County Durham and Darlington
Historic Landscape Characterisation
Revised Method Statement

The revised method statement for the County Durham and
Darlington Historic Landscape Characterisation

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Contents

Introduction

This method statement is a revised version of the *Provisional Methodology* (Wiggins 2006) written for the County Durham and Darlington Historic Landscape Characterisation (CD&D HLC) project. It aims to be used as a 'working manual' for the characterisation and mapping of the whole of the CD&D HLC. To this end, the term *revised methodology* will refer to this edition of the method statement and if necessary will consist of several different versions. *Provisional methodology* refers to the method statement created for application on the sample areas. It is hoped that the *final methodology* will be part of the final written report of the HLC project.

The project has the following 30 month breakdown (taken from the project design):

- **Stage 1**

    - Familiarisation   1 month

    - Pilot areas   3 months

    - Refinement of project methodology   1 month

- **Stage 2** - Characterisation and mapping of:

    - North Pennines   8 months

    - West Durham Coalfields   4 months

    - Wear Lowlands   1 month

    - East Durham Limestone Plateau   2 months

    - Tees Lowlands   2 months

    - Dales Fringe   1 month

- **Stage 3**

    - Whole county analysis and HLC project review   4 months

- **Stage 4**

  - Report, archive and dissemination of CD&D HLC   3 months

The breakdown was based on the area of each County Character Area; this figure was made into a percentage of the 18 months given to complete the Council Districts and Darlington UA. The resulting breakdown translates into calendar months in the timetable shown in Figure 1. This can only be used as a rough indicator of time allocation, as speed of the HLC process is not directly related to the area of each polygon, but is also influenced by the number of previous landscape characters a polygon may have, and of course the latter cannot be predetermined.

The CD&D HLC aims to follow best practice as set out by Aldred and Fairclough (2003) (see Appendix A – The principles of HLC), the main aims of which are to define the present-day landscape within the context of the historical mechanisms that created it, thus those aspects which give it its Historic Landscape Characteristic. This method should attempt to be transparent in its data collection, but interpretative in its final presentation of the landscape as material culture. The applications of the HLC model once created (not *completed* as this is a dynamic model) are wide ranging (Clark *et al* 2004) and should be considered at an early stage to make sure integration is as smooth and complete as possible. If not integrated into policies, planning, environmental issues, and the wider public audience, the project will become a meaningless exercise and as a direct result, funding for development of the HLC in future years may not be so forthcoming. For this reason it is vital to keep the end goals of the project in mind.

This report is divided into four parts which roughly correspond to the four stages outlined in the project design. It should be noted that this report has been produced during the early months of Stage 2; the method has been tested and this report discusses refinements and lessons learnt.

The CD&D HLC project uses OS MasterMap Toids (**to**pographical **id**entifiers) (Fairclough 2002a) as the base for spatial data, and aims to have complete, impartial, coverage for the whole of the area by the end of the project in late 2008.

Breakdown of the CD&D HLC over the allotted time period

2006	Stage	2007	Stage	2008	Stage
		January	North Pennines	January	Tees Lowland
		February	⇩	February	⇩
		March	⇩	March	Dales Fringe
		April	⇩	April	Analysis/Review
May	Familiarisation	May	⇩	May	⇩
June	Pilot Areas	June	West Durham Coalfield	June	⇩
July	⇩	July	⇩	July	⇩
August	⇩	August	⇩	August	Report
September	Refinement	September	⇩	September	⇩
October	North Pennines	October	Wear Lowlands	October	Archive
November	⇩	November	East Durham Limestone		
December	⇩	December	⇩		

Figure 1: Stage 1 (yellow), Stage 2 (peach), Stage 3 (green), and Stage 4 (blue).

1 Stage One

1.1 Familiarisation

The broad background to this project has already been discussed in the project design, which was itself used as the basis for further work by the HLC Project Officer (HLC PO). HLC project designs for the bordering counties of Northumberland, North Yorkshire, and Cumbria were examined, as were project designs from other counties including Lancashire, Hampshire, and Surrey, many of which are available online: Lancashire also had a more detailed methodological statement available online. Background literature on HLC was also consulted during the course of the familiarisation.

Visits to both the Northumberland and North Yorkshire HLC council offices were undertaken during this primary stage in order to see how both counties were progressing and the approaches taken. Issues of methodology, typology, data structure, and compatibility were discussed during this time, in order that the CD&D HLC is compatible with the bordering counties at least on the broadest landscape scale. A certain amount of regional continuity is preferred within the two northern counties of County Durham and Northumberland, especially with regard to the North Pennines Area of Outstanding Natural Beauty (AONB), which itself spans further west into Cumbria.

A provisional method statement was then created and sample areas were defined on the basis of the above research and discussion. The following sections of Part 1 discuss the motivations and outcomes in defining this strategy.

Finally, an inaugural Management Steering Group (MSG) meeting was organised to convene at the end of the familiarisation stage in order to discuss, refine, and eventually approve the provisional methodology and the sample areas to which it applies. The four members of this group are Graham Fairclough (English Heritage Head of Characterisation), David Mason (Durham County Council (DCC) County Archaeologist), Ged Lawson (DCC Landscape Architect) and Hannah Wiggins (DCC HLC PO).

1.2 Provisional method statement design

As noted above the provisional methodology was created using examples from other HLC work already undertaken around the country. Attribute fields and typology codes were drawn up with the understanding that these may

require further alteration at a later date, in line with the multi-mode approach of recent HLC methods as described in Aldred and Fairclough (2003: pp18-19).

During the familiarisation period, a DCC GIS Corporate Project Officer (CPO) was present at meetings and during visits to view the digital systems other counties were using. The structure of Northumberland County Council's (NCC's) HLC database (in Microsoft Access,) was used as a starting point from which the provisional database for the CD&D HLC was developed. This enabled changes to be undertaken quickly and efficiently by the HLC PO within the Access database. It was envisaged that once all sample areas had been completed and the methodology revised, the database would be migrated to an ESRI geodatabase within SQL Server and accessed through ArcMap 9 using ArcSDE. This, a recent development within the HLC GIS use, would allow geographic and attribute data to be maintained together. It should be noted that any development of a spatial database should be designed in a format which is easy to interrogate, both spatially and as a tabled dataset (see *4.1 GIS format and the written report* for further discussion of GIS dissemination requirements). In reality, the development of the ESRI geodatabase took much less time than anticipated and a large proportion of the sample areas was completed using ArcMap and ArcSDE, although the areas took considerably longer as the HLC PO became familiarised with the system and initial teething problems were overcome.

An examination of potential data sources; their content, geographical cover, and possible exploitation within the project, was also undertaken at this stage. A list of the main sources to be consulted was created, and the geodatabase constructed in such a way as to admit detailed information on source material to be included for each polygon (Appendix B). Experience has now shown that, as expected, only digital data available as an ArcMap layer can be used if the project is to stay within the timescales stipulated.

While counties such as Cornwall and Lancashire planned the HLC to be undertaken in parallel with their Landscape Character Assessment (LCA), other counties such as Bath and Gloucester deliberately created the HLC beforehand in order to underpin later LCA work (Clark *et al* 2004: pp21). However, a thorough LCA for County Durham has already been undertaken (Durham County Council 2003) and this should be used as a guide for the current HLC, with regard to current land use and, to a degree, relict land use.

It should be noted at this point that the LCA only relates to County Durham; the unitary authority of Darlington has not been covered by any LCA as yet. The LCA formed the backbone of the County Durham Landscape Strategy, the latter of which is available as a written report and the former as a spatial GIS model.

Consequently, the methodology developed for the CD&D HLC will differ slightly from counties that had no LCA or that had developed the HLC and LCA in tandem. Counties such as Northumberland and Surrey, for example, have two quite distinct stages of identification and interpretation (Bannister 2001: pp7-10; E Williams *pers comm*). This method of making a distinction between firstly defining landscape morphology and secondly interpreting the morphology to give a landscape character, is defined as a *descriptive* way of using the attributes: 'determining HL character by ascribing attributes to polygons without initially assigning interpretations to HL character' (Aldred *et al* 2003: p22).

In contrast to this method, a *prescriptive* approach would attempt 'interpretation as the only means of identifying the criteria'. The recent trend is moving towards 'using the best parts from each of the *prescriptive* and *descriptive* [methods]' (Aldred *et al* 2003: p22). Embracing this combined approach, the CD&D HLC will undertake identification and interpretation of each polygon in a single stage. It must be noted, however, that the two phases will remain distinct from each other through the mechanisms of the database and the data input procedure. It is felt that this method will avoid time-consuming 'double handling' of data; once for identification and again for interpretation.

1.3 Sample work

In order to test the provisional methodology, pilot areas were chosen on which to apply the technique. The areas were originally to include examples of the landscape diversity in County Durham and Darlington, guided in the first instance by the County Character Areas. Regions containing contemporary yet dissimilar landscapes and areas with complex overlain landscapes would be included in the pilot group in order to fully test the method.

The provisional methodology suggested four sample areas drawn from within the following County Character Areas: West Durham Coalfields, Dale Fringe,

East Durham Limestone Plateau, and North Pennine. However, only the latter two areas had sample areas completed during the pilot stage of the project. Characteristics of these areas are listed below.

- The *East Durham limestone plateau* County Character Area consists of non-parliamentary post-medieval enclosure, remnants of medieval open fields systems and urban and industrial development.

- The *North Pennine* County Character Area contains large tracts of open moorland and heathland, with pre-parliamentary and parliamentary enclosure. Widespread remains of lead working are characteristic of this area. Any sample area should attempt to include all the above features within its bounds.

The following four maps (figures 2 - 5) show firstly the areas chosen within each County Character Area, followed by a map showing the characterised areas, coloured to show the Current Landscape Broadclass in each case.
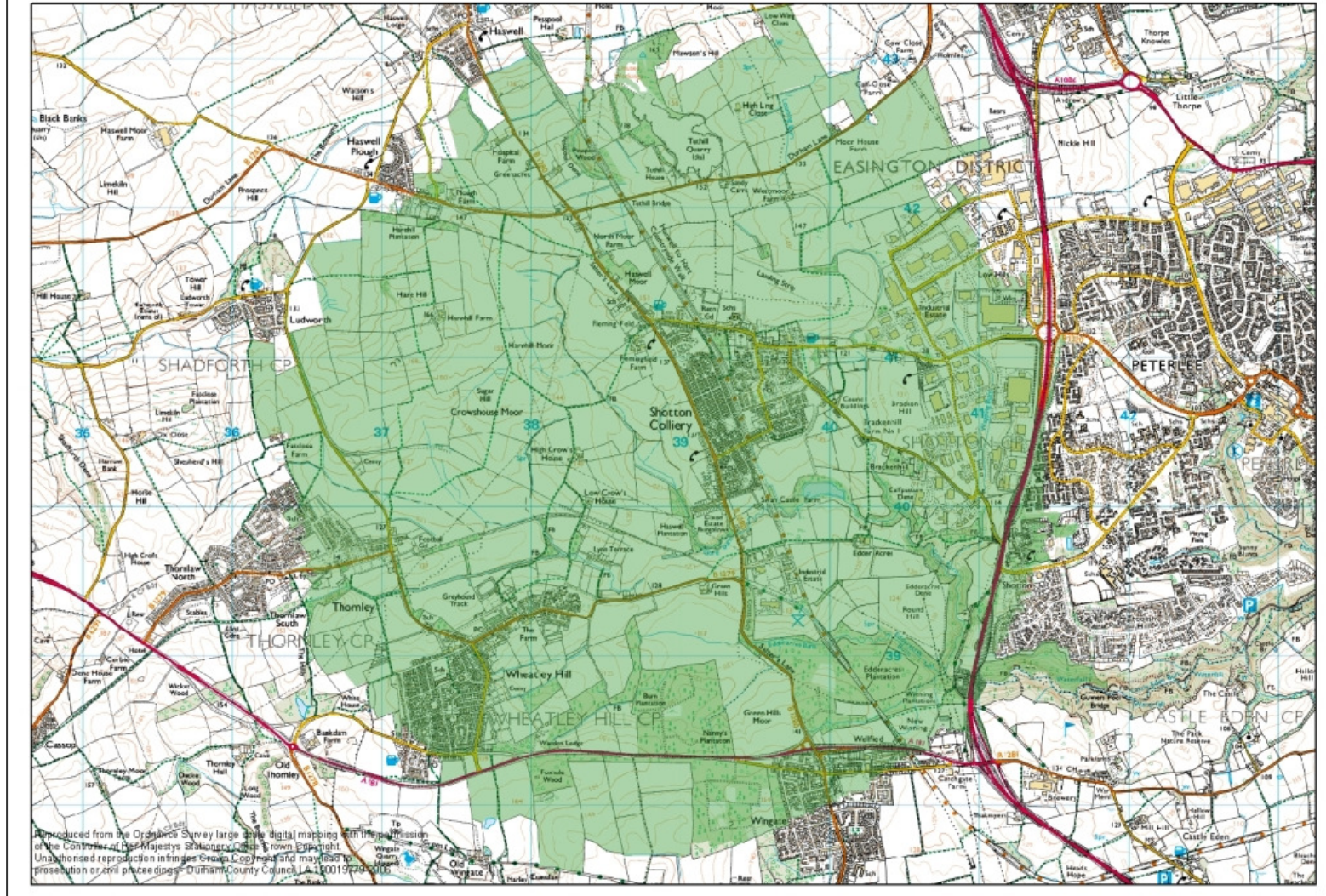
Figure 2: East Durham Limestone Plateau pilot area
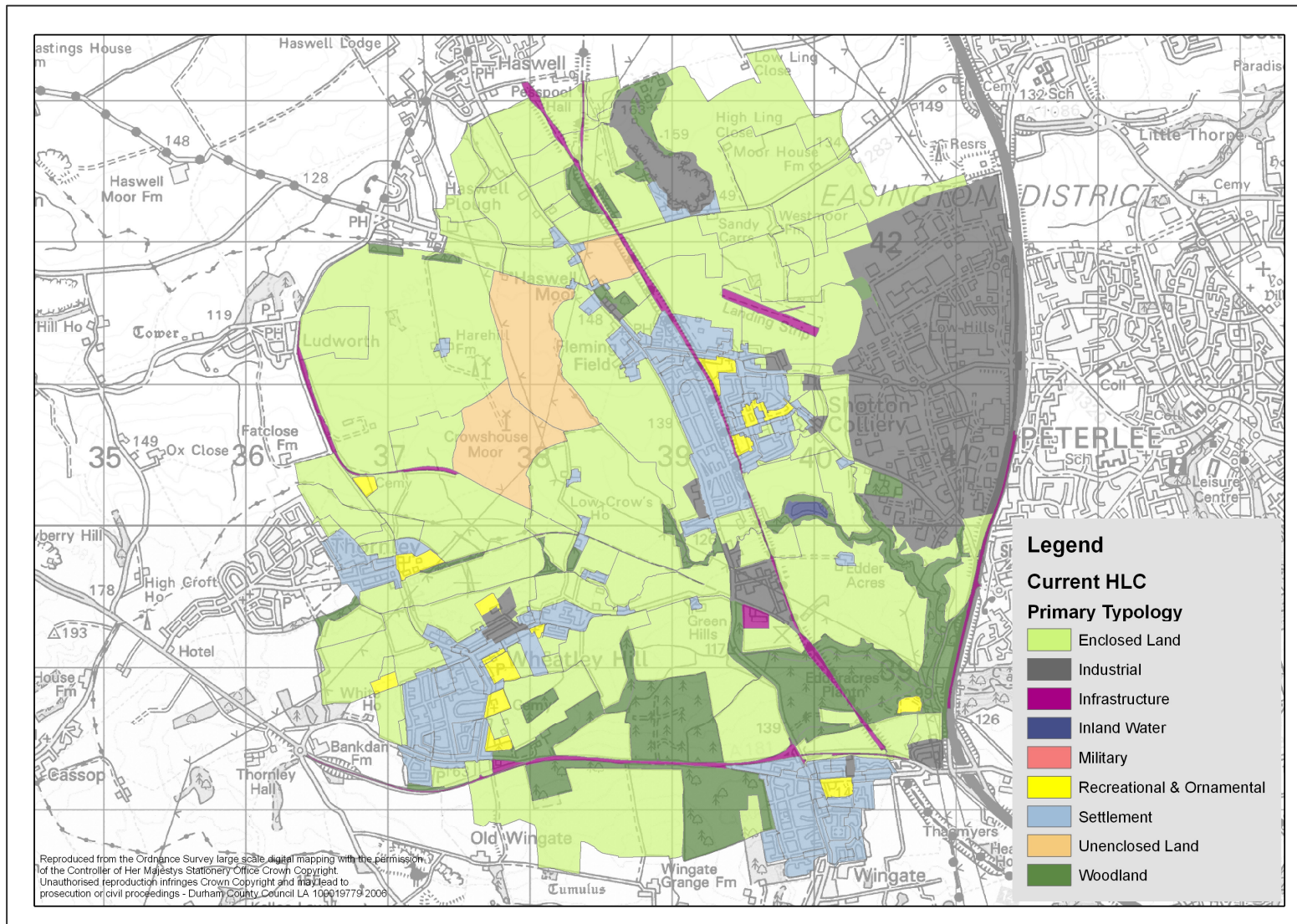
Figure 3: East Durham Limestone Plateau pilot area results
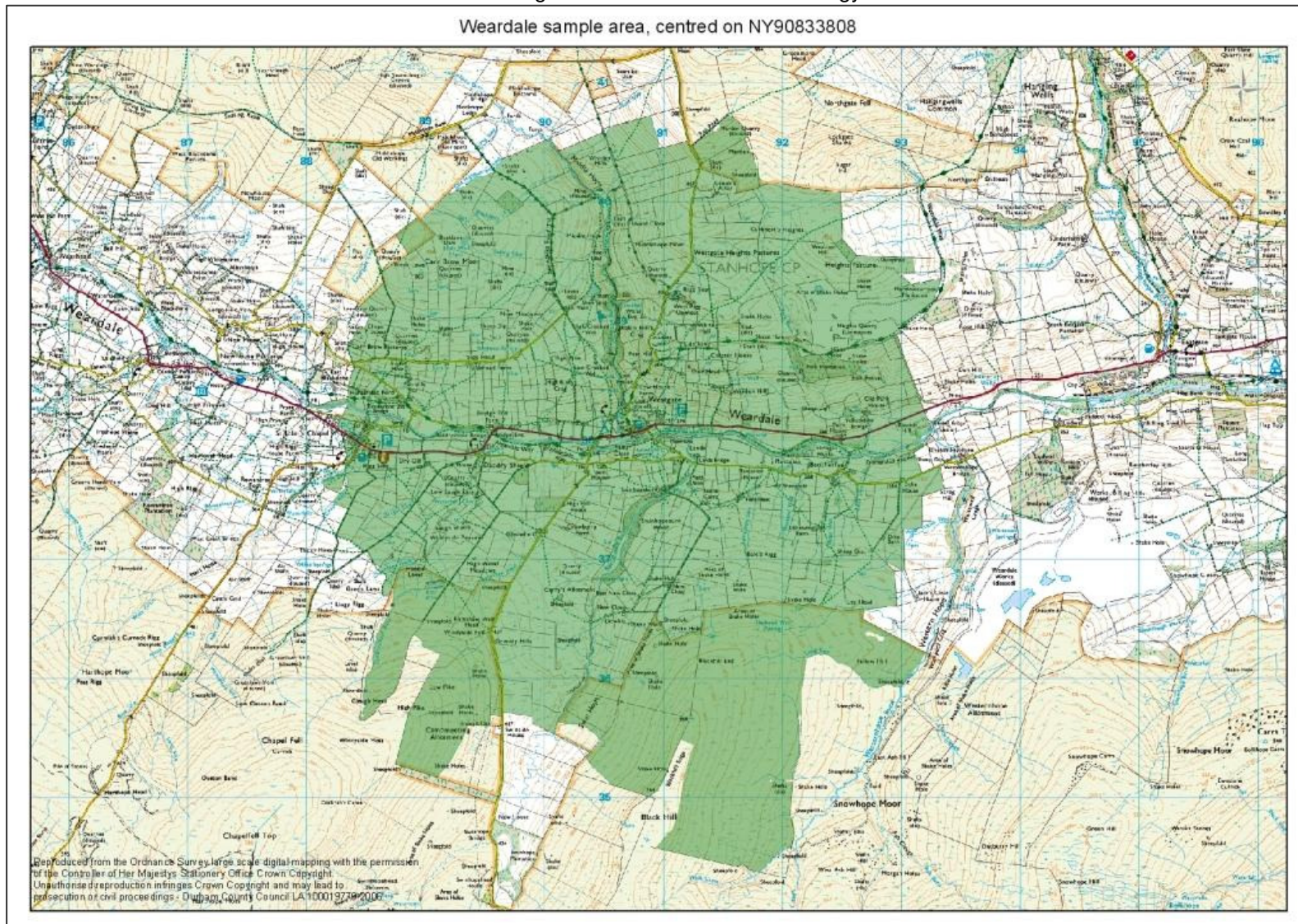
Figure 4: North Pennine pilot area
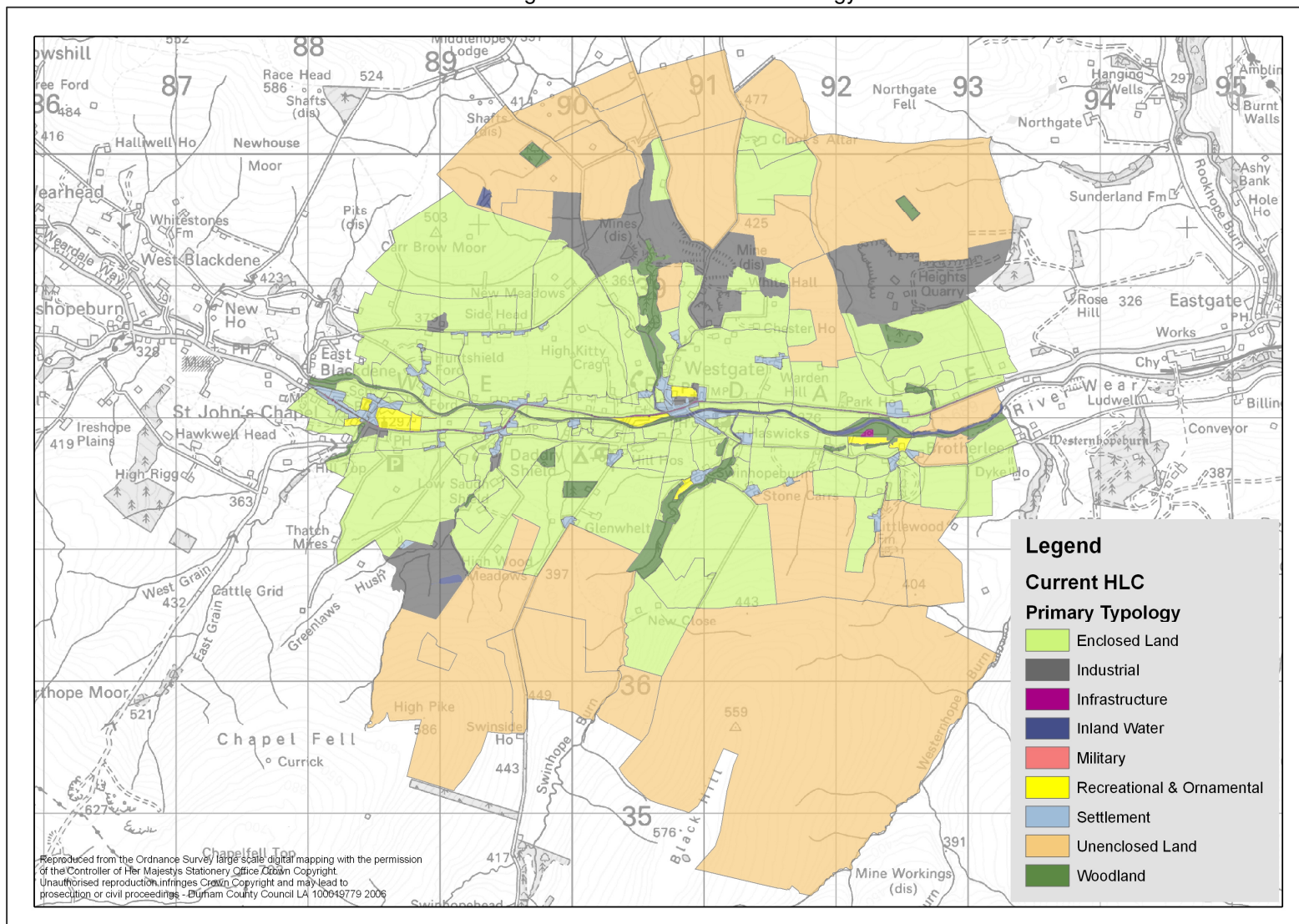
Figure 5: North Pennine pilot area results

Legend

Current HLC

Primary Typology

- Enclosed Land
- Industrial
- Infrastructure
- Inland Water
- Military
- Recreational & Ornamental
- Settlement
- Unenclosed Land
- Woodland

It was noted that other councils such as Cumbria had chosen to broadly base the sample areas on the parish unit. While this is indeed more sympathetic to landscape character than imposing an arbitrary shape, it was felt necessary that sample areas remain of a manageable size, but also incorporate the key characteristics as mentioned above. Therefore the approach taken involved drawing an arbitrary circle to encompass the required area, selecting all MasterMap polygons intersected by this imaginary line.

An initial list of key partners for a Project Advisory Group (PAG) was created in preparation for an inaugural meeting to take place once the provisional methodology had been finalised. The meeting took place on the 9th October 2006 at County Hall and the following representatives attended or expressed interest in the proceedings:

- Niall Benson   DCC Durham Heritage Coast Team
- David Butler   Private
- Graham Clingan   Natural England
- Helen Dunsford   Newcastle University
- Claire Fairclough   DCC Sustainability Section
- Graham Fairclough   English Heritage - National
- Rob George   Darlington Borough Council
- Chris Gerrard   Durham University: Dept of Archaeology
- Tom Gledhill   Rural Development Service DEFRA
- Nial Hammond   Defence Estates
- Dave Heslop   Tyne & Wear County Council
- Michael Hurlow   DCC Heritage and Design Team
- Chris Jones   North Pennine AONB
- Ged Lawson   DCC Landscape Team
- John Lochen   Sedgefield District Council
- David Mason   DCC County Archaeologist
- Duncan McPhie   DCC Policy planning
- Richard Pow   Forestry Commission
- Brian Roberts   Private
- Kevin Sharkey   DCC Corporate GIS Team
- Peter Slegg   Derwentside District Council
- Steve Toase   North Yorkshire and former Cleveland HLC
- Sam Turner   Newcastle University: Dept of Archaeology
- Hannah Wiggins   DCC Archaeology Section/Landscape
- Liz Williams   Northumberland County Council HLC
- Kate Wilson   English Heritage – NE region

It was originally suggested that one of the pilot areas should not be completed until after the Project Advisory Group had met, thereby giving chance for methodological refinement to be applied on this final area. However it was felt that the methodology was not in need of any drastic refinement and so both pilot areas were completed before the meeting. Furthermore, pressure to keep within the timetable restricted the amount of time available to work on any more than the two pilot areas.

The Project Advisory Group met with a view to consider all the aims and intended applications of the HLC, from the initial meeting onwards, in order that focus on outcome is retained throughout the characterisation.

Once all the sample areas had been completed and a Project Advisory Group meeting had taken place, this, the revised method statement was produced with the intention of being used as a manual for Stage 2. This is once again with the provision that it may be revised at any time during the main stage of characterisation. It is envisaged that a fully evolved method statement will be the starting point for Stage 4.

Finally, it should be borne in mind that the HLC is a dynamic process and the data and interpretation should be re-examined within a time frame to be agreed; once every five years is a provisional recommendation. For this reason the methodology must incorporate in its design the ability for this regular updating.

1.4 Summary of Stage 1

- ***Familiarisation***: Reading of relevant background literature; Research into methodologies of other HLCs; Visits to neighbouring HLC POs; Creation of a list of interested parties for the Project Advisory Group.

- ***Provisional method statement design***: Involvement of GIS CPO from early stage; based CD&D HLC geodatabase on that of NCC HLC; developed database in Access before being handed to CPO for evolution into ArcSDE; geodatabase methodology incorporated the already complete LCA for County Durham; examination of data sources for use and exploitation.

- ***Sample work***: pilot areas chosen, methodology tested on two specific landscape types; inaugural Project Advisory Group meeting took place at the end of Stage 1.

2 Stage Two

2.1 Characterisation: identification and description

The second stage of the methodology is intended to systematically identify and describe the morphological features and topography of the *current* landscape. While the intention is to keep compatibility between the HLC projects in bordering counties to a maximum, in reality they will not be 100% compatible given the landscape diversity within the each county. However it is envisaged that management recommendations should be coherent with other councils' advice, specifically when concerning the North Pennines AONB which lies across the bordering counties of Cumbria, Northumberland, and County Durham.

There are two main elements to the underlying data structure, firstly the attribute table itself; information gathered, the way it is stored and structured and whether this is a controlled event (i.e. when the user can only choose from a predetermined list). The second element to the data structure is the actual terminology used; what morphological features should be recorded and how these features should be described in order to keep entries objective and transparent.

As a feature of the fourth and most recent wave of HLC work, time-slices and time-depths are recommended as a way of showing the former land character of an area in order to help inform its current landscape character (Aldred *et al* 2003: pp16-17). For this reason the structure of the geodatabase must reflect the amount of data required for the HLC areas defined. The current structure of the tables and database relationships can be seen in Appendices B and C. This structure was created after analysis of other HLC structures, including North Yorkshire's HLC typology and Northumberland County Council's HLC methodology which were particularly influential. The structure has also changed through time, with additions when new landscapes have been characterised and the need for new classifications has become apparent. However nothing has been, or will be, deleted from the database until the end of the project, once all areas have been characterised.

The fields were identified with a view to collecting all relevant data in the least time-consuming way for the HLC PO. In order to retain a degree of objectivity

(and continuity with NCC and North Yorkshire HLCs) many fields are controlled entry, with 'drop down' lists from which to choose an option. However, the 'summary' and 'description' fields have been added as free-text fields, similar to those in the North Yorkshire HLC. The summary field is designed to be an integral part of any presentation of the HLC model, and as such is to be a simple and clear textual summary of the landscape polygon. The description field is to include any further information which is felt to be relevant but cannot otherwise be captured easily within the geodatabase structure. Changes are made with relative frequency through liaison with the in-house GIS CPO. These changes can be implemented within the hour in most cases.

Each polygon has its area automatically calculated and assigned, based on the absolute spatial data available from the MasterMap data. The preferred mean size of a polygon is between 25-50ha, although it is recognised that this figure may in practise have a wider range. A detailed polygonalisation, with a average polygon area much lower than this is considered a risk to the generalising power of HLC by Aldred *et al* (2003: p42) who state that showing differences in a landscape is more easily achieved than observing similarities, but it is the latter which is considered more important.

Other fields within the geodatabase, such as Soil Type, Drift Geology, Solid Geology, Parish, District, and County Character Area, can be populated with data near the end of the characterisation process, and can be done as a blanket query and data entry exercise.

Analysis of each polygon should include the study of its assigned attributes, including, in the case of enclosures (which are expected to represent a considerable proportion of the HLC), the morphological characteristics of field boundaries within the polygon (sinuous, reverse-S curve, ruler-straight etc), the pattern these boundaries create (regular/irregular grid, radial, co-axial etc) and any obvious external boundary characteristic may suggest a discreet field system.

The integration of other datasets into the HLC was initially suggested in two forms. Initially, the categorised dataset of MasterMap would be systematically interrogated to identify and separate specific aspects of the landscape such as 'woodland', 'roads' and 'water'. However in practise it was quickly

recognised that the data behind MasterMap toids was not of sufficient accuracy to make this method a time-effect method of characterisation.

However, all Motorways and A-roads were identified and selected using the OS MasterMap Integrated Transport Network (ITN) Layer which represents all navigable roads across Great Britain. The layer holds statistical data including the road classes from 'Motorway', and 'A-roads', through to 'Minor Roads' and 'Local Streets'. It was by this means that the roads were characterised and added to the main HLC data base before beginning characterisation of the rest of the area.

In contrast, incorporation of attribute data held by the County Durham LCA is currently thought to be best served by a series of wholesale queries and data additions which will be run at the end of the project. This process will be completed with assistance from the GIS CPO.

In line with DCC's *Computer User's Handbook (version 11.0 2000): Part 3.4 Disaster Recovery*, regular backups of the HLC digital data are a necessary precaution. It is acknowledged that the main storage area for the ultimate copy of the main HLC GIS geodatabase is one of the main GIS servers and that other periphery data is held on the main Environment Directorate server; both of these servers are backed-up nightly. Further recent discussion with the IT team after the provisional methodology was written has concluded that no further data precautions are necessary.

Any fieldwork undertaken for this project was to be limited to Stage 1 during the familiarisation period. After this stage the characterisation should be based mainly on map, aerial photography and other documentary evidence. In the event it was not possible within the time frame to undertake any fieldwork of any kind with regard to this project.

2.2 Digitisation: sources

Digital sources to be used for the CD&D HLC include the following GIS layers:

- County Durham Landscape Character Assessment database

- DCC HER, SAM and Listed Buildings data

- DCC's GIS digital mapping of Common Land Register

- DCC's GIS digital mapping of mineral workings

- DCC's GIS digital mapping of Parish and Township boundaries

- DCC's GIS digital mapping of Parliamentary Enclosures

- DCC's GIS digital mapping of the old county boundary

- Geo-referenced GIS-based vertical aerial photographs 2001 and 1940

- Historic digital raster maps

- Historic parish boundaries.

- Natural England's Ancient Woodland Inventory

- Natural England's Countryside Character Map

- Ordnance Survey 25m contour data

- Ordnance Survey Integrated Transport Network (ITN) data

- Ordnance Survey vector and raster maps

- Solid and Drift Geology from British Geological Survey (1:50000 scale)

- Work undertaken by Helen Dunsford on settlement and waste

A complete list of available data sets is appended and a final list of those actually used will be appended to the final report (Appendix C). It became obvious from an early stage that non-digital data, that is to say any data not in the format where it could be loaded onto a GIS map document, has not been referenced due to the time constraints on the project. However, in certain instances, where map layers could be created from other sources quickly and simply, it was felt that it would give a better understanding of landscape character in the area. This will be fully recorded as part of the final report once all data has been captured.

While Historic Environment Record (HER) point data has not been used directly (formerly the Sites and Monuments Record), it has been referred to in order to gain a full understanding of landscape use. However, no Listed Buildings, Scheduled Ancient Monuments, or similar information has been incorporated as this is contradictory to the values of landscape

characterisation. Furthermore, this would be a duplication of data which is already more effective stored in the HER and which itself will be subject to a restructuring in the near future. However, in specific instances where Scheduled Ancient Monuments cover large areas of land, and refer more to a landscape characteristic than a specific monument, the boundaries may have been followed, and/or mention may have been made within the text when it was felt that the Scheduled area was of a significantly different landscape character to the area around it.

2.3 Characterisation: attributes (typology/classification)

Characterisation of the landscape, once it has been identified, should take a very structured form. Clark *et al* (2004) list eleven HLC broad types which would enable each HLC to be joined at a regional level, with these common core elements to allow comparison. The eleven suggested broad types are:

1. Communications
2. Enclosed land
3. Industrial land
4. Military
5. Orchards
6. Ornamental and recreational
7. Settlements
8. Unenclosed or unimproved land
9. Water and valley floor
10. Water bodies
11. Woodland

This system is designed to be hierarchical, allowing for several subtype levels, if necessary. Furthermore the eleven listed broad types are to be viewed as guideline broad types. After reviewing other councils' typology sets and after discussion within the Management Working Group it was decided that the main broad types to be used for the County Durham and Darlington HLC would be as follows:

1. Coastal
2. Enclosed Land
3. Industrial

4. Infrastructure

5. Inland Water

6. Military

7. Recreational & Ornamental

8. Settlement

9. Unenclosed land

10. Woodland

Comparison of these types against those suggested by English Heritage show a good degree of correlation, with some typologies only slightly differing in name in order to subsume other land character subtypes within the category.

To allow the landscape character to be defined in a straightforward, and yet short hand fashion, within the main attributes table, each broad type was assigned a number in the hundreds, thus 'Coastal' was given the code 100, 'Enclosed Land' was given the code 200, 'Industrial' given the code 300 and so on. In this way subtypes could be broken into further categories (Appendix D). This system was used successfully in Surrey County Council's HLC methodology (Bannister 2001).

Finally a Project Advisory Group meeting should be arranged near the end of this data collection stage with the purpose of discussing progress and direction.

2.4 Analysis and Interpretation

This was, in the provisional methodology, part of Stage 3. However, it is recognised that interpretation of individual polygons does in fact take place during the identification and description of the same. In fact the ability to attach a classification such as those listed above is partly the result of such interpretation. It was originally kept distinctly separate from the attribution side of the characterisation work (*2.1 Characterisation: identification and description* and *2.3 Characterisation: attributes (typology/classification)*), for reasons of clarity and good practice, but has now been added as part of Stage 2 – where it occurs as an indistinct part of a daily process that involves identification, description, and analysis, followed by interpretation of a specific character area, before a classification is attached to the same from the prescribed typological framework discussed above (*2.3 Characterisation: attributes (typology/classification)*).

The analysis and interpretation side of the process should consider previous land use, current landuse, and general landscape trends in order to make an informed judgement when assigning a typology to the polygon. This classification of type should not reflect current landuse alone, but reflect the landscape character as a whole.

The current geodatabase structure allows for entry of both a primary and secondary typology for the current landscape character to be recorded. Furthermore it allows previous landscape characters to be recorded in exactly the same way, recording almost identical information (except that which need not be repeated such as polygon area etc). These are recorded as separate but linked records and an infinite number of 'previous' characters can be added, although in reality this is rarely past three, and usually one or two previous characters.

The geodatabase has been designed not to capture data from a *specific* and *comparable* points in time, for instance from the 1850's first edition OS map – as this would produce *time-slices*. Current HLC methodology is trying to move further towards a *time-depth* approach, where the capability of recording several past land uses is available but these need not be of a comparable time periods (Aldred *et al* 2003). Rather, they show the main historic characteristics over time of that particular character area and can show how often a landscape has changed. This should give a more relevant time-depth to each characterised polygon. However, some time slice information can be collected in the present geodatabase structure.

All relevant available background material including the CD&D HER should be consulted during this phase to arrive at the most complete interpretation possible at this time. It was proposed to work inwards from a broad and general landscape character across the whole HLC area, toward the complex and detailed landscape typologies. However, once work began, this was seen to be a rather labour intensive method to use and instead the adopted practice has been to create polygons at the most detailed typological level straight away, rather than revisiting the area later and having to become re-familiarised with the landscape character once again.

2.5 Summary of Stage 2

- **Characterisation: identification and description**: The systematic identification and interpretation of all morphological features within the entire landscape of County Durham and Darlington Borough using the given attribute data collection structure. This is currently being undertaken.

- **Digitisation: sources**: All main sources listed, with comprehensive list appended over the course of the project (Appendix C) will be produced.

- **Characterisation: attributes**: A list of attribute data to be collected for each polygon is in the process of being created; a discussion on classifications used has been undertaken (Appendix D); a Project Advisory Group meeting to discuss progress and direction will be organised in the final months of Stage 2.

- **Analysis & Interpretation**: Analysis of morphological attributes; interpretation and ascription to landscape type, using all available data; production of a time-depth model – primary and secondary landscape character providing this depth, with the capability of recording further landscape characters types as necessary: Consideration of the method as a repeatable procedure.

3 Stage Three

As already noted, the Analysis and Interpretation Section was originally thought to be best suited to Stage 3, but it has now been recognised as an indistinguishable part of Stage 2. Consequently, Stage 3 now comprises only of the analysis of the complete HLC with regard to the larger landscape patterns which the individual character areas produce as a group.

3.1 Synthesis

The aim of the HLC is ultimately to identify and present emerging patterns and trends within the landscape to help other parties make informed decisions with regard to landscape management.

To this end, once the HLC model of spatial data with attributes has been completed, thematic assessment of this data can be undertaken to give broad overviews of proportions and percentages of landscape types within given areas. Areas with similar character types can be identified from attributes and management recommendations can be made.

The HLC can show possible gaps in data requisition and landscape comprehension within the County Durham and Darlington. By the overlaying of other GIS data layers such as the county HER, there is also the potential for predictive modelling and identification of gaps within this same HER.

The applications of the CD&D HLC were explored during the early stages of the HLC development process to be sure of compatibility issues with regard to data structures and data types (through the Project Advisory Group meeting and other smaller meetings with interested parties). Integration of the HLC into stand-alone projects such as land management strategies and frameworks; management plans; designations; and development frameworks must all be considered. Consultations with potential user groups such as local authorities, English Heritage, Natural England, and Defra into possible applications or documents will be arranged, and should explore suitable ways of data synthesis and presentation for such purposes.

Incorporation of the CD&D HLC as a GIS layer available on the DCC Intramap system is also an important issue which must be addressed at this stage so that the data is available as a layer on the DCC Intramap - at least in its most

basic spatial format with attribute data limited to broad class and limited other fields.

Furthermore, some form of integration of the new HLC model into the existing County Durham LCA, as both spatial and descriptive data, is seen as a fundamental outcome of this project. Although the work involved in undertaking such integration is far beyond the scope of the HLC project, it is still necessary to take the compatibility and complementary nature of the later work into consideration at this stage. Additional work may be undertaken for the integration of the HLC into the Countryside Character Areas, and this reported to Natural England.

Finally, post-project seminars should be held and attended by all interested parties including, but by no means exclusively, the Project Advisory Group. This was undertaken by Surrey County Council as an exercise to promote and explain the purposes and applications of the Surrey HLC. Feedback was also gathered as part of Surrey's exercise, and this showed an overwhelming expectation and requirement from delegates that relative landscape *value* be assigned to each polygon area to help them in their decision making (Surrey County Council 2001). However, one of the most fundamental guiding principles of HLC recognises that no landscape is more important than another (see Appendix A, bullet point 3). **This underlying notion of intrinsic equality needs to be recognised and emphasised at this early stage, and all Project Advisory Group parties to acknowledge this, if the HLC is to become a valuable tool for future management.**

3.2 Summary of Stage 3

- *Synthesis*: Thematic assessment of data; comparison against other data to show gaps or potential modelling; use in stand-alone project for land management strategies and guidelines; Incorporation as spatial data into the DCC Intramap GIS; Consideration of implications of integration into the DCC LCA ; Emphasis that HLC is not a way of assigning landscape *value*.

4 Stage Four

4.1 GIS format and the written report

The principal products of the HLC project will be the spatial and attribute data in GIS geodatabase format, an archive of raw survey data, and a written report.

The format of the prescribed GIS interfaced has been detailed already by the project design for this HLC and has been mentioned above under *3.1 Synthesis*. It is envisaged that it will be hosted on the DCC online GIS Intramap: *www.durham.gov.uk/landscape/usp.nsf/pws/gis+-+online+mapping* for public access and accompanied by other relevant layers such as Conservation Areas, Listed Buildings and Historic Parks and Gardens. There should also be hyperlinks to, and from, Keys to the Past (HER) website: *www.keystothepast.info/k2p/usp.nsf/pws/keys+to+the+Past+-+home+page*. Simplified versions of the digital GIS geodatabase may be made available for those groups requiring the HLC or parts thereof in such a format.

The HLC report produced for Surrey County Council in two volumes, comprehensively covers all the issues relating to the HLC, from the methodology (Bannister 2001a) through to description and discussion of each recognised Historic Landscape Character type (Bannister 2001b). An additional report championing the implementation strategies sets out the views of various discussion groups invited to a seminar after the completion of the HLC (Surrey County Council 2001). Many of the insights gained from Surrey's experience have been instructive in fashioning the aims of this CD&D HLC.

A report along similar lines to Surrey or Lancashire is would be recommended, although the level of report detail may not be to quite the same degree as the former. HLC areas should still be explained with clear reasoning behind the decisions taken during the HLC process as a fundamental part of the report. Having a comprehensive hard copy of the report is also important for those persons who will not, for what ever reason, be able to access the HLC either online or indeed electronically at all. The incorporation of large scale maps within the reports may be a further consideration, to facilitate the use of the HLC in this manner. However, it must still be recognised that HLC is primarily a GIS based model.

The CD&D HLC model should be periodically reviewed and updated in accordance with new base data received, and with respect to how often Local Plans and Supplementary Planning Document are reviewed in order that the HLC is tied to planning cycle. This period of time is still to be decided and will involve discussion with various stakeholders before any decision is reached.

Meetings may take place at this stage to discuss results, both within the smaller Management Steering Group, and also within the larger Project Advisory Group.

4.2 Archive

The archive of the project should be collated with the view to periodic review undertaken by a different individual. The project archive must therefore be comprehensive and include:

- Copies of the project design, all versions of the method statement, and a copy of the final report.

- GIS geodatabases with clear explanations of structure

- Background text and mapped information produced during the project or collated during the project

- Copies of all reports, presentations or other articles produced in relation to HLC.

- Copies of all correspondence

- Copies of all digital data accumulated

4.3 Dissemination

This CD&D HLC has been created as a tool for use in strategic policies, management guidelines and to facilitate interpretation of the Durham and Darlington Landscape. As Bannister opines, with regard to the Surrey HLC:

> It is a springboard from which to develop initiatives for understanding and caring about the countryside and its historic character. Whether living in, working on or managing the landscape.

(Bannister 2001: p59)

To this end the maps and supporting data must be presented in an accessible format that is readily understood and easy to use. The project brief states that the Durham and Darlington HLC will be designed to operate as a stand-alone HLC website with links from both authorities' websites. An outline of the project and a summary of the report (including typological explanations) should also be available as downloadable PDF files on HLC website.

The geodatabase should be compatible with the HER. However, the CD&D HER has been acknowledged as an area to be reviewed in the future as some of its structures are now outmoded. Whenever possible, similar structures have been retained, such as the chronological dating system. However further integration at this point is not possible, and it may be that in future years the HER is designed to be compatible with the HLC. This has been borne in mind throughout the entire HLC process although little can be done to facilitate this later process.

The ESRI geodatabase is supported by the DCC GIS team and, as this is used council wide, it will be completely compatible with other in-house data. It is also important that the HLCs of CD&D and NCC are cross-compatible. This should not be too problematic as the NCC is also being mapped in ArcMAP 9 although the database behind this spatial tool has been designed Microsoft Access. The spatial data of both HLCs will therefore be compatible; however sharing data from the database behind this spatial tool may require file translation, but this should not be a significant or time consuming factor.

Further dissemination of the HLC model at this stage, in whichever format is best suited, should include: land utilisation maps; mention/reference within the DCC Tourism and Action Plan Strategy; and inclusion of articles in such publications as the DCC *Countrywide* and DCC's Archaeology Section annual magazine, as well as any similar literature produced by Darlington UA.

A technical seminar for all interested parties should be considered near the end of the project in order to best implement the geodatabase. Both a digital copy and several hard copies of the report should be available at such an event. A travelling exhibition was an alternative suggestion as a way of presenting the HLC to various different user groups.

This, the last stage of the HLC process should include press releases to help launch this project into the wider public, corporate and local government audience.

It is suggested that a glossary of terms is considered for the final report as it has come to light that different disciplines understand similar words in subtly different ways. Such a glossary may further help the transparency of the CD&D HLC.

4.4 Summary of Stage 4

- **Report and GIS:** GIS to be user-friendly and compatible with neighbouring systems and DCC's own Intramap GIS. The report should be an in-depth discussion of the methodology with clear reasoning for decisions made. The report must include discussion of every landscape type used with a sample area and map. A glossary of terms may be considered.

- **Archive:** An archive of all relevant material should be kept and the project reviewed within an agreed timescale, to be confirmed.

- **Dissemination:** Accessible format for all users, both online and as a hard copy. Press releases and possible technical seminar or travelling exhibition should be considered, and inclusion of articles in such publications as the DCC *Countrywide* and DCC's Archaeology Section annual magazine should be made possible.

5 Bibliography

Aldred, O. & Fairclough, G. (2003) *Historic Landscape Characterisation: Taking Stock of Method.* English Heritage and Somerset County Council. **unpublished**

Bannister, N. (2001a) *Surrey Historic Landscape Characterisation: Final Report Volume 1: Main Report Method and Analysis.* The Countryside Agency, English Heritage and Surrey County Council. **unpublished**

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Clark, J., Darlington, J. & Fairclough, G. (2004) *Using Historic Landscape Characterisation.* English Heritage and Lancashire County Council. **ISBN1899907777**

Durham County Council (2000) *Policies and Procedures: Computer User's Handbook* Durham County Council. **Unpublished**

Durham County Council (2003) *The County Durham Landscape Strategy: Consultation Draft*. Durham County Council. **Unpublished**

Fairclough, G. (2002a) "Cultural landscape, computers and characterisation: GIS-based Historic Landscape Characterisation as a tool for archaeological resource management in England". In G Burenhult (ed) *Archaeological Informatics: Pushing the Envelope CAA 2001* BAR International Series **1016**

Fairclough, G. (ed) (2002b) *Historic Landscape Characterisation Template Project Design.* English Heritage. **Unpublished**

Surrey County Council (2001) *Surrey Historic Landscape Characterisation Project: Strategy for implementing the map and database*. Surrey County Council. **unpublished**

6 Appendices

6.1 Appendix A – The principles of HLC

HLC should:

1. Define historic character first and foremost in the present-day landscape;

2. Identify interactions and change in the landscape through time;

3. Characterise the whole of the landscape, not designate selected parts – i.e. no part of the landscape is to be regarded as intrinsically more important than any other;

4. Use an archaeologist's approach to 'read' landscape as material culture;

5. Use the present day landscape itself as the main source, through the desk-based medium of maps and air photos, using GIS;

6. Understand "landscape" through interpretation and perception rather than purely as an objective thing i.e. "landscape as perceived by people";

7. Remember that landscape is and always has been dynamic, both in terms of physical material components and shifting attitudes to it; thus management and change not preservation is the aim;

8. Ensure that its conclusions and interpretations are transparent, checkable and updateable;

9. Be fully integrated into other environmental and heritage management databases, particularly (in England) the SMR (or in future the HERC).

(Aldred and Fairclough 2003: pp40)

6.2 Appendix B – Table structure, attributes and relationships

It should be noted that the actual terminology and structure of the ESRI ArcGIS geodatabase is not exactly as shown below, but has been simplified for purposes of clarity.

6.2.1 HLC_Main.tbl

Field Name	Field Type	Notes
HLC ID	Autonumber	Automatically incremented.
Elevation	List box	Under 250m Over 250m
Primary Typology	List box	See Appendix C*
Secondary Typology	List box	See Appendix C*
Confidence	List box	Certain >75% Probable 50-75% Possible 25-50% Suggested <25%
Period	List box	Prehistoric 4000BC – AD 43 Palaeolithic: 500 000 - 10 000 BC Mesolithic: 10 000 - 4000 BC Neolithic: 4000 - 2100 BC Bronze Age: 2100 - 700 BC Iron Age: 700 BC - AD 43 Romano British: AD 43 – 410 Early medieval: AD 411 – 1065

		Later medieval: AD 1066 – 1539
		Post-medieval: AD 1540 – 1900
		Modern: AD 1901-present
		Unknown: n/a
Legibility (of primary typology assigned)	List box	Complete
		Significant
		Partial
		Fragmentary
		Invisible
Summary	Memo	Summary of polygon characteristics. Jargon free.
Description	Memo	Includes summary text plus further expanded text if necessary
Settlement: Morphology	List box	With regard to SETTLEMENT TYPOLOGY only
		Complex
		Cul-de-sac
		Geometric
		Grid system
		Irregular
		Nucleated
		Ribbon development (settlement parallel to roads)
		None
Settlement: Housing Type	List box	With regard to SETTLEMENT TYPOLOGY only
		Terraced =>3units
		Semi-detached
		Detached
		Low rise flats <= 3 floors
		High flats => 4 floors
		Other

Settlement: Density	List box	With regard to SETTLEMENT TYPOLOGY only <25 houses/ha 25-50 houses/ha >50 houses/ha Unknown
Settlement: Private Space	List box	With regard to SETTLEMENT TYPOLOGY only Front & back gardens Back garden & front yard Back garden Front garden Shared yard Back yard Front garden and back yard Courtyard Farmyard No private space No discernable private space Extensive private grounds Unknown
Industry: Density of extraction	List box	With regard to INDUSTRY TYPOLOGY only Very dispersed Dispersed Nucleated Concentrated Very concentrated
Industrial: Hushes	Yes/No	With regard to INDUSTRIAL TYPOLOGY only Physical evidence of lead mining where few other remains may now exist
Enclosed: Ridge & Furrow	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are features

Enclosed: Assart	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are features
Enclosed: Waste	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are features
Enclosed: Grange	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are land status related
Enclosed: Demesne	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are land status related
Enclosed/Unenclosed: Sheepfold	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are features
Enclosed /Unenclosed: Bields	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are features
Enclosed: Glebe	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are land status related
Enclosed: Quarry/Kiln	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only quarries or kilns related to land improvement not industry
Unenclosed: Grouse Butts	Yes/No	With regard to UNENCLOSED TYPOLOGY only Physical evidence of land management for game shooting
Dominant Boundary Morphology	List box	Ruler Straight Relatively Straight Sinuous Angled Reverse-S Curved n/a none
Other Boundary Morphology	List box	Ruler Straight Relatively Straight Sinuous

		Angled Reverse-S Curved n/a none	
Pattern Morphology	List box	Irregular grid Regular grid Stepped grid Radial Co-axial Agglomerated None n/a	
Dominant Polygon Boundary	List box	Arbitrary Ruler Straight Relatively Straight Irregular Sinuous Angled Curved Reverse-S n/a	
Other Polygon Boundary	List box	Arbitrary Ruler Straight Relatively Straight Irregular Sinuous Angled	

		Curved Reverse-S n/a
Predominant field size	List box	<2ha 2-10ha >10ha
Average field size	Number	Calculated roughly by user to give idea of average.
Boundary survival rate	List box	<25% remaining 25-50% remaining 50-75% remaining >75% remaining
Dominant Boundary type	List box	Hedgerow - no trees Hedgerow with trees Tree line Earthen bank Drainage ditch Stone walling Fencing n/a
Other Boundary type	List box	Hedgerow - no trees Hedgerow with trees Tree line Earthen bank Drainage ditch Stone walling Fencing

		n/a
Date compiled	Short Date	Automatically added. Default linked to the day of entry
Compilers Initials	AutoText	Automatically added. Default to the DCC user ID. This can be later translated into initials.
Area (ha)	Number	Calculated from the automatic area assign by ArcMap, in square metres
District	List box	Chester-le-Street Darlington Derwentside Durham City Easington Sedgefield Teesdale Wear Valley
County Character Area	List box	Dales Fringe East Durham Limestone Plateau North Pennines (Weardale) Tees Lowlands Wear Lowlands West Durham Coalfields
Solid Geology	List box	Carboniferous Coal Measures Carboniferous Limestone Carboniferous Millstone Grit Igneous Permian Limestone
Drift Geology	List box	Alluvium Boulder clay Disturbed

Soil type		Drift free
		Glacial sand and gravel
		Marine
		Peat
		River terrace deposits
		Wind-blown sand
		Alluvial gley soils
		Argillic brown soils
		Brown alluvial soils
		Brown calcareous earths
		Brown earths
		Brown podzolic soils
		Brown sands
		Cliff & scree
		Disturbed soils
		Disturbed soils: urban
		Earthy peat soils
		Marine
		Podzols
		Rankers
		Raw peat
		Stagnogley soils
		Stagnohumic gely soils
		Stagnopodzols
		Water
		Wind-blown sand
Polygon Boundary type	List box	Natural watercourse
		Man-made watercourse
		Settlement edge

		Line of communication Woodland Other None N/a
Object ID	Autonumber	Randomly generated indexed number used by ArcMap, not same as HLC ID
Shape	Autotext	Automatically generated field describing graphic as polygon, line or point data
SHAPE.area	Autotext	Automatically calculated field giving the actual polygon area in square metres
SHAPE.len	Autotext	Automatically generated field giving the length of the polygon

6.2.2 HLC_Main_Historic.tbl

Field Name	Field Type	Notes
HLC ID	Autonumber	Automatically incremented.
Period Sequence	Number	The ID of the parent HLC_Main.tbl polygon with a suffix representing its historical order (2 would be secondary, 3 tertiary etc)
Order in History	List	Secondary Tertiary Quaternary Quinary Senary Septenary Octonary Nonary

		Denary
Primary Typology	List box	See Appendix C*
Secondary Typology	List box	See Appendix C*
Confidence	List box	Certain >75% Probable 50-75% Possible 25-50% Suggested <25%
Period	List box	Prehistoric 4000BC – AD 43 Palaeolithic: 500 000 - 10 000 BC Mesolithic: 10 000 - 4000 BC Neolithic: 4000 - 2100 BC Bronze Age: 2100 - 700 BC Iron Age: 700 BC - AD 43 Romano British: AD 43 – 410 Early medieval: AD 411 – 1065 Later medieval: AD 1066 – 1539 Post-medieval: AD 1540 – 1900 Modern: AD 1901-present Unknown: n/a
Legibility (of primary typology assigned)	List box	Complete Significant Partial Fragmentary Invisible
Summary	Memo	Summary of polygon characteristics. Jargon free.
Description	Memo	Includes summary text plus further expanded text if necessary

Settlement: Morphology	List box	With regard to SETTLEMENT TYPOLOGY only Complex Cul-de-sac Geometric Grid system Irregular Nucleated Ribbon development (settlement parallel to roads) None
Settlement: Housing Type	List box	With regard to SETTLEMENT TYPOLOGY only Terraced =>3units Semi-detached Detached Low rise flats <= 3 floors High flats => 4 floors Other
Settlement: Density	List box	With regard to SETTLEMENT TYPOLOGY only <25 houses/ha 25-50 houses/ha >50 houses/ha Unknown
Settlement: Private Space	List box	With regard to SETTLEMENT TYPOLOGY only Front & back gardens Back garden & front yard Back garden Front garden Shared yard Back yard Front garden and back yard

		Courtyard
		Farmyard
		No private space
		No discernable private space
		Extensive private grounds
		Unknown
Industry: Density of extraction	List box	With regard to INDUSTRY TYPOLOGY only
		Very dispersed
		Dispersed
		Nucleated
		Concentrated
		Very concentrated
Industrial: Hushes	Yes/No	With regard to INDUSTRIAL TYPOLOGY only
		Physical evidence of lead mining where few other remains may now exist
Enclosed: Ridge & Furrow	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are features
Enclosed: Assart	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are features
Enclosed: Waste	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are features
Enclosed: Grange	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are land status related
Enclosed: Demesne	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are land status related
Enclosed/Unenclosed: Sheepfold	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are features
Enclosed /Unenclosed: Bields	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only
		Not part of field morphology as these are features

Enclosed: Glebe	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only Not part of field morphology as these are land status related
Enclosed: Quarry/Kiln	Yes/No	With regard to ENCLOSED /UNENCLOSED TYPOLOGY only quarries or kilns related to land improvement not industry
Unenclosed: Grouse Butts	Yes/No	With regard to UNENCLOSED TYPOLOGY only Physical evidence of land management for game shooting
Dominant Boundary Morphology	List box	Ruler Straight Relatively Straight Sinuous Angled Reverse-S Curved n/a none
Other Boundary Morphology	List box	Ruler Straight Relatively Straight Sinuous Angled Reverse-S Curved n/a none
Pattern Morphology	List box	Irregular grid Regular grid Stepped grid Radial Co-axial Agglomerated

		None
		n/a
Predominant field size	List box	<2ha
		2-10ha
		>10ha
Average field size	Number	Calculated roughly by user to give idea of average.
Boundary survival rate	List box	<25% remaining
		25-50% remaining
		50-75% remaining
		>75% remaining
Dominant Boundary type	List box	Hedgerow - no trees
		Hedgerow with trees
		Tree line
		Earthen bank
		Drainage ditch
		Stone walling
		Fencing
		n/a
Other Boundary type	List box	Hedgerow - no trees
		Hedgerow with trees
		Tree line
		Earthen bank
		Drainage ditch
		Stone walling
		Fencing
		n/a

Compilers Initials	AutoText	Automatically added. Default to the DCC user ID. This can be later translated into initials.
Date compiled	Short Date	Automatically added. Default linked to the day of entry
Object ID	Autonumber	Randomly generated indexed number used by ArcMap, not same as HLC ID

6.2.3 HLC_Main_Sources.tbl and HLC_Historic_Sources.tbl

Field Name	Field Type	Notes
Object ID	Number	Related to the main table via this HLC ID field
ID	Number	Automatically taken from and linked to the ID of the record to which it relates
Source	List box	1st Edition OS (1856-1865) – greyscale 2nd Edition OS (1894-1899) – greyscale 3rd Edition OS (1919-1926) – greyscale OS 1930's-40's OS 1950's OS 1960's OS 1970's OS 1980's County Maps DCC SMR Enclosure Awards Estate Maps Field name evidence Place name evidence Quarter Session Maps

		Tithe Map
		English Nature Dataset
		1625 Common Land (HD)
		Aerial Photography 2001
		Aerial Photography 1940s
		Med frms from the waste C1150-1350
		Peter Bowes (1990)
		Village Greens (DCC data)
		DCC LCA
		OS 1:25000
		1st Edition OS (1856-1865) – landmark
		2nd Edition OS (1894-1899) – landmark
		3rd Edition OS (1919-1926) - landmark
Main source	Yes/No	Tick box to mark up main sources

Both tables have the same structure

6.2.4 HLC_Main_Designation.tbl
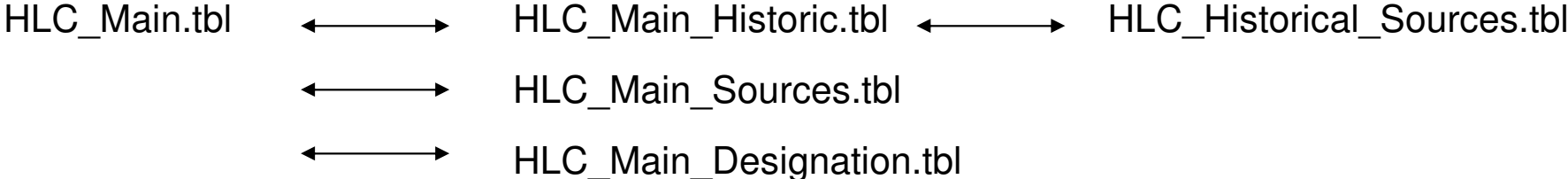
Field Name	Field Type	Notes
Object ID	Number	
HLC ID	Number	
Designation	List box	Ancient Woodland Inventory
		Area of Great Landscape Value
		Area of Outstanding Natural Beauty

Common Land Register
Conservation Park
Country Park
Environmentally Sensitive Area
Heritage Coast
Historic Parks and Gardens
Landscape Character Assessment Area
Local Nature Reserve
National Nature Reserve
Natural Areas
Site of Nature Conservation Importance
Site of Special Scientific Interest
Special Conservation Area
Specially Protected Area
World Heritage Site

Peach represent fields automatically generated for this specific geodatabase, yellow represents fields to be populated at the end of Stage 2 using blanket queries, green represents fields no longer in use, and blue represents mandatory fields automatically generated by ArcMap for all tables linked directly to spatial data.

6.2.5 Relationships between tables in ESRI geodatabase

HLC_Main.tbl   ←——→   HLC_Main_Historic.tbl   ←——→   HLC_Historical_Sources.tbl

←——→   HLC_Main_Sources.tbl

←——→   HLC_Main_Designation.tbl

6.3 Appendix C – Available data sets

Data	Location	Format	Notes
Modern Maps			
OS MasterMap	DCC	Electronic: Digital	
OS Vector	DCC	Electronic: Digital	
OS Panorama	DCC	Electronic: Digital	
OS 10,000 colour	DCC	Electronic: Raster	
OS 10,000 monochrome	DCC	Electronic: Raster	
OS 25,000 colour	DCC	Electronic: Raster	
OS 25,000 monochrome	DCC	Electronic: Raster	
OS 50,000 colour	DCC	Electronic: Raster	
OS 50,000 monochrome	DCC	Electronic: Raster	
OS 100,000 colour	DCC	Electronic: Raster	
OS 250,000 colour	DCC	Electronic: Raster	
Os 625,000 c0lour	DCC	Electronic: Raster	

OS 1,000,000 colour	DCC	Electronic: Raster	
OS Panorama & Landline contour data (25m & 5m)	DCC	Electronic: Digital	

Historic Maps & plans			
OS 1st Edition circa 1860 (6")	DCC	Electronic: Raster	High resolution N of Tees only. Medium resolution elsewhere.
6", 1" CRO		Paper maps.	North of Tees only
OS 2nd Edition circa 1898	DCC	Electronic: Raster (6")	High resolution N of Tees only. Medium resolution elsewhere.
6", 1" CRO		Paper maps.	North of Tees only
OS 3rd Edition circa 1923	DCC	Electronic: Raster	High resolution N of Tees only. Medium resolution elsewhere.
6", 1" CRO		Paper maps.	North of Tees only
OS 1950's epoch (6")	DCC	Electronic: Raster	Medium resolution
OS 1960's epoch (6")	DCC	Electronic: Raster	Medium resolution

OS 1970's epoch (6")	DCC	Electronic: Raster	Medium resolution
OS 1980's epoch (10,000)	DCC	Electronic: Raster	Medium resolution
OS 1990's epoch (10,000)	DCC	Electronic: Raster	Medium resolution
C17th, 18th & C19th County Maps	CRO	Paper maps	County Durham North of Tees.
C19th Tithe maps	CRO	Paper maps & documents	No maps for Tithe free areas.
	North Yorkshire CRO		Land south of River Tees
Enclosure Awards	DCC	Electronic: Digital	
	CRO	Paper maps & documents	
	Durham University A&SC	Paper maps & documents	
Estate maps & plans	CRO	Paper maps & documents	Miscellaneous. Localised coverage
Quarter Sessions maps & plans	CRO	Paper maps & documents	Miscellaneous. Localised coverage
Enclosure Agreements	Durham University A&SC	Paper maps & documents	Some errors
Aerial Photography			
Vertical Aerial Photography	DCC	Electronic: Raster	

2001 colour			
Vertical Aerial Photography	DCC	Paper photograph	
1971 monochrome			
Vertical Aerial Photography	DCC	Electronic: Raster	
RAF 1940s monochrome			
Oblique Aerial Photography	DCC	Paper photograph	Miscellaneous. Localised coverage.
Sites, Designations etc			
County Durham HER	DCC	Digital (Point) & textual data	
Scheduled Ancient Monuments	DCC (EH)	Digital (Point)	? current state of Polygon data
		Paper maps (polygon)	
EH Register of Parks & Gardens.	DCC (EH)	Electronic: digital (Polygon).	
Undesignated Parklands	DCC	Electronic: digital (Polygon).	
	District Wide Local Plans	Paper maps.	
Conservation Areas	DCC	Electronic: digital (Polygon).	Update in process.

	District Wide Local plans	Paper maps (polygon)	
Listed Buildings	DCC	Electronic: digital (Point)	
		Paper maps (polygon).	
Common Land Register	DCC	Electronic: digital (Polygon).	
World Heritage Site	DCC (UNESCO)	Electronic: digital (Polygon).	
Ancient Woodland Inventory	DCC (EH)	Electronic: digital (Polygon).	Some errors.
Nature Conservation:			
SSSI	DCC (EH)	Electronic: digital (Polygon)	
SAC	DCC (EH)	Electronic: digital (Polygon) Electronic: digital (Polygon)	
SPA	DCC (EH)	Electronic: digital (Polygon) Electronic: digital (Polygon)	
NNR	DCC (EH)	Electronic: digital (Polygon).	
SNCI	DCC		
LNR	DCC		
Landscape:			
Area of Outstanding Natural Beauty	DCC	Electronic: digital (Polygon)	

Area of Great Landscape Value	DCC	Electronic: digital (Polygon)	
Environmentally Sensitive Area	DCC (DEFRA)	Electronic: digital (Polygon).	
Heritage Coast	DCC	Electronic: digital (Polygon).	
Boundaries			
County Boundary	DCC	Electronic: digital (Polygon, line).	
District Boundaries	DCC	Electronic: digital (Polygon, line).	
Parish Boundaries (1860)	DCC	Electronic: digital (Polygon, line).	
Parish Boundaries (modern)	DCC	Electronic: digital (Polygon, line).	
Topography, Landuse & Landscape			
Geology (solid) 250,000	DCC (BGS)	Electronic: digital (Polygon).	
50,000 10,000		Paper maps	Miscellaneous. Localised coverage
Geology (drift) 250,000	DCC (BGS)	Electronic: digital (Polygon).	

50,000 10,000		Paper maps	Miscellaneous. Localised coverage
Soils 250,000	DCC (Soils Survey)	Electronic: digital (Polygon).	
Landcovermap 2000	DCC (CEH)	Electronic: digital (Polygon).	
Phase 1 Habitat Survey (circa 1990s)	DCC (EH)	Electronic: digital (grid 1km). Paper maps	
1:10,000			
Countryside Character Areas	DCC (CA)	Electronic: digital (Polygon).	
Natural Areas	DCC (EH)	Electronic: digital (Polygon).	
National Landscape Typology	DCC (CA)	Electronic: digital (Polygon).	
County Durham Landscape Assessment Database:	DCC	Electronic: digital (Polygon).	
Geology Drift Soils Landform Landuse Field Pattern Field Scale Field Boundary			

Tree Cover
Woodland Pattern
Settlement Type
Settlement Pattern
Origins
Relics: prehistoric
Relics: roman
Relics: medieval
Relics: post medieval
County Character Area
Broad Landscape Types
Broad Character Area
Local Landscape Types
Local Landscape Sub-type.

6.4 Appendix D – Typology structure

Code	Typology
100	**Coastal**
110	*Coastal	Cliffs and coastal slopes*
111	Coastal	Cliffs and coastal slopes	Dune
112	Coastal	Cliffs and coastal slopes	Modified cliff and coastal slope
113	Coastal	Cliffs and coastal slopes	Natural cliff and coastal slope
114	Coastal	Cliffs and coastal slopes	Sea defence
120	*Coastal	Foreshore*
121	Coastal	Foreshore	Modifed beach
122	Coastal	Foreshore	Natural beach and rock platform
200	**Enclosed land**
210	*Enclosed land	Enclosed farmland (medieval)*
211	Enclosed land	Enclosed farmland (medieval)	Pre-medieval field system
212	Enclosed land	Enclosed farmland (medieval)	Medieval farm fields
213	Enclosed land	Enclosed farmland (medieval)	Medieval farm fields (grange/demense)
214	Enclosed land	Enclosed farmland (medieval)	Medieval intakes
215	Enclosed land	Enclosed farmland (medieval)	Medieval townfields
216	Enclosed land	Enclosed farmland (medieval)	Medieval toft/croft or garth
217	Enclosed land	Enclosed farmland (medieval)	Medieval stripfields (not townfields)
220	*Enclosed land	Enclosed farmland (post-medieval)*
221	Enclosed land	Enclosed farmland (post-medieval)	Post-med parliamentary planned enc
222	Enclosed land	Enclosed farmland (post-medieval)	Post-med private planned enc

223   Enclosed land | Enclosed farmland (post-medieval) | Post-med drainage scheme

224   Enclosed land | Enclosed farmland (post-medieval) | Post-med farm fields

225   Enclosed land | Enclosed farmland (post-medieval) | Post-med fossilised strips

226   Enclosed land | Enclosed farmland (post-medieval) | Post-med piecemeal enclosure

227   Enclosed land | Enclosed farmland (post-medieval) | Post-med smallholding

228   Enclosed land | Enclosed farmland (post-medieval) | Post-med intake

230   Enclosed land | Enclosed land (modern)

231   Enclosed land | Enclosed land (modern) | Modern drainage scheme

232   Enclosed land | Enclosed land (modern) | Modern enclosure

233   Enclosed land | Enclosed land (modern) | Modern field amalgamation

234   Enclosed land | Enclosed land (modern) | Modern restored enclosure

235   Enclosed land | Enclosed land (modern) | Modern smallholding

236   Enclosed land | Enclosed land (modern) | Rough grazing

237   Enclosed land | Enclosed land (modern) | Rough grassland

240   Enclosed land | Horticulture

241   Enclosed land | Horticulture | Allotment garden

242   Enclosed land | Horticulture | Nursery/glasshouse

243   Enclosed land | Horticulture | Orchard

250   Enclosed land | Cleared woodland

251   Enclosed land | Cleared woodland | Ancient woodland

252   Enclosed land | Cleared woodland | Ancient wood pasture

253   Enclosed land | Cleared woodland | Post-medieval plantation

254   Enclosed land | Cleared woodland | Secondary wood pasture

300   Industrial

310	*Industrial	Manufacturing*
311	Industrial	Manufacturing	Industrial estate
312	Industrial	Manufacturing	Industrial land
320	*Industrial	Mineral working (abandoned)*
321	Industrial	Mineral working (abandoned)	Clay pit
322	Industrial	Mineral working (abandoned)	Colliery
323	Industrial	Mineral working (abandoned)	Quarry
324	Industrial	Mineral working (abandoned)	Sand & gravel workings
325	Industrial	Mineral working (abandoned)	Opencast coal/brickshale workings
326	Industrial	Mineral working (abandoned)	Spoil heaps
327	Industrial	Mineral working (abandoned)	Mining
328	Industrial	Mineral working (abandoned)	Lead mining
329	Industrial	Mineral working (abandoned)	Iron workings
330	*Industrial	Mineral working (active)*
331	Industrial	Mineral working (active)	Clay pit
332	Industrial	Mineral working (active)	Colliery
333	Industrial	Mineral working (active)	Quarry
334	Industrial	Mineral working (active)	Sand & gravel workings
335	Industrial	Mineral working (active)	Opencast coal/brickshale workings
336	Industrial	Mineral working (active)	Spoil heaps
337	Industrial	Mineral working (active)	Mining
338	Industrial	Mineral working (active)	Lead mining
339	Industrial	Mineral working (active)	Iron workings
340	*Industrial	Mineral working (dormant)*

341 Industrial | Mineral working (dormant) | Clay pit

342 Industrial | Mineral working (dormant) | Colliery

343 Industrial | Mineral working (dormant) | Quarry

344 Industrial | Mineral working (dormant) | Sand & gravel workings

345 Industrial | Mineral working (dormant) | Opencast coal/brickshale workings

346 Industrial | Mineral working (dormant) | Spoil heaps

347 Industrial | Mineral working (dormant) | Mining

348 Industrial | Mineral working (dormant) | Lead mining

349 Industrial | Mineral working (dormant) | Iron workings

350 Industrial | Retail

351 Industrial | Retail | Garden centre

352 Industrial | Retail | Retail estate

400 Infrastructure

410 Infrastructure | Aviation

411 Infrastructure | Aviation | Airfield

412 Infrastructure | Aviation | Airport

420 Infrastructure | Docks and harbours

421 Infrastructure | Docks and harbours | Dock

422 Infrastructure | Docks and harbours | Harbour

430 Infrastructure | Railways

431 Infrastructure | Railways | Abandoned railway

432 Infrastructure | Railways | Active railway

433 Infrastructure | Railways | Railway path

440 Infrastructure | Roads

441 Infrastructure | Roads | 'A' class road

442 Infrastructure | Roads | Trunk road

443 Infrastructure | Roads | Service areas

450 Infrastructure | Waste

451 Infrastructure | Waste | Landfill site

452 Infrastructure | Waste | Waste transfer/treatment site

460 Infrastructure | Water treatment

461 Infrastructure | Water treatment | Sewerage works

462 Infrastructure | Water treatment | Water treatment works

500 Inland water

510 Inland water | Water body

511 Inland water | Water body | Abandoned mineral working

512 Inland water | Water body | Natural lake/pond

513 Inland water | Water body | Natural swamp/fen/marsh/carr

514 Inland water | Water body | Ornamental lake/pond

515 Inland water | Water body | Reservoir

516 Inland water | Water body | Restored mineral working

520 Inland water | Watercourse

521 Inland water | Watercourse | Engineered river/stell/millrace

522 Inland water | Watercourse | Natural river/stream

523 Inland water | Watercourse | River shingle

600 Military

610 Military | Defence

611 Military | Defence | Castle/similar fortification

612 Military | Defence | Modern defence installation

613 Military | Defence | Roman camp/fort

620 Military | Infrastructure

621 Military | Infrastructure | Ordnance store

622 Military | Infrastructure | Rifle/artillery range

630 Military | Residential

631 Military | Residential | Active army camp

632 Military | Residential | Disused army camp

633 Military | Residential | Prisoner of war camp

700 Recreational and ornamental

710 Recreational and ornamental | Parks & gardens

711 Recreational and ornamental | Parks & gardens | Civic parkland

712 Recreational and ornamental | Parks & gardens | Deer park

713 Recreational and ornamental | Parks & gardens | Designed parkland

714 Recreational and ornamental | Parks & gardens | Ornamental garden

720 Recreational and ornamental | Recreational

721 Recreational and ornamental | Recreational | Caravan/chalet park or campsite

722 Recreational and ornamental | Recreational | Country park

723 Recreational and ornamental | Recreational | Golf course

724 Recreational and ornamental | Recreational | Racecourse

725 Recreational and ornamental | Recreational | Sports facility

726 Recreational and ornamental | Recreational | Urban green space

727 Recreational and ornamental | Recreational | Village green

728 Recreational and ornamental | Recreational | Hunting lodge

729 Recreational and ornamental | Recreational | Open-air museum

730 Recreational and ornamental | Ritual

731 Recreational and ornamental | Ritual | Cemetery/crematorium

732 Recreational and ornamental | Ritual | Church/churchyard

733 Recreational and ornamental | Ritual | Monastery

734 Recreational and ornamental | Ritual | Prehistoric ritual landscape

800 Settlement

810 Settlement | Institutions and their grounds

811 Settlement | Institutions and their grounds | Primary, Secondary and Palliative care

812 Settlement | Institutions and their grounds | Prisons and detention centres

813 Settlement | Institutions and their grounds | Education

814 Settlement | Institutions and their grounds | Other public complexes

820 Settlement | Rural

821 Settlement | Rural | Country house (manor/estate)

822 Settlement | Rural | Farmstead

823 Settlement | Rural | Dispersed settlement

824 Settlement | Rural | Nucleated settlement without greens

825 Settlement | Rural | Nucleated settlement with green

826 Settlement | Rural | Ancient settlement

830 Settlement | Towns and larger villages

831 Settlement | Towns and larger villages | Medieval core

832 Settlement | Towns and larger villages | Pre 1856 settlement (pre Ep1)

833 Settlement | Towns and larger villages | 1856-1865 settlement (Ep1)

834 Settlement | Towns and larger villages | 1900-1926 settlement (Ep3)

835	Settlement | Towns and larger villages | 1927-1950 settlement (Ep4)
836	Settlement | Towns and larger villages | 1951-1959 settlement (Ep5)
837	Settlement | Towns and larger villages | 1970-1979 settlement (Ep7)
838	Settlement | Towns and larger villages | 1995-present settlement
840	*Settlement | Towns and larger villages | 1980-1994 settlement (Ep8)*
841	Settlement | Towns and larger villages | 1866-1899 settlement (Ep2)
900	**Unenclosed land**
910	*Unenclosed land | Lowland heath*
911	Unenclosed land | Lowland heath | Lowland heath (common)
912	Unenclosed land | Lowland heath | Lowland heath (other)
913	Unenclosed land | Lowland heath | Lowland heath (stinted pasture)
914	Unenclosed land | Lowland heath | Divided heathland
920	*Unenclosed land | Upland moors*
921	Unenclosed land | Upland moors | Divided upland common
922	Unenclosed land | Upland moors | Divided upland moor
923	Unenclosed land | Upland moors | Open upland common
924	Unenclosed land | Upland moors | Open upland moor
925	Unenclosed land | Upland moors | Outlying upland moor
926	Unenclosed land | Upland moors | Peat gripping
1000	**Woodland**
1010	*Woodland | Coppice*
1011	Woodland | Coppice | Coppice
1012	Woodland | Coppice | Short rotation coppice
1020	*Woodland | High forest*

1021   Woodland | High forest | Ancient woodland
1022   Woodland | High forest | Modern plantation
1023   Woodland | High forest | Planted ancient woodland
1024   Woodland | High forest | Post-medieval plantation
1025   Woodland | High forest | Secondary woodland
1026   Woodland | High forest | Wood pasture
1030   Woodland | Woodpasture & scrub
1031   Woodland | Woodpasture & scrub | Ancient wood pasture
1032   Woodland | Woodpasture & scrub | Scrub
1033   Woodland | Woodpasture & scrub | Secondary wood pasture