

## Chapter 4 - CORE, PERIPHERY AND TREND METHODS

### Introduction

The Review's central method was a compare and contrast exercise for all existing project methods. It used the Questionnaire results, Project Designs and Reports and in many cases discussions with HLC project officers. The aim was to identify the core HLC method (ie the parts common to most or all methods), its periphery (ie the parts not common, but diverse between methods) and its trends (ie the implied direction and recent developments).

The HLC methods were compared under nine broad headings:

1. Guiding principles
2. Applying the method
3. Sources & data
4. Data structure
5. Method for updating
6. Scale and grain
7. Range and scope of analysis
8. Strengths and weaknesses
9. Time taken

#### 1. Guiding principles

A series of broad principles have always guided HLC (eg Fairclough et al 1999, Herring 1998). More recently they have been simplified and codified for use in a wider European context as part of the Culture 2000 *European Pathways to the Cultural Landscape* programme ([www.pcl-eu.de/project/agenda/philo.php](http://www.pcl-eu.de/project/agenda/philo.php); and Fairclough and Rippon 2002). This version was used by the review (see Box).

#### Philosophy for Historic Landscape Characterisation adopted by the EU Culture 2000 network 'European Pathways to the Cultural Landscape'

Within the general definition of landscape established by the European Landscape Convention: - "*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*" – the EPCL (along with other types of archaeologically-based landscape work) adopted the following principles:

- **present not past; landscape as material culture:** it is the present-day landscape that is the main object of study and protection
- **landscape as history not geography:** the most important characteristic of landscape is its time-depth; change and earlier landscape exists in the present landscape
- HLC-based research and understanding is concerned with **area not point** data - landscape not sites;
- all aspects of the landscape, no matter how modern, are treated as part of landscape character; **not just 'special' areas;**
- semi-natural and living features (woodland, land cover, hedges etc.) are as much a part of landscape character as archaeological features; **human landscape - bio-diversity is a cultural phenomenon;**
- a characterisation of landscape is a matter of **interpretation not record, perception not facts;** "landscape" is an idea not a thing, although constructed by minds and emotions from the combination of physical objects; **landscape not environment;**
- **Peoples' views:** an important aspect of landscape character in EPCL will be the collective and public perceptions to lay alongside more expert views.

Methodologies for studying landscape are many and diverse. EPCL partners will use a large number of different approaches, but each will operate at least partly within the framework of the philosophy set out above.

Core HLC methods include all these guiding principles to a lesser or greater degree, but it is clear that a further principle should inform best practice, that of Transparency: Recording the source of data used, and that this is already the trend.

## 2. Approaches in the application of the method

### Starting point

Varying starting points for interpreting and characterising the landscape within HLC have been used. The following were considered by the Review:

- morphological analysis (mainly of field patterns);
- recording of historic maps;
- use of documentary evidence;
- recording present-day land-use;
- archaeological interpretation;
- air photo evidence;
- assessing past land-use;
- other research.

Morphological and functional analysis of landscape character using Historic maps and Documentary evidence in a supporting role, and taking account fully of historic *process* as well as appearance, is a core determinant in establishing HL character, and usually have county-wide availability. Present-day land-use, AP evidence, Archaeological interpretation, Past land-use and Other Research, (often less comprehensive or systematic sources) are more peripheral but still significant.

### Criteria used

The criteria used to determine historic character is dependent upon what attributes are considered and in what way these are treated for the

variety of end products envisaged at the start of the project. They are:

- Time-depth;
- Previous land-use;
- Present-day land-use;
- Morphology;
- Enclosure process;
- Documentary.

There are 3 main ways in which these criteria are used:

- *Prescriptive*: interpretation as the only means of identifying the criteria, i.e. fitting areas of land in pre-defined HL class-types.
- *Descriptive*: determining HL character by ascribing attributes to polygons without initially assigning interpretations to HL character, i.e. building types from interpretative description.
- *Both*: using the best parts from each of *prescriptive* and *descriptive*, i.e. qualifying the HL character interpretation by supporting qualification either as a source or as interpretative description.

The core method is prescriptive or combined prescriptive/descriptive methods. Descriptive methods are still peripheral within the whole body of HLC, simply because they are relatively recent improvements that have not fully worked their way into the core. The trend however is towards mixed methods, suggesting that the core of future best practice (as descriptive only approaches become more anachronistic) will be Both.

### Method for transferring information

Several methods have been used at different times for recording and transferring information. Early projects used paper, and later transferred from paper to screen by

(often remote) digitisation. More recent projects digitised direct to screen.

In the whole body of HLC projects, given its place in the context of GIS development, the core method has been Paper to screen and Direct to screen, with Paper only being periphery. The trend of course clearly indicates that Paper to screen is increasingly peripheral and Direct to screen is the core of future practice, preferably on large or linked multiple screens to maximise the area of capture.

#### Approach to Classifications

The approach used in classification is a fundamental element of HLC. HLC should produce a definition of HL character in a readily accessible form that is easily understood, and which is within a flexible format so that the data can be manipulated for a variety of applications, including regional and national overviews.

There are 3 broad classification types:

- *Manual* manipulation of the data from an already defined HL character interpretation classification;
- *Computer display*. Manipulation of the data using GIS as map display from an already defined HL character interpretation classification;
- *Computer manipulation*. Manual manipulation and GIS interrogation of the attribute data to develop HL character interpretation classifications.

The Computer Display and Computer Manipulation types have been core, with Manual always as periphery, mainly early pre-GIS (cf Paper-based methods, above). The

trend in the method, of course, reflecting the widening availability of up to date GIS, is clearly towards Computer Manipulation.

#### Terminology

HL character types were assessed in two major landscape component types: Enclosed and Non-Enclosed, the latter being sub-divided into Unenclosed and Other, both of which being further subdivided, for example Other contains settlement or built environment). Most projects devote most attention to the Enclosed group (“fieldscapes”, the agricultural landscape) which represents the aspect of HLC least accessible from conventional data-sets and understanding, and thus the major focus of HLC.

The core used single categories and combinations using 2 categories. Peripheral uses are combinations using 3 or 4 categories, and the trend is that such combinations will move into the core. All HLC projects share a strong focus on the enclosed landscape of fields and walls, reflecting the aim to fill gaps in conventional document-based understanding of the historic environment; this will be a feature of future best practice as well.

### **3. Sources & data**

#### Consultation

Map-based sources are the most common type in HLC. Both present-day and historic sources are used. They are used in two ways, either to help define the HL character, or in guiding the practitioner to another source. The sources consulted are:

Modern mapping:  
LandLine (1:50,000,

1:25,000; 1:10,000, and  
1:1,250/2,500)  
MasterMap (1:1250/2500).

Air photography:

Particularly up-to-date digital geo-referred, display colour verticals.

Historic mapping:

1<sup>st</sup> ed 1"; 1950-1970s 1:25000; 1<sup>st</sup> & 2<sup>nd</sup> ed 6"; 1<sup>st</sup> ed 25".

Other mapping:

Geological survey map,  
Conservation Area maps; Land  
Utilisation Survey map; Habitat  
Survey map; Landscape change  
maps; Ancient Woodland Inventory.

Documentary sources:

Place-name survey; VCH;  
Enclosure Awards; Tithe map;  
Estate sources; 18th c. County  
maps.

Archaeological sources:

SMR; AP & plots.

The core sources consulted are the 1:25000, 1:1250/2500 LandLine and latterly MasterMap, which is now the standard, 1<sup>st</sup> & 2<sup>nd</sup> eds 6" and 1<sup>st</sup> ed 1". All other sources are peripheral, their use dependent on local circumstances, availability and relevance.

Use and Treatment

Sources are used to achieve two aims, to determine HL character (for which current maps are the core) and to measure changes in the landscape through time, for which historic maps are needed.

The use of historic maps in HLC is an important requirement in order to measure and understand historic landscape and measure past changes. The treatment of historic maps between the projects varied, and some projects largely rely on historic maps to inform the characterisation, though only achieving one aim fully. There are

two approaches in the use of historic maps:

- *Reconstruction* of prior or subsumed historic landscapes, as independent time-slices without connecting branches to the present-day;
- *Model* of historic landscape from the present-day landscape with references back through time via data sources but intrinsically connected with the present-day HL character.

Appropriate use and treatment of sources both informs HL characterisation and measures change in the landscape. The core HLC methodology for present-day HLC uses modern maps, and MasterMap (for digital polygon creation and attribute creation) and the 1:25,000 (for interpretation and overview) are unquestionably both core and trend. For past HLC change the core approach here is the *modelling* approach, with *reconstruction* being part of the periphery. Trend is towards increased focus on *modelling*.

#### 4. Data structure

Data entry

The way in which information about HL character is stored has changed radically since the start of the HLC programme in 1994. The early non-GIS and limited-GIS projects stored information as textual descriptions with information about the interpretation of the character simply implied in the standard descriptions of each HL character type. It is now commonplace that HLC projects using GIS store multiple information about each spatial

entity, therefore allowing a far greater range and scope in the HL character interpretation and output. It is necessary to make the subjective process of characterisation more transparent (aka “make it objective”) by documenting the decision making during the characterisation process.

The different methods display variations in the way that the data is stored and structured. The types of data structure are:

- *Implicit* i.e. information about the interpretation of HL character is embedded within the HL classification itself, either with (termed *Implicit Yes*) or without (termed *Implicit No*) references to decisions made with supporting attributes for each polygon. All these HLC projects have some sort of “audit-trail” of the decision making process, through in early projects it was normally in non-digital form.
- *Explicit* i.e. the classification arises from interpretative descriptions (attributes) such as field pattern morphology and other attributes of a polygon. *Explicit* data structures require supporting attributes attached to polygons, which creates a ready-made decision audit-trail (for example, *Irregular pattern, with sinuous form, small fields and low boundary loss, with references to enclosure process, previous land-use, time-depth, and confidence*).

‘Implicit No’ is peripheral to the programme, the current core is Explicit or Implicit Yes / Explicit, but the trend is clearly to Explicit.

## 5. Method of updating

### Ease

The ability to be updated is an important aspect of HLC because its product should be dynamic not static. One of the major applications of the project is measuring future changes to landscape as well as past change. There is of course a correlation between the use of GIS and the ease of updating. The assessment of a method’s ability to be updated is graded: very difficult, difficult, easy, very easy.

Projects that are ‘Very easy’ to update are already core because of GIS use in the last two waves, and this is of course also trend. Very Difficult, Difficult and Easy are all peripheral.

### Association with SMRs

All HLC projects have a strong association with the SMR, in fact forming part of the SMR. The strength of this association varies, usually for IT and related reasons, from being ‘alongside’ the SMR, through being ‘complementary’ to it, to being ‘fully integrated’. Fully means that HLC is both accessible through GIS, and other integration tools, and both being able to be used on screen together, generally also with the facility to “zoom in” to other datasets such as EUS.

For historical reasons, ‘fully integrated’ is still peripheral, with the core being Alongside and Complementary. Future core practice, ie trend, subject to SMR IT capability must be pushed towards Fully Integrated.

## 6. Scale and grain of characterisation

Two different types of scale are used in HLC projects, as in most GIS: Perception scale and Digitisation scale.

Perception scale: is the scale at which HL character is first perceived, which influences how landscape is characterised. Varying scales are used, such as 1:20,000, 1:25,000 and occasionally 1:50,000, depending on data sources for example. The core perception scale is 1:25,000, the periphery 1:20,000 and 1:50,000.

Digitisation scale: is the scale at which HL character is drawn or digitised on screen, and at which data and attributes are captured – the scale at which polygons are defined (whether by digitisation or by merging MasterMap polygons into HLC hyper-polygons). Varying scales are used, from 1:1,250/2,500, through 1:7,500 and 1:10,000, to 1:12,500, 1:25,000 and occasionally 1:50,000. The core digitisation scales are 1:1,250/2,500, 1:10,000 and 1:25,000. However, HLC use of MasterMap will reflect the OS capture scales (ie 1:1,250 in built environment contexts, 1:2,500 in rural contexts and 1:10,000 in moorland contexts), which is creating a trend towards 1:10,000, or even 1:7,500 digitisation scales.

### Grain of HL character

The combination of perception and digitisation scales is one of the factors that influence the grain of HL characterisation. In the raw form of the data (i.e. just the basic output of the characterisation at the

level of interpretation decided prior to the characterisation) difference rather than similarity is apparent. In essence the grain of characterisation reflects these differences in isolating which component part is different between methods.

A crude measure of grain is polygon size, though this does not include the factors connected with the decisions made during the character process; these can be multiple. Assessment of the polygon size among projects, though statistically invalid, hints at the size range between the physical spatial entities for possible comparison. The ranges are:

11.5 – 18 hectares  
18 – 36.2 hectares  
36.2 – 61.5 hectares  
61.5 – 1341.5 hectares

The core ranges are 18 – 61.5 hectares, periphery are below 18 hectares and above 61.5 hectares. Later projects using MasterMap have the ability to map smaller and smaller polygons, and the tension between this and the need for generalisation must be resolved. These comments relate to whole county HLC, however. Where HLC is carried out in small areas, or more locally, fine grading will often be justified to reflect the different scale.

## 7. Range and scope of analysis

The identified outputs resulting from analysis of HL character are:

- Previous land-use;
- Date of enclosure;
- Time-depth;
- Past landscape change;
- Enclosure process;
- Interpretation of morphology;

- Time-slice;
- Stratigraphy.

Core outputs are Previous land-use, Date of enclosure, Time-depth, Enclosure process, Past landscape change. Periphery outputs are Description of morphology, Stratigraphy, Influences to present-day landscape, Perception models, all of which ought to become more widely used, attached to HLC polygons.

It is worth saying at this point that later HLCs have moved away from extensive text narratives to support the HLC, largely because of the growing predominance of GIS in the method. This is a change that ought to be reversed, not least because such narratives can create effective introductions for users of the HLC, and because it allows management guidelines and overarching synthesis and analysis to be set out. All HLC has project reports, but the relative scarcity of more extensive supporting texts is a weakness of the programme.

## 8. Method strengths and weaknesses

The Questionnaire asked HLC projects to assess their own method in terms of strengths and weaknesses. The main strengths identified were:

- Easy to understand;
- Flexible;
- Transparent;
- Easy to update;
- Quick and easy to interrogate;
- Easy to use with other data;
- Comprehensive coverage of historic landscape.

The identified weaknesses were

more diverse:

- Inevitably, time and resource constraints (though later projects have become more expensive and larger);
- Limited use of historic sources (reflecting desire for historical certainty);
- Could be overly complex (difficult to explain to others);
- Lack of metadata (earlier projects, remedied in later projects).

The identified strengths all tend to be core aspects of the method, while weaknesses (apart from time and resource constraints) are mainly and increasingly peripheral, reflecting the advances in HLC as it has evolved. Future best practice (trend) needs to maintain this while addressing the other significant weaknesses (such as over-complexity).

## 9. Time taken

The questionnaire asked each project to provide information about the time and cost, in person days, for each main stage of an HLC project, ie Preparation; Mapping/Digitisation; Documentation; Analysis; Report Writing; and Archive.

In this summary, the time-cost for the Mapping and Digitisation phase is used as an indicator in identifying core and periphery. The ranges are: 799.9 – 1399.8 hectares per day  
**1399.8 - 1864.9 hectares per day**  
**1864.9 - 2276.7 hectares per day**  
 2276.7 – 6021.5 hectares per day

Core for Mapping and Digitisation taking account of all projects is 1399.8 – 2276.7 hectares per day,

periphery below and above these figures. This analysis does not take account of historical trends, however, and trend is (inevitably) towards slower spend and higher cost as more complex data (eg historic maps) are consulted and

multiple attribute sets are attached to polygons. The most recent project attained c4,000 ha per week, but this figure takes into account administration times, meetings, outreach etc. etc. It is therefore a realistic measure.