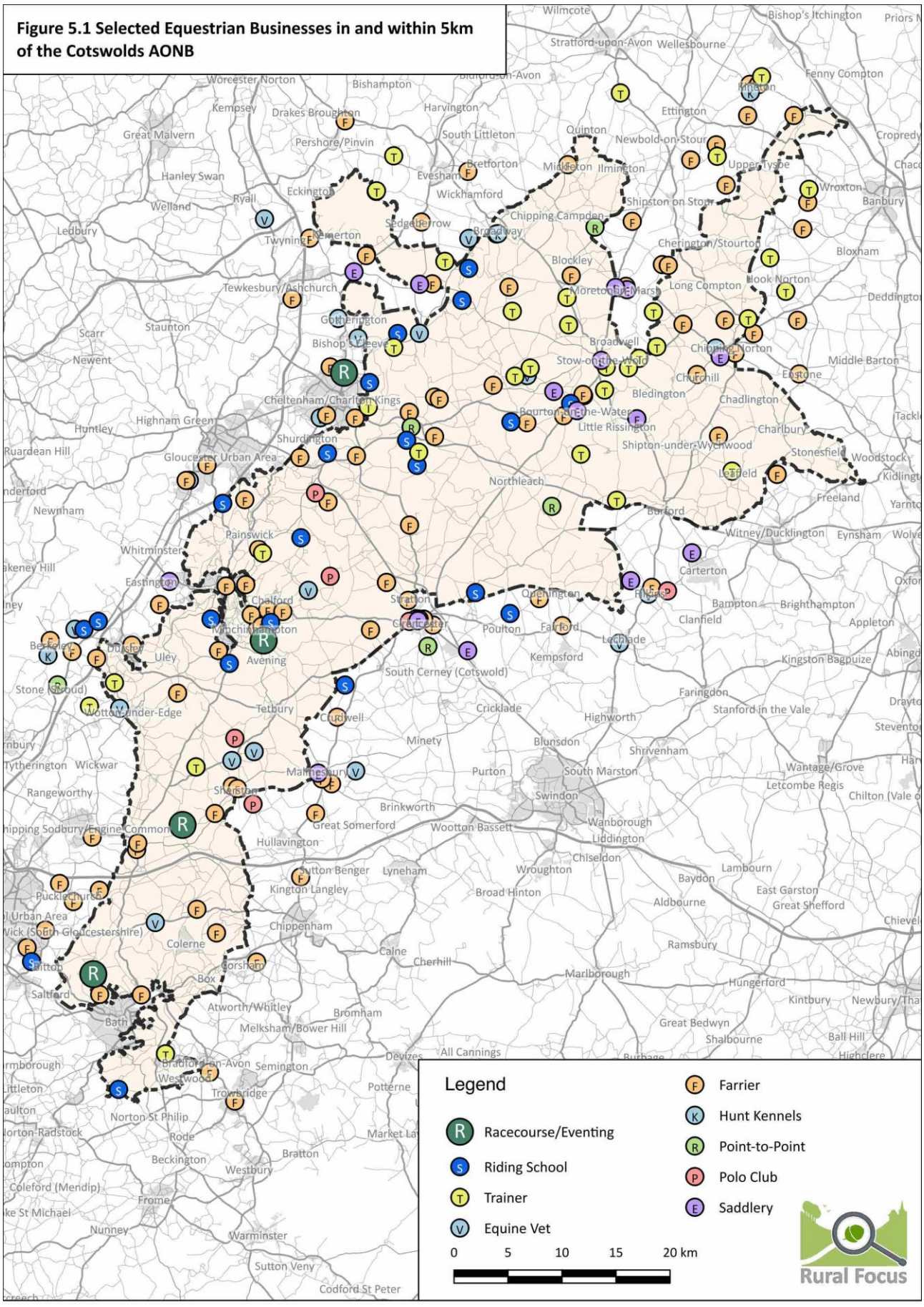
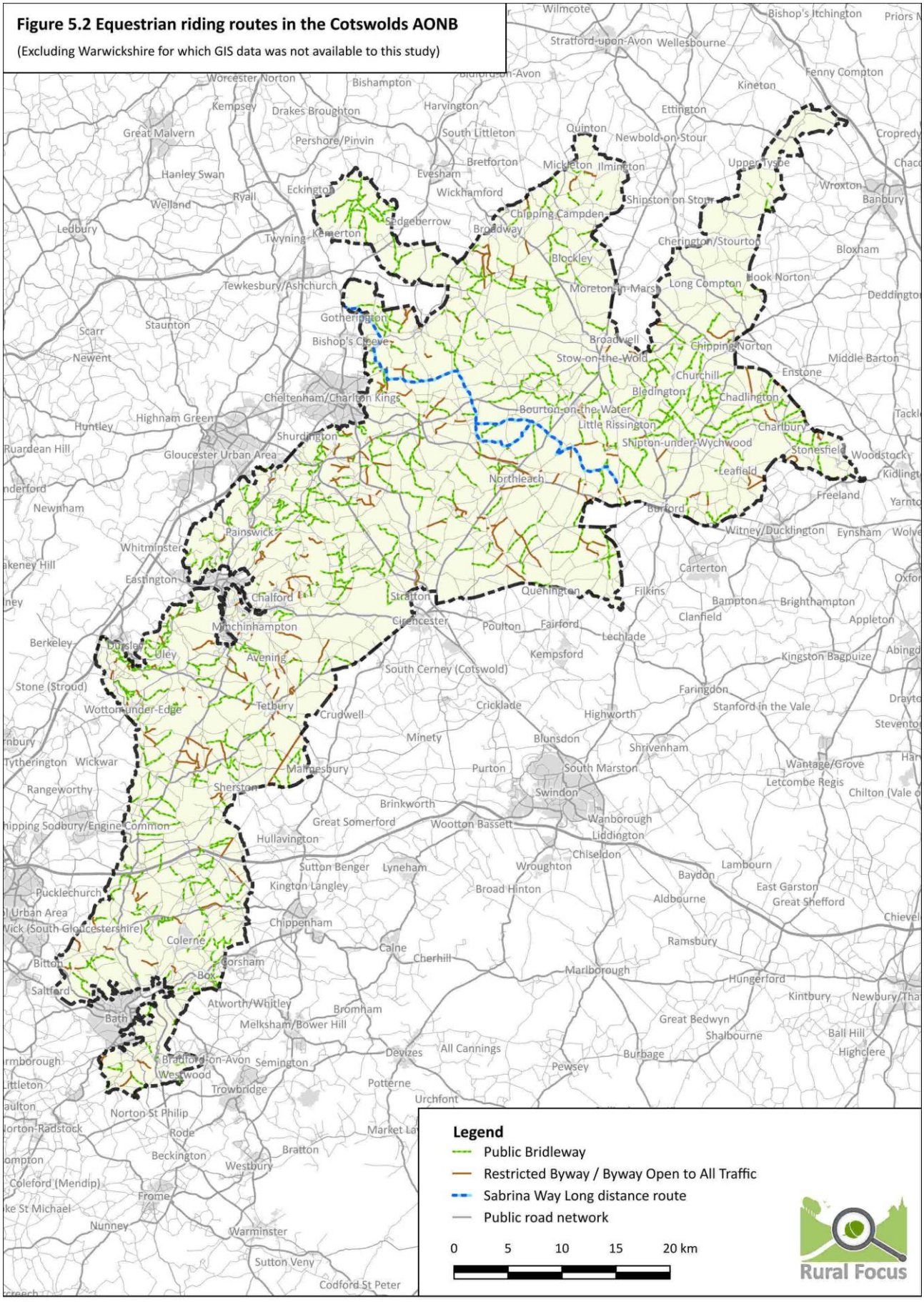


Figure 5.2 Equestrian riding routes in the Cotswolds AONB

(Excluding Warwickshire for which GIS data was not available to this study)



Significance of the equestrian sector for the AONB

5.37 The sector is significant for the AONB in several ways.

- Firstly, based on the tentative calculations contained in this study, the sector is equivalent to around 70% of the economic value of the farming sector based on turnover (not taking account of the activities associated with the Cheltenham Festival), despite occupying a much smaller land area.
- Secondly, it provides a high quality recreational activity for a large number of people in the AONB, either directly through riding themselves or through watching sporting events in or close to the AONB. After walking and cycling in the countryside, riding is likely to be the most popular form of recreation that takes people into the landscape to appreciate the natural beauty of the AONB.
- Thirdly it is worth noting that the Cotswolds is particularly significant amongst the UK's protected landscapes as a centre for equestrian sport, particularly National Hunt racing (with Cheltenham Racecourse marketing itself as 'the home of jump racing') and Three Day Eventing (with the Badminton Horse Trials claiming to be 'the world's premier 3-day event'). Other protected landscapes which are similar centres of activity include the North Wessex Downs AONB (which includes Lambourn, a centre for flat racing trainers), the Kent Downs AONB and South Downs National Park (both of which have relatively large numbers of trainers and breeders).

5.38 The sector therefore makes a significant contribution to the purpose and aims of the AONB designation by contributing to its sense of place, by providing opportunities for recreation and enjoyment of its natural beauty and by supporting livelihoods in its rural communities. There is scope to enhance these contributions both by improving the network of off-road tracks and trails accessible to horse riders (as being promoted by the Mid Cotswold Tracks and Trails Group) and by increasing employment in the equestrian sector (as acknowledged by the AONB Management Plan which states that "*Equine-related activities provide valuable farm diversification opportunities*"[37]).

5.39 There are important connections with the management of the landscape (although these should not be over-estimated in comparison with farming which has a far larger role). In a few areas of the AONB, horse gallops used by trainers are a notable feature of the landscape. For instance the Landscape Character Assessment for the AONB notes that in High Wold character type "*The open plateau has favoured the establishment of large commercial horse stables and associated gallops*"[38]. Wrongly placed however gallops and other infrastructure linked to the equestrian sector can have a severe and negative impact on the 'characteristic' landscape of the Cotswolds.

5.40 The AONB Management Plan has also identified that "*The splitting up of farms can result in clusters of equestrian-related uses which may be unsympathetic to the*

[37] Quoted from Key issues for Development and Transport on page 44 of the Cotswolds AONB Management Plan 2013-18 pre-publication version.

[38] Page 77 of the Cotswolds Landscape Character Assessment http://www.cotswoldsaonb.org.uk/landscape_character_assessment/index.htm

landscape"[39]. These unsympathetic uses include the inappropriate siting of structures such as stabling, field shelters, fencing, lighting and schooling rings and poor pasture management leading to 'weedy' fields. The Conservation Board has published a leaflet with guidance for horse owners on how to avoid these issues[40].

[39] Quoted from Key issues for Rural Land Management on page 26 of the Cotswolds AONB Management Plan 2013-18 pre-publication version.

[40] The keeping of horses and ponies in the Cotswolds AONB. http://www.cotswoldsaonb.org.uk/userfiles/file/publications/keeping-horses-leaflet-web-version.pdf

6 Future trends in the farming, forestry and equestrian sectors

6.1 This section summarises key future trends in the farming, forestry and equestrian sectors over the coming decade. It draws on: current trends outlined in Sections 3-5; and known or anticipated policy, legislative, market and other drivers likely to occur during the period to 2025 (see below).

Drivers

6.2 The main drivers of change affecting farming and forestry remain broadly the same as those included in the 2009 study, although the nature, detail and importance of some will have changed (e.g. UK/global economic context). Table 6-1 has been adapted to incorporate the equestrian sector.

Table 6-1: Drivers of change for the farming, forestry and equestrian sectors

Environmental	Social	Economic	Political	Science and Technology
• Climate change • Environmental legislation, policy and regulation • Environmental incentives • Environmental performance • Animal and plant pests and diseases	• Rising global and UK population • Changing household size • Continuing consumption culture • Changing consumption patterns • Changing leisure patterns • Land tenure patterns • Labour market trends	• Globalisation and global commodity markets • UK, regional and local markets • Economic cycles • Peak oil and rising energy demand	• World Trade Organisation agreements • Common Agricultural Policy • UK/England policy objectives • Public expenditure limitations	• GRIN[41] technologies • New environmental technologies • Increasing scientific understanding of environmental systems

Future trends

6.3 Key future trends in farming in the Cotswolds AONB over the period to 2025 are expected to include:

- A modest increase in the area of crops and fallow, with increases in spring barley, field beans, maize and fallow in particular. More beans/peas and fallow[42] are expected to be stimulated by greening measures associated with BPS.
- No significant change in the area of permanent and temporary grassland, but fluctuations between these two categories. A continued reduction in the area of rough grazing.

[41] 'GRIN' technologies refer to Genomics, Robotics, Informatics and Nanotechnology

[42] In this context, 'fallow' would include stubbles as well as other EFA measures such as buffer strips and cover crops.

- A reduction in the number of dairy cows with continued restructuring of industry and current price pressures.
- Relatively stable numbers of beef cows and breeding ewes, but lower total numbers of cattle and sheep.
- Cattle can be expected to continue to be affected by bovine TB; the culling of badgers may come into operation in the AONB in future years and this could have a number of impacts both on farm and more broadly, for example in terms of tourism.
- Fewer, larger commercial farms, but a growing number of smaller, non-commercial ('lifestyle') farms.
- More mixed farms and mixed farming practices, involving both crop and livestock enterprises, as farmers seek more resilient systems (links to the effects of climate change and globalisation); fewer dairy farms.
- Continued adaptation to climate change in terms of crop and livestock selection, farming practices (soil and water conservation, manure and straw management) and farming systems (see above).
- Decreasing number of farms participating in agri-environment schemes, particularly those currently in ELS only. However for those joining CS, an increased and more effective involvement.
- Relatively stable organic production
- Continued diversification of farm businesses. Only modest growth in renewable energy now with the cut in subsidies.
- Modest growth in farm incomes, from the current low point.
- Reduction in farm labour, but younger generation coming through and some new entrants.
- Continued increase in farmland prices, particularly for higher quality land.

6.4 Key future trends in forestry in the Cotswolds AONB over the period to 2025 are expected to include:

- Relatively stable area of woodland, with a gradual shift towards more broadleaved woodland and away from coniferous woodland.
- More woodland management, supported by improved timber and wood fuel prices, although this may not always be beneficial to biodiversity and public enjoyment of woodlands.
- Very limited new woodland creation due to long term agricultural prospects, grant system complexities, deer pressure and general uncertainty.
- Continued adaptation to climate change in terms of species selection, spacing and woodland management.
- Losses of beech and other trees due to climate change, and ash trees due to the spread of *Chalara fraxinea.*

- Improved forestry income, but reducing local labour force.

6.5 Key future trends in the equestrian sector in the Cotswolds AONB over the period to 2025 are expected to include:

- Continued growth in the popularity of riding for leisure, and hence more leisure horses. The Cotswolds is an attractive and affluent area; riding is unlikely to be significantly affected by affordability concerns.
- Continued modest growth in the professional equestrian sector (mainly national hunt), including businesses and people involved with the sector.
- Associated growth in ancillary trades.
- A steady or growing area of land used and managed for equestrian purposes.

6.6 These estimated future trends in the farming, forestry and equestrian sectors are illustrated in a series of tables, using a similar approach and indicators as the 2009 study. See Tables 6-2 to 6-4.

Key
↑ = Significant Increase
↗ = Increase
→ = Little or No Change
↘ = Decrease
↓ = Significant Decrease

Table 6-2: Estimated farming trends to 2025

Farming Indicators	Status in 2013	Estimated trend to 2025
Land use		
Crops and fallow	86,438 ha	↗
Temp./perm. grassland	74,363 ha	→
Rough grazing	2,204 ha	↘
Farm numbers		
Commercial farms	1,646	↘
Non-commercial farms	n.a.	↗
Cereal farms	337	→
General cropping	230	→
Dairy	63	↘
Grazing livestock	743	→
Mixed	167	↗
Other	26	↗
Cropping		
Wheat	24,287 ha	→
Spring barley	20,741 ha	↗
Oil seed rape	15,871 ha	↘
Maize	2,284 ha	↗
Bare fallow	n.a.	↗

Farming Indicators	Status in 2013	Estimated trend to 2025
Biofuel/biomass crops	n.a.	→
Novel crops	n.a.	↗
Forage crops	n.a.	↗
Crop management		
Crop and grass yields	n.a.	↗
Variability in yield & quality	n.a.	↗
Crop failure	n.a.	↗
Pests and diseases in crops	n.a.	↗
Types of crop rotation	n.a.	↗
Baling/sale/export of straw	n.a.	↘
Livestock numbers		
Dairy cows	8,812	↓
Beef cows	10,128	→
Total cattle	63,217	↘
Breeding ewes	109,454	→
Total sheep	237,088	↘
Total pigs	16,361	↘
Livestock management		
Livestock fertility	n.a.	→
Livestock lactation	n.a.	→
Livestock growth rates	n.a.	→
New types and breeds of stock	n.a.	↗
Traditional breeds	n.a.	↗
Pests and diseases in livestock	n.a.	↗
Retention of manure and slurry	n.a.	↗
Farm practices		
BPS participation	n.a.	→
AES participation (ha)	123,725	↘
Organic production (ha)	19,954	→
Diversified enterprises	n.a.	↗
Soil and nutrient management	n.a.	↗
Energy efficiency measures	n.a.	↗
Energy production on-farm	n.a.	↗
Water conservation measures	n.a.	↗
Long term planning	n.a.	↗
Farm labour and income		
Farm labour	4,152	↘
Farm Business Income	n.a.	↗
Farmland prices – arable	£9-10k/ac	↗
Farmland prices – pasture	£7-8k/ac	↗

Table 6-3: Estimated forestry trends to 2025

Forestry Indicators	Status in 2014	Estimated trend to 2025
Woodland cover		
Total woodland	26,370 ha	→
Broadleaved woodland	19,558 ha	↗
Coniferous woodland	2,969 ha	↘
Forestry management		
Timber and biomass yields	n.a.	→
Timber quality	n.a.	↘
Variability in species success	n.a.	↗
Damage from wind, pests, disease and fire	n.a.	↑
Woodland gaps and patchiness	n.a.	↗
Changes in rotation length/ thinning	n.a.	↗
Mixed species/provenance planting	n.a.	↗
Higher stocking rate	n.a.	↗
Planting to buffer/connect	n.a.	↗
Forestry enterprises		
Woodfuel/bio-energy sector	n.a.	↗
Diversified enterprises	n.a.	↗
Forestry labour & income		
Labour (no.)	n.a.	↘
Forestry income	n.a.	↗

Table 6-4: Estimated equestrian trends to 2025

Key Equestrian Indicators	Status in 2015	Estimated trend to 2025
Horses		
Leisure horses	13,500	↗
Professional horses	3,300	→
People and business		
Leisure horse owners	6,800	↗
Leisure horse riders	50,000	↗
Equestrian labour	1,000	→
Equestrian income	£76 m.	↗
Equestrian land (ha)	n.a.	→

6.7 These trends will impact on the special qualities of Cotswolds AONB and affect the key issues identified in the Cotswolds AONB Management Plan 2013-2018[43]. The main differences in impacts and issues are outlined below:

Impacts on special qualities

- Marginal changes in the mix of arable, pasture and woodland, the type of crops grown and the area of fallow and game cover. More mixed farming.
- Soils being better managed, with improved structure and more organic matter.
- Changes in the extent and quality of dry stone walls and hedges, influenced by changes in schemes. This is more likely to be positive overall, but could be negative in places.
- Some farmland no longer being managed in accordance with environmental prescriptions, due to land coming out of ESA/ES and not going into CS; this could lead to loss of quality and/or habitat such as buffer strips and low input grassland.
- Loss of trees, including ash and beech due to pests and diseases, with impacts on landscape, biodiversity and recreational enjoyment (as well as forestry and sporting).

Changes in key issues

- The positive long term prospects for the Cotswolds agricultural economy need to be tempered with the volatility in prices and strong exchange rate being experienced now; farm incomes are significantly down on what they were in previous years. Farm management has also been complicated by recent changes in the Common Agricultural Policy and associated schemes.
- Trends for the diversification of enterprises and the restructuring/splitting up of farms could accelerate, as a result of changes in farm income.
- More woodlands are being managed and/or better managed with the improvement in timber and wood fuel prices.
- Use of land for leisure equestrian purposes can be expected to grow gradually.
- Rural skills and employment can be expected to be adversely affected by a reduction in agri-environment scheme income across the Cotswolds.
- Tree pests and diseases, linked to climate change and other factors, will have a more significant impact, and sooner, than expected.

[43] Cotswolds AONB Management Plan 2013-2018. Rural Land Management

7 Conclusions

7.1 This study considers the latest trends in farming and forestry in the Cotswolds and explores the nature of the equestrian sector in the area. It also considers potential future trends in these sectors and the impacts on the special qualities of the AONB. Finally recommendations are made for future policy and action.

Current state and trends

7.2 Many of the projected trends identified in the 2009 study have occurred on the ground. In farming, these include: an increase in the area of some crops such as maize; a decrease in rough grazing; reducing livestock numbers, in particular dairy cattle; fewer, larger commercial farms and more smaller, non-commercial farms; and a steady decline in the farm labour force. In forestry, most of the previously projected trends continue, including: a gradual shift towards broadleaved woodland and away from coniferous woodland; and limited new woodland creation. There is also evidence of adaptation to climate change in both sectors in terms of management decisions and practices.

7.3 However, there are also some different trends which have arisen as a result of policy and market changes, and natural events. In farming, these include: a decrease in the area of wheat and an increase in spring barley; a strong uptake of agri-environment schemes; stable organic production; and growth in on-farm renewable energy. There has been significant volatility in output and input prices, leading to a recent downturn in farm income. In the meantime, farmland prices have continued to rise, tripling in the period 2004-2014. In forestry, the main event has been the increase in timber and wood fuel prices and, associated with this, more woodland management; however the arrival in the UK of the ash disease *Chalara fraxinea* poses a very significant threat, particularly to the Cotswolds which has a high percentage of ash trees. This disease has been discovered in a number of woodlands in the Cotswolds and so is expected to take hold in the AONB over the next 10 years.

7.4 While farming and forestry remain the dominant land uses in the Cotswolds, accounting for around 95% of total land area[44], the equestrian sector is also important despite occupying a much smaller area. It is estimated that the equestrian sector has a gross output of around £76 million (around 70% of total farmgate income in the Cotswolds), and employs around 1,000 directly and 2000-4,000 indirectly. The equestrian sector also provides a high quality recreational activity for a large number of people in the AONB, either directly through riding or through watching sporting events in or close to the AONB. The Cotswolds is particularly significant amongst the UK's protected landscapes as a centre for equestrian sport, particularly National Hunt racing and Three Day Eventing.

Future trends

7.5 Looking ahead over the next ten years to 2025, we can expect many current trends to continue however some new or accelerated changes can also be anticipated.

[44] Total agricultural area is 177,415ha, less 10,939ha woodland on farms, equals 166,476ha farmland excluding woodland (Defra June Survey 2013). Total woodland area is 26,370ha (FC NFI 2014). Total farmland and woodland = 192,846ha (95% of total AONB area of 203,800ha).

These include: more mixed farming practices as farmers seek more resilient systems and enterprises, and improved soil and water management; more beans and fallow in response to greening requirements, decreasing agri-environment scheme participation due to scheme changes; fewer new renewable energy projects due to reductions in subsidy; and a slow-down in the growth in farmland prices. In the forestry sector, the recent pick-up in woodland management is expected to continue as long as prices remain favourable, however significant numbers of ash trees are likely to be lost with the spread of *Chalara fraxinea* across the Cotswolds. The equestrian sector can be expected to grow gradually which may lead to an increase in the area of land used for equestrian purposes.

Impacts

7.6 The potential impacts of these new or accelerated changes on the special qualities of the Cotswolds AONB include: marginal changes in the mix of land use and cropping, with more fallow and more mixed farms; better managed soils; changes in the extent and quality of dry stone walls and hedges due to scheme changes; loss of environmental quality and/or habitat on farmland due to land leaving agri-environment schemes; and loss of ash and beech due to pests and diseases.

7.7 The key issues identified in the last management plan have changed as follows. While there are good long term prospects in agriculture, significant volatility in prices and incomes is challenging, with lower prices and a strong exchange rate resulting in significantly reduced farm incomes this year. Farm diversification and the restructuring /splitting up of farms could accelerate as a result of changes in farm income. Farm management is now more complicated as a result of recent changes in the Common Agricultural Policy and associated schemes, and rural skills and employment are likely to be adversely affected by the loss of agri-environment scheme income. There is likely to be continued divergence in land use between fewer larger and more commercial farm holdings and a growing number of small non-commercial land holdings, leading to further losses in moderately-sized family-run farms. In woodlands, there is likely to be more management due to improved timber/wood fuel prices however tree pests and diseases, linked to climate change and other factors, can be expected to have a significant impact in the near future. The use of land for equestrian purposes could grow potentially affecting landscape character.

Recommendations

7.8 Drawing on the findings of this study, a number of recommendations for policies or actions have been identified for the consideration of the Board. These are additional to those made in the 2009 study.

1. Support farmers and their advisers to enable them to make the most of the new schemes – Basic Payment Scheme and Countryside Stewardship – in terms of selection of options and access to funding, for the benefit of farm businesses and the Cotswolds environment.
2. Identify gaps and issues arising from the reduced agri-environment scheme funding in order to influence the scheme when reviewed and encourage and support alternative mechanisms to maintain the environmental investment made

through Environmental Stewardship; these could include voluntary measures and/or Payments for Ecosystem Services initiatives.

3. Gather examples of good practice relating to climate change adaptation in the Cotswolds, in order to demonstrate what steps can be taken locally by farmers and foresters, and the potential business and environmental benefits.
4. Liaise with the Forestry Commission (and other bodies such as Natural England) to gain the latest advice on the spread of *Chalara fraxinea*, and its expected impacts, and obtain guidance on desirable management strategies and actions. In turn, it will be important to work with woodland owners and managers to prepare for the spread of *Chalara fraxinea* in the Cotswolds and manage its effects.
5. Recognise the contribution that the equestrian sector makes to the AONB in terms of its value to the rural economy, its popularity as a landscape-based recreational activity and the way that it adds to the sense of place and cultural identity of the Cotswolds. Alongside, however, acknowledge the challenges such as adverse impacts on the landscape in certain places.
6. Develop closer links with equestrian sector organisations such as the British Horse Society and with groups such as the Mid Cotswold Tracks and Trails Group to pursue areas of work identified in the AONB Management Plan. This could involve broadening the scope of the successful Cotswold Voluntary Wardens group.
7. Ensure that Cotswolds LEADER, Gloucestershire ESIF and other key local funding streams help address the existing and new issues facing farming, forestry, rural business and the natural environment in the Cotswolds AONB. Be clear on the link between AONB priorities and funded projects, and ensure no harm to the special qualities of the AONB
8. Undertake research to fill gaps in the evidence base relating to farming, forestry and the equestrian sector; working with sector bodies and key businesses.

Glossary

AES	Agri-Environment Scheme
AONB	Area of Outstanding Natural Beauty
BHB	British Horseracing Board
BOAT	Byway Open to All Traffic
BPS	Basic Payment Scheme
CAP	Common Agricultural Policy
CS	Countryside Stewardship
DEFRA	Department for Environment Food and Rural Affairs
EFA	Ecological Focus Area
ELS	Entry Level Stewardship
ES	Environmental Stewardship
ESA	Environmentally Sensitive Area
ESIF	European Structural and Investment Funds
EWGS	England Woodland Grant Scheme
FBI	Farm Business Income
GAEC	Good Agricultural and Environmental Condition
GB	Great Britain
GRIN	Genomics, Robotics, Informatics and Nanotechnology
HLS	Higher Level Stewardship
IFT	Interpreted Forest Type
IOA	Interpreted Open Area
LEADER	Liaison Entre Actions de Développement de l'Économie Rurale
NFI	National Forestry Inventory
NIWT	National Inventory of Woodland and Trees
OELS	Organic Entry Level Stewardship
OHLS	Organic Higher Level Stewardship
RAU	Royal Agricultural University
RICS	Royal Institution of Chartered Surveyors
RDPE	Rural Development Programme for England
SMR	Statutory Management Requirement
SPS	Single Payment Scheme
SSSI	Site of Special Scientific Interest
UKCIP	UK Climate Impacts Programme
WTE	Whole Time Equivalent