



Chilterns Area of Outstanding Natural Beauty

State of the Chilterns Environment 2012



an Area of Outstanding Natural Beauty

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Cover photo: Autumn colours, Chinnor Hill (photo: John Morris)

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Contents

	Page
Foreword	
 LANDSCAPE AND BIODIVERSITY	
Overview	1
1. Environmental Stewardship: number of agreements/ area of land covered	5
2. English Woodland Grant Schemes: number of agreements/ area of land covered	9
3. Area of Sites of Special Scientific Interest (SSSIs) in favourable condition	12
4. Percentage of Local Sites and commons in positive conservation management	15
5. Livestock numbers	21
6. Water vole populations and numbers of rivers and canals with water voles	23
7. Quality of water in rivers and length of main river unaffected by low flows	25
8. Length of hedge in good condition using DEFRA condition criteria	29
9. Area of land managed for equestrian purposes	32
10. Area of chalk grassland in positive conservation management	35
 HISTORIC ENVIRONMENT	
Overview	37
11. Listed buildings (Grade 1/11*): total number/ number at risk	39
12. Registered historic parks and gardens: total number/number at risk	42
13. Scheduled Monuments: total number/ number at risk	43
14. Conservation Areas: total number/ number at risk	46
 SOCIAL AND ECONOMIC	
Overview	48
15. Number of visitor attractions which have published information on access by public transport	50
16. Number of businesses registered with the Green Tourism Business Scheme	51
 UNDERSTANDING AND ENJOYMENT	
Overview	52
17. Participation in Health Walks	55
18. Area of land with statutory or voluntary Open Access	56
19. Visitor satisfaction on rights of way and use of the countryside	57
 DEVELOPMENT	
Overview	59
20. Number of appropriately designed and sustainably constructed affordable rural needs houses provided	61
21. Length of overhead power lines put underground	62
Conclusions	63
Appendix: Countryside Quality Counts	64

Foreword

In gloomy times it's important to look for silver linings. Following the very soggy summer some good news is that the aquifer is filling and chalk streams are returning. They're still failing in many respects and their ecological condition is likely to remain poor for some time but it is a delight to seem them flowing once again. The prospect of ash dieback ravaging the Chilterns is all too real, even if a few years away, but it will, hopefully kindle public affection and concern about the health of our woodlands. They may even be more accepting of the need to control grey squirrels.

Perhaps, inevitably, after another year of odd weather the outlook for farming and farmland habitats is uncertain. The delay over reform of the Common Agricultural Policy will not help things. The agri-environment schemes are so important for helping to care for the wider countryside and especially the non protected sites. It would be no surprise if the area in stewardship schemes started to drop slightly.

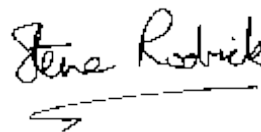
The review of the Chilterns Ancient Woodland Inventory was completed in 2012 and confirmed that the area of woodland identified as ancient had grown by 12%. The Chilterns has amongst the highest proportion of its woodland identified as ancient (over 56%) in the country. The challenge is to ensure it gets the right management.

An area which might be a concern, but it is hard to tell, is locally important sites. Historically they have not all been well surveyed and monitored, and much of that has rested with local authorities which no longer have the resources needed.

Another silver lining is that around Commons. The HLF funded project has both relied on, and nurtured, a huge amount of enthusiasm, especially amongst people local to commons. Getting common land into management is no easy task but the prospects are better than for a very long time.

Buildings and monuments of importance are facing a tough time. They can be expensive to maintain and even more to restore. Currently the amount of money available from public and private sectors is in short supply. Deterioration tends not to be a rapid process but the period of famine is now extending to several years and there are good reasons to worry if the economy doesn't pick up soon.

Ash dieback will afflict the Chilterns but we may have a few years grace before it makes a big impact. We need to use that time to record and celebrate our ash heritage and appreciate it before it's gone. The silver lining we must hope for is a high degree of natural resistance.



Steve Rodrick
Chief Officer
Chilterns Conservation Board

LANDSCAPE AND BIODIVERSITY

Context

The Chilterns AONB was designated for the natural beauty of its landscape, and its natural and cultural heritage.

Special qualities of the AONB's natural environment include its;

- steep chalk escarpment with concentrations of wildlife-rich downland
- extensive ancient woodland, including internationally important beech woods
- rich mosaic of farmland habitats including arable plants communities, ancient hedgerows, ponds and orchards
- river valleys with chalk rivers, a globally scarce habitat and home to some of the UK's most threatened species
- remnants of heath, acid grassland and wood pasture - often associated with common land

There are many influences on the condition of the landscape and wildlife of the Chilterns, including for example global wheat prices; changes in farming and forestry practices; pests, diseases and invasive species; development pressures and growth in leisure and amenity land use; decreasing livestock numbers, availability of funding, and climate change and its potential long term impacts.

The policies of the AONB Management plan seek to address the consequences of these and other impacts in order to conserve and enhance the natural environment of the Chilterns.

Efforts to enhance the management of landscapes and habitats and to link and extend ecological networks are on-going and achieving some successes at local level with the support of grant funding from a variety of sources.

The AONB is clearly not immune to the pressures that have resulted in ongoing declines in biodiversity at national and regional levels¹ and in future reports it is hoped to provide an overview of how populations of key groups of species are faring in the AONB alongside the more general data provided below on land use, land management, protected sites and key habitats.

Robust data will be particularly important to underpin decisions about future activity in this era of increasingly constrained public expenditure.

Landscape and Biodiversity Condition Indicators - key findings for 2012

This section of the State of the Environment report looks at 10 condition indicators selected to provide an insight into the condition across a broad range of aspects of the natural environment of the AONB. Inevitably a number of these - for example uptake of grant schemes (indicators 1 and 2) - are a proxy for data on condition, but nonetheless will provide a useful insight not least into emerging trends in land management in the AONB.

The table following lists each indicator in this section and shows whether there is an update in data in the current year (2012). For those indicators which have not been updated in full this year a brief commentary is provided.



Dunstable Downs

¹ Lost Life: England's Lost and Threatened Species, Natural England 2010

Condition Indicator	Detailed update 2012	Key findings	Condition and Trend
1. Environmental Stewardship Scheme (ES) - number of agreements and area covered	Yes - see page 5 for details	<p>2012 283 agri-environment agreements in place covering 63.8% of the farmland in the AONB</p> <p>2011 297 agri-environment agreements in place covering 66.8% of the farmland in the AONB</p> <p>2010 289 agri-environment agreements are in place on holdings covering 69.7% of the farmland in the AONB.</p> <p>2009 295 agri-environment agreements were in place on holdings covering 66% of the farmland in the AONB.</p>	Overall coverage of agri-environmental schemes - particularly HLS - is relatively high, however the trend is declining.
2. English Woodland Grant Scheme (EWGS) - area covered	Yes - see page 9 for details	<p>2012 7,417 ha (38%) of woodland in the AONB covered by English Woodland Grant Scheme.</p> <p>2011 6,504 ha (36%) of woodland in the AONB covered by English Woodland Grant Scheme (EWGS)</p> <p>2010 5,321 ha (30%) of woodland in the AONB covered by the English Woodland Grant Scheme (EWGS).</p> <p>2009 3,585 ha (20%) of woodland in the AONB covered by EWGS</p>	Good and increasing coverage.
3. Sites of Special Scientific Interest - area in good condition	Yes - see page 12 for details	<p>2012 98.7% of SSSI area in favourable or unfavourable recovering condition</p> <p>2011 98.6% of the total SSSI area in the AONB is in favourable/ unfavourable recovering condition.</p> <p>2010 97.5% of the total SSSI area in the AONB is in favourable/ unfavourable recovering condition.</p> <p>2009 94.4% of the SSSI area in the AONB in favourable / unfavourable recovering condition.</p>	Good and stable

Condition Indicator	Detailed update 2012	Key findings	Condition and Trend
4 a) Local Sites - percentage in positive conservation management	Yes - see page 15 for details	<p>2012 47% of local sites considered to be in positive conservation management</p> <p>2011 39% of Local Sites in the AONB known to be in positive conservation management</p> <p>2010 39% of Local Sites in the AONB known to be in positive conservation management</p> <p>2009 29% of Local Sites in the AONB known to be in positive conservation management</p>	Poor but improving
4b) Commons - percentage in positive conservation management	Yes - see page 17 for details	<p>2012 50% of commons (over 5 ha, by area) have a Management Plan;</p> <p>28% of commons (over 5ha, by area) have local volunteers actively involved in their management.</p> <p>No recorded biodiversity interest on 145 of the commons</p>	This year's data will provide a baseline for future reporting.
5. Livestock numbers	<p>2012 No new data available for the AONB</p>	<p>2000- 2010 18% decline in cattle numbers; 18% decline in sheep numbers.</p>	Trend over period 2000 - 2010 is a declining one.
6. Water vole population and numbers of rivers and canals with water voles	No new data included 2012 report	<p>2011 Water voles found on 2 rivers in the AONB. Population on the Chess fully recovered to 2001 levels</p> <p>2009 Water voles are found on 2 water bodies in the AONB - the River Chess and the Ewelme Brook. Population on the R. Chess recovered to 87% of 2001 population.</p>	Population recovering well on the River Chess and stable on the Ewelme Brook.
7. Chalk streams - water framework directive status	tbc	<p>tbc</p> <p>2009 Of the 9 rivers which flow through the AONB none were assessed as attaining</p>	<p>Poor and not improving All 9 chalk rivers failing to attain good ecological status or potential. Negligible improvements anticipated to 2021 anticipated to 2021</p>

Condition Indicator	Detailed update 2012	Key findings	Condition and Trend
<p>8. Hedges - length in good condition using DEFRA condition criteria</p>	<p>2012 No new data on condition.</p> <p>Analysis of Environmental Stewardship data carried out.</p>	<p>2012 An estimated 24% of hedgerow (by length) in the AONB is currently managed through Environmental Stewardship</p> <p>2006 - 8 38% of hedgerows surveyed in the AONB were found to be in good condition across all five DEFRA criteria. A further 42% met all but one of the five condition criteria.</p>	<p>Fair</p> <p>No trend data on condition available</p>
<p>9. Equestrian land use - area of land managed for equestrian purposes</p>	<p>No new data available</p>	<p>2008 - 2010 7.4% of the AONB used for horse grazing. This represents around 26% of AONB grassland resource. Intensive equestrian use on 2.8% of AONB</p> <p>2007 - 2009 7.2% of the AONB has been used for horse grazing. This represents around 25% of the AONB grassland resource.</p> <p>Intensive equestrian use accounts for 2.5% of the AONB.</p> <p>2006 - 2008 6% of the AONB used for horse grazing</p>	<p>Equestrian land management continues to be a prominent component of the land use of the AONB.</p> <p>Intensive equestrian land use remains at high - and increasing - levels.</p> <p>Concerns about intensive equestrian land include impacts of associated infrastructure and fragmentation of historic field patterns on the landscape.</p>
<p>10. Chalk grassland - area in positive conservation management</p>	<p>Yes - see page 10 for details</p>	<p>2012 unchanged from 2011</p> <p>2011 97.6% of SSSI units where chalk grassland is the main habitat are in favourable (32.9%) or unfavourable recovering (64.6%) condition.</p> <p>2010 95% of SSSI units where chalk grassland is the main habitat are in favourable (32.5%) or unfavourable recovering (62.5%) condition.</p> <p>2009 86% of SSSIs where chalk grassland is the main habitat are in favourable or unfavourable recovering condition.</p>	<p>Fair, stable</p>

Indicator 1: Number of agreements and area of land covered by Environmental Stewardship Scheme

Overall coverage by agri-environment schemes² within the AONB continues to decline from a high point in 2010 (70% of the farmland in the AONB) to 64% in 2012, although take-up of Higher Level Stewardship (HLS) has increased.

Summary of key data

- 8 years on from the end of Countryside Stewardship, and after several years of steady increases in coverage of the current scheme - Environmental Stewardship (ES) - 2012 has seen a fall-off in take up and a growing number of agreements not being renewed, particularly Entry Level Scheme (ELS) agreements.
- Of the 24,670 hectares under ELS agreements in 2009, 15% (3,800 ha) has fallen out of the scheme i.e. not been renewed after 5 years.
- In contrast, Higher Level Stewardship has increased from 20 agreements (6% of the farmland in the AONB) in 2009 to 72 agreements in 2012 (16% of the farmland).
- Organic scheme take up has declined slightly overall, from 5.1% (2009) to 4.5% of the farmland area.
- Countryside Stewardship Scheme (CSS) coverage has fallen to 4% of farmland in the AONB as schemes come to an end.
- Of particular note is the fact that only 68% of former CSS agreement land has transferred to the current scheme (Environmental Stewardship). This compares to a national target for transfer from CSS to ES of 80%, and an actual rate nationally of 90.4%.³ Some former CSS agreement land has gone into Woodland Grant Scheme agreements - taking this into account still only gives a total of 77% of former CSS transferred into other schemes.



Arable margins at Barton Hills

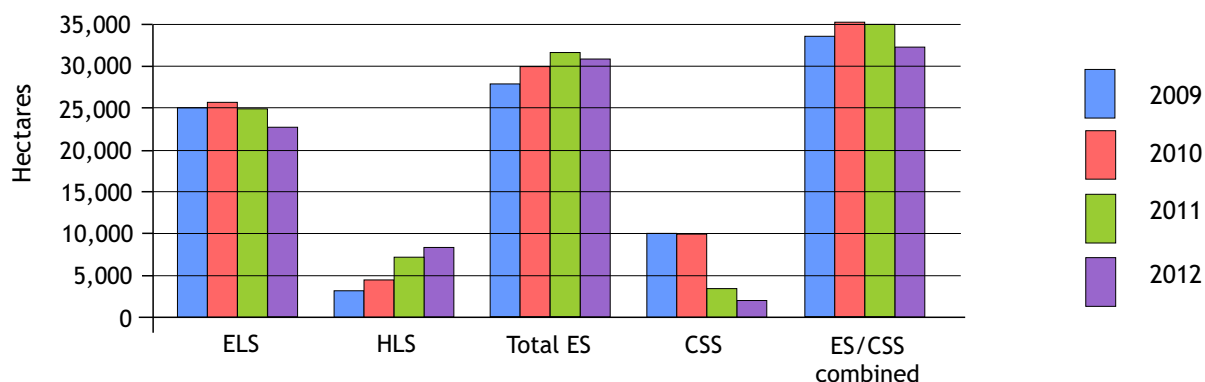
² Environmental Stewardship and Countryside Stewardship

³ CSS data 2007

Table 1: Agri-environment schemes - live agreements (green = increasing trend; in red - decreasing trend)

Scheme	Land area hectares		Number of agreements		% of farmland in the AONB	
	2012	(2009)	2012	(2009)	2012	(2009)
ENVIRONMENTAL STEWARDSHIP (current scheme)						
ELS	21,456	(22,186)	194	(186)	42.9%	(44.4%)
Organic ELS	881	(2,484)	7	(13)	1.8%	(5.0%)
ELS combined (ELS and OELS)	22,337	(24,670)	201	(199)	44.7%	(49.4%)
HLS	6,728	(3,099)	64	(19)	13.5%	(6.2%)
Organic HLS	1,374	(52)	8	(1)	2.7%	(0.1%)
Total	30,439	(27,821)	273	(219)	60.9%	(55.7%)
COUNTRYSIDE STEWARDSHIP SCHEME (1991 - 2004)						
	2012	(2009)	2012	(2009)	2012	(2009)
Countryside Stewardship	2,012	(9,753)	29	(76)	4.0%	(20.0%)
Total area covered by either ES or CSS⁴	31,884	(33,217)	283	(295)	63.8%	(66.0%)

Figure 1: Agri-environment scheme coverage, Chilterns AONB



The indicator in context

- Environmental Stewardship is an agri-environment scheme that provides funding to farmers and other land managers to deliver effective environmental management. The scheme replaced Countryside Stewardship in 2004, and consists of two levels - Entry Level (ELS), the basic scheme, open to all, and Higher Level (HLS) which aims to deliver significant environmental benefits in high priority situations and areas.
- Priorities for HLS within the Chilterns include options relating to chalk downland, old meadows and pastures, farmland birds, archaeological and historic features (including historic buildings and landscapes) hedgerows and educational access.
- HLS efforts focus upon those landholdings offering the most opportunity for realising the objectives of ES.

⁴Totals do not add up as some holdings have both CSS and ES agreements on them

Interpretation of data





- It should be recognised that take up of agri-environment schemes does not necessarily translate into good environmental management on the ground, but it is a useful proxy measure.
- This year has seen continued reduction in the area covered by Countryside Stewardship agreements, which is to be expected as agreements expire and some are transferred to the current scheme (Environmental Stewardship).
- This year has seen excellent progress in expanding the take up of HLS within the AONB, with a 15% increase in coverage within the past 12 months.
- In contrast, ELS coverage has reduced quite notably over the past 2 years since agreements came up for renewal in 2009/10. Whilst this may be accounted for in part by a lag between expiry and renewal, it would be useful to explore this further.
- The decline in total area within an agri-environment scheme (down from 66% to 64% of the farmland in the AONB in the past year) is in contrast to a slight increase in overall coverage nationally.⁵ Natural England report that the uncertainty of the CAP reform proposals and high commodity prices (in particular in the arable sector) have led to some agreement holders not renewing their agreements. Another factor may be that changes have been made to the ELS scheme over the last couple of years so those whose agreements are ending are having to look for more options in order to qualify.

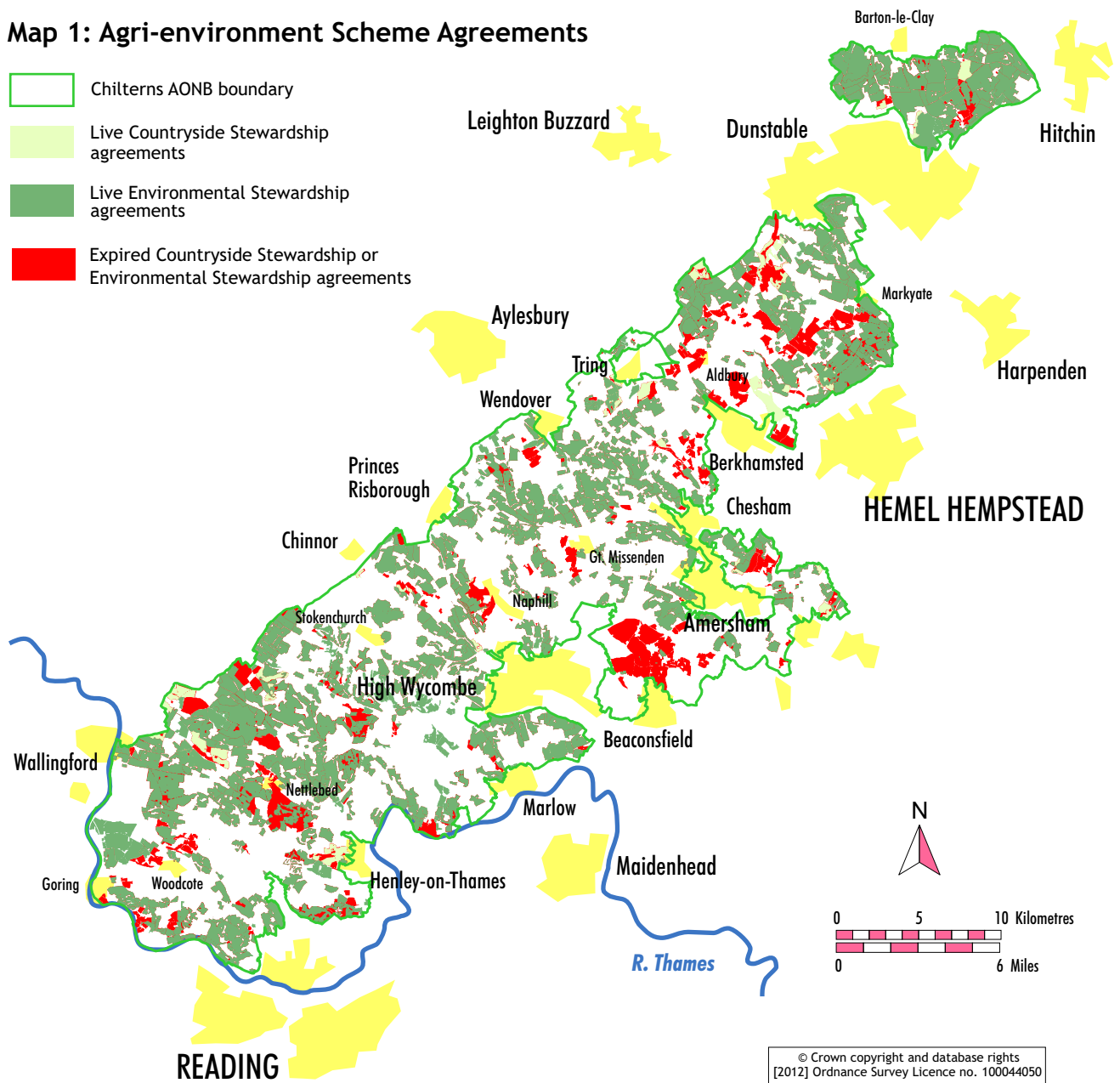
Conclusions

- Overall coverage of agri-environment schemes is declining in the Chilterns, largely due to reductions in ELS alongside expiring CSS agreements. The contrast between this and the increases in take up nationally are a cause for some concern and would merit further investigation.
- Transfer from CSS to ES is below target at only 68%, although some of this is accounted for by transfer to England Woodland Grant Scheme agreements.
- It is however encouraging to see strong increases in HLS coverage this year, helping to conserve the special character of the AONB.
- Research into the effectiveness of ELS has generated a set of priority ELS options which land managers are encouraged to consider. For future reporting it is proposed monitor take up of priority options within the AONB as well as overall scheme take up.

⁵ Natural England data, August 2012 - see http://www.naturalengland.org/Images/lmupdate8_tcm6-33754.pdf

Map 1: Agri-environment Scheme Agreements

-  Chilterns AONB boundary
-  Live Countryside Stewardship agreements
-  Live Environmental Stewardship agreements
-  Expired Countryside Stewardship or Environmental Stewardship agreements



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Indicator 2: Area of woodland covered by English Woodland Grant Schemes

7,417 ha or 38% of woodland in the AONB is covered by English Woodland Grant Scheme agreements (EWGS). This has increased from 20% coverage in 2009. 68% of all woodlands in the AONB are considered to be benefiting from some form of management.⁶ This compares to 64% in 2009. Almost a quarter of the ancient woodland in the AONB is not known to be under management.⁷

Summary of key data

Table 2: Woodlands in the AONB

	Area (hectares)	% of AONB	% of all AONB woodland
All woodland	19,692	23.5	100
Ancient woodland ⁸	11,059	13.2	56

Table 3: Ancient Woodland types in the AONB

	Area (hectares)	% of ancient woodland
Ancient semi natural Woodland (ASNW)	7,116	64
Plantation on Ancient Woodland Site (PAWS)	3,943	36
Total:	11,059	100

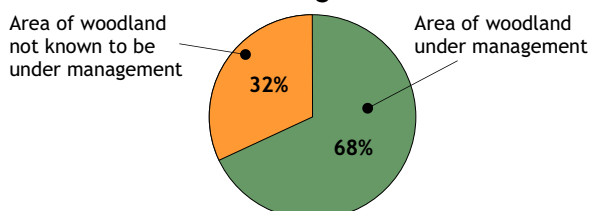
Table 4: Grant type

Woodland Area in AONB (hectares)	Woodland Area in AONB (hectares)	
	2012	(2009)
Woodland Grant Scheme 3 (WGS3) (1995 - 2005)		
Total area managed under scheme	9,581	(9,581)
English Woodland Grant Scheme (EWGS) ⁹ (2006 - present)		
Creation	33	(21)
Planning ¹⁰	667	(1,404)
Felling only following approved plan ¹¹	998	(666)
Management	2,323	(1,640)
Improvement	3,556	(1,345)
Regeneration	608	(1,088)
Assessment	2,306	
Total area under EWGS ¹²	7,417	(3,585)
Total area under EWGS or WGS3	10,957	(10,314)

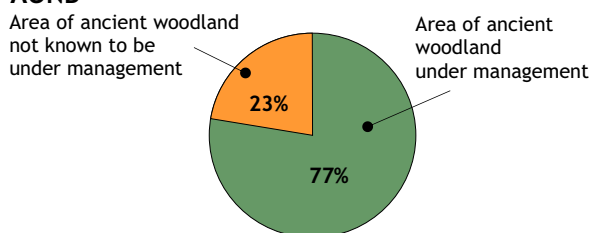
Table 5: Woodland under management

	Woodland Area in AONB (hectares)
Management for benefit of woodland under felling license ¹³	2,370
Forestry Estate land	1,563
Under EWGS or WGS3	10,957
Total area of woodland under management	13,404
Area of ancient woodland under management	8,527

% Woodland under management in the AONB



% Ancient Woodland under management in the AONB



63% (6,041 ha) of the area formerly covered by WGS3 agreement has now transferred to the current scheme (EWGS).

⁶ 'Woodlands benefitting from management' are considered for this purpose to be those known to have been under EWGS, WGS3 or to have had a felling license (excluding clear fell) within the past 20 years or 2 forestry cycles; or which are part of Forest Estate.

⁷ 'Woodland not known to be under management' are considered for this purpose to be woodlands missing 2 cycles of thinning or where it is 20 years since most recent operation.'

⁸ Ancient Woodland Inventory for the Chilterns - Report and Inventory Maps July 2012

⁹ Overlaps in area removed - overlaps can occur where a second grant of the same type is in place on the same site e.g. several Woodland Improvement Grants could be in place for different purposes on the same site.

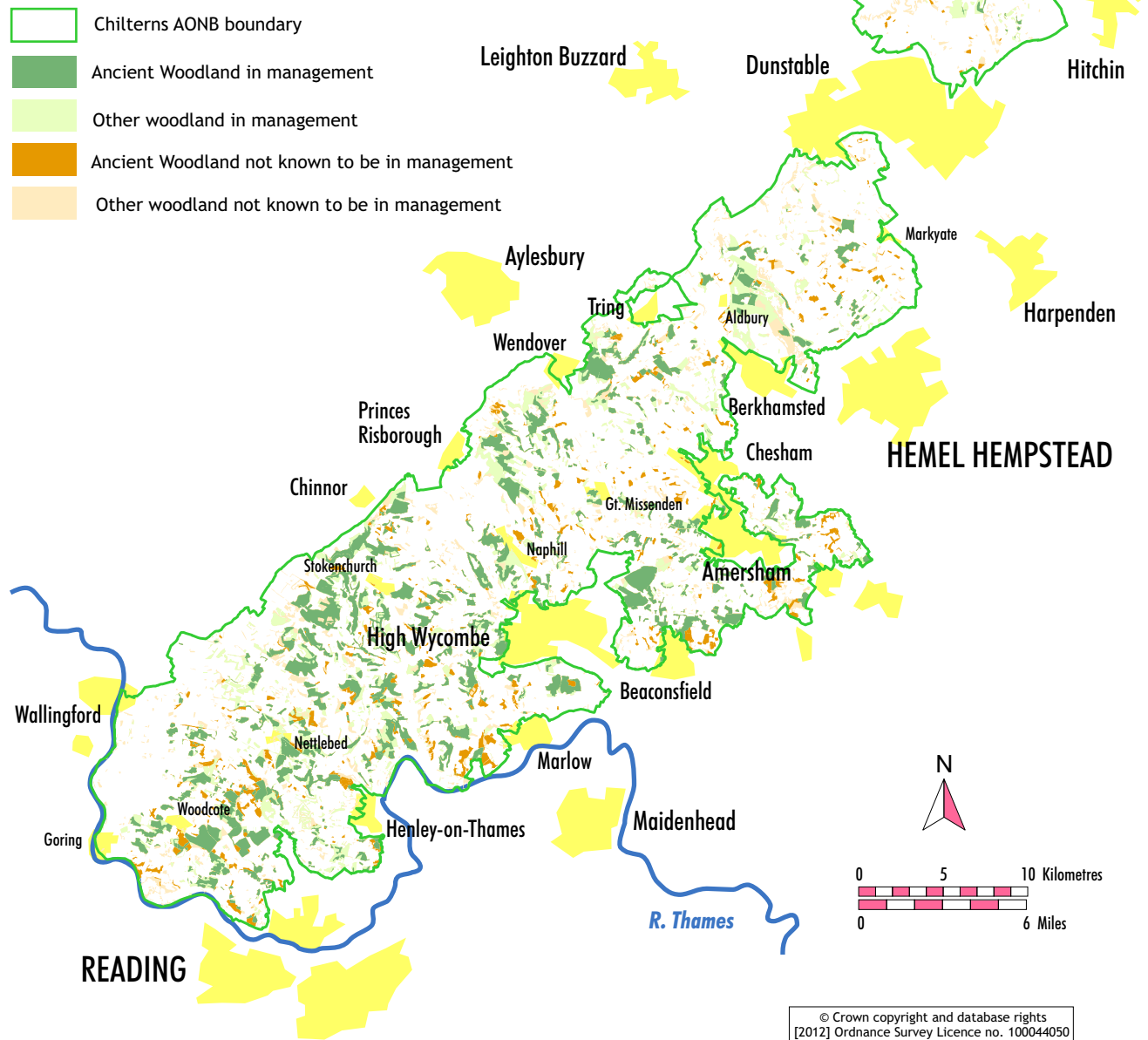
¹⁰ Figure represents only those planning grants approved in the last 12 months (April 2011 - March 2012)

¹¹ Felling license within EWGS only (10 year license following creation of approved plan, no additional grant activity shown)

¹² Figures for individual grant types do not add up to total area under schemes as some areas are covered by multiple options. Includes area with felling license as part of scheme.

¹³ Includes all categories of felling license except those within EWGS agreements and clear fell unconditional.

Map 2: Woodlands in the AONB



The indicator in context

- The Chilterns is one of the most heavily wooded parts of the country, with 23.5% (19,692 ha) of the AONB being wooded.¹⁴
- It has long been recognised that much of the woodland in the Chilterns is ancient, and a recent study indicates that the true area of ancient woodland in the AONB is higher than previously thought at 11,058 hectares (56.2% of all woodland in the AONB).¹⁵
- The English Woodland Grant Scheme (EWGS) is the Government's suite of grants designed to develop the co-ordinated delivery of public benefits from England's woodlands.
- The same caveats apply to this indicator as were elaborated in last year's report -
 - Coverage by schemes is a proxy measure, not necessarily an accurate reflection of management on the ground. Some managed woodlands will not be covered by these figures, including woodlands managed under agri-environment (Higher Level Stewardship) options, as well as those managed without any grant support. Some woods are managed under felling licenses rather than through grant schemes, and hence data on felling

¹⁴ Forestry Commission Woodland Inventory 2011

¹⁵ Ancient Woodland Inventory for the Chilterns - Report and Inventory Maps July 2012

licenses has been included in the figures above.

- Figures for area covered by EWGS are based on grants approved not schemes implemented.
- The last of the WGS3 agreements in the Chilterns ended in January 2010. The area which was covered by WGS3 is still reported here since management activity over the past 10 - 20 years will still be impacting on the woodland.

Interpretation of data

- There has been continued progress this year in take up of EWGS, in particular of Woodland Improvement Grants (WIG) where coverage has increased by over 945 ha or 36% since 2011. This is no doubt in part a reflection of the targeted Chilterns Woodland Improvement Grant introduced in 2009 offering a higher rate of match funding. These grants are still available and support activity such as infrastructure improvements and control of rhododendron, bracken and deer. Woodland Management Grant scheme coverage has only increased slightly over this period by 152 ha and take up of Woodfuel Improvement Grants has been minimal.
- Analysis of the area of woodland and ancient woodland considered to be in management (above) and associated mapping will be useful to help target further efforts to bring more of the area's woodland under beneficial management. In particular the mapping of ancient woodlands not known to be in management (2,532 ha) will be a useful tool.
- A closer look at the figures suggests that whilst overall 8,527 ha (77%) ancient woodland in the AONB is considered to be under management of this 2,127 hectares has not transferred from WGS3 to the current grant scheme.

Conclusions

- Overall levels of management of woodlands in the Chilterns are good and improving. It

is good to see the steady increase in uptake of EWGS and in particular woodland improvement grants in the Chilterns. Continued take up will be important over the next few years as some of woodlands managed under early WGS3 schemes may have received no further management since 1995.

- Improved mapping and data is helping to target sites which are not currently known to be in beneficial management. A welcome consequence of the State of the Chilterns reporting has been increased collaboration between the Conservation Board, Forestry Commission and Chilterns Woodland Project to start to identify and target such woodlands.
- Pests and diseases continue to be a real concern with Britain's trees facing 'unprecedented threats' which are expected to increase in the future, in part as a result of climate change. Of particular concern for the Chilterns woodlands are:
 - *Chalara* dieback of Ash - an aggressive fungal disease of ash trees which causes crown death and wilting and dieback of branches. New to this country, first found in a plant nursery in Bucks, Feb 2012 and first incidence in the natural environment in East Anglia October 2012.
 - Acute Oak Decline - concentrated in the Midlands but recent reports from south-east England.
 - Oak Processionary Moth (nearest sighting, Pangbourne, 2010) - severely defoliates oak trees and can weaken them, making them susceptible to other pests and diseases.
 - *Phytophthora* - fungus-like plant pathogens affecting a range of tree species.
 - Deer and grey squirrel
- It is proposed that future State of the Chilterns reports will monitor the spread of the above species where information is available.

Indicator 3: Area of Sites of Special Scientific Interest (SSSIs) in favourable condition

The total area of SSSIs in favourable or unfavourable recovering condition within the AONB is 3,166 ha or 98.7% (by area). This compares with 98.6% in 2011.

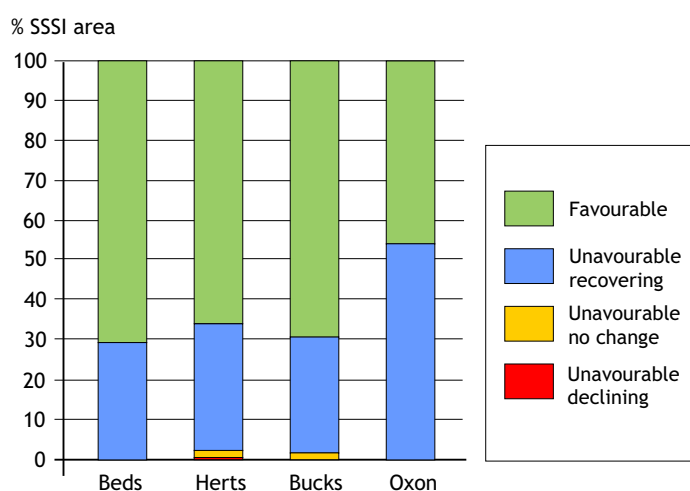
Summary of key data

- There are 64 SSSIs wholly or partially within the AONB, covering a total of 3,208 ha (3.9% of the AONB by area)
- Overall there has been very little change in assessed SSSI condition within the AONB over the past 12 months.¹⁶

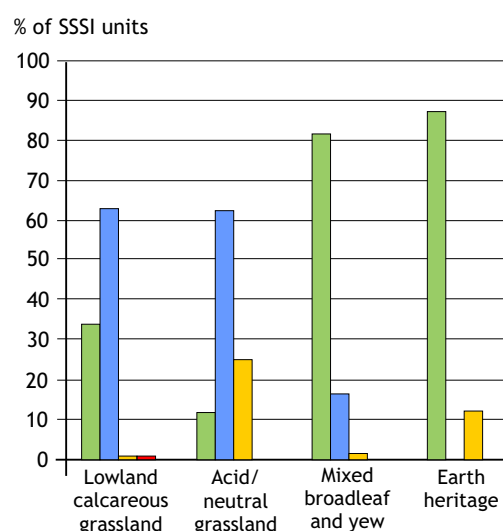
Table 6: SSSI condition across the AONB

Condition	% of SSSI area within AONB			
	2012	2011	2010	2009
Favourable (F)	64.9	65	67.1	55.2
Unfavourable recovering (UR)	33.8	33.6	30.4	39.2
Total F + UR	98.7	98.6	97.5	94.4
Unfavourable no change (UNC)	1.0	1.1	1.2	5.6
Unfavourable declining (UD)	0.3	0.3	1.2	

SSSI condition by county within the AONB



SSSI unit condition by habitat



¹⁶ Data from Natural England July 2012

Table 7: SSSI units in unfavourable no change or unfavourable declining condition

SSSI	ha	unit	condition	Broad habitat
Bacombe and Coombe Hills	9.88	2	UD	Calcareous Grassland
Aldbury Nowers	6.98	2	UNC	Broadleaved, Mixed and Yew Woodland
Little Heath Pit	1.19	1	UNC	Earth Heritage
Lodge Hill	20.02	2	UNC	Calcareous Grassland
Sarratt Bottom	2.38	3	UNC	Neutral Grassland
Sarratt Bottom	1.07	2	UNC	Neutral Grassland

The indicator in context

- Sites of Special Scientific Interest are a representative sample of the country's best wildlife and geological sites.
- Natural England has responsibility for identifying and protecting SSSIs under the Wildlife and Countryside Act 1981 (as amended).
- SSSI management is the responsibility of the land owner or manager.
- SSSIs cover around 7% of the land area of England, and 3.85% of the AONB.
- There has been a fall-off in the number of units assessed over the past year¹⁷ 25 units compared 38 in 2010/11 and 44 in 2009/10.

Interpretation of data

- There is no significant change in condition of SSSIs across the AONB since 2011.
- The 2010 Public Service Agreement target on SSSI condition has been met in all four counties across the AONB. (95% of SSSI units in favourable or unfavourable recovering condition).
- An assessment of unfavourable recovering condition can be based on there being an appropriate and achievable management

plan in place which is likely to be implemented. It is important therefore to continue to monitor successful transition from unfavourable recovering to favourable condition. It is noted that there have been fewer condition assessments carried out over the past 12 months, reflecting a change in Natural England policy. This is not an immediate concern as the majority of units have been assessed within the past 5 years, and it can reasonably be expected to take some years to achieve improvements in condition. However, it will be important to keep an eye on this to ensure that unfavourable recovering units continue to be monitored, along with the handful in unfavourable no change or declining condition.

- Looking at the data on SSSI condition by broad habitat type - see Table 3 - it is clear that, as in previous years, a disproportionately high number of SSSI units in unfavourable condition (whether unfavourable recovering, no change or declining) are grassland habitats.
- The main reason for unfavourable condition on these sites is under-grazing and scrub encroachment.
- The total area of SSSIs assessed as in either favourable or unfavourable recovering

¹⁷ 1/7/11 - 30/6/12

condition remains above 97% in each of the 4 counties. Differences between counties within the AONB in the relative proportions of SSSI units in favourable or unfavourable condition reflects in part the difference in predominant habitat type in different counties with Bedfordshire having more grassland units.

- It is important to recognise that, whilst most wooded SSSIs in the AONB are considered to be in favourable or unfavourable recovering condition, concerns remain about pronounced declines in woodland species - for example woodland birds and butterflies - and it will be useful to look in more detail at species data in future reports. Assessment of SSSI condition relates only to those features which are designated.
- It is also important to acknowledge that as with any site, habitat condition may be dependent on factors outside the control of the site manager e.g. climate change, surrounding land use, recreational pressure.

Conclusions

- It is good to see the high proportion of sites assessed as being in favourable or unfavourable recovering condition, albeit there have been fewer assessments than usual over the past 12 months.
- It will continue to be important to continue to monitor the efforts to maintain what has been achieved over future years, and in particular to see that those sites assessed as being in unfavourable recovering condition progress to favourable condition in due course.
- SSSIs with predominantly grassland habitats continue to be over-represented in those sites which are in unfavourable condition

Indicator 4a): Percentage of Local Sites in positive conservation management

47% of Local Sites in the AONB are considered to be in positive conservation management.¹⁸ This figure has increased from 39% in 2011.

Summary of key data

- Over 50% of Local Sites in the AONB are either not in positive conservation management or else not enough is known about them to determine either way.
- Out of 494 Local Sites in the AONB, 234 are assessed as being in positive conservation management. This represents an 8% increase from last year.

As the chart (Figure 2) indicates, over the past 12 months progress has been made on this indicator within the AONB in all counties apart from Hertfordshire where progress remains stalled.

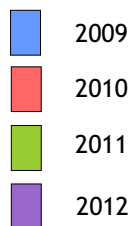


Figure 2: Local sites in Positive Conservation Management (PCM) in the AONB

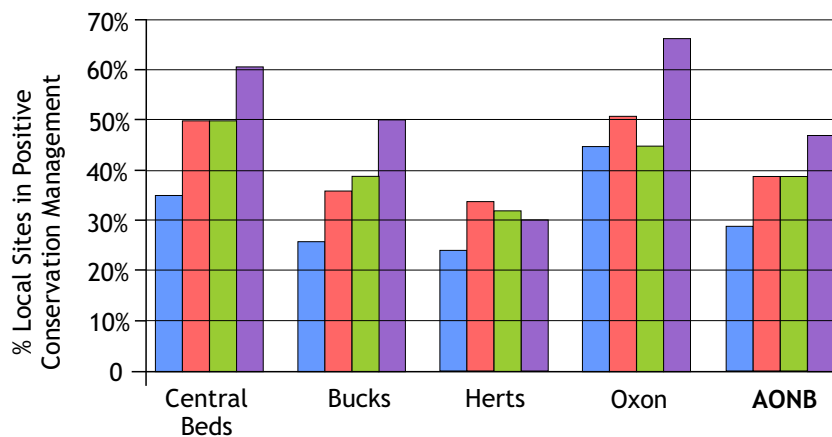


Table 8: Local Sites in Positive Conservation Management (PCM) 2011 - 12 within the AONB and within counties/ unitary authorities as a whole.

	Within the AONB			Whole county/unitary
	Number of local sites in AONB	Number of sites in PCM	% of sites in PCM*	% of sites in PCM*
Central Beds	68	41	60% (50%)	56% (57%)
Bucks	223	111	50% (39%)	51% (44%)
Herts	146	44	30% (32%)	24% (25%)
Oxon	57	38	67% (45%)	60% (49%)
AONB	494	234	47% (39%)	

*(figures in brackets are 2010 - 11 data)

¹⁸ PCM - Positive Conservation Management means that there is evidence of appropriate management which contributes to maintaining or enhancing the features of interest for which a local site has been selected and designated

The indicator in context

- Local Sites are non-statutory sites, identified for their contribution to biodiversity or geological conservation, to complement the national and internationally designated sites. In 2006, national guidelines were issued which standardised their identification, selection and management¹⁹ and put their selection onto a more rigorous footing. It is important to recognise that whilst Local Sites do not have the statutory protection of Sites of Scientific Interest (SSSIs), they will in some cases be of an equivalent quality, as SSSIs were only ever intended to be a representative sample of each habitat.
- Local authorities are required to report to central government on the proportion of Local Sites where positive conservation management has been or is being implemented (Single Data List 160).
- In many cases, sites are assessed as being in positive conservation management on the basis of being in an appropriate Government grant scheme such as Environmental Stewardship. In Hertfordshire the on-going freeze on new scheme agreements up to April 2012 along with a number of agreements terminating in 2011 - 12 is cited as part of the reason for overall reduction in the number of sites in Positive Conservation Management.

Interpretation of the data

- In the majority of cases where a site is not assessed as being in positive conservation management it is because there is insufficient information on which to base an assessment, rather than management being known to be poor.
- It is important to recognise that direct comparisons cannot be made between the figures provided by different Local Authorities, as there are variations in the approach used to identify sites as being in positive management. Trends over time

within each county and across the AONB as a whole are more useful to consider.

Conclusions

- Good progress has been made on this indicator across most of the AONB over the past year, with the exception of Hertfordshire. It would seem that this is the result of both an improvement in management on the ground as well as improved availability of information. Nonetheless, there remains a long way to go to get the majority of Local Sites into good management and recent momentum needs to be maintained.
- It is not clear why the trend in Hertfordshire differs from that in the other 3 counties and this warrants further investigation.
- Local sites cover an area of 7,394 hectares or 8.9% of the AONB. These sites make a potentially significant contribution to delivering Biodiversity and Geodiversity Action Plan targets and are a crucial component of the ecological networks of the Chilterns.
- Management advice and monitoring of local sites - and the need for additional resources to support this is recognised in the AONB Management Plan (2008 - 2013).
- Increased protection and recognition of Local Sites would also make a valuable contribution to conserving and enhancing the characteristic landscapes and biodiversity of the AONB.

¹⁹ Local Sites - Guidance on their Identification, Selection and Management, Defra. 2006

4b) Percentage of commons in positive conservation management

In September 2011, the Chilterns Conservation Board started a four-year project Commons Project. Local knowledge and understanding of commons in the AONB is deepening as a result of this project and this is reflected in a new approach to this indicator.

50% (by area) of commons over 5 hectares in the AONB are known to have a management plan, and 28% (by area) have a local volunteer group actively involved in management of the common.

Summary of key data

- There are 191 areas of registered common land in the Chilterns AONB. 187 areas were registered under the 1965 Commons Act and a further four areas were registered under the 1899 Commons Act and were exempt from registration under the 1965 Act.

Table 9: Registered commons

	Number of commons	Area (ha)	Percentage
Registered commons in the AONB	191	2,016	100
Commons > 5ha	47	1,192	95
Commons < 5ha	144	104	5

Table 10: Known management of the largest commons (> 5 ha)

	Number of sites	Area (ha)	% of total common land area
Commons in an agri-environment scheme	8	327	16
Commons in a woodland grant scheme	17	964	48
Commons not in a scheme	22	621	31

The indicator in context

- Commons have long been at the heart of community life in the Chilterns and are a significant feature in the Chiltern landscape. This is reflected in the fact that 17 of the 47 largest commons are in or adjacent to a Conservation Area. In many cases the common helps to define the setting of the settlement which has grown up around its edge.
- Commons are rich in cultural, archaeological and natural heritage. The wildlife interest tends to be concentrated in the larger commons. Part or all of 42 of the 47 largest commons are designated for their wildlife interest, either as a Site of Special Scientific Interest or a Local Wildlife Site.²⁰
- According to the names on the registers, 36 of the 112 commons which are smaller than 1 ha are ponds, five are pounds and three are wells. Seven commons were registered as the allotments in their locality. The Commons Project aims to visit every common in the AONB by 2015 to assess their current status.
- 54 commons are designated for their wildlife or geological interest as Local Wildlife Sites and/or Sites of Special Scientific Interest. As areas which are not intensively managed, they offer important wildlife refuges and stepping stones between nature reserves across the AONB.

²⁰ Chilterns Commons Project Habitat Audit, Sept 2010

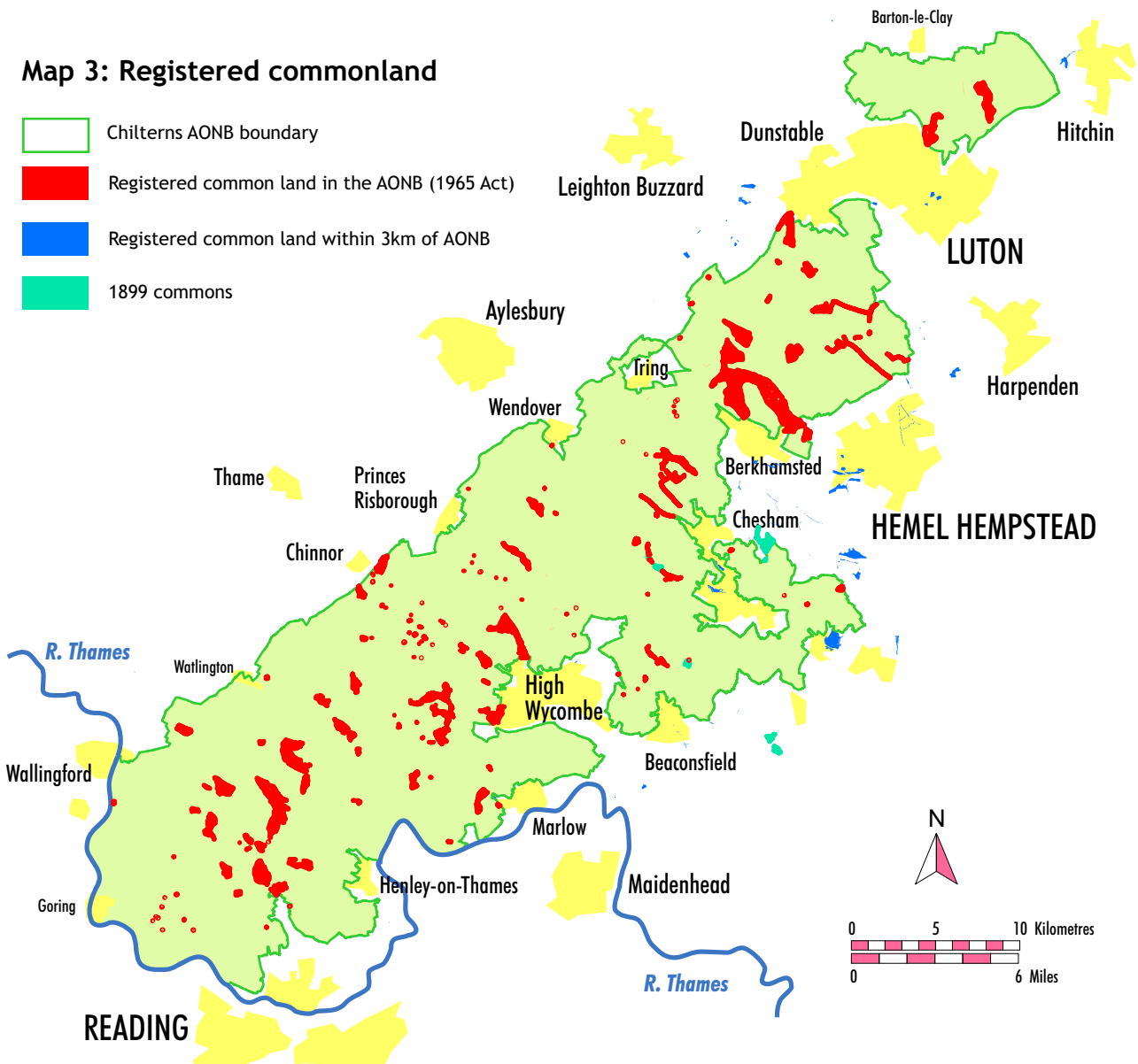
Table 11: Known wildlife interest on the 47 commons (> 5 ha)

	Number of sites	Area (ha)	% of total common land area	Area of BAP habitat on those commons (ha)	Percentage of total common land which is BAP habitat	Number which are also SSSI or LWS, at least in part
Commons containing BAP priority habitat	19	1,436	71	751	37	19 ie 100%
Commons without BAP priority habitat	28	476	24	-	-	23 ie 82%

- It should be noted that invariably the area of BAP habitat is only a fraction of a common. For example, although predominantly arable, Lilley Hoo common (75 ha) includes part of Telegraph Hill LWS which has 4.7 ha of BAP habitat, recorded as 'undetermined grassland'.
- Common land was once far more extensive across the Chilterns.²¹ Three quarters of the 191 registered commons are less than 5 ha in area, representing a fraction of their former extent. There remain areas known locally as 'common' which are no longer on the commons registers. For example, Stokenchurch Common or the commons at Tylers Green. In many cases these areas were registered as a village green in the 1965 Commons Act because the land was used for 'exercise or recreation'. They remain a valuable amenity resource to their local community.
- The traditional use of commons for rough grazing and as a source of wood fuel would have meant that historically, many would have been significantly more open in character. The cessation of traditional management, notably grazing, has led to scrub and bracken encroachment and the establishment of secondary woodland on many Chiltern commons.
- The change in habitat since the post war period, has led to a decline in the biodiversity and landscape value of many commons. No commons in the AONB are solely managed for agriculture and an increasing number of commons are now wooded. If the further decline in species interest is to be halted, it is important for conservation management plans to be in place and implemented.
- Only three commons are in a Higher Level Stewardship (HLS) scheme (Studham, Hempton Plain and Maidensgrove Scrubs). Countryside Stewardship Schemes on four commons will finish in the next couple of years. Although landowners hope to get these commons into HLS, there is no guarantee. The arable areas of Lilley Hoo are shown as being in Entry Level Stewardship.
- 12 of the Woodland Grant Schemes which include commons are old schemes (WGS3). The other five commons have recently entered English Woodland Grant Schemes.
- It should be noted that one of the commons in a woodland grant scheme is "Land in the parishes of Checkendon Common ... Nuffield". Although registered as a single common, this common covers nine separate areas, some of which are in multiple ownership and only part of one of these

²¹ Chilterns Historic Landscape Characterisation. Since 1885 there has been a 43% reduction in the area of commons, heaths and greens in the AONB.

Map 3: Registered commonland



areas is covered by WGS3. As only parts of some commons have been designated or entered into a management scheme, more work is required to better understand the precise area concerned and the benefits of the management options/ prescriptions in place.

- Management plans for another three commons not in a scheme are currently being drafted. In addition, two small commons (Coleshill and the Chalk Pits at Watlington) are managed by groups of local volunteers following a plan.

Registers of commons are maintained by County Councils, detailing all commons registered under the different Commons Acts.

Conclusions

- Data analysed for this year's report indicates that 28% of the larger commons (over 5 hectares) are not known to be in positive management of any form. This analysis will help to target future work and data gathering.
- This report provides an initial baseline against which future approaches to management of common land in the

²² Positive management being defined as at least one of the following being in place - a management scheme, an active local volunteer group or a management plan being in place.

Chilterns can be monitored. It is anticipated that the Commons Project will provide support for increased volunteer activity, encourage more commons to adopt a current management plan, and more landowners to enter their common into an Environmental Stewardship or English Woodland Grant scheme.

- Despite a reduction in active management on many commons over the post war period, a significant proportion of the common land is assessed as being BAP priority habitat. Though the BAP habitat may only be a fraction of the total area of any one common, the rest of that common provides an important buffer between the BAP habitat and the wider more intensively managed or urban landscape.
- It is encouraging to note that 82% of commons without BAP habitat have been designated, at least in part, as a Local Wildlife Site. To ensure their management benefits wildlife, efforts should be made to encourage and support more of the landowners or local groups looking after these commons to write conservation management plans.
- There remains no known recorded biodiversity interest on 145 commons. All

but ten of these commons are less than 5 ha. However, absence of evidence is not evidence of absence and, in view of their history of low intensity management, the majority of commons have the potential to be wildlife-rich. Work is required to increase species recording on commons and, where possible, to feed the resulting improved knowledge into management plans.

- The future sustainable management of commons will be a challenge in an area where commons are no longer used as an agricultural resource. Higher Level Stewardship schemes will often require grazing to improve grassland management. Difficulties associated with temporarily fencing commons to enable grazing may make this a barrier to commons wishing to enter HLS in future.
- Woodland Grant Schemes may provide a source of funding for the more wooded commons. If new schemes can include options such as ride management, glade creation and pond restoration they have the potential to significantly improve the habitat on currently under-managed commons.



Ancient beech coppice at Maidensgrove Scrubs - one of only 3 Chilterns commons in Higher Level Stewardship

Indicator 5: Livestock numbers

Cattle numbers declined by 18% between 2000 and 2010.

Sheep numbers declined by 18% between 2000 and 2010.

Nationally cattle numbers continued to fall between 2010 and 2011 though sheep numbers rose.

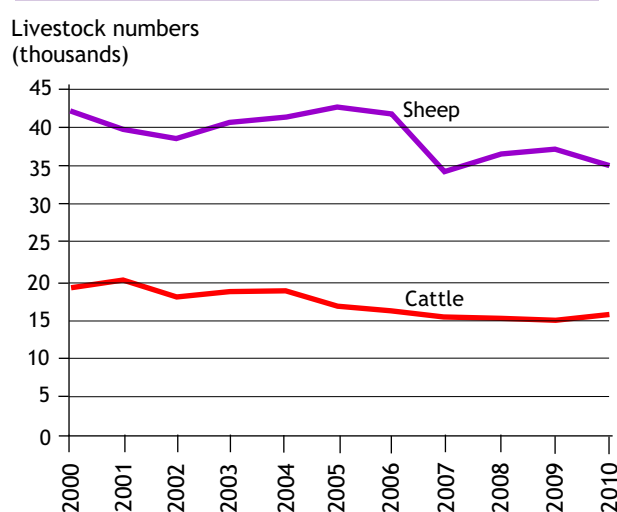
Summary of key data

Table 10: Livestock and holding²³ numbers

		2000		2007		2010	
		Number of animals	Number of holdings	Number of animals	Number of holdings	Number of animals	Number of holdings
Cattle ²⁴	Beef	3,077		2,526		2,825	
	Dairy	4,002	29	2,022	17	1,662	8
	Total	19,030		15,161	168	15,728	155
Sheep		41,908		33,560	163	34,591	145
Cattle and/or sheep	Total				281		251

Unfortunately no new data is available for livestock numbers in the AONB - the next update is expected from Defra in 2013.

Figure 3: Livestock numbers 2000 - 2010



The indicator in context

- Some of the most characteristic landscapes and habitats of the AONB, such as chalk downland, and some of the open habitats associated with Chilterns commons, rely on grazing livestock - particularly sheep and cattle - to maintain them in good condition. Much of the farmed landscape has also been created and maintained by grazing.

Interpretation of data

- It remains to be seen whether long-term declines in livestock numbers in the Chilterns have continued over the past 2 years.
- Nationally, cattle numbers in the UK fell by 2.2% from 2010 to 2011 - a six year low. Dairy herd numbers fell more steeply (2.5%

²³ Figures taken from the DEFRA June agricultural survey of commercial holdings. Figures relate to 'commercial holdings'. Previous to 2010, June Survey Results included a larger number of holdings, now excluded from the survey. DEFRA have applied to the new threshold criteria back to 2007 to aid comparison.

²⁴ Beef and dairy cattle numbers are for female stock over 2 years old with offspring. Calves and other cattle are not separated into these different categories but are included in the total cattle numbers.

UK, 3.7% England) - anecdotal feedback suggests this trend is also the case for the Chilterns AONB. Beef numbers also fell though at a slower rate (1.1% UK, 2% England). These declines reflect higher production costs (particularly feedstuffs) and a fall in domestic sales due to the UK economic downturn.

- Sheep numbers in England actually increased from 2010 - 2011 (3.1% UK, 3.5% England) - possibly due to reduced imports from New Zealand and increased exports to Europe.
- These stock figures are for commercial holdings. Within the AONB there are significant numbers of lifestyle/hobby farmers with small numbers of grazing livestock (e.g. sheep, goats, horses and alpacas).
- The DEFRA survey 2010 shows a decrease in the total number of commercial holdings since 2007 though the numbers of large farms (over 100ha) has remained stable. Smaller units continue to become less viable with a trend towards larger farms taking on management of more land - either by direct ownership or on a contract

farming basis. At the same time we should not ignore the significant numbers of lifestyle/hobby farmers - possibly with householders owning a small number of fields - not classified as commercial holdings and therefore not reflected in the DEFRA results. Both larger farm units (with larger machinery) and small lifestyle/hobby units (which may have limited flexibility for stock management and limited access to machinery) have implications on land management and, therefore, the landscape.

Conclusions

- Concerns remain over the limited availability and flexibility of suitable grazing animals for the many and varied sites of landscape and wildlife habitat importance.
- Without appropriate grazing, valuable open habitats such as chalk grassland and acid grassland will revert to scrub and secondary woodland. It should however be noted that there are many individuals and organisations working to re-establish or sustain conservation grazing on sites across the AONB with some degree of success in recent years.



Sheep grazing at Aston Rowant nature reserve, Oxfordshire

Indicator 6: Water vole population and numbers of rivers and canals with water voles

Water vole population on the River Chess has recovered to 100% of its 2001 level.

Summary of key data

- **River Chess:** A population decline of 97% was recorded between 2001 and 2003. By 2009 this had recovered to 87% of the 2001 population, following the implementation of an integrated habitat enhancement and mink control strategy. The 2011 survey found that the population had fully recovered to its 2001 level, with an estimated 345 voles along the river.
- **Ewelme Brook:** Water vole populations have remained stable over the period 2002 - 2008 - the date of the last survey - with the colony concentrated within the headwater section.²⁵
- **R. Misbourne** has a water vole colony outside the AONB boundary, but none within the AONB.²⁶
- **R. Ver, Gade, Bulbourne, Wye, Grand Union Canal (including the Wendover Arm)** - no water voles have been found. Surveys were last conducted on the Bulbourne and upper Gade in 2002, and on the Ver in 2007.²⁷

The indicator in context

- The water vole is found throughout Britain, confined mainly to lowland areas near water. Once common and widespread, this species has suffered a significant general decline in numbers and distribution since 1900. In 1998, only 11% of known water vole sites remained in Britain.²⁸ The most recent review of surveys carried out in 2005, show that water vole populations continue to decline although at a reduced rate.

- The primary factors responsible for the decline in water vole numbers are: habitat fragmentation, degradation and loss; variations in water level; predation from the non-native North American mink; pollution and persecution.
- Water voles inhabit a wide variety of water bodies. They require natural banks to dig their burrows into and favour locations with extensive reed beds and marginal vegetation.

Interpretation of data

- In view of their habitat requirements, in areas where a population exists, water voles can be considered as a good indicator of riparian health.
- However, there are limitations to using water voles as indicators of habitat quality. Watercourses may not support water vole populations despite the fact that there may be suitable habitat available. This could be because of habitat breaks, such as culverts or over-grazed banks that serve to isolate these reaches from adjacent vole populations. Certain types of good quality riparian habitat such as woodland for example, are unfavourable for water voles. Also the distribution of voles throughout the Chilterns is as much a consequence of predation by mink as it is the distribution of suitable habitat.

²⁵ Ewelme Brook Water Vole Project update 2008 (BBOWT)

²⁶ River Misbourne Water Vole Survey report 2009 (BBOWT)

²⁷ R. Gade, Bulbourne and Ver Water Vole Survey reports 2002 (CCS Project) and Ver Water Vole Survey report 2007 (Herts and Middlesex Wildlife Trust)

²⁸ Water Vole Recovery Project, Guide for Land Owners (BBOWT)

Conclusions

- It is very good to see the population recovery on the River Chess. It will be important to maintain mink control efforts and good habitat management.

The data collated on rivers with water vole populations is valuable in helping to determine the ongoing health of habitat and the success of recovery strategies.

- However, water vole populations within the AONB are restricted to two rivers. This patchy distribution limits the use of water voles as an indicator of the state of the Chilterns environment.



River Chess: ideal water vole habitat

Indicator 7: Quality of water in rivers and length of main river unaffected by low flows

Following discussions with the Environment Agency it has been decided to utilise the assessment of rivers as set out in the Water Framework Directive as the measure of the quality of rivers in the Chilterns

According to the 2009 baseline assessment of water bodies under the Water Framework Directive all nine chalk streams, which flow through AONB, currently fail to attain good ecological status or potential. Groundwater levels fell to their lowest recorded levels during the 2012 drought. By March, 60% of the total length of chalk stream watercourse in the AONB had ceased to flow.

Summary of key data

- According to the current Thames River Basin Management Plan, only the upper Gade and Misbourne are expected to attain good ecological status (GES) or potential (GEP) by 2015. The remainder are expected to attain GES/P by 2027
- The single most common reason given for the Chilterns' rivers failing to reach WFD objectives by 2015 is low flows. Abstraction has either been identified, or is currently being investigated as a causal factor for low flows in 7 of these rivers.
- High phosphate levels and poor invertebrate and fish communities are also highlighted as factors. The justification as to why GES/P

will not be achieved by 2015, in the majority of cases, is cost benefit.

- The 2011 interim assessment of the Chilterns rivers indicate that the status of the R. Ver and the Hughenden Stream has improved but the status of the rivers Chess, Misbourne and upper Wye has declined.

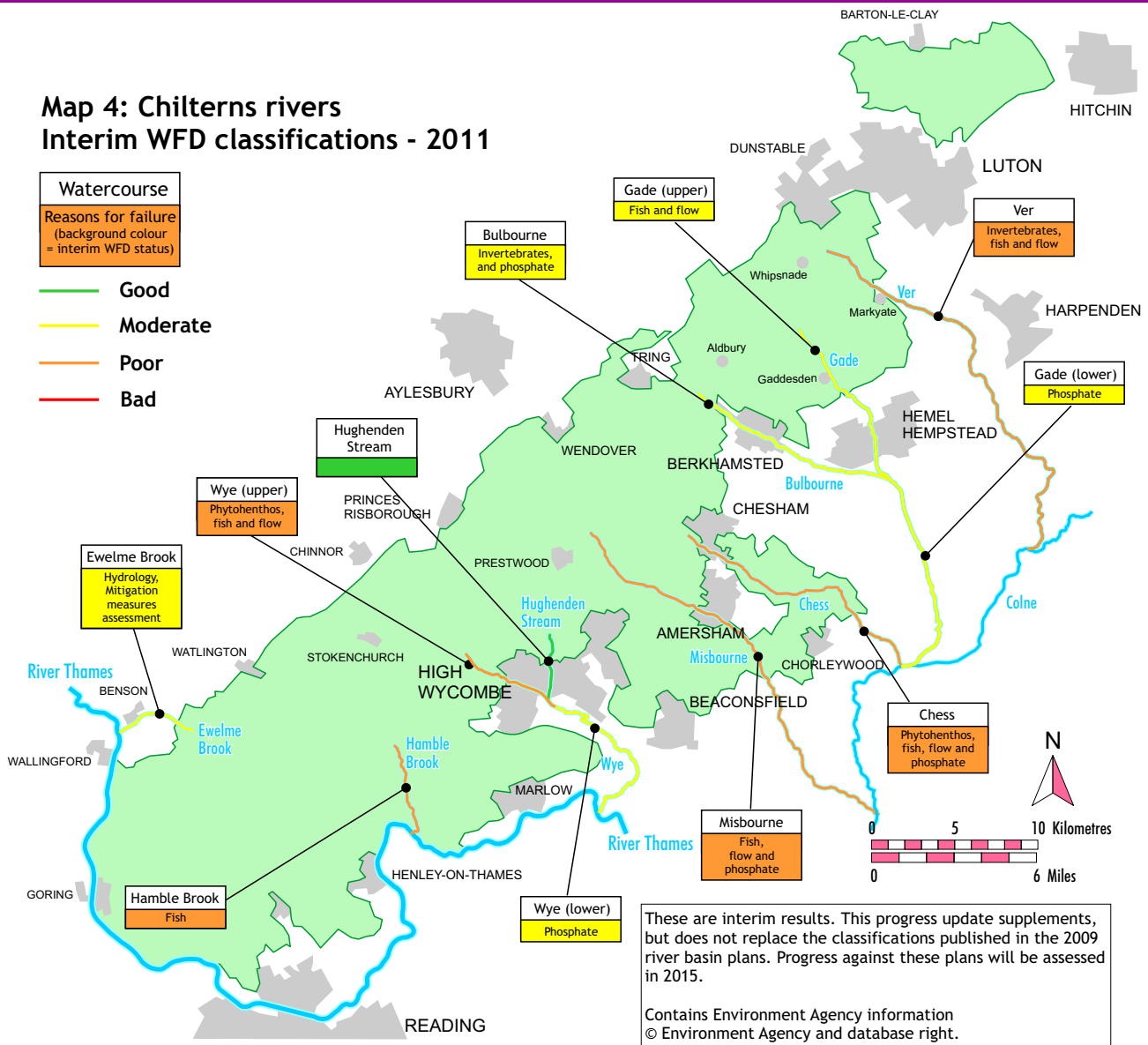
Flow

- The previous two winters below average rainfall (65% and 13% of the long term average, respectively), reduced groundwater levels to their lowest ever on record by March 2012. This is a month when groundwater levels are usually at their peak in the Chilterns. As a result, 60% of the total length of chalk stream watercourse in the AONB was dry and chalk stream ecosystems were under extreme stress.
- In February 2012 Defra announced that the Chilterns was officially in drought and in April, Veolia Water Central and Thames Water introduced temporary water use restrictions.
- The prospect of the worst drought on record was avoided only as a result of exceptional rainfall in April (264% of LTA) and June (245%), which brought about an unusual summer groundwater recharge event.
- However, whilst groundwater levels in the North Chilterns area have recovered to the normal range for the time of year (November), in the South, levels remain below normal and flows remain a concern.

Table 13: Current state of Chilterns rivers

River	2009 baseline ecological status or potential	2011 interim ecological status or potential
Ver	Bad	Poor
Gade (upper)	Moderate	Moderate
Bulbourne	Moderate	Moderate
Chess	Moderate	Poor
Misbourne	Moderate	Poor
Hughenden Stream	Poor	Good
Wye (upper)	Moderate	Poor
Wye (lower)	Poor	Poor
Hamble	Poor	Poor
Ewelme Brook	Moderate	Moderate

**Map 4: Chilterns rivers
Interim WFD classifications - 2011**



These are interim results. This progress update supplements, but does not replace the classifications published in the 2009 river basin plans. Progress against these plans will be assessed in 2015.

Contains Environment Agency information
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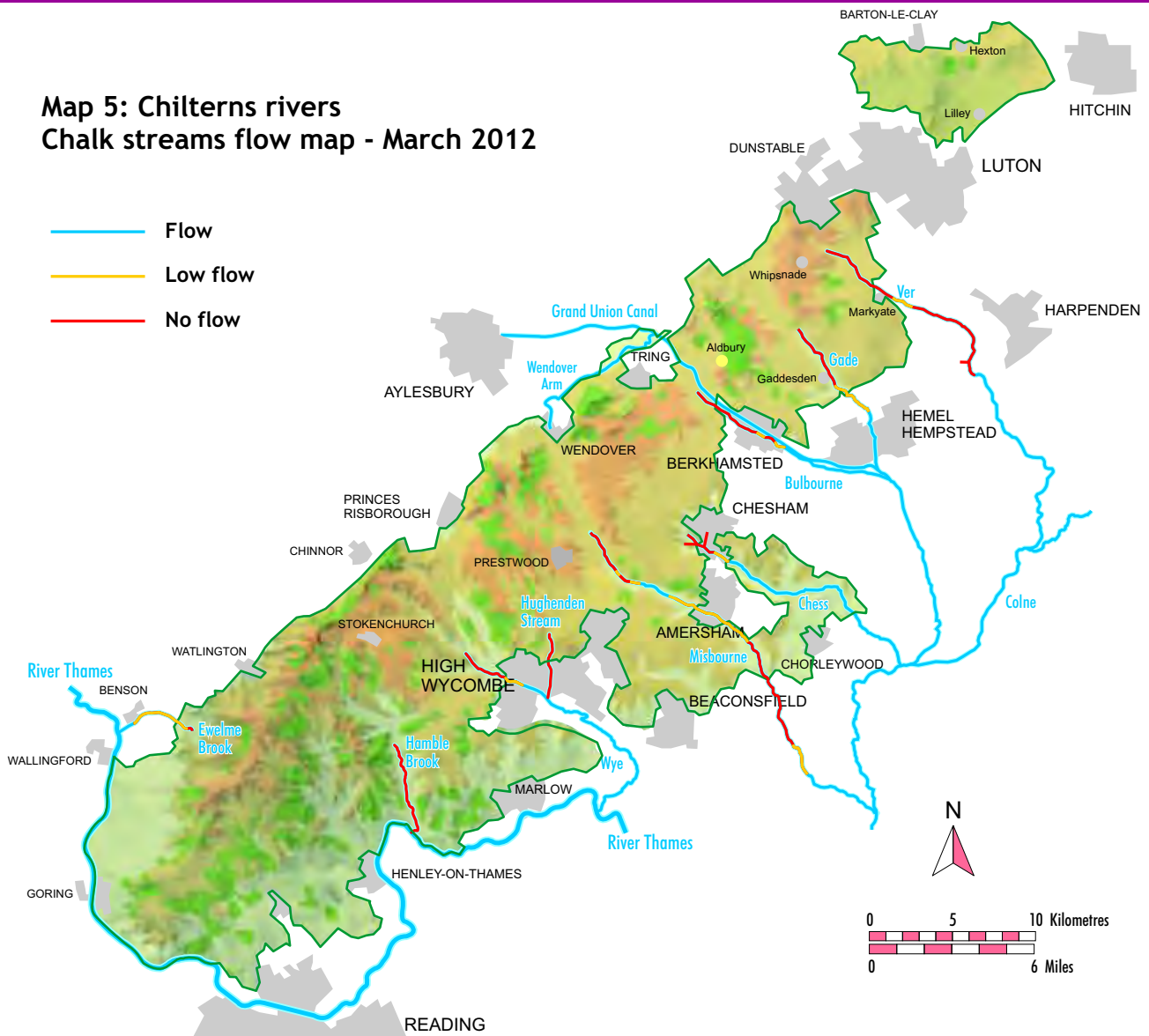
The indicator in context

- The European Water Framework Directive was introduced in 2000 to improve the chemical and ecological quality of all water bodies. It became UK law in 2003.
- The implementation of the Directive is being led by the Environment Agency through River Basin Drainage Management Planning. The Chilterns Chalk Streams all lie within the Thames River Basin Drainage District.
- Good ecological quality is defined as a slight variation from undisturbed natural conditions. Some heavily modified rivers cannot achieve this condition and the target for these rivers will be good ecological potential. All water bodies must have good chemical status.
- The Water Framework Directive requires member states to attain at least good

status in all water bodies by 2015, or where this is not possible, good status should be achieved by 2027.

- The classification system uses the principle of 'one out, all out' - the poorest individual result sets the overall classification. This means that if a watercourse is classified as possessing good ecological status but poor chemical status, then its overall state will be defined as poor.
- Each water body is also assessed in terms of its physical state to determine whether it is heavily modified. If assessed as such, the water body will be required to reach 'good ecological potential' rather than 'good ecological status. In the Chilterns, the Bulbourne, Misbourne, Hughenden Stream, Wye and Ewelme Brook are designated as heavily modified water bodies.

**Map 5: Chilterns rivers
Chalk streams flow map - March 2012**



Interpretation of data

- Although the WFD classification of rivers is extremely useful in providing an assessment of the quality of rivers, there are limitations that must be borne in mind:
 - i) The assessment process for determining the status of water bodies does not utilise standards specific to chalk rivers. Instead, such rivers are assessed to the same standards as other lowland rivers. This means that chalk rivers will receive a higher assessment than is appropriate.
 - ii) The data used to reach baseline classifications for the Chilterns rivers were in many cases, incomplete and so the confidence in some classifications is low. For example, the Misbourne was assessed in 2009 as attaining moderate ecological potential but the confidence in this assessment is low.
 - iii) Where rivers are failing to achieve GES/P, the justifications for failure are insufficiently detailed.
 - iv) It is important to note that the interim status classifications are not definitive. They are based on datasets obtained during the year, which may not be complete. The purpose of these interim classifications is mainly for the Environment Agency and its partners to monitor progress in between official WFD classification milestone years (2009, 2015, 2021 & 2027). They do not replace the classifications in the 2009 Thames Rivers Basin Management Plan.
- The interim classifications indicate that in three rivers, the R. Ver, Hughenden Stream and Lower R. Wye improvement has been recorded. In the case of the R. Ver and Hughenden Stream this has been a result of

improving invertebrate communities. In the case of the Lower Wye the driver for the improvement in status is phosphate levels although the Environment Agency's confidence in this is low. There is some concern regarding the Hughenden Streams classification change however, because the Hughenden Stream was dry throughout most of 2011 and is currently assessed as failing for flow. As such it is unlikely to have attained GEP during 2011.

- Deterioration in ecological status or potential is indicated in three rivers. The driver for reclassification of both the R. Chess and Misbourne is their fish populations. The status of the upper Wye has been lowered as a result of the assessment of its phyto-benthos (diatom and algae) communities.

Conclusions

- Chalk Streams are a globally scarce habitat and a key landscape feature of the AONB. Improving the ecological status or potential of those rivers currently failing to attain WFD objectives is crucial.
- It is a concern that the first Thames River Basin Management Plan lacks ambition in terms of improving the Chilterns rivers over the plan's life and indicates that improvement to 2021 will be negligible.
- The loss of flow in 60% of the total length of chalk stream habitat in the AONB during the 2012 drought has highlighted again, how under threat the Chilterns' chalk streams are and how desperately a return to more environmentally sustainable levels of abstraction is needed to reverse their chronic decline.



Impact of drought on the River Misbourne near Chalfont St. Giles: May 2011 and April 2012

Indicator 8: Length of hedge in good condition using DEFRA condition criteria

38% of hedgerows surveyed over a 3 year period were found to be in good condition across all five DEFRA criteria. A further 42% met all but one of the five condition criteria.

An estimated 24% of hedgerow (by length) in the AONB is currently managed through Environmental Stewardship

During the life of existing Entry Level and Higher Level Stewardship agri-environment agreements 14km of hedgerow will be restored and a further 8.6km of new hedge will be planted²⁹

Summary of key data

The following table provides more detail on each of the condition attributes and the implications for failure in each category:

Table 14: Hedgerow condition

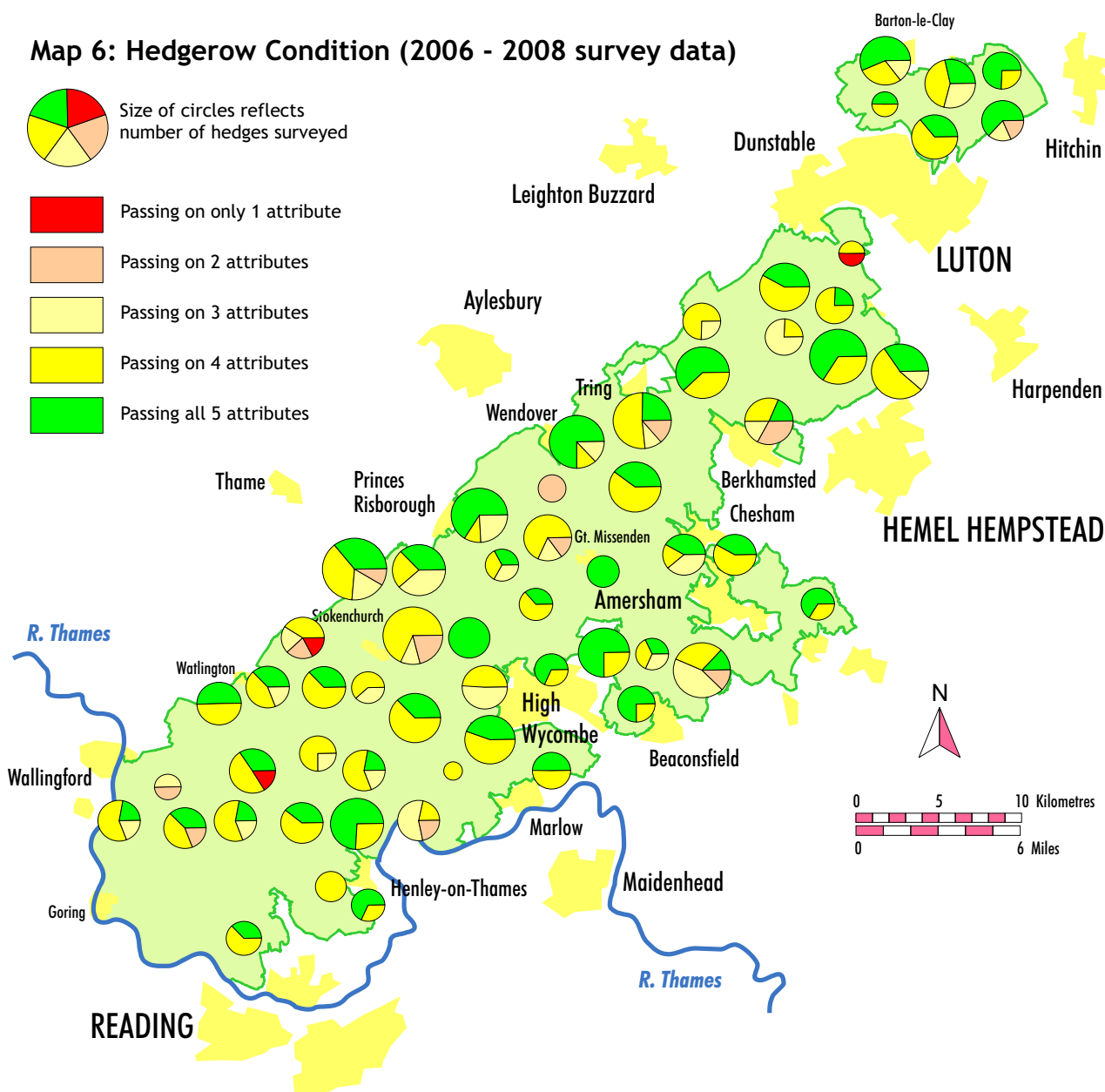
Attribute	Thresholds for favourable condition (all thresholds need to be passed)	Sections failing each threshold	Sections failing attribute overall	Conservation issue
Size	<ul style="list-style-type: none"> At least 1m height At least 1.5m width At least 3m² cross-sectional area 	0.3% 9.1% 10.3%	20%	Loss of shelter for fauna and, in particular, unsuitable nesting habitat for most birds.
Integrity/continuity	<ul style="list-style-type: none"> Gaps less than 10% of section length No gap greater than 5m wide Base of canopy less than 0.5m above ground for shrubby hedgerows 	15.2% 12.4% 18.5%	46%	Gaps at the base of the hedgerow mean that shelter for invertebrates, small mammals, amphibians and reptiles is lost, while gaps along the hedgerow reduce habitat continuity.
Width of undisturbed ground and perennial herbaceous vegetation cover	<ul style="list-style-type: none"> Width of undisturbed ground at least 2m Width of perennial herbaceous vegetation at least 1m 	15.8% 4.8%	21%	Management close to the hedgerow is likely to damage woody species, e.g. by harming their roots. Herbaceous vegetation is important as many animals rely on it for shelter, foraging and nesting.
Recently introduced, non-native species	<ul style="list-style-type: none"> Non-native herbaceous species less than 10% cover Non-native woody species less than 10% cover 	0% 5%	1%	Relatively recently introduced, non-native species can be very detrimental to the structure, diversity, ecological and landscape value of a hedgerow.
Nutrient enrichment	<ul style="list-style-type: none"> Combined cover of nettles, cleavers and docks should be less than 20% 	25.5%	25%	A broad indication that there is likely to be a species-poor ground flora, probably resulting from nutrient enrichment, e.g. from agricultural fertilisers being spread beyond the edge of the crop into the hedgerow base.

The indicator in context

- Hedgerows are a highly valued feature of the Chilterns, an integral component of the mosaic of woodland, arable and pasture that gives the landscape its character. They are important for landscape, archaeological, cultural and agricultural reasons and are a major wildlife habitat.
- The survey was carried out using the methodology in the latest Hedgerow Survey Handbook (Defra 2006). 330 hedgerow sections were surveyed across 53 one kilometre squares representing 6.4% of the AONB.

²⁹ NE Agri-Environment Data 2012

Map 6: Hedgerow Condition (2006 - 2008 survey data)



Interpretation of data

Reasons for poor condition

Five common reasons for failing to meet the threshold for favourable condition were identified.

1 The most common reason for a hedgerow to be classified in poor condition was the abundance of plant species indicative of nutrient enrichment in the hedgerow base. In grassland, nettles were particularly abundant, and in arable fields cleavers.

2 In many cases the base of the woody canopy was too high above the ground, in other words, the base of the hedgerow was

thin and leggy. This can be caused by livestock grazing the base or the use of spiral rabbit guards in newly planted hedgerows, causing a 'lollipop' effect on individual shrubs.

3 In a number of hedgerows the width of undisturbed ground between the hedgerow and the edge of ploughed or cultivated land was too small. This is caused by cultivation taking place too close or the effects of herbicide drift from the field.

4 The fourth most common reason for poor condition was the 'gappiness' of the hedgerow, with the result that it is no longer stock proof and valuable wildlife

habitat has been lost. Gaps can be caused by annual flailing to the same height.

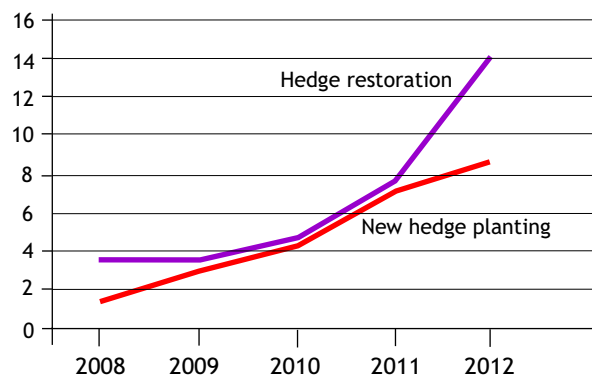
5 Finally another reason for a hedgerow to be classed in poor condition relates to its size. Only one of the surveyed hedgerows was too short, but 8% were too narrow to be classified in good condition. This is the result of the volume of the hedgerow being limited by the surrounding land management.

Conclusions

- It is encouraging that over a third of the hedgerows surveyed passed all five attributes, but clearly more work is needed to enhance the condition of the remaining 62%.
- Comparative data for other areas would be useful to help benchmark the AONB results. A national data set should become available from Defra shortly.
- Environmental Stewardship is the most obvious means of improving hedgerow condition in the AONB. The above table shows the continuing popularity of hedgerow capital works options within these agreements (though lengths cover

Figure 4: Hedgerow Management Works

within active Agri-Environment Agreements (ELS and HLS)
km



the whole period of agreements active in each year so are, to a degree, cumulative). Survey results highlight the problem of nutrient enrichment in the hedgerow base. This can be addressed by Environmental Stewardship field management options - their uptake can be assessed in future reports.

- More work is needed to assess hedgerow condition and to promote good management of hedges on land managed outside of agriculture, which was not covered in depth in this survey.



Hedgerows near Chartridge, Bucks.

Indicator 9: Area of land managed for equestrian purposes

7.4% of the AONB has been used for horse grazing at some point over the period 2008 -2010. This represents 26% of the total AONB grassland resource³⁰.

Intensive equestrian use³¹ and sub-division of historic fields into paddocks remains relatively high, at around 2.8% of the AONB - equivalent to more than twice the chalk grassland in the Chilterns. Over 5 years this figure has fluctuated between 2.4% - 3.0% of the AONB.

No new data available, analysis based on 2006 - 2010 survey data

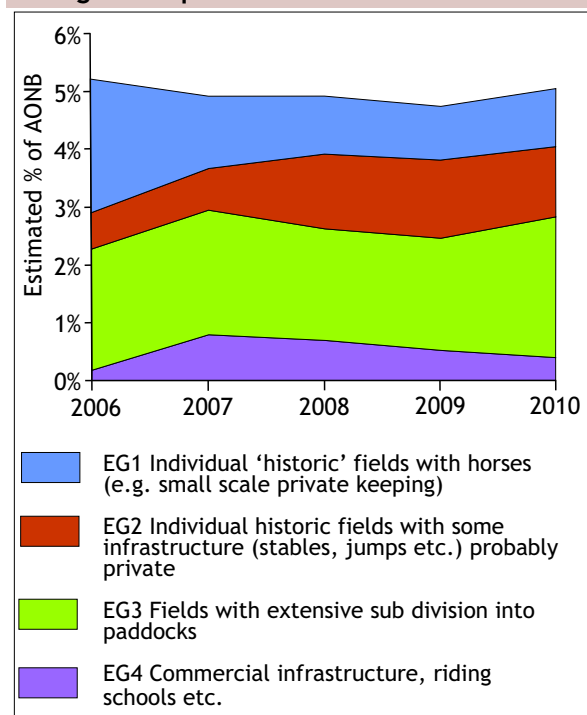
Summary of key data

Table 15 provides a breakdown of the different categories of equestrian land use - from low key horse grazing through to intensive uses - as a percentage of the AONB.

Table 15: Equestrian land use in the AONB

Category of use	% of AONB	
	2006	2010
EG1 (single historic fields, no infrastructure)	2.32%	0.91%
EG2 (as EG1 but with jumps, stables etc)	0.66%	1.14%
EG3 (historic fields subdivided into paddocks)	2.13%	2.27%
EG4 (commercial uses - riding schools, livery yards, extensive infrastructure)	0.18%	0.37%
EG (other equestrian use)	0.30%	0.16%
Total	5.59%	4.85%

Figure 5: Changes in equestrian use from 2006 -2010

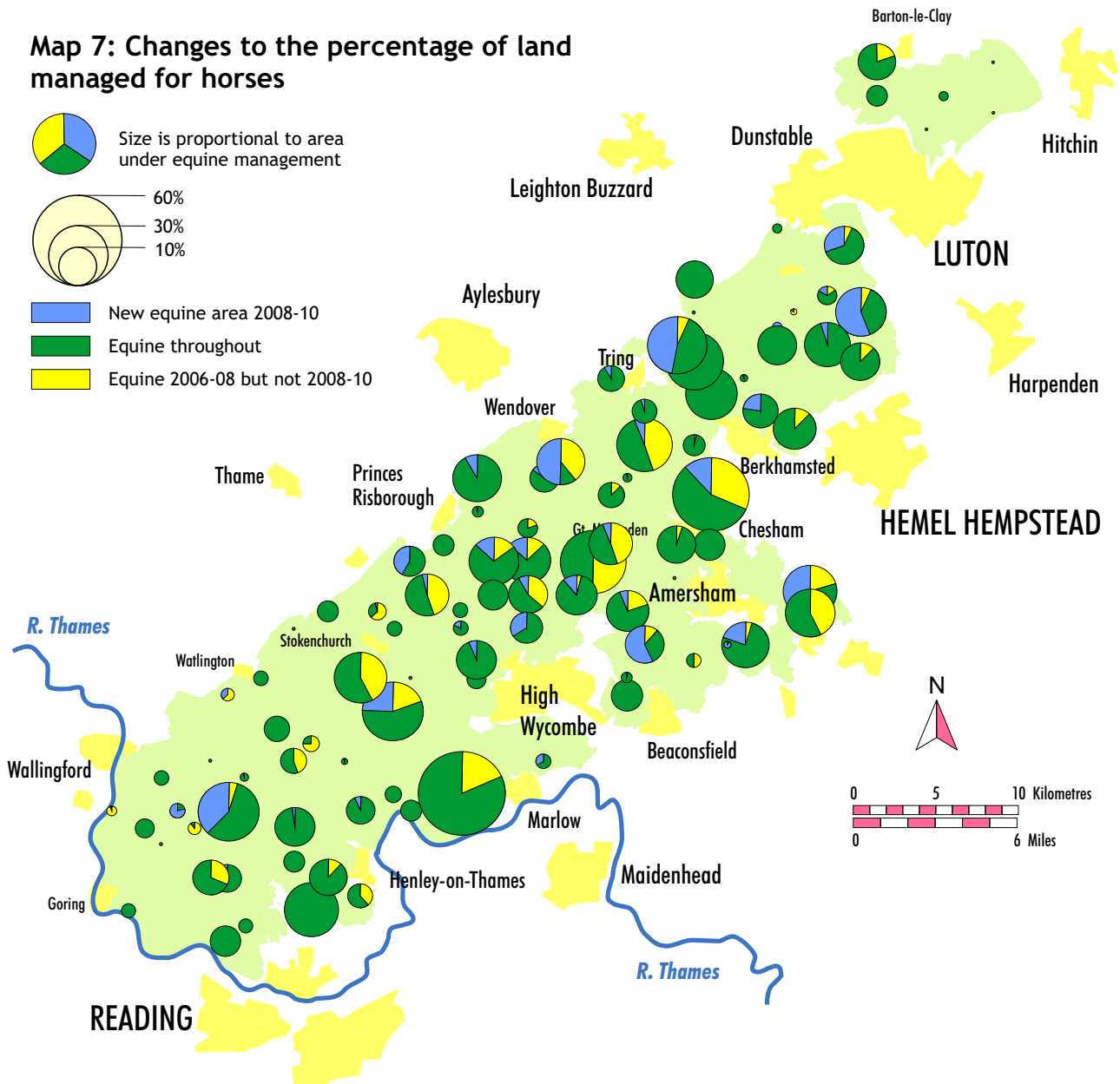


Historic fields sub-divided into paddocks, with associated infrastructure

³⁰ Chilterns Land Use Change Survey 2006 - 2010

³¹ Intensive equestrian land being the sum of EG3, EG4 and associated buildings and yards

Map 7: Changes to the percentage of land managed for horses



Interpretation of data

- The 2010 data has to be treated with some caution as there was no survey in 2011 and so the usual process of data validation with reference to the next year's findings could not be undertaken.
- It is important to acknowledge that the area of land managed for equestrian purposes cannot be used as a simple proxy for condition of the landscapes and biodiversity of the AONB. Carefully managed horse grazing can be a valuable tool for management of conservation grasslands, and the horse industry is reported to be one of the biggest employers in the rural economy.
- However, the more intensive equestrian uses, associated infrastructure and the subdivision of historic fields - (categories EG3 - EG4 on the chart above) do potentially impact negatively on the landscape. The 2010 survey findings indicate an increase in fields being sub divided into paddocks (EG3) to the highest level since the survey began in 2006.
- Survey data suggests a fairly high degree of volatility in land use year on year, with individual fields switching, for example, between horse grazing and sheep grazing between years. This is to be expected as part of good animal husbandry. It does

mean however that a more accurate picture of the purposes for which an area is being managed is provided by taking a longer view

- This high turnover between grassland managed for horses and for other purposes is illustrated in Map 7. The data suggests that much of the land recently brought into equestrian use - for example around Tring, Wendover, Chenies, Fingest, and Stoke Row - is located on formerly arable land which may be more conducive to larger scale equestrian use than the more intimate small fields around settlements where pony paddocks have more traditionally been found.
- Changes of land use from agricultural to equestrian may require planning permission even in cases where there is no additional infrastructure involved. In view of the increasing area of land being used for more intensive equestrian use, it

remains important that planning authorities ensure that due process is followed for all such proposals.

- The Defra Agricultural Census for 2010 also indicates that after a general decline in horse numbers in 2009, there has been a partial recovery in 2010.

Conclusions

- Equestrian land management continues to be a prominent component of the land use of the AONB, with intensive equestrian land use - and associated landscape impacts - remaining at high levels and a continued concern.
- The data indicates that the spatial distribution of equestrian land use is changing - it would be useful to investigate this trend and the underlying causes of this further, and to look at this in relation to the planning system.



Horses and ponies can play a valuable role in conservation grazing

Indicator 10: Area of chalk grassland in positive conservation management

97.6% of SSSIs³² where chalk grassland is the main habitat are assessed as being in favourable or unfavourable recovering condition. This is unchanged from 2011.

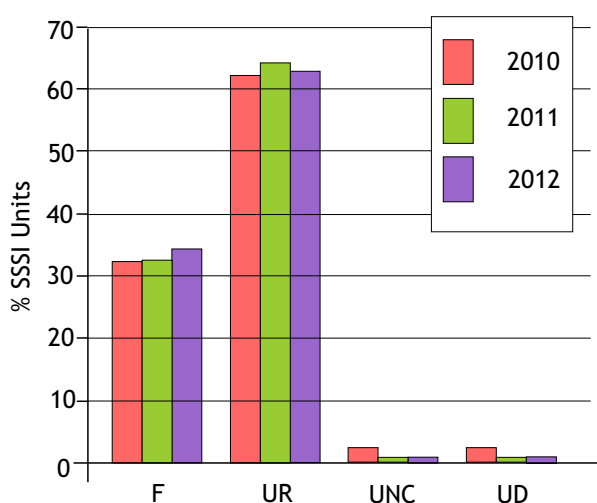
Summary of key data

- There are around 700 hectares of chalk grassland mapped in the AONB³³.
- This is likely to be an underestimate of the total resource, excluding for example scrubbed former chalk grassland sites in need of restoration or arable reversion sites 'en route' to becoming chalk grassland.
- Of this total area, 64% is within a Site of Special Scientific Interest (SSSI) and the vast majority of the remainder is within a Local Wildlife Site.
- Table 14 below gives the number and percentage of chalk grassland SSSI units³⁴ in the AONB in each condition category.
- Comparison of the condition of chalk grassland SSSI units with those where the main habitat is broadleaved mixed and yew woodland shows a very much higher proportion of wooded SSSI units in favourable condition (82%) compared to the chalk grassland units (34.5%).

Table 16: Chalk grassland SSSI condition in the AONB

Favourable		Unfavourable Recovering		Unfavourable No Change		Unfavourable Declining	
No. Units	% of chalk grassland units	No. Units	% of chalk grassland units	No. Units	% of chalk grassland units	No. Units	% of chalk grassland units
29	34.5%	53	63.1%	1	1.2%	1	1.2%

Figure 6: Chalk grassland SSSI condition 2010 - 2012



The indicator in context

- Chalk grassland in the Chilterns supports unique and rich plant communities and a specialised and diverse invertebrate fauna including butterflies such as the chalkhill blue and silver spotted skipper and other invertebrates such as the bloody nosed beetle.
- The chalk grassland is predominantly associated with the steep scarp slopes of the Chilterns chalk outcrop and dry valley slopes.
- Traditionally, chalk grassland would have been grazed by sheep and occasionally

³² Number of SSSI units

³³ Chilterns Chalk Grassland Audit 2008 (Chilterns Conservation Board)

³⁴ SSSI units where the main habitat is lowland calcareous grassland

cattle and horses to produce a close-cropped sward. This management, together with the particular conditions of the soil have created the characteristically dense, springy, well-drained turf.

- The greatest current threat to the habitat in the Chilterns is gradual loss due to lack of appropriate grazing and scrub encroachment.

Interpretation of data

- It had been proposed that this indicator be assessed largely on the basis of data from SSSI condition assessment and National Indicator 197 assessments of the conservation management status of local sites. Unfortunately it has not been possible to analyse data on local sites by habitat to date, due to a number of issues including data consistency across different counties, so this report is based again on SSSI condition data only.

Conclusions

- Chalk grassland SSSI units - along with other grassland units - remain over-represented amongst SSSI units in unfavourable condition in the Chilterns.
- Analysis of the condition assessment data suggests very little change in condition of chalk grassland SSSI units over the past year.
- This reflects in part the fact that the majority (63.1%) of Chalk Grassland units are in unfavourable recovering condition and it will take some years for management efforts to result in favourable condition.
- Appropriate management - and in particular grazing - will be crucial to ensure restoration of the remainder of the chalk grassland in the Chilterns to favourable condition. Continued condition monitoring is important to ensure that sites considered to be 'unfavourable recovering' move towards favourable condition in due course.



Ivinghoe Hills

HISTORIC ENVIRONMENT

Context

The Chilterns AONB is a landscape that possesses evidence of human occupation and influence from all eras from pre-history through to the twentieth century. This ancient landscape helps to define a sense of place and because there has been relatively little intensive cultivation much survives. However, modern agricultural practices, reduced management of woodland, scrub invasion, constrained budgets for maintenance and the pressure for development can all have impacts on the historic environment.

The Chilterns AONB Management Plan details the special qualities of the historic environment of the Chilterns and aims to ensure that these are conserved and enhanced for the benefit of current and future generations. The policies of the Management Plan seek to protect the historic environment whilst improving the public's understanding.

Key findings for 2012

By their very nature the resources that make up the historic environment do not generally increase or decrease in number from year to year. However, the quality of the resource could vary markedly with different management arrangements in place. All of the

data used to assess the indicators in this section comes from the English Heritage 'Heritage at Risk' publications. In 2012 these publications were produced in mid-October and they have been interrogated to provide an up to date position.

In its fifth year, the Heritage at Risk Register includes Grades I and II* listed buildings, listed places of worship, scheduled monuments, registered parks and gardens, registered battlefields, protected wreck sites and conservation areas known to be at risk as a result of neglect, decay or inappropriate development. English Heritage continues to publish a list of 'priority sites': important heritage at risk sites where resources will be focussed to secure their futures. There are no priority sites in the AONB.

English Heritage is looking for people to take part in pilot projects that will explore options for expanding the Heritage at Risk programme to include all Grade II listed buildings.³⁵ A maximum of 15 pilot projects are required to explore, cost and test various options for undertaking surveys of Grade II listed buildings. The Board will keep a close eye on the results of this pilot because this is an area where it is considered that data is lacking.

Condition Indicator	Detailed update?	Key findings	Condition and Trend
11. Listed Buildings (Grade I or II*): total number /number at risk.	Yes - see page 39 for details	<p>2012 5 out of 140 Grade I or II* buildings in the AONB are considered to be at risk.</p> <p>2011 4 out of 140 grade I or II* buildings in the AONB are considered to be at risk.</p> <p>2010 2 out of 140 grade I or II* buildings in the AONB were considered to be at risk.</p>	Good, declining.

³⁵ See: <http://www.english-heritage.org.uk/about/news/GradeII-buildings-at-risk/>

Condition Indicator	Detailed update?	Key findings	Condition and Trend
12. Registered Historic Parks : total number/ number at risk.	Yes - see page 42 for details	<p>2012 1 out of the 19 Registered Parks and Gardens in the AONB is at risk (Fawley Court and Temple Island).</p> <p>2011 1 out of the 19 Registered Historic Parks in the AONB is at risk (Fawley Court and Temple Island).</p> <p>2010 1 out of the 19 Registered Historic Parks in the AONB is at risk (Fawley Court and Temple Island). With new owners at this site and works being undertaken to formulate more sympathetic management plans it is hoped that this situation will improve in the future.</p>	Good, stable.
13. Scheduled Monuments (SMs): total number/number at risk.	Yes - see page 43 for details	<p>2012 13 out of the 113 SMs in the AONB are at risk.</p> <p>2011 14 out of the 113 SMs in the AONB are at risk.</p> <p>2010 13 out of the 113 SMs in the AONB were at risk.</p>	Not good, improving.
14. Conservation Areas: total number/number at risk.	Yes - see page 46 for details	<p>2012 Of those Conservation Areas in the AONB which have so far been subject to the national survey of Conservation Areas, none have been found to be at risk.</p> <p>2011 Of those Conservation Areas in the AONB which have so far been subject to the national survey of conservation areas, none have been found to be at risk.</p> <p>2010 Of those Conservation Areas in the AONB which have so far been subject to the national survey of conservation areas, none have been found to be at risk.</p>	Good, stable. However, on the basis of the data available it is difficult to reach a firm conclusion on the state of this aspect of the AONB's environment. It is encouraging that no Conservation Areas in the AONB were identified as being at risk in those areas included so far in the national survey by English Heritage.

Indicator 11: Listed buildings (grade I/II*): Total number/Number at Risk

There are 140 grade I and II* listed buildings in the AONB, of these 5 are recorded as being at risk³⁶.

Summary of key data

- English Heritage publishes the 'Heritage at Risk' register on an annual basis and the data for 2012 was interrogated. There are 5 listed buildings at risk within the AONB, as detailed below.
- The main house at Fawley Court and Temple Island is Grade I, and sits within a Grade II* registered park and garden and a Conservation Area. There are 17 other listed buildings at risk at Fawley Court though these are understood to be Grade II.
- According to the register Fawley Court and Temple Island is an early C18th garden and pleasure grounds surrounding a 1680s house set within a park landscaped by Lancelot Brown. Most of the estate and park are in separate ownership. Discussions between English Heritage and the owner of the house and pleasure grounds are still reported to be underway. English Heritage has agreed to works to improve the vegetation structure within the gardens and had requested a landscape Conservation Management Plan that engages with the other key owners, before agreeing to any further major works. A joined up approach to management is still considered to be essential. However, because the situation is the same for 2012 as that for 2011 it appears that the work may have stalled.
- The other buildings at risk in the AONB in 2011 were: the fernhouse, archway, gateway and walls at The Street, Mapledurham (Grade II*); the Church of St Mary the Virgin, Fawley Green, Fawley (Grade II* and in poor condition), and the Church of St Peter and St Paul at

Checkendon (a Listed Place of Worship of Grade I, in a Conservation Area and in poor condition). These remain on the list in 2012.

- There is one new entry for 2012. This is the Church of St Faith at Hexton. This is a Listed Place of Worship of Grade II* and in a poor condition. In 1947 two sides of the west tower collapsed, leaving the remains in a ruinous condition and a continuing repair liability. English Heritage grant was offered in 2012.

The indicator in context

- A listed building is a building or other structure designated as being of special architectural, historical or cultural significance. A listed building may not be demolished, extended or altered without permission from the local planning authority.
- There are three types of listed status (in descending order of 'importance'):
 - Grade I: buildings of outstanding architectural or historic interest.
 - Grade II*: particularly significant buildings of more than local interest.
 - Grade II: buildings of special architectural or historic interest.
- There are approximately 373,000 listings in place, of which 343,000 (92%) are Grade II, 20,500 (5.5%) are Grade II*, and 9,300 (2.5%) are Grade I.

³⁶ See: <http://www.english-heritage.org.uk/publications/har-2012-registers/>

Listed Buildings 'at risk'

- English Heritage has published a Register of Heritage at Risk which includes Grade I and II* listed buildings as well as structural scheduled monuments which are at risk and vulnerable. The risk arises through neglect and/or decay and is also considered when an asset is known to be vulnerable to becoming at risk.
- English Heritage is committed to securing a year-on-year reduction in the number of heritage sites at risk as part of its national plan for the protection of England's historic environment (see 'National Heritage Protection Plan 2011-2015'). English Heritage recognises that this will be challenging given the number of assets on the Register.
- Within the AONB there are 2,149 listed buildings in total. Although the listed buildings at risk equate to a very small fraction of the total number, they actually represent more than 3.5% of the Grade I and II* buildings. Nationally 3.0% of Grade I and II* buildings are at risk. In the east and south east regions there are 189 Grade I and II* listed buildings at risk (1.7%). Overall this number has decreased annually since 2010. However, though 19 sites were removed this year 15 have been added.
- English Heritage has previously assessed only a small proportion of the 14,500 listed places of worship. Of the 512 listed places of worship surveyed in the east and south east 136 (26.5%) are at risk and 65 have been added this year. The number identified so far as being 'at risk' is increasing markedly and as more places of worship are assessed this is likely to increase still further, and is reflected in the increase in the number of listed buildings at risk this year.



Temple Island

Interpretation of data

- According to the 2012 Heritage at Risk Register the number of sites on the register continues to fall. Excluding listed places of worship, for which the survey is still incomplete, 1,150 assets have been removed for positive reasons since the register was launched in 2008. English Heritage considers that the sites that remain at risk tend to be the more intractable ones where solutions take longer to implement.
- Whilst the overall number of buildings at risk has fallen nationally, the average conservation deficit for each property has increased to about £370,000. English Heritage has also seen an increase in the proportion of buildings that are capable of

beneficial re-use. These have often become redundant due to the ongoing economic climate.

- When monitoring was undertaken for the previous management plan it was discovered that 15 listed buildings were on the at risk register, though this included Grade II buildings as well as Grades I and II*. Even though this data is out of date it would appear to show that the most important listed buildings within the AONB are generally in a better state now than in 2003.
- In addition to the listed buildings at risk within the AONB, there are also 8 listed buildings at risk just outside the AONB boundary at Totternhoe (Doolittle Mill, Grade II*), Pirton near Hitchin (Rectory Farm, Grade II*), Pyrton near Watlington (Church of St Mary, Grade II*) and Halton House near Wendover (5 listed buildings without Grades being identified within a Registered Park and Garden which is also part of a Conservation Area).
- Previously, 6 listed buildings at Putteridge Bury near Luton had also been included on the register, but these appear to have been removed in 2012.

Conclusions

- On this indicator the state of this part of the AONB's environment is considered to be good, though with more listed buildings now being at risk than last year the trend is declining.
- This is a cause for concern as budgets are increasingly becoming constrained and ongoing maintenance and repairs may not be undertaken.
- With large numbers of Grade II listed buildings not being included in the overall assessment it is difficult to know if there is a hidden picture. Currently only London's Grade II listed buildings are assessed for risk and detailed in the Heritage at Risk publications from English Heritage. It is understood that some of the Chilterns' local planning authorities undertook their own monitoring of Grade II buildings at risk and details from such surveys may add some more detail to future state of the environment reports.



Fawley Court

Indicator 12: Registered Historic Parks and Gardens: Total number/Number at Risk

There are 19 registered parks and gardens and 1 of these is at risk³⁷.

Summary of key data

- The one registered park and garden that is at risk is Fawley Court and Temple Island. This is registered as a Grade II* park and garden. It is understood that there are multiple owners which has led to a complicated situation in connection with maintenance and repair.
- The condition of the site is described, once again, in the Heritage at Risk register as being generally unsatisfactory with major localised problems. Its vulnerability remains high and the trend is listed again this year as stable, whereas in 2010 this was listed as deteriorating. Clearly some work has been done to arrest the decline.
- The key concern arises from the fact that landscape management has been unsympathetic and poorly resourced. With new owners of part of this site and works being undertaken to formulate more sympathetic management plans it is hoped that this situation will continue to improve in the future.

The indicator in context

- There are 1,617 designed landscapes on the current English Heritage Register of Parks and Gardens of Special Historic Interest. These registered landscapes include private gardens, public parks and other green space, country estates and cemeteries. They are valued for their beauty, diversity and historical importance.
- Nationally 99 of the 1,617 registered parks and gardens are at risk (6.1%). This is a decrease from 103 (6.4%) in 2011. Nationally 1 site has been added and 5 removed. There has been no change in the south east but in the east 2 sites have been removed.

- In the south east and eastern regions there are 579 registered parks and gardens. In the east 6 sites out of 211 are at risk (2.8%) and in the south east 24 sites out of 368 are at risk (6.5%).
- Within the AONB the 19 registered parks and gardens occupy a total of 2,517 hectares which represents 3% of the AONB. At 76.57 hectares Fawley Court represents 3% of the area covered by registered parks and gardens.

Interpretation of data

- Fawley Court is one of 7 Grade II* parks and gardens that are at risk in the south east and it clearly represents a significant resource and its condition therefore causes great concern, particularly when this is considered alongside the number of listed buildings that are also at risk at the same site. With new owners and plans being put in place for the restoration of the parkland it is hoped that this situation will continue to improve in the future.
- In addition to the one registered park and garden that is at risk within the AONB there is also one just outside the AONB. This is at Halton House, Halton and is listed as Grade II and is also partly within a Conservation Area with 5 listed buildings.

Conclusions

- In general terms the condition of this indicator is good. With the trend recorded at Fawley Court remaining stable the trend for the indicator is considered to be stable.

³⁷ See: <http://www.english-heritage.org.uk/publications/har-2012-registers/>

Indicator 13: Scheduled Monuments: Total number/Number at Risk

There are 113 Scheduled Monuments and 13 are at risk.

Summary of key data

- Each of the monuments at risk is examined in connection with: the principal vulnerability to decline, its ownership, its condition and the trend.
- Most of the monuments at risk have been the same for a number of years, with the same associated data and condition. However, in 2010 two entries were taken off the register (bowl barrow at Molin's Works, Bledlow cum Saunderton and an 875m section of Grim's Ditch at Shire Lane, Buckland) and a new entry was added (a bowl barrow near Nettleden Lodge, Nettleden with Potten End). This entry was described as being in private ownership and its condition was described as generally satisfactory but with significant localised problems. The trend was stable and it was vulnerable to metal detecting. In 2011 the entry was described as declining rather than stable with vandalism being the principal vulnerability rather than metal detecting. However, this site has been taken off the register for 2012.
- Similarly, the site at Bledlow Cross, Bledlow cum Saunderton, which was described as generally unsatisfactory but with major localised problems arising from scrub and tree growth and in a declining state, has also been removed from the register for 2012.
- An examination of the register for 2012 has uncovered another entry that should have been recorded last year. This is a bowl barrow in

Tingley Field Plantation, near Pegsdon, Shillington. The condition is described as generally unsatisfactory with major localised problems arising from scrub and tree growth and in a declining state. The entry has not changed between 2010 and 2012.

- The data for 2012 shows that no new sites have been added to the register. Table 17 lists the 13 scheduled monuments that are at risk in 2012.



Remains of St. James' Church, Bix

Table 17: Schedule Monuments at risk, their condition and vulnerability

Site name	Condition	Principal vulnerability	Trend	Ownership
Dray's Ditches, Streatley	Generally satisfactory but with significant localised problems	Dumping	Stable	Private
Dray's Ditches, Luton	Generally satisfactory but with significant localised problems	Dumping	Stable	Local Authority
Bowl barrow in Tingley Field Plantation, near Pegsdon, Shillington	Generally satisfactory but with significant localised problems	Scrub/tree growth	Declining	Private
Roman settlement at the Cow Roast Inn, Northchurch	Generally satisfactory but with significant localised problems	Arable ploughing	Declining	Private
Bell barrow 260m WNW of Slough Glebe Farm, part of the Saunderton Lee barrow cemetery, Bledlow cum Saunderton	Extensive significant problems	Arable ploughing	Declining	Private
Bowl barrow 140m WNW of Slough Glebe Farm, part of the Saunderton Lee round barrow cemetery, Bledlow cum Saunderton	Extensive significant problems	Arable ploughing	Declining	Private
Two bowl barrows 450m north west of Slough Glebe Farm, part of the Saunderton Lee barrow cemetery, Bledlow cum Saunderton	Extensive significant problems	Arable ploughing	Declining	Private
Roman villa east of Lodge Hill Farm, Bledlow cum Saunderton	Extensive significant problems	Arable ploughing	Declining	Private
Motte and bailey castle, moated site and Roman villa immediately to the east of All Saints Church at Great and Little Kimble	Generally unsatisfactory with major localised problems	Extensive stock erosion	Declining	Private
Roman villa north of Yewden Lodge, Hambleden	Extensive significant problems	Arable ploughing	Declining	Private
Bix Old Church, Bix, Bix and Assendon	Very bad	Scrub / tree growth	Declining	Religious organisation
North Stoke henge and ring ditch site, Crowmarsh	Extensive significant problems	Arable ploughing	Declining	Private
Camp on Bozedown, Whitchurch on Thames	Extensive significant problems	Arable ploughing	Declining	Private

The indicator in context

- Scheduled monuments are our most valued archaeological sites and landscapes, designated because they are of national importance. They include prehistoric burial

mounds, stone circles and hillforts, Roman towns and villas, medieval settlements, castles and abbeys and the structures of our more recent industrial and military past.

- Although protected by law, scheduled monuments are still at risk from a wide range of processes. They are vulnerable to development and can be exposed to intense pressures beyond the scope of the planning system, including agricultural intensification, forestry and some natural forces, such as erosion. It is the pressures which are not controlled by the planning system which pose the greatest threat to the majority of scheduled monuments.
- Nationally there are nearly 20,000 scheduled monuments. Nearly 3,300 of these are at risk (16.6% this year, compared to 16.9% in 2011 and 17.2% in 2010).
- In the south east and eastern regions there are about 4,300 scheduled monuments and 455 are at risk (464 in 2011 and 455 in 2010).
- Within the AONB 11.5% of scheduled monuments are at risk. This has decreased compared to 2011 when 12.3% were at risk but is the same as the percentage for 2010.
- In the south east 30 sites have been removed from the register for positive reasons, and 16 sites have been added (these figures are much greater than for 2011). In the east 5 sites have been removed and 5 added.

Interpretation of data

- Since the 2009 baseline register about 100 scheduled monuments have been removed from the 'at risk' category in the regions covering the AONB (this compares to about 70 in 2011). This success should not lead to complacency.
- Though the proportion of monuments at risk in the AONB is lower than the national picture it does not compare favourably with the overall regional picture (the vast majority of scheduled monuments at risk in the AONB are in the south east region).
- With most of the monuments that are at risk being in a state of decline it will be necessary for significant work to be done to address this and to arrest the decline. This

will continue to involve a dialogue with owners, most of whom are private individuals, to try and address the key concerns. These concerns relate mainly to arable ploughing and unrestricted plant, scrub or tree growth.

- As part of the National Heritage Protection Plan - which sets out English Heritage's commitment to safeguarding heritage up to 2015 - the 'Conservation of Scheduled Monuments in Cultivation' project has begun across England. The project, which started with a questionnaire to all farmers and landowners with a scheduled monument that is being cultivated, will look at ways in which further damage can be avoided whilst enabling cultivation to continue wherever possible. It is hoped that the project will result in marked improvements in the condition of many of scheduled monuments within the AONB.
- It has been accepted that dissemination of information and small changes in management can often do much to improve condition. However, securing the future of a significant proportion of monuments will require further study, partnership working and resources. This cannot be achieved overnight.

Conclusions

- A close examination of this indicator shows that the state of this part of the AONB's environment is still not good although this year the trend appears to be an improving one. This is evidenced by the removal of two monuments from the register.
- However, the declining trend in connection with most of those sites that are at risk should be carefully monitored and any change noted and acted on accordingly.
- With limited resources being directed at this there is real concern that the number of monuments on the 'at risk' register may not decrease that rapidly and their condition may well continue to decline further in the future. The results of the 'Conservation of Scheduled Monuments in Cultivation' project will be eagerly awaited.

Indicator 14: Conservation Areas: Total number/Number at risk

There are 94 Conservation Areas within (or partly within) the AONB and none have been found to be at risk³⁸

Summary of key data

- English Heritage publishes the 'Heritage at Risk' register on an annual basis and the data for 2012 was interrogated.
- The national survey of Conservation Areas at risk was still not complete in the 2012 Heritage at Risk reports. However, English Heritage now has information on nearly 82% of the 9,770 Conservation Areas in England. For those Conservation Areas surveyed within the AONB none were reported as being at risk in 2012.

The indicator in context

- A Conservation Area is an area (usually urban) the character or appearance of which is considered worthy of preservation or enhancement because of its special architectural or historic interest. In Conservation Areas, it is the protection of the quality and special interest of the area as a whole that is intended, rather than specific buildings.
- For example, the layout of boundaries, roads, vistas and viewpoints, trees and green features, street furniture and surfaces, the characteristic building materials of the area, the mix of different uses, and the design of shop fronts may all be taken into account when deciding whether an area has a particular special architectural or historic interest.
- There are additional planning controls over certain works carried out within a Conservation Area. For example, demolition of buildings or structures over a certain size within Conservation Areas requires consent. The designation does not preclude development from taking place,

but does require that developments preserve or enhance the historic character of the area.

- Trees in Conservation Areas have some extra protection, though not as much as if they were covered by a tree preservation order.

Conservation Area Appraisals

- English Heritage has previously asked every local authority in England to complete a survey of its Conservation Areas, highlighting current condition, threats and trends, and identifying those that are expected to deteriorate, or are already in very bad or poor condition (and not expected to change significantly in the next three years), as being at risk.
- The methodology for assessing Conservation Areas at risk was refined after the first survey in 2008/2009. The information collated in 2012 provided a more detailed assessment of each Conservation Area and an overall category for condition, vulnerability and trend is included for each Conservation Area on the register.
- Conservation Areas are removed from the register once issues have been identified, plans put in place to address them and positive progress is being made.
- A total of 524 Conservation Areas (6.6%) are identified as being at risk in 2012 (compared to 516 in 2011 and 549, which was 7.4%, in 2010).
- Within the regions covering the AONB, 2,434 Conservation Areas were surveyed with 106 being found to be at risk (4.3%).

³⁸ See: <http://www.english-heritage.org.uk/publications/har-2012-registers/>

This compares to 109 (4.5%) in 2011 and 134 (5.9%) in 2010.

- An examination of the data has shown that none of the Conservation Areas at risk are within the AONB, though it is not clear which authorities returned data. Until a 100% return is achieved and recorded this will be difficult to properly assess. The situation at Fawley Court also causes confusion as the site is within a Conservation Area, though it appears that the risk to the other assets is not causing risk to the Conservation Area itself.

	National	South East/ East of England	AONB
Total number of Conservation Areas (CAs)	9,770	data not available	94
Number of CAs on which at risk information is available	7,976	2,434	data not available
% of CAs on which at risk data is available	82%	data not available	data not available
Number (%) CAs at risk (from available data)	524 (6.6%)	106 (4.3%)	0 (0%)

Interpretation of data

- In the past a number of Conservation Areas were subject to appraisal. The new reporting regime, through the returns in connection with the Heritage at Risk register, should provide a more robust method of identifying problems and then seeking ways of overcoming these.
- At present, it is not possible to identify from the data how many of the 94 Conservation



Areas within the AONB have been reported on, however, nationally 82% of all Conservation Areas have been surveyed. It should be noted that 6 Conservation Areas have been removed from the 2011 registers for the regions covering the AONB but 8 have been added.

- It is interesting to note that there are no Conservation Areas assessed as being at risk within the AONB or within its immediate setting.
- The Heritage at Risk report also details that some Conservation Areas within and adjacent to the AONB contain listed buildings, parks and gardens and scheduled monuments that are at risk, but the Conservation Area itself is not assessed as being at risk.

Conclusions

- On the basis of the data available, and because this is still a relatively new indicator, it is difficult to assess what the state of the AONB's environment actually is. The fact that no Conservation Areas within the AONB have been identified as being at risk is encouraging, albeit it is not clear how many have been reported on in total.

Wendover Conservation Area - Not at risk

SOCIAL AND ECONOMIC

Context

The Chilterns Area of Outstanding Natural Beauty is home to 80,000 residents and is a destination for 55 million leisure visits every year. Over a million people live close to its boundary in major towns including High Wycombe, Luton, Dunstable, Hemel Hempstead, Hitchin and Reading.

Approximately 10 million people live within an hour's travelling time. This landscape was, and still is, being shaped by people's everyday activities of work, leisure and movement, in addition to those whose business is that of managing the environment.

The Conservation Board has a statutory duty to foster the social and economic well-being of local communities when pursuing its primary aim of conserving natural beauty. This is a recognition that much of the natural beauty of the Chilterns derives from the activities of local people at work and play, and that much of that activity in its turn is dependent on the environmental assets of the Chilterns.

The Chilterns AONB Management Plan has identified a number of key issues relating to the social and economic well-being of the Chilterns. These include a need to improve the green credentials of tourism businesses and the problem of high traffic levels on local roads which affects the tranquillity of the countryside and makes roads less attractive to walkers, cyclists and horse riders. These issues informed the two indicators which have been developed for this section:

- Number of visitor attractions which have published information on access by public transport
- Number of businesses registered with the Green Tourism Business Scheme

Whilst these indicators are providing useful information, neither are direct measures of the health of the Chilterns' rural economy. A new indicator under consideration for this section is the number of farm shops in the AONB and the



Local Produce at Countryside Festival, Ashridge 2012

number of Farmers' Markets in and close to the AONB. These figures would provide an indication of the number of local producers and the level of support from communities for buying locally-produced food.

	In AONB	On or close to AONB boundary
Farm shops	7	5
Farmers' markets	2	13

This year data have been collected on the number of farm shops and the number of farmers' markets in and close to the AONB to provide a baseline for future monitoring. Farm

shops are defined as shops which sell a variety of food products, the majority from local producers and a significant proportion from one farm.

Key findings for 2012

In 2009 34% of 68 countryside attractions in the Chilterns had information on their websites about how to reach them by public transport. This had increased to 81% in 2011.

The total number of businesses within or close to the Chilterns AONB registered with the Green Business Tourism Scheme is 14, an increase of 5 compared to 2009.

Condition Indicator	Detailed update?	Key findings	Condition and Trend
15. Number of visitor attractions which have published information on access by public transport	2012	<p>2012 81% of 68 countryside attractions in the Chilterns had information on their websites on how to reach them by public transport</p> <p>2009 34% of 68 countryside attractions in the Chilterns had information on their websites on how to reach them by public transport</p>	Good, showing steady upward trend in the provision of online information.
16. Number of businesses registered with the Green Tourism Business Scheme	2012	<p>2012 14 businesses within and close to AONB are registered.</p> <p>2009 9 businesses within and close to AONB are registered.</p>	Poor, showing very slow improvement.

Indicator 15: Number of visitor attractions which have published information on access by public transport

Out of 68 countryside attractions in the AONB 55, or 81%, have published information on their websites on how to reach them by public transport.

Summary of key data

- 68 visitor attractions within the Chilterns AONB were selected from the list of attractions on the AONB website. A comprehensive trawl of all the websites run by the organisations which own the attractions was carried out. From this trawl information on access by public transport was found for 55 of the attractions.

Interpretation of data

- The overall figure of 81% of attractions publishing online information on accessibility by public transport is an improvement on last year's figure of 66% and shows a very encouraging upward trend. Improvements in information provision have come principally from two voluntary organisations which have improved their websites.

Conclusions

- The increase in online information is an indicator of general improvements in the availability and quality of website information on countryside sites.
- It would be worthwhile doing more research into the kind of information being published on public transport, how useful and up-to-date it is and crucially what impact it has on people's behaviour. It is clear that there are great variations, from simply publishing a link to a national website with public transport information, to producing tailored information for a particular site on local bus and train services.

Indicator 16: Number of businesses registered with the Green Tourism Business Scheme

Three businesses within the AONB are registered with the GTBS, all have Gold grading (two upgraded since last year).

Summary of key data

Of the 14 businesses in or close to the AONB registered with the GTBS, 4 have achieved a Gold grading, 8 have achieved a Silver grading and 2 Bronze (1 new member and 3 upgraded since last year).

Table 18: Businesses within the AONB

Red indicates changes since last year.

Name of business	Type of business	Location	GTBS grading
Roald Dahl Museum and Story Centre	Visitor attraction	Great Missenden	Gold
Henley Business School	Conference venue	Henley	Gold
Whipsnade Zoo	Visitor attraction	Whipsnade	Gold

Indicator in context

- The GTBS has been running since 1997 and has over 2,000 members across the UK. It was first established in Scotland and has a large number of members there. It is the principal scheme in the UK proving accreditation to tourism businesses which are implementing measures to operate sustainably. In recent years there have been regional and sub-regional initiatives to roll the Scheme out in England, including the South West, Kent and Sussex. In November 2005 an event was held by the Chilterns and North Wessex Downs AONBs to launch the Scheme to local businesses. Otherwise there has not been a major push on the Scheme in the Chilterns area.

Interpretation of data

- The number of businesses registered with the GTBS within the AONB remains extremely low, and there are no signs that take-up of the Scheme is increasing. This may be due to a lack of promotion of the GTBS in the Chilterns area. It could also be indicative of the national trend for tourism businesses to move away from accreditation schemes and market themselves individually via the internet.

Table 19: Businesses close to the AONB

Red indicates changes since last year.

Name of business	Type of business	Location	GTBS grading	Proximity to AONB
Chilterns Conservation Board	Corporate office	Chinnor	Gold	0.5km
Byways	B & B	Milton Common, Oxon	Silver	7.5km
Oxford Belfry Hotel	Hotel	Milton Common,	Silver	7.5km
Ramada Hemel Hempstead	Hotel	Hemel Hempstead	Silver	2km
Holiday Inn Luton South	Hotel	Redbourn	Silver	1km
Best Western Menzies Hotel Strathmore	Hotel	Luton	Silver	3km
Hilton Luton Garden Inn	Hotel	Luton	Silver	1km
Ramada Jarvis Hotels	Corporate office	High Wycombe	Silver	1.5km
P. Risborough Tourist Information Centre	TIC	Princes Risborough	Silver	1km
Marlow Tourist Information Centre	TIC	Marlow	Bronze	1km
Best Western Watermill Hotel	Hotel	Bourne End, Berkhamsted	Bronze	0.5km

Conclusions

- The total number of businesses within or close to the AONB which are registered with the GTBS has increased by 1 since last year. Take up of the Scheme in the Chilterns area remains extremely low
- The overall effectiveness of the GTBS in encouraging and increasing the sustainability of tourism businesses is still being assessed. As the main national scheme for encouraging sustainability in the tourism industry however it should continue to be promoted throughout the Chilterns.

UNDERSTANDING AND ENJOYMENT

Context

A number of countryside sites in the Chilterns have developed new facilities and activities to cater for different audiences, ranging from outdoor play facilities for children (Coombe Hill and Dunstable Downs National Trust sites) to seasonal bike hire and cycling events (Dunstable Downs) and an interactive arts trail (Aston Rowant Nature Reserve).

The Chilterns Cycleway has been very popular. A visitor survey showed high levels of repeat use by local cyclists and high levels of visitor spend from staying visitors using the Cycleway for short breaks. An established tour operator now offers Chilterns Cycleway short break tours. Other cycling initiatives include the promotion of 2 new circular cycle routes by Central Bedfordshire Council, in Totternhoe/Whipsnade and Barton area.

Building on the success of the Chilterns Cycleway, cycling in the Chilterns will benefit from £868,000 Department for Transport funding for a major 3 year project to attract visitors to enjoy cycling breaks. Visitors will be encouraged to arrive by public transport at local gateway towns, and then use bicycles to travel around the Chilterns countryside during their stay. Visitors who arrive by car will also be encouraged to leave their car at their accommodation during their stay and get around by bike. There will be investment in better signage on cycling routes, more cycle parking and bike hire facilities. Two Chilterns cycling officers are being recruited to deliver the programme and are expected to be in post early 2013.

In April 2012 Defra launched a £2m 'Paths for Communities' funding scheme set up to develop and enhance the network of Public Rights of Way in England in order to deliver economic and social benefits to predominantly rural areas. The 3 year scheme aims to encourage and support local communities to work with land

owners to make improvements to the public rights of way network. Defra has received a number of expressions of interest from the Chilterns area and it is hoped some of these will proceed to full applications.

The removal of stiles in the Chilterns continues with a great deal of work carried out by the Chiltern Society. Several new stile-free walks have been devised jointly with The Chiltern Society and the National Trust at Greys Court and are now being promoted. Other stile-free walks in Oxfordshire have also been developed and can be downloaded from the Chilterns AONB website.

Access for all improvements have taken place at a number of locations in the Chilterns, with new easy-access routes suitable for wheelchairs at the Ashridge Estate and Coombe Hill. The Conservation Board undertook an access audit for the Woodland Trust at Penn Wood, to evaluate existing access routes and facilities for visitors and to identify improvements. In addition the Board worked with the Forestry Commission to identify two new easy access trails at Hodgemoor Woods. It is hoped that improvements at both these sites will take place in the next 12 months.

The countryside around Totternhoe has been the focus for a number of access and community initiatives which have been developed as part of the Totternhoe Countryside Masterplan Project led by Central Bedfordshire Council. The project aims to raise awareness of the countryside and encourage its sustainable use. A monthly guided walk and events programme was developed which engaged with over 100 people and has helped towards building up a nucleus of interested local people who are forming a 'Friends' group for sites and rights of way within the area. In addition 3 hand-crafted wooden benches were made and include carvings of

local wildlife, archaeology and history. They have been installed in popular strategic locations in the Totternhoe and Maiden Bower area.

Key findings for 2012

The table below shows both existing indicators and whether there is an update in the current year, along with a summary of key findings.

Condition Indicator	Detailed update 2012?	Key findings	Condition and Trend
17. Participation in Health Walks	Yes - see page 55 for details	In 2011/12 total attendance figures for health walks in the Chilterns was 41,562, a 1.9% increase over the previous year.	The health walks programme in the Chilterns is very strong and still growing, despite funding pressures.
18. Area of land with statutory or voluntary Open Access	Yes - see page 56 for details	<p>2012 The amount of statutory open access is unchanged but there has been a decrease in the amount of voluntary access through Defra's Environmental Stewardship scheme (both open access and linear access).</p> <p>2009 There are 8,225 hectares of Accessible Natural Greenspace in the AONB - 10% by area. This includes statutory and voluntary open access land, as well as other areas providing both public access and potential wildlife habitat.</p> <p>Quality of the open access land was more of an issue but harder to measure.</p>	There is good provision and spread of open access land in the Chilterns. Voluntary access through Defra's Environmental Stewardship scheme will continue to diminish as agreements reach their end-date. New agreements will not include access provision.
19. Visitor satisfaction on rights of way and use of the countryside	Limited updates available	<p>2010 93% of users in Bedfordshire felt their overall experience of the public path network was good³⁹</p> <p>2007 87% of survey respondents⁴⁰ rated way marked paths as good or very good.</p>	Visitor satisfaction with rights of way and countryside sites is generally high, which is particularly encouraging given high usage levels.

³⁹ Source: Central Bedfordshire Council Rights of Way User Survey 2010

⁴⁰ Source: Chilterns Leisure Visitor Survey, 2007

Emerging issues, challenges and priorities

- The two national trails in the Chilterns (the Ridgeway and the Thames Path national trails) have suffered from a lack of investment over the last few years due to budget cuts and a freeze on marketing and promotion of the trails. The current national trails web site will cease to operate in April 2013. Natural England are concluding their review of National Trails in early 2013. It is hoped (indeed it is essential) that organisations with an interest in the national trails have an input into the future management of the trails and that effective long-term arrangements are secured for both trails.
- The Ramblers Association has taken over the management of the health walks programme in Oxfordshire from Natural England. There have been no changes to the health walks programme to date.
- The Chiltern Society will be taking over the management of three important countryside sites on behalf of Wycombe District Council: Marlow Common, Prestwood Nature Reserve and Brush Hill Nature Reserve near Princes Risborough. It is hoped that the sites will benefit from a strong volunteer input which will help to conserve them and provide an active programme of walks and educational events.
- Several venues in and around the Chilterns were used in the 2012 Olympics for events and training, including Stoke Mandeville

stadium, Dorney Lake and the Leander Club in Henley-on-Thames. Anecdotal evidence suggests there has been increased interest in sports such as cycling, however it is too early to tell whether this will be sustained and whether it will contribute to increased leisure cycling in the Chilterns long-term.

- The large publicly-owned countryside sites with facilities (Ashridge Estate, Wendover Woods) are seeing ever-greater visitor numbers. Visitor pressure at some of these honey-pot sites is a problem at peak times and a pro-active approach to visitor management and dispersal is being adopted. The National Trust Ashridge Estate provided a temporary catering facility at Ivinghoe Beacon over the summer to ease pressure at the central Monument area.
- The Forestry Commission is submitting plans for re-developing visitor facilities at Wendover Woods to accommodate greater numbers of visitors more comfortably and to improve the visitor experience. This will include creating additional car-parking, re-locating the car-park away from the main visitor facilities and developing new visitor facilities such as a play trail and cycle hire. It is hoped the first phase of work will commence in 2013 subject to planning and funding.
- An Access Vision Plan for the countryside north of Luton is being developed by Central Bedfordshire Council in preparation for major housing growth in the area. The

Plan identifies future access needs, focusing on green infrastructure and the links between existing and new green spaces. It is hoped that it will lead to additional access links and greater provision to cater for an increased population on the doorstep. Recommendations include restoring Sundon Landfill Site to develop a site suitable for public recreational use, developing a new visitor centre and create and upgrade routes.



The Chilterns Cycleway

Indicator 17: Participation in Health Walks

There is a very active health walks programme in the Chilterns, with over 41,000 health walk attendances in the last 12 months. The health walks programme has shown steady growth over the last few years and plays a vital role in encouraging less confident walkers and those with mobility or health issues.

Summary of key data

- The last year has seen a small expansion of the popular health walks programme. In 2011/12 total attendance figures for health walks in the Chilterns was 41,562 (see Table 18), a 1.9% increase over the previous year.
- The Oxfordshire health walks programme was the only programme in the Chilterns to show a decrease in attendance and this could be because there was a change-over in management of the programme part way through the year, with the Ramblers Association taking over the management from Natural England.
- Cuts in local authority funding mean that the resourcing of the health walks programme is continually under threat. Bucks Simply Walk has been successful in generating additional funding from Parish Councils, Town Councils, walker donations and other sources, which has reduced the funding shortfall. This shows the importance of the health walks programmes to local communities and their willingness to help fund its continuation.

Table 20: Number of health walk attendances in the Chilterns (includes repeat visits)

	1 Aug 2009 to end July 2010	1 Aug 2010 to end July 2011	1 Aug 2011 to end July 2012
Oxfordshire	9,020	11,999	10,374
Dacorum and Hitchin	8,140	11,359	12,625
Bucks Simply Walk	15,887	16,507	17,441
Bedfordshire	900	922	1,112
Total	33,947	40,787	41,562



Hodgemoor Woods

Indicator 18: Area of land with statutory or voluntary Open Access

There is good provision and spread of open access land in the Chilterns. This includes 2,883 ha statutory open access land,⁴¹ 794 ha of open access woodland⁴² and 106 ha voluntary access through Environmental Stewardship schemes.

Summary of key data

- The amount of open access through the Countryside and Rights of Way Act and through dedications is unchanged from the 2009 report.
- The large publicly owned open access sites generally provide a high standard of open access and welcome visitors to their site with good physical access and information. However site visits and reports from the public reveal that some of the privately owned open access sites in more remote locations are fairly inaccessible, with no open access signage, no clear entry points and no paths through waist-high grassland.

Table 21: Voluntary Access through Defra's Environmental Stewardship schemes⁴³

	Aug 2011	Aug 2012	% change
Open access area (ha)	141.1	106.2	25% decrease
Length of walk (km)	70.6	64.9	8% decrease

- In 2010 Defra announced changes to the new environmental stewardship schemes which means they are no longer able to pay landowners for providing open or linear access. A number of environmental stewardship agreements ended in 2012 with the resultant loss in permissive access provision: open access through the scheme decreased by 34.9 ha from the previous year (a 25% decrease) and linear access decreased by 5.7km (an 8% drop).

Conclusions

- The total area of statutory Open Access is not expected to change over the short to medium term.
- Voluntary open and linear access provision through Defra's Environmental Stewardship scheme has decreased and will continue falling as the agreement end-dates are reached; under the new Environmental Stewardship agreements landowners will not be paid for providing access. Although this is not a major loss in relation to the total area of open access/length of walk provision in the Chilterns, it is a loss for local users and had provided some important strategic links.



Talking Trail

⁴¹ under the Countryside and Rights of Way Act 2000

⁴² dedicated ⁴³ Source: Defra

Indicator 19: Visitor satisfaction on rights of way and use of the countryside

Site surveys in the Chilterns show very high levels of use of rights of way and the countryside and high levels of visitor satisfaction.

Summary of key data

- Site surveys⁴⁴ in the Chilterns show high levels of visitor satisfaction overall. At Bedfordshire sites, over 90% of users at four key sites (Dunstable Downs, Sundon Hills, Totternhoe Knolls and Whipsnade Heath) rated the sites very good, good or average.
- The Chilterns Leisure Visitor Survey 2007 showed that 87% of respondents rated waymarked paths as being good/very good. Other elements of the visitor experience were also highly rated (see table). The main complaints (apart from poor weather) related to dog fouling/lack of dog bins and litter.

Table 22: Visitor satisfaction ratings

	Poor	%	Fair	%	Good	%	Very Good	%	Can't say/ not used	%
Car parks	42	4	145	15	471	49	307	32	71	7
Information boards	28	5	89	15	335	56	143	24	441	43
Local pubs	3	1	22	7	145	48	134	44	732	71
Picnic sites	12	4	29	9	158	51	109	35	728	70
Public transport	2	40	-	-	1	20	2	40	1,031	99.5
Toilets	26	10	39	15	103	39	98	37	770	74
Visitor centres	2	1	19	9	76	36	117	55	822	79
Waymarked paths	11	1	92	11	497	59	238	28	198	19

Source: Chilterns Leisure Visitor Survey 2007

- Over the last few years the CCB has seen a growth in use of the Chilterns AONB web site and the number of leaflets downloaded. This has levelled off in the last couple of years, perhaps because there are few new promoted walks for regular web visitors to download. In 2010/11 a total of 11,750 Chilterns Country walk leaflets were downloaded from the Chilterns AONB web site, an 8% decrease from the previous year.
- Local authority surveys looking at visitor satisfaction on rights of way have been carried out in Oxfordshire, Hertfordshire, Bedfordshire and Buckinghamshire. These are generally repeated every 2-3 years. However only Oxfordshire County Council (OCC) has gathered postcode data, allowing for a Chilterns-specific analysis.

⁴⁴ Chilterns Leisure Visitor Survey 2007 (includes 11 key visitor sites) and Bedfordshire User Survey covering four key visitor sites in the Bedfordshire Chilterns.

- The most recent survey of Oxfordshire residents (Oxfordshire Voice) was carried out in 2010, showing very high use and satisfaction with Oxfordshire's countryside (see below). A Chilterns analysis was possible for a small sample of 46 Chilterns postcodes. The survey revealed:
 - 93% of users in Bedfordshire felt their overall experience of the public path network was good (Central Bedfordshire Council Rights of Way User Survey 2010)
 - A very high proportion of people use the countryside and public rights of way in Oxfordshire. Nearly all respondents had used the countryside for leisure in the last twelve months and nine out of ten had used public rights of way. A Chilterns analysis showed that 96% of Chilterns respondents used public rights of way in Oxfordshire.
 - A very high value is placed on Oxfordshire's countryside - nearly all respondents rated it as either very important or quite important. 100% of Chilterns residents rated it as either very important (93%) or quite important (7%).
 - Good satisfaction with provision and management of access - between over a half and over three quarters of respondents were either very satisfied or fairly satisfied with various aspects. Satisfaction levels were higher amongst Chilterns residents, with 93% being satisfied or very satisfied.
 - 90% of respondents were happy to download and print off walking or riding information and maps from the internet at home.

- The other local authorities have not captured postcode data through their Citizens Panels, but county-wide data shows that:
 - 93% of users in Bedfordshire felt their overall experience of the public path network was good (Central Bedfordshire Council Rights of Way User Survey 2010)
 - 87% of users in Bucks were satisfied with rights of way (Bucks Residents Survey 2007)
 - 81% of households used parks and open spaces, country paths or rights of way in Bucks. 79% of households were very or fairly satisfied with these. (Bucks County Council IPSOS Survey of resident views, October 2011).
 - 84% of Hertfordshire residents were satisfied with the rights of way network in their local area (Herts CC Residents Tracking Survey 2011). Satisfaction has increased year on year since 2007.

Interpretation of data

- User Surveys in the Chilterns are primarily based at the main countryside sites which have a good range of visitor facilities such as large car park, toilet, refreshments, marked trails, information boards etc. This is not representative of the smaller, informal countryside sites which have few or no visitor facilities and attract a different visitor profile.
- The Chilterns Leisure Visitor Survey is only carried out every 10 years (next one due in 2017).

Conclusions

- Visitor satisfaction is generally high, which is particularly encouraging given the high levels of usage of the rights of way and countryside sites in the Chilterns.
- There is potential for the CCB to work with some of the Local Authorities when planning their Citizens Panels, to ensure future surveys capture postcodes.

DEVELOPMENT

Context

The attractiveness of the Chilterns AONB landscape stems from the combination of the natural, built and cultural environments. The countryside is home to many people and businesses in villages, hamlets and more isolated buildings. The AONB is surrounded by large towns and is very close to some major cities which increase the pressure for development. The Chilterns AONB is also characterised by high house prices and a lack of affordable housing. Certain local building materials dominate which produces a locally distinctive architectural style.

The Chilterns AONB Management Plan details the special qualities of the built environment of the Chilterns and aims to ensure that these are conserved and enhanced and improved where they are degraded. Where development does take place it should conserve and enhance the special qualities of the Chilterns and any negative aspects should be reduced. The policies of the Management Plan seek to protect and reinforce the local distinctiveness of the built environment, promote the highest standards of development and encourage the use of traditional local building materials whilst trying to reduce the impacts of existing developments which may have detrimental impacts.



Affordable housing at Winchmore Hill, acceptable design though difficult to assess in terms of the sustainability of construction

Key findings for 2012

The table below shows both existing indicators and whether there is an update in the current year, along with a summary of key findings.

Condition Indicator	Detailed update?	Key findings	Condition and Trend
20. Number of appropriately designed and sustainably constructed affordable rural needs houses provided	Yes - see page 61 for details	<p>2012 No sustainably constructed affordable rural needs houses have been provided.</p> <p>2011 No sustainably constructed affordable rural needs houses have been provided.</p>	On the basis of the data available the condition of the AONB in connection with this indicator is poor but stable.
21. Length of overhead power lines put underground	No - data remains unchanged from 2010. See p62 for 2010 data	<p>2010 1,000 m of overhead power lines have been put underground at Little Missenden.</p>	Good, stable. Enhanced landscape in the area with each scheme that is implemented.

In previous years Indicator 20 had recorded the percentage of planning applications decided in line with the Conservation Board's comments. Though this is not now being used as an indicator, it was felt that the information that was provided was useful nonetheless. For 2012, the Board was consulted on 171 planning applications (152 in 2011) and made formal representations on 36 (20 in 2011). Of the 32

applications that have been decided 77% (70% in 2011) were determined in line with the Board's comments. This represents an increase from 2010 (75%), which in turn had been a decrease compared to 2009 (82%). This trend is being closely monitored even though it is not a specific indicator for the State of the Environment Report.

Indicator 20: Number of appropriately designed and sustainably constructed affordable rural needs houses provided

No sustainably constructed affordable rural needs houses have been provided in 2012

Summary of key data

- No sustainably constructed affordable rural needs houses have been provided this year and this is still considered to be a reflection of the state of the economy and the development industry in particular.

The indicator in context

- Discussion previously took place about a more appropriate indicator that could show how the AONB was fairing in connection with development that took place.
- One issue that had been raised as part of the discussions, and which has historically been difficult to address, is the provision of affordable, rural needs housing within the AONB. Though some schemes may come forward it has historically been the case that the Board has responded to some applications with negative comments about design and building materials. Such applications should still conserve and enhance the natural beauty of the AONB and therefore be of the highest quality.
- Affordable housing is that which is described in the National Planning Policy Framework (NPPF) as 'social rented, affordable rented and intermediate housing' and is defined as that which is 'provided to eligible households whose needs are not met by the market. Eligibility is determined with regard to local incomes and local house prices. Affordable housing should include provisions to remain at an affordable price for future eligible households or for the subsidy to be recycled for alternative affordable housing provision.' (See Glossary in NPPF)

- It was resolved that the current indicator should be introduced and this is the second year that data has been sought. It has been gathered from the local planning authorities within the AONB.
- There has been little development taking place over the last few years and this is reflected in the limited number of housing completions within the AONB and the result that no affordable rural needs houses have been provided.

Interpretation of data

- With no affordable houses being provided once again there is no data to interpret. However, any data provided in the future will be monitored in order to produce trends.
- When applications are made in the future one of the key areas that will be looked at will be design and use of local materials. In the first instance reference will be made to the Chilterns Buildings Design Guide and the supplementary technical notes on local building materials. In addition planning application details will be examined to try and determine, with the help of the local planning authorities, how proposals measure up to wider sustainability criteria (using advice and guidance such as the Code for Sustainable Homes for example).

Conclusions

- On the basis of the data available the condition of the AONB in connection with this indicator is poor but stable. However, growth pressures still exist and it is likely that in future there will be data to populate this indicator.

Indicator 21: Length of overhead power lines put underground

1,000 metres of overhead power lines have been put underground.

Summary of key data

- In 2010 1,000 metres of 11,000 volt overhead power lines were put underground to the west of the church at Little Missenden as part of the OFGEM scheme to underground up to 5% of the overhead power lines in protected landscapes.
- The work involved the removal of 11 wooden poles, the replacement of 2 pole mounted transformers with 2 ground mounted substations. As part of the works the River Misbourne had to be crossed by directional drilling. The scheme was completed in August 2010.



Turville - overhead wires that are a good candidate for removal

The indicator in context

- The Board's Planning Officer sits on a steering group that covers the northern half of the AONB. The steering group had authorised funding for various schemes within the protected landscapes in the east and south east and one scheme was within the Chilterns AONB.
- The funding for this scheme comes from a pot of money that runs to the end of March 2015. Though the funds have already been committed it is hoped that other schemes will be approved prior to the end of the period.
- The rest of the AONB is covered by a network operator that had previously decided not to take an active interest in the OFGEM scheme until at least 2015. However, this situation has recently changed and schemes are likely to be submitted shortly.
- Other schemes that the Board is made aware of outside this funding stream will be reported on when known.

Interpretation of data

- Once the overhead power lines and associated poles have been removed the landscape in the area will be enhanced. It is considered that this will lead to an improved visitor experience.

Conclusions

- There can only be long-term gains for the environment of the AONB with each scheme that is implemented and this will be reflected in later years' monitoring exercises.

Conclusions

This is the fourth year of publishing the State of the Chilterns Environment report and useful trend data is starting to emerge.

There are inevitably important aspects of the state of the Chilterns environment that are not readily reduced to a series of indicators - for example climate change and tranquillity - which are nonetheless likely to have an increasingly significant bearing on the quality of the Chilterns environment. There are other changes looming which - for example the impact of tree pests and diseases - which are not currently covered by the indicators but which need to be.

It is good to see improving trends across a number of indicators, including:

- Overall levels of management of woodlands in the Chilterns are good and improving, with steady increases in take up of English Woodland Grant Scheme
- Good and increasing numbers of participants in Health Walks
- Improved numbers of local wildlife/ local geological sites known to be in positive conservation management.
- Farmland management through take up of Higher Level Stewardship

In other cases there are concerns about deteriorating trends or stalled progress, including:

- Condition of Chalk Rivers - all 9 chalk rivers failing to attain good ecological status or potential with negligible improvements anticipated to 2021.
- Declines in overall coverage of agri-environment schemes, reflecting no doubt in part uncertainty regarding Common Agricultural Policy reform.
- Long-term declines in livestock numbers giving rise to concerns over availability of suitable grazing animals for conservation sites.
- Increases in numbers of listed buildings (Grad 1/11*) at risk.

The overriding purpose of the report is to influence the future management of the AONB in order to conserve and enhance the Chilterns environment. In these difficult economic times with reducing resources available to many of the organisations involved in delivering the AONB Management Plan objectives, there are inevitably concerns about how to sustain progress and halt further declines in condition of some indicators. At a time of huge shifts in organisations and resources it is important that the Board and its partners continue to keep a close eye on long-term trends on the ground.

Sustaining and enhancing the outstanding natural beauty of the Chilterns will rely more than ever on the efforts of a wide partnership not least landowners, farmers and voluntary sector organisations.

Appendix: Countryside Quality Counts

Countryside Quality Counts (CQC)⁴⁵ was a national initiative set up by the Countryside Agency in 2002 with the aim of constructing an indicator of change in landscape quality across different parts of the country (Joint Character Areas) and to assess the significance of those changes for each area.

The AONB Management Plan proposed the findings of the CQC for the Chilterns as one of the headline condition indicators for the AONB. However, it has subsequently been decided that this would not be appropriate since the CQC findings are in themselves a combined measure of State of the Environment, and there are significant limitations on the data. Instead, it was decided to include a brief report on the findings as an appendix.

Key findings:

Landscape element	Assessment
Woodland and Trees	The AONB has a higher woodland cover than the surrounding landscapes, and the management of the woodlands appears to be better than these areas. The wooded character has been maintained or possibly strengthened
Boundary	Marked increase in Countryside Stewardship uptake for boundary features since 1998, especially for hedgerow restoration and planting although rates at or below national averages. Boundary features probably maintained at best.
Agriculture	The mix of farm cover types has been stable. Sheep numbers have declined by about 44% since 1990. Pig numbers have been higher; they have declined by about 60% since 1990. The mix of farm types has been stable. There is a tendency towards larger farm units. The agricultural character has probably been maintained.
Settlement and development	Lower rates of development compared to surrounding areas. Settlement character maintained.
Semi-natural habitats	Countryside Stewardship payments around national average for annual agreements relating to features measured in ha, although performance relative to other protected areas is lower than the average for all AONBs. Particular focus on calcareous grasslands management. Probably maintained at best.
Historic Environment	Insufficient data to make a judgement
River and Coast	Insufficient data to make a judgement

The Indicator in context

- The work combined analysis of evidence about the changes associated with a series of landscape features with information about the preferred nature and direction of change obtained from stakeholder consultation.

- The landscape features covered were : trees and woodland, agriculture, boundaries, semi-natural features, settlement and development, historic features, and river and coastal elements
- The study covered two periods, 1990-1998, and 1999-2003.
- More recent work⁴⁶ has extended this type of analysis to AONBs, through a re-working of the original data.

Interpretation of the data

- The most recent data on which the study is based dates back to 2003, more recent trends are not covered.
- The original CQC assessments related to Joint Character Areas (JCA), rather than protected landscapes such as AONBs. Whilst the data has now been cut to the AONB boundary as far as possible, the contextual data which informs the assessment of results presented has not been re-worked. The results are not considered to be a definitive assessment about the nature of landscape change in protected areas.

Conclusions

- The findings broadly concur with those of the relevant indicators in this report.
- Whilst limitations apply to the findings, they do give rise to a number of issues worthy of further investigation, including the lower than average uptake of agri-environment scheme options relating to hedgerow restoration and field based options.

⁴⁵ Haines-Young, R.H. (2007) Tracking Change in the Character of the English Landscape, 1999-2003. Natural England,

⁴⁶ January 2009 Duncan Cheshire & Roy Haines-Young, University of Nottingham



Bluebells in Cowleaze Wood

The Chilterns Area of Outstanding Natural Beauty (AONB) was designated in 1965 and covers 833 sq kms. It is one of 47 AONBs in the UK which, together with National Parks, are protected as the finest landscapes in the country.

The primary purpose of the Chilterns Conservation Board is to conserve and enhance the Chilterns AONB. It also aims to increase

awareness and understanding of the Chilterns and to foster the social and economic well-being of local communities. The Board is an independent, statutory organisation established by Parliamentary Order in 2004.



To find out more about the AONB and the Board visit www.chilternsaonb.org



an Area of Outstanding Natural Beauty