Cranborne Chase and West Wiltshire Downs AONB
Historic Landscape Characterisation Project

SECTION 7: COMPARING THE HLC WITH OTHER SPATIAL DATASETS

ENGLISH HERITAGE

CONTENTS

7.1 Introduction

The Historic Landscape Characterisation can be compared against a range of other spatial datasets, using the powerful presentational and analytical tool that is GIS.

This comparison can give an indication of how HLC can be used to: -

1. place the other datasets in context
2. indicate how the spatial elements of these datasets have been shaped by historic processes and land use history
3. indicate how the topics/subjects of these datasets have themselves shaped the historic landscape character of the AONB

For simplicity these datasets can be split into five main categories: -

1. Physical data, including topography, soils, geology and hydrology.
2. Environmental data, including nature designations, LCA, woodland inventories.
3. Agricultural data, including land use and land capability.
4. Social data, including indices of social deprivation, and census data.
5. Historical and archaeological data, including listed buildings, SMR and HER records, conservation areas, and historic census data.

In this section the HLC dataset is compared against two key datasets: -

1. **The county based Historic Environment Record and Sites and Monument Records**

2. **Nature Designations (in particular Sites of Special Scientific Interest)**

7.2 Comparison of the HLC Dataset and the county SMR/HER Record

7.2.1 Summary

The Cranborne Chase and West Wiltshire Downs AONB Historic Landscape Characterisation dataset provides information on the history of today's landscape. It provides information on the overriding historic landscape character of any given area. It also records where previous historic landscape uses remain as traces in the landscape, which have influenced the current historic landscape character. The Sites and Monuments Records or Historic Environmental Records for Dorset, Somerset, Hampshire and Wiltshire provide the most comprehensive source of information on archaeological sites within the four counties. This data includes surviving ancient monuments, buried archaeology, buildings, finds and archaeological events. This exercise aims to look at the relationship between the records in the SMR/HER and the data recorded for the Historic Landscape Characterisation. It aims to undertake an initial analysis to demonstrate how the data from the HLC can be most effectively compared against data from the relevant SMRs/HERs.

7.2.2 Aims of the Exercise

This exercise aims to compare the Historic Landscape Characterisation dataset and the archaeological point data from the relevant county Sites and Monument and

Historic Environment Records. It is hoped that this comparison might answer a range of questions which could include the following: -

1. What is the relationship between the concentrations of monument types and finds as recorded in the SMR/HER data and the historic landscape character of the AONB? Conversely what is the relationship between the historic landscape character of the AONB and areas of low monument density and finds?

2. What effect has the character of the historic landscape of the AONB had on the distribution of sites and finds in the SMR/HER record in the present day?

3. Can the HLC dataset be used to predict locations where new sites could be found?

7.2.3 Methodology

Preparing the HER/SMR dataset

The AONB covers four counties Dorset, Hampshire, Somerset and Wiltshire. These each have their own archaeological record which is either called a Sites and Monuments Record (SMR) or a Historical Environment Record (HER). These are the same kinds of database, HER being an augmentation of an SMR containing a wider scope of data, such as information on buildings or the inclusion of Urban Archaeological Databases. SMRs commonly evolve into HERs when a certain data standard is reached. Most HERs/SMRs maintain three types of record dealing with the monuments themselves, events and sources/archives. This exercise is interested in those records which relate to the monuments themselves. These should be compiled using the MIDAS (A Manual and Data Standard for Monument Inventories) data standard (MIDAS Heritage: 2007), with other shared reference data such as National Monuments Record *The Thesaurus of Monument Types* (English Heritage 1999) also being used. This means that there should be a high level of similarity between the databases of different HERs/SMRs.

The details of each of the relevant HERs/SMRs are as follows: -

1. Dorset County Council has a Historic Environment Record. This contains 1235 entries for the AONB.
2. Hampshire County Council has a Historic Environment Record. This contains 405 entries covering the AONB
3. Somerset County Council has a Historic Environment Record. This contains 43 entries covering the AONB.
4. Wiltshire County Council has a Sites and Monument Record. This contains 2368 which are in the AONB.

Each county's SMR/HER record is available in electronic format and can be imported into GIS (Geographical Information Systems).

Each of the SMR/HER datasets was acquired as a GIS extract cut to the AONB from the relevant county as data files. They were then manipulated as follows:

1. **Dorset**. The Dorset HER data was provided via email as four separate .csv files. These were opened in Excel and recombined using the unique monument reference number in each file to create a new spreadsheet (.xls). The new datasheet contained two columns containing an easting and

northing for each entry; this meant that new .xls sheet could therefore be opened in MapInfo and points created in a map layer. Erroneous points which lay outside the AONB were removed and the data was then re-exported as a .txt file so it could be combined with the Hampshire, Somerset and Wiltshire Data.

2. **Hampshire**. The Hampshire data was provided as ArcMap .shp files; these were translated to a .tab file in MapInfo. These did not have columns containing easting and northing information so these were created. The table was exported as a .txt file so it could be combined with the Dorset, Somerset and Wiltshire Data.

3. The **Somerset** HER only contains 43 points which are inside the AONB boundary. The details of these were created from the information available online on the SMR and a new .txt file created.

4. The **Wiltshire** SMR was provided as ArcMap .shp files; these were translated to a .tab file in MapInfo. The Wiltshire SMR also provided a .dxf file from AutoCAD which was imported into MapInfo and provided additional line based information such as transcriptions from aerial photographs. However, as this kind of information was not provided by the other counties, only the point based information was used in this exercise. This table did not have columns containing easting and northing information so these were created. The table was then exported as a .txt so it could be combined with the Dorset, Hampshire and Somerset Data.

Each of the files was then opened in Excel and combined into one spreadsheet. This involved the removal of additional fields which were not common to all four datasets.

This process left the following fields: -

FIELD NAME	DESCRIPTION
ID_NO	The unique HER/SMR number imported from each dataset
COUNTY	The County the data belongs to
NAME	The name of the monument/find in some cases this is the type of monument and a location or in some cases just a location
DATE_FROM	The date of the monument or find
DATE_TO	The Dorset HER contained a date to field which provided a date range. This has been left in but is blank for Hampshire, Somerset and Wiltshire data.
TYPE	The Type of Monument or finds allocated to each point
TYPE_NEW	Amalgamated category (see below*)
E	The easting for each point
N	The northing for each point

With regards to the type of monument or find allocated to each point (the field named TYPE), there were noticeable differences between the four datasets. This was due to the fact that:-

1. The descriptions of different monument types varied in their detail: not all datasets record the morphology of round barrows or enclosures for example.

2. The four datasets do not have records of the same monument types. This is because some monument types are location specific and because they may not as yet feature in the relevant dataset.

In order for the spreadsheet to be useable a new field* was created (TYPE_NEW) which amalgamated various monument types. Although this lost detail from the dataset, it did allow direct comparisons to be made across the counties. This resulted in the following 49 monument types/categories being created: -

1. **Amphitheatre**
2. **Animal Cemetery**
3. **Battlefield**
4. **Boundary Feature**
5. **Bridge**
6. **Building**
7. **Burial**
8. **Castle**
9. **Causewayed Enclosure**
10. **Cemetery**
11. **Circular Feature**
12. **Cursus**
13. **Deer Park**
14. **Ecclesiastical Site**
15. **Enclosure**
16. **Fence**
17. **Field System**
18. **Finds**
19. **Fort**
20. **Garden**
21. **Garden Feature**
22. **Gate**
23. **Henge**
24. **Hill Figure**
25. **Hillfort**
26. **Industrial Site**
27. **Linear Feature**
28. **Long Barrow**
29. **Military**
30. **Mill**
31. **Moat**
32. **Parkland**
33. **Pillow Mound**
34. **Pit**
35. **Pond**
36. **Pump**
37. **Racecourse**
38. **Round Barrow**
39. **Routeway**
40. **Settlement**
41. **Signal Station**
42. **Stocks**
43. **Stonework**
44. **Telegraph Pole**
45. **Temple**
46. **Unknown Feature**
47. **Watermeadow**
48. **Watermill**
49. **Well**

7.2.4 Analysing and comparing the Datasets

Once the SMR/HER dataset had been prepared the distribution of points could be compared against the area based HLC data. The first map, Figure 415 on the next page, demonstrates the density of individual SMR/HER records across the AONB. There are 4053 records in total, when this is combined with the 4438 separate area based polygons, which make up the HLC dataset; we have a large amount of detail and possibly complex interrelationships between the datasets. In order to make meaningful comparisons between the two datasets therefore it is necessary to focus on particular categories.

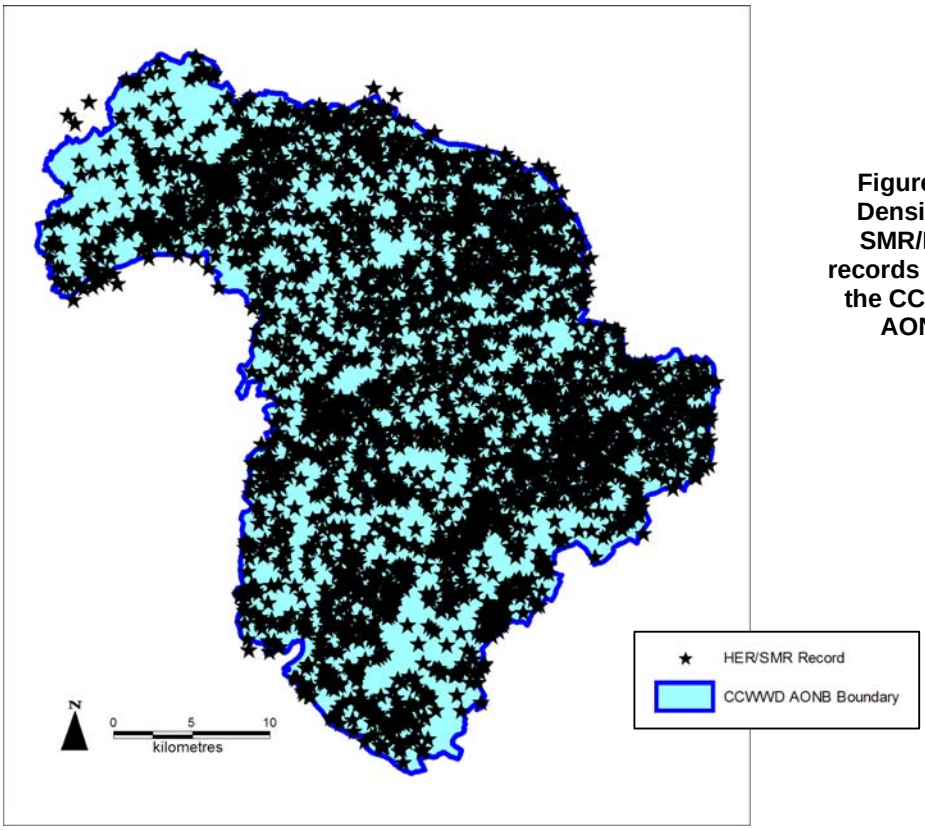


Figure 40: Density of SMR/HER records across the CCWWD AONB

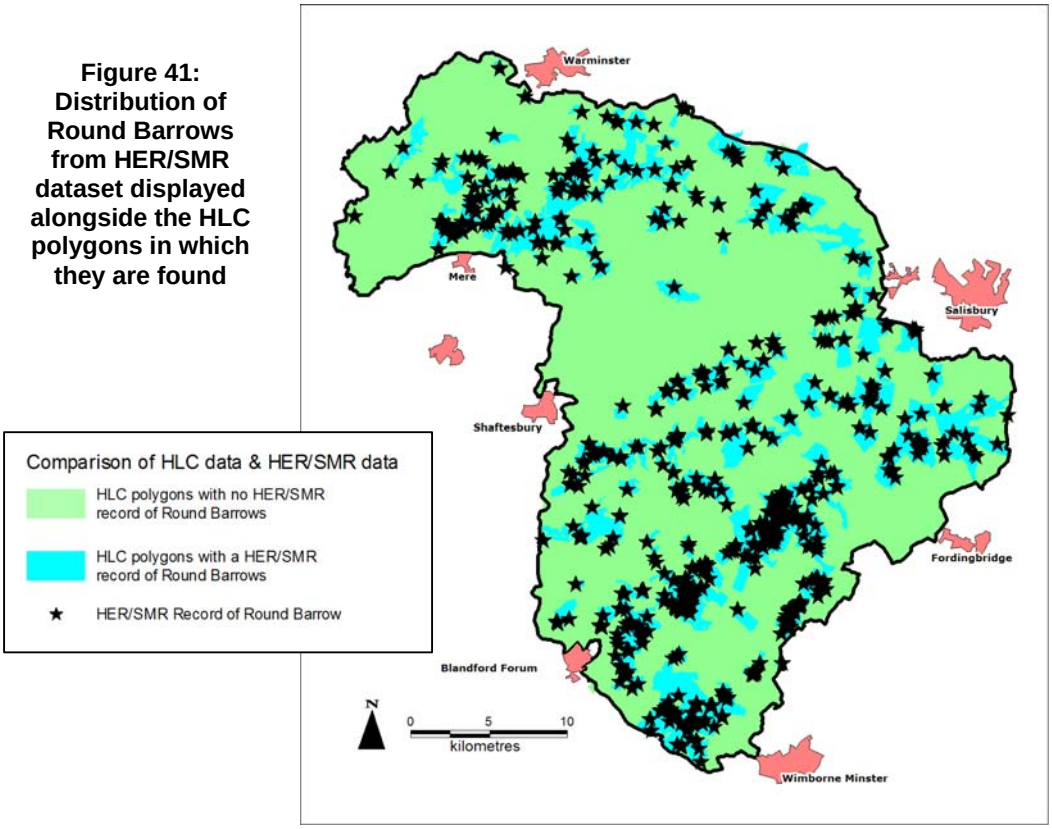
As an example this exercise has concentrated on the relationship between the Bronze Age Round Barrows recorded in the HER/SMR dataset and the major Historic Landscape Types identified in the HLC dataset.

The National Monuments Record Thesaurus of Monuments Types (English Heritage 1999) defines a Round Barrow as a "hemispherical mound surrounded by a ditch (or occasionally two or more concentric ditches), often accompanied by an external (or occasionally internal) bank. Mound and ditch may sometimes be separated by a berm".

It is hoped that this example will demonstrate the wealth of information which can be drawn from the comparing monument types with the HLC.

As a first step therefore the SMR/HER dataset was filtered to show just records which relate to Round Barrows. In Figure 41 these have been displayed on top of the HLC Polygons in which they are found.

Figure 41: Distribution of Round Barrows from HER/SMR dataset displayed alongside the HLC polygons in which they are found



It is immediately noticeable that Round Barrows in the AONB have discrete and distinct distributions across the AONB. They are largely absent from the Vale of Wardour and the greensand hills in the north-west AONB. There is a high concentration of Round Barrows along the southern downland belt and to the north of Mere. They form linear distributions across the landscape often occurring with higher areas of ground (see figure 44) or Chalk escarpments such as those found at Fovant. These linear distributions run from the south-west to the north-east.

These concentrations are based on a number of factors, but there is a correlation with particular Historic Landscape Types. As a starting point therefore the relationship between the distribution of round barrows and the Major Current Historic Landscape Type in which they were found was analysed. Round Barrows are found in 15 Major Current Historic Landscape Types out of the 42 which have been identified (Figure 42).

The majority of Round Barrows are found in two main Major Types: -

1. 20th Century Fields (50.6 % of the total)
2. 18th and 19th Century Fields (24.3% of the total)

There is also a smaller correlation with two more ancient Major Types: -

1. Pre 1800 Fields (6.9% of the total)
2. Old Woodland (4.9% of the total)

Finally the small area of remaining open downland has a high percentage of Barrows (24%) for its size. It is not surprising that an area which has not been subject to

extensive and sustained ploughing in the last 200 years should be rich in extant prehistoric monuments.

In general however the dominant pattern is for Round Barrows to be associated with a recent (19th century/20th century) land use history.

Figure 42: Table showing the number of Round Barrows located in each Major Current Historic Landscape Type

Major Current Historic Landscape Type	Number of: Round Barrows	Total % of: Round Barrows
18th and 19th Century Fields	207	24.3%
18th and 19th Century Settlement	1	0.1%
20th Century Fields	431	50.6%
20th Century Settlement	3	0.4%
Assarts	5	0.6%
Cultural Asset	6	0.7%
Designed Landscape and Parkland	5	0.6%
Downland and Unimproved Grassland	24	2.8%
Furze	3	0.4%
Military Camp	14	1.6%
Old Woodland	42	4.9%
Pre 18th Century Fields	59	6.9%
Pre 18th Century Settlement	2	0.2%
Post 1800 Woodland	49	5.8%
Roads	1	0.1%
Grand Total	**852**	**100%**

We can look in greater depth at the spatial distributions of the main Historic Landscape Types which contain Round Barrows (Figure 43 on the next page). This illustrates that the pre 18th century fields which contain Round Barrows cluster on the Southern Downland Belt and are geographically discrete. Conversely Round Barrows have been recorded associated with ancient woodland across much wider areas, through the Chase woodlands, in Grovely Wood and in the belt of trees in the north-western Greensand Hills. Round Barrows are associated with 18th century and 19th century fields and 20th century fields respectively across the AONB, but these are formed of discrete blocks rather than as mixed types.

The relationship of the Round Barrows to the Major Historic Landscape Types suggests that prehistoric monuments can occur in areas which have been enclosed for much longer. It may be informative therefore to study the land use history of the area of pre 1800 fields associated with Round Barrows (mentioned above) in more depth. This may help to identify other areas of older enclosure which could be associated with prehistoric activity but which may now be only found as buried archaeology under modern pasture.

The distribution also suggested that the pre 1800 woodlands in the AONB may be a rich source of evidence of prehistoric activity which warrants further study.

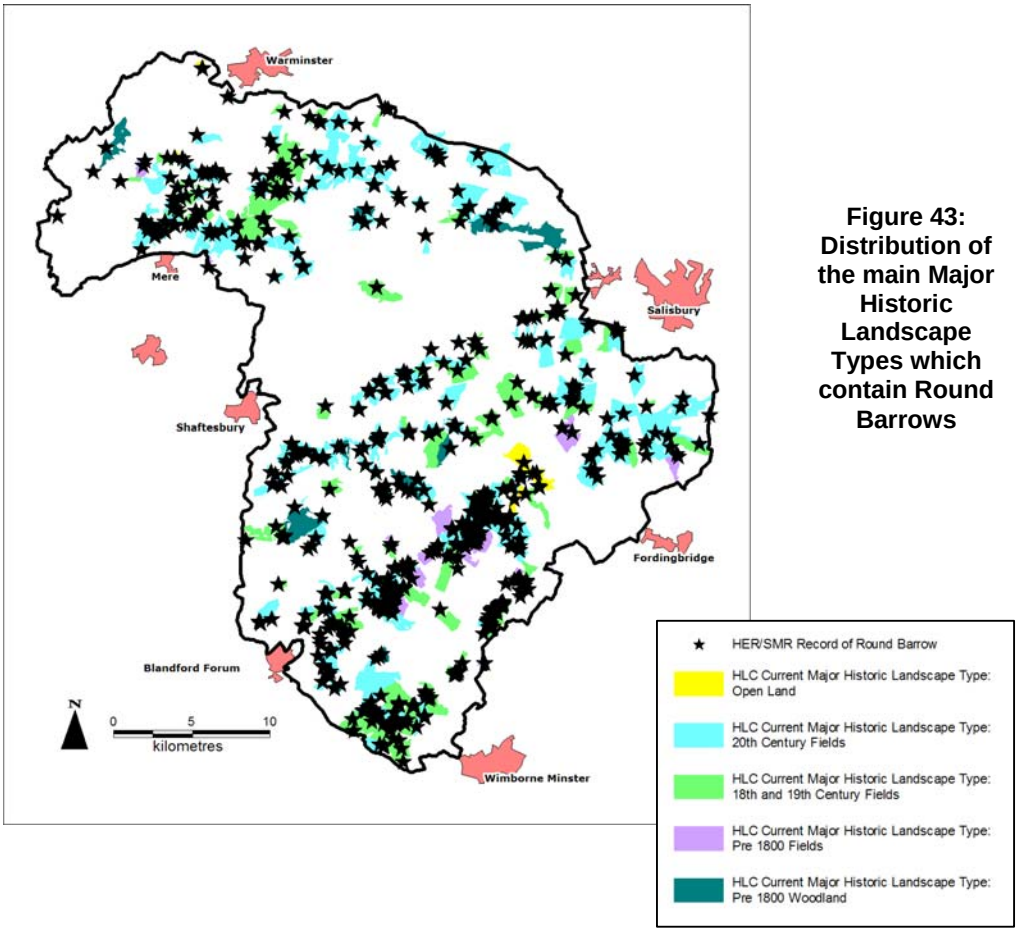


Figure 43: Distribution of the main Major Historic Landscape Types which contain Round Barrows

If we delve further into the HLC dataset, there is a strong correlation between the distribution of Round Barrows and polygons in the HLC dataset which have had open enclosed downland recorded as a previous major historic landscape type (Figure 44 adjacent). It must be remembered that this distribution represents places where the evidence of open downland remains as traces in today's landscape. This distribution explains the high level of concurrence, which at first seems counter intuitive, between the Bronze Age Barrows and areas of land which are fairly recent in character.

This is not to suggest that the Historic Landscape Character can be used to explain the distribution of Round Barrows in the AONB. This can only be explained with reference to the society which constructed the Barrows and is related to a host of interrelated physical factors such as geology, topography and social factors such as their relationship with earlier prehistoric features such as the Dorset Cursus (Green 2000). The Historic Landscape Characterisation does shed light on how relatively high numbers of Round Barrows (both as extant monuments and examples under plough) have survived in areas which have been subject to intensive ploughing and agricultural activity in the last 200 years. The historic landscape character shows that Round Barrows tend to occur on land which could well have been open for two or three millennia before it was enclosed from the 19th century onwards.

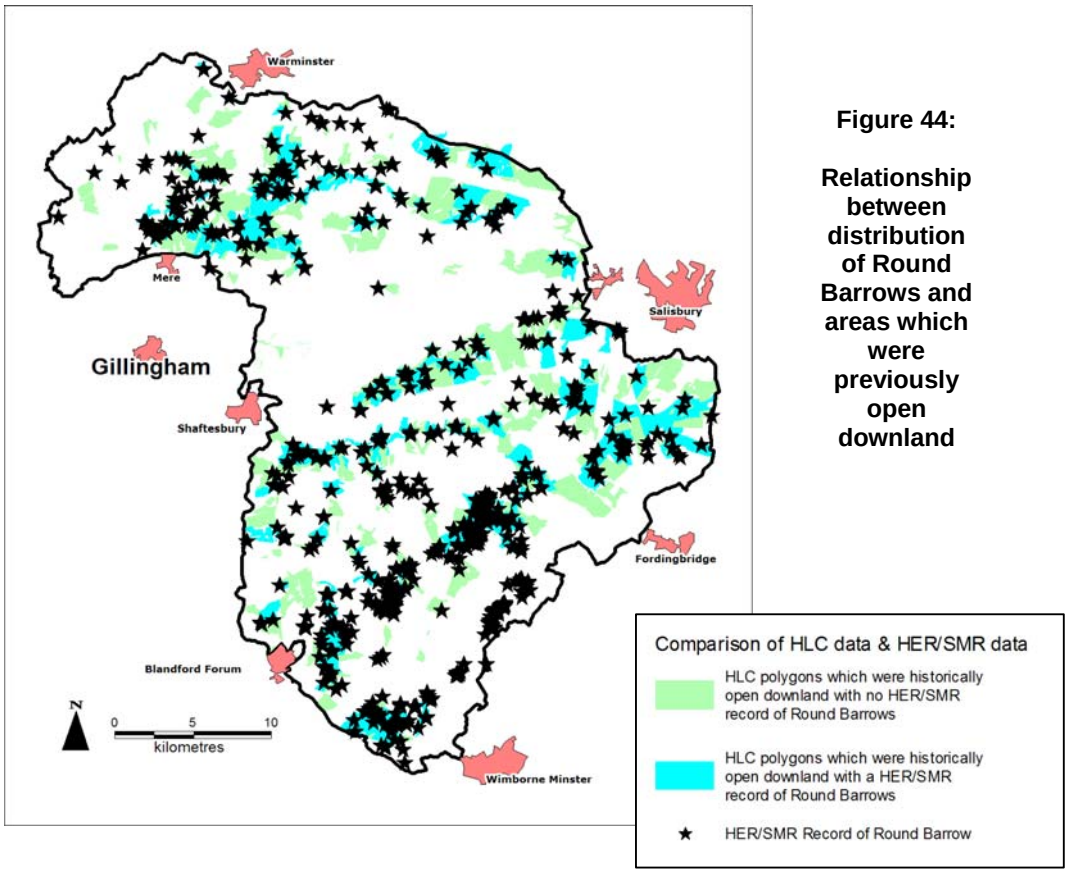


Figure 44:

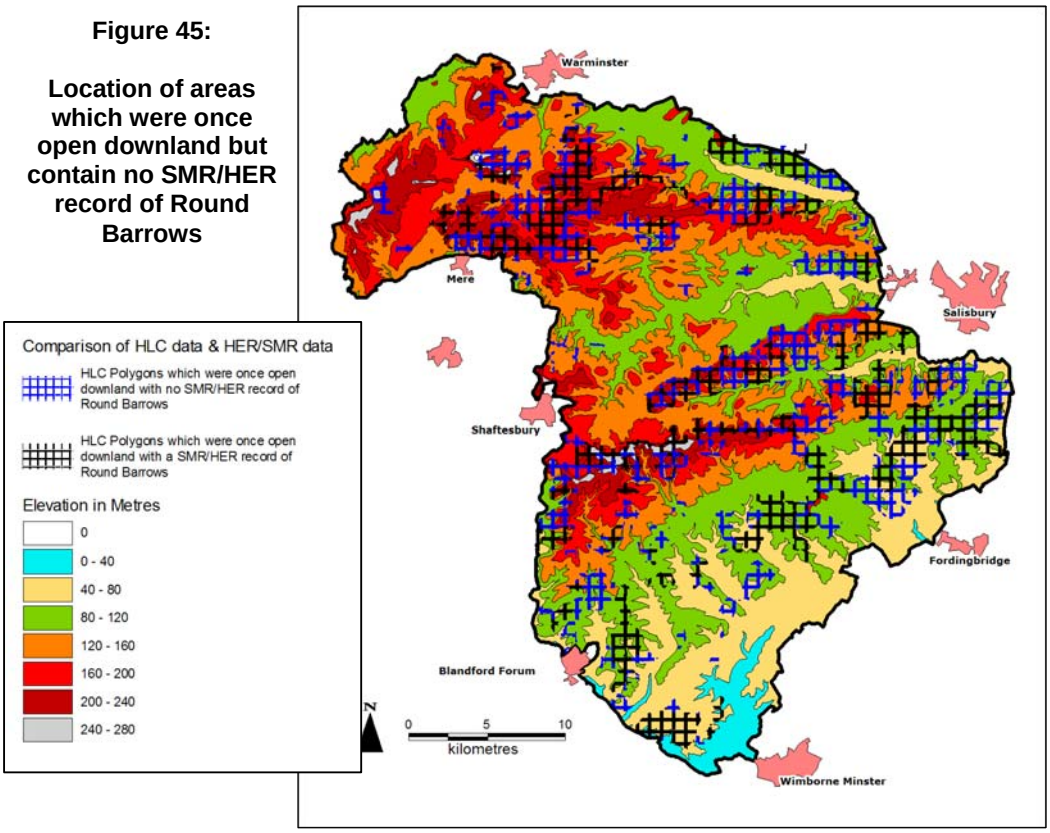
Relationship between distribution of Round Barrows and areas which were previously open downland

The fact that much of the land within which Round Barrows are found is recent in character and has been subject to between 200 and 50 years of intensive ploughing means that some of the evidence for prehistoric activity, such as Round Barrows, may have been destroyed and survive only as buried archaeology. Not all fields produce good crop and soil marks and it is possible, especially in fields which have more recently been returned to pasture, that buried evidence of Bronze Age activity may lie undetected. The concurrence of Round Barrows with areas of land which remained as open downland until the 19th century could be used to detect areas which could contain undetected Bronze Age activity (Figure 45). This can be combined with other relevant factors such as topography.

It may be especially fruitful to look at areas within the core distributions of Round Barrow that were also once open downland.

Figure 45:

Location of areas which were once open downland but contain no SMR/HER record of Round Barrows



7.2.5 Results

This short exercise has demonstrated that there are meaningful relationships to be investigated between the distributions of Historic Landscape Types and monument categories in the HER/SMR county record. It is possible to study how recent land use history has affected the distribution of known monuments and the intensity of this distribution. Finally areas where new sites might be found can also be suggested, demonstrating the predictive quality of HLC.

The relationship between the distribution of monument types in the HER/SMR dataset and Historic Landscape Types in the HLC dataset clearly warrants further attention.

7.2.6 References

English Heritage (1999) National Monuments Record Thesaurus. Available from: http://thesaurus.english-heritage.org.uk [last accessed 02.06.08]

MIDAS Heritage (2007) The UK Historic Environment Data Standard. Available from: http://www.english-heritage.org.uk/server/show/nav.18140 [last accessed 02.06.08]

7.3 Comparison of the HLC dataset and the distribution of Sites of Special Scientific Interest (SSSIs)

7.3.1 Summary

The Cranborne Chase and West Wiltshire Downs AONB Historic Landscape Characterisation dataset provides information on the history of today's landscape in the AONB. It provides information on the overriding historic landscape character of any given area. It also records where previous historic landscape uses remain as traces in the landscape, which have influenced the current historic landscape character. SSSIs aim to identity and conserve the very best wildlife and scientific sites in the country. This exercise aims to look at the relationship between the historic character of the landscape of the AONB and designated sites of scientific importance within it.

7.3.2 Aims of the Exercise

This exercise aims to compare Historic Landscape Character types which coincide with the sites of special scientific interest. It is hoped that this comparison might reveal how the landscape history of the modern landscape of the AONB has contributed to the development or management of areas which are designated as Special Sites of Scientific Interest.

7.3.3 Methodology

Preparing the SSSI dataset

Sites of Special Scientific Interest (SSSI) are the best examples of the natural heritage of wildlife habitats, and geological and geomorphological features in the UK. The first SSSIs were identified in 1949 when the then Nature Conservancy notified local authorities of SSSIs, so their conservation interest could be taken into account during the planning process. Natural England now has responsibility for identifying and protecting the SSSIs in England under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

The location of SSSIs in the UK can be downloaded from the Natural England Website. They consist of polygons with attached data including the various sites names and areas. These were clipped to the AONB boundary.

The Historic Landscape Characterisation polygons which contain a SSSI were queried from the main HLC dataset. This meant that the relationship between designation as SSSI and land use history could be studied.

7.3.4 Analysing and comparing the Datasets

Once the SMR/HER dataset had been prepared the distribution of SSSIs can be compared against the area based HLC data. The first map (Figure 46 over the page) shows the distribution of SSSIs across the AONB. There are more than 50 SSSIs in the AONB. It can clearly be seen that SSSIs in the AONB are concentrated across the Southern Downland Belt and the Wooded Chalk Downland in the centre, and the also the greensand terrace and hills in the northwest corner of the AONB.

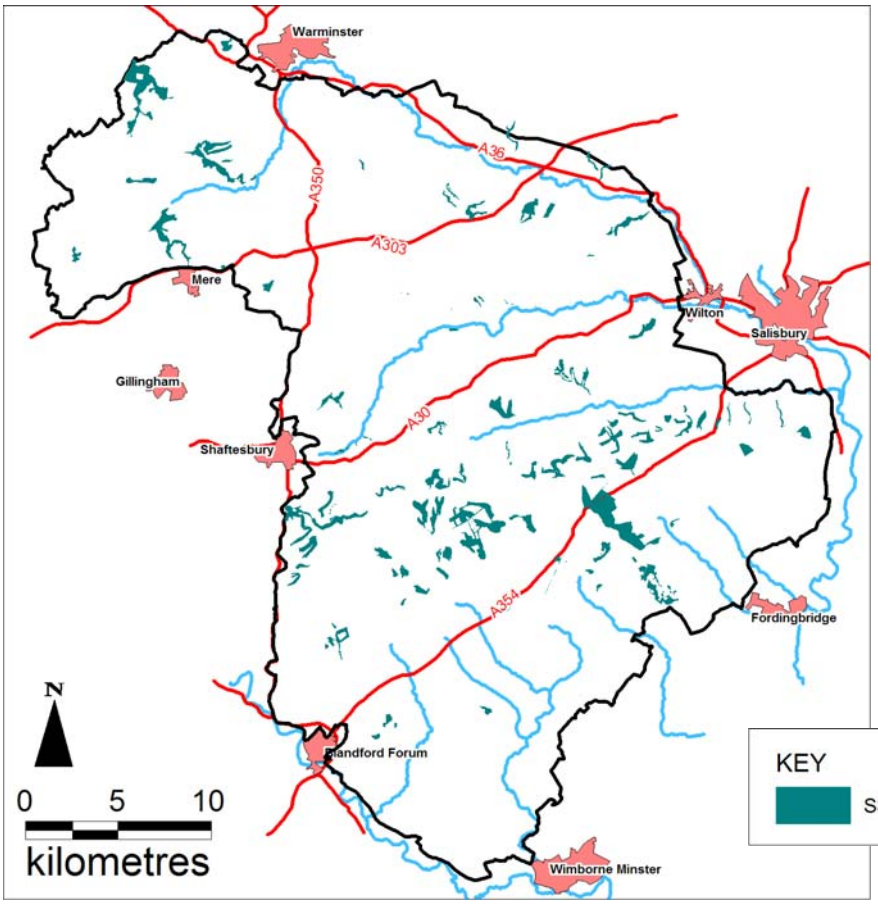


Figure 46: SSSIs in the CCWWD AONB

There are approximately 3400 hectares of SSSIs in the AONB. HLC polygons often cross the boundaries of the SSSIs, this means that 143 HLC polygons (with a combined area of nearly 8000 hectares) have within them at least part of a SSSI.

This exercise has concentrated on the relationship between the SSSIs designated in the AONB and the major Historic Landscape Types identified in the HLC dataset.

The SSSIs are associated with a range of major current historic landscape types, but primarily are associated with 20th century fields and pre 1800 woodland (see figure 47).

The association with 20th century fields may seem counter intuitive but the majority of these are categorised as the subtype semi-enclosed escarpments. These often sinuous blocks consist of fenced areas of chalk escarpment but which maintain characteristics and habitats which reflects its origins as open unenclosed downland. In some instances it also reflects areas which are marginal to the edge of newly created prairie fields.

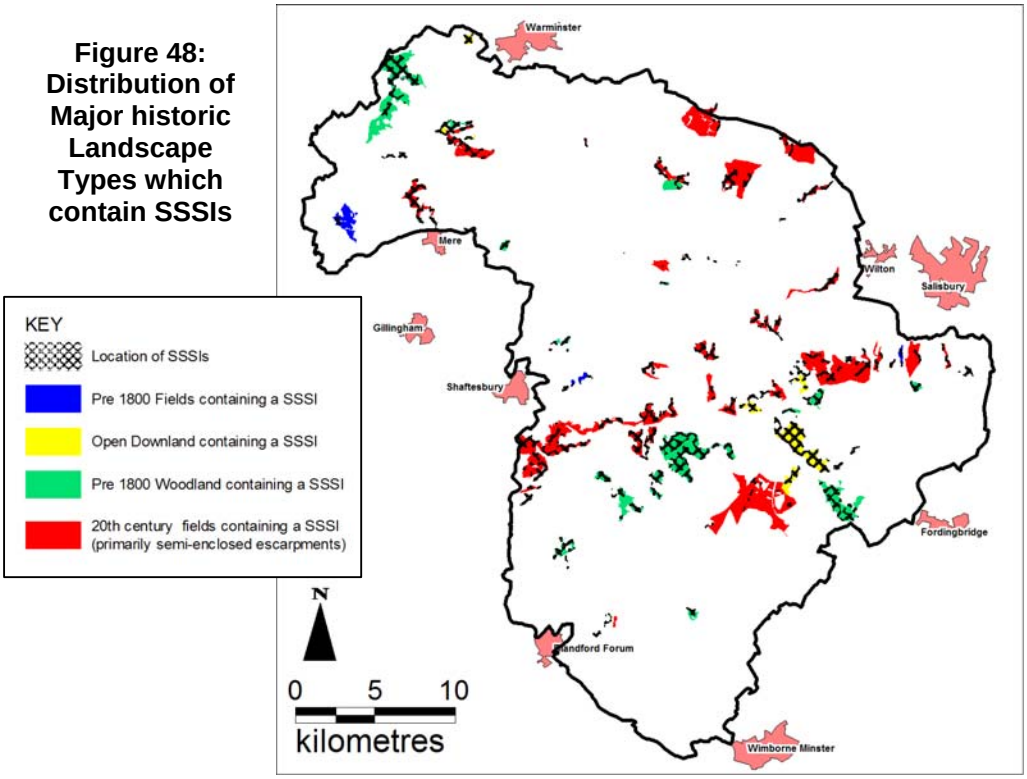
It is immediately noticeable that SSSIs tend to be associated with areas of land which have an ancient current historic landscape type or contain major features of considerable antiquity (such as areas of semi-enclosed escarpments which were downland).

Figure 47: Approximate area of different Major Historic Landscape Types which contain SSSIs.

Major Current Historic Landscape Type	Approximate Area which contains at least part of a SSSI	%
Fishpond and Hatcheries	2	<1%
Other Fields	8	<1%
Assarts	11	<1%
Scrubland and Rough Grazing	13	<1%
Furze	13	<1%
Designed Landscape and Parkland	24	<1%
Extractive	30	<1%
Recent Woodland	203	3%
Pre 18th Century Fields	206	3%
Military Camp	253	3%
18th and 19th Century Fields	453	6%
Downland and Unimproved Grassland	515	6%
Old Woodland	1910	24%
20th Century Fields	4319	54%
Total	**7958.6**	**100 %**

The distributions of SSSIs can be mapped against the four main Major Historic Landscape Types to which they belong (Figure 48).

Figure 48: Distribution of Major historic Landscape Types which contain SSSIs



It can clearly be seen that the area of pre 1800 woodlands which contain SSSIs are associated with the Chase woodlands in the centre of the AONB and the greensand hills. Secondly the main areas of SSSIs associated with areas of land which were previously chalk downland are distributed in a band across the centre of the AONB running from east to west. These escarpments are on the edge of the main areas which were historically chalk downland and the remaining chalk downland is marginal in character.

Finally areas of pre 1800 fields which contain SSSIs are found on the western edge of the AONB. These fields continue through the western edge of the Vale of Wardour and so many of the habitat features which are found here in the SSSI may be mirrored across these wider areas.

7.3.5 Conclusion

This short exercise has demonstrated that there are meaningful relationships to be unravelled from the distributions of Historic Landscape Types and the location of SSSIs. The SSSIs cannot therefore be properly managed and protected without reference to the historic landscapes character of the land within which they are found.

The survival of high-value habitats whose biodiversity is sufficiently important for them to be designated is demonstrably related to land use history, as represented by the HLC. There is a reflexive relationship here between the natural and historic environments, with the semi-natural clearly also being semi-cultural. This pattern can be reinforced when coupled with the correlations made earlier between HLC and particular monument types (notably round barrows), which are also focussed on areas of high biodiversity value – surviving or former downland and woodland.

Spatial and functional relationships between other Wildlife Designations (and mappings of other elements of the physical and natural environment, including relief, drainage, geology, soils, woodland) and Historic Landscape Types in the HLC dataset will also be of considerable interest and clearly warrants further attention.

7.3.6 References

Natural England (2008) Sites of Special Scientific Interest. Available online from: http://www.english-nature.org.uk/special/sssi [last accessed 02.06.08]