



HISTORIC LANDSCAPE CHARACTERISATION TAKING STOCK OF THE METHOD

The National HLC Method Review 2002

Carried out for English Heritage by Somerset County Council

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SUMMARY

This document is a streamlined version of the Project Report prepared by Oscar Aldred. It is focussed principally on providing a clear explanation of HLC's methodological history, and on identifying the core components - or most effective aspects - of the HLC method. Part 1 explains how the Review was carried out, Part 2 describes its results, and Part 3 presents a summary of recommendations.

The review supports a companion document, a newly-written

Template Project Design for county-level HLC that reflects the Review's conclusions as well as combining the best approaches of the most recent projects into a single document. This has been written since the Review was completed, and incorporating its findings into an amalgamation of the Method Statement and Project Design of the most recent attribute-based HLC projects. It will be used for future HLC projects, including contributing to new urban characterisation projects. It will be updated as necessary.

ACKNOWLEDGEMENTS

The Review Project was commissioned from Somerset County Council by Graham Fairclough for English Heritage. It was project-managed by Bob Croft, and carried out by Oscar Aldred (who had created the Somerset HLC), who analysed the Review results, prepared the Project Report and is the principal author of most of this published report, which has been modified and edited by Graham Fairclough. Oscar's work was supported by a Project Group, and we are very grateful for the help, support and expert advice of its members (Oscar Aldred, Bob Croft, Graham Fairclough, Peter Herring, John Darlington, Keith Ray, Paul Gilman and Lynn Dyson-Bruce). Liz Page greatly assisted Oscar Aldred in organising the Review Workshop at the Society of

Antiquaries in March 2002 that was an important part of the whole project. Another key component of the Review were the inter-project tests (see Chapter 5), carried out by John Darlington and Jo Clark (Lancashire), Lynn Dyson-Bruce and David Green (Essex), Paul White and Keith Ray (Herefordshire), Bryn Tapper and Peter Herring (Cornwall) and Nicola Bannister, Patrick Wills and David Bird (Surrey). The Review only achieved its objectives, however, because of the help given by HLC officers, county archaeologists and their colleagues in the 29 separate project areas considered by the Review, and of course the work of Bob Croft and Richard Brunning who steered the project from beginning to end.

Chapter 1- INTRODUCTION, CONTEXT AND METHOD

Introduction

Historic Landscape Characterisation (HLC) was developed between c1992-1994 and pioneered in Cornwall (Fairclough et al 1999, Herring 1998). It was devised for many reasons, but mainly because issues relating to landscape were a major gap in current archaeological resource management, and because it was proving impossible to expand the historic coverage to wider landscape assessment through point-based SMRs. Its use has spread since 1995 and 14 local authorities include a complete HLC in their SMRs. At any one time, between 5 and 10 county-wide projects are underway.

HLC is a key English Heritage programme (see eg Fairclough 2001, Fairclough et al 2002), currently (since October 2002) as part of EH's Characterisation Team. The Government in *A Force for Our Future* endorsed the approach as a leading method for managing change in the historic environment (DCMS/DETR 2001 p31). The principles of HLC are now being extended to other characterisation programmes, eg in towns, to regional HLC overviews and to other countries in the UK and elsewhere in Europe, for example through the EU Culture 2000 programme '*European Pathways to Cultural Landscapes*'.

After almost eight years of rapid evolution and experiment, however,

a healthy diversity of method had developed (eg Fairclough (ed) 1999, Dyson-Bruce 2002, Fairclough 2002a, Darlington 2002, Fairclough et al 2002). This was a lively topic for discussion at the second biennial HLC Seminar at the Society of Antiquaries, London in December 2000 and a national HLC Method Review was therefore commissioned by English Heritage to define current best practice.

Because it was evident that different elements of best practice reside in several projects, the Review was designed to identify both core practice and more local – or peripheral - methods in all the completed, current or fully planned projects. The aim was to produce guidelines and recommendations on future methodology, to be used both in areas new to HLC and in those where existing HLC was being updated. This report is a summary of that review. It is supported by a separate volume containing a new Template Project Design for EH-funded county-wide HLC. This template has been compiled using the review's recommendations; it draws on the very latest methods in use in current projects and is now the EH-preferred method.

Scope of the Method Review

Since 1994, when HLC was carried out in Cornwall, a national programme, funded jointly by EH and individual local authorities, has

developed involving 29 separate projects, usually covering whole counties and occasionally extending beyond county boundaries to cover areas such as AONBs. These 29 projects formed the basis of the Review: 16 complete, 7 in progress, and 6 on the verge of starting and with sufficiently defined method statements to be usefully included.



Figure 1: Progress of English county-based HLC programme, December 2002 (drawn by Vince Griffin)

Sixteen completed projects formed the core of the review: Avon, Axholme, Cornwall, Cotswolds AONB (followed by the remainder of Gloucestershire), Hampshire, Herefordshire, Hertfordshire, Kent, Lancashire, Peak District National Park followed by the remainder of Derbyshire, Nottinghamshire, Somerset with Exmoor National Park, Suffolk and Surrey.

Seven projects in progress or planning were sufficiently advanced to be able to be assessed by the

Review: 4 in progress (Cumbria and Lake District NP, Devon and Dartmoor NP, Essex and Shropshire) and 3 in planning (Cheshire, Bedfordshire and Cambridgeshire). Work (Lynher Valley) on a “second generation” HLC for Cornwall was also considered.

Six projects at design stage had sufficiently advanced draft project designs to be considered: Buckinghamshire, Dorset, North Lincolnshire (ex Axholme), Northamptonshire, Staffordshire and Isle of Wight (IOW).

The Review’s Method

The Review was divided into two main tasks:

1. a global comparison of methods based on the analysis of freshly-collected data, and
2. an inter-project comparative testing of four selected project methods.

1. Global comparison of the methods

a) Data Collection

24 projects were sent a questionnaire, which gave the Review an opportunity to explore the methods used and the thought processes behind them. The main questionnaire headings were: *General structure of HLC; Information and data sources used; Interpretation; Immediate HLC use; Testing; Applications and Your assessment of HLC.* In some cases, individuals were contacted for further clarification, and gaps were filled from HLC Project Designs and Reports.

16 projects completed the questionnaire, though not all questions were always completed. Seven projects did not respond, usually because their method was identical to another project (eg Derbyshire) or because they were at too early a stage of planning (eg Buckinghamshire).

28 project designs and reports were consulted for more detailed information and to fill any gaps in the questionnaire (Aldred 2001, Bannister 2001, Barnatt et al 2000, Bishop 2002, CAU and LDA 1994, Croft et al 2001, Donachie and Hutcheson 2000, Ede with Darlington 2003, Ford 1999, Herring 1998, Hoyle 1999, Lambrick and Bramhill 1999, Miller 1997). Ten projects did not submit a project design or report for consultation, often for the same reasons as not submitting a questionnaire. The more important gaps (eg Herefordshire, Essex and Hertfordshire) were filled by visits. Discussions within the Steering Group were also particularly important in focussing ideas and the direction of the review, and providing a forum for discussing problems as they were encountered.

Some projects were visited during the Review, so that the project officer could gain hands on experience of other HLC methods and practice, and gain insights into how each methodology was created, and the thought processes that led to it. 6 projects were visited: Lancashire, Cornwall, Devon, Herefordshire, Peak District and Essex, and a further 3 projects connected with the development of the Somerset HLC were also consulted: Somerset, Hampshire

and Cotswolds. In addition, it can be assumed that these 9 fairly represent 6 linked projects (eg Gloucestershire linked to Cotswolds).

A workshop was organised at the Society of Antiquaries towards the end of the project on 22 March 2002. Interim conclusions were presented to provide a forum for debate and further input from practitioners. About 50 invited people attended the workshop, all HLC practitioners or those connected with a HLC project. Discussion focused on methods: the identification of common ground between most projects and the identification of methods that were considered useful even if not commonly adopted (periphery). The issues raised in discussion were incorporated into the Review.

b) Analysis

Because of the speed of HLC's development, comparison between projects needs to be calibrated against each method's position in that development. The evolution of one method to another was assessed by identifying which projects influenced others and in what ways; both positive and negative influences were assessed. Aspects of the evolution could be identified that influenced the future direction of the methodology, and a series of overlapping waves of methodological development were defined. The results of this stage are described in chapter 2.

Input and output mechanisms of HLC were assessed by analysis based on a categorisation of the methods drawn from the

evolutionary study. This was couched largely in terms of whether they used pre-defined classification or recorded attributes for later creation of types, and the way they approach time-depth. These categories, or “families”, are presented in chapter 3.

The main technique of analysis was based on comparing and contrasting details of the methodology against a number of Comparison Headings, subdivided into *class types*. As a result of this comparison, a definition of core, periphery and trends in the method were produced for each main heading: that is

- *core*, the parts common to most or all methods, well-established, tried and tested,
- *periphery*, the parts that were not common, but were diverse between methods, whether “old” approaches, or more recent, many of which will be absorbed into the core of future projects,
- *trend*, most recent developments and implied direction in the methods.

The conclusions to this analysis are summarised in chapter 4.

2. Inter-project comparisons

The methodologies of a few selected projects were also compared in more detail by inter-project testing. Four different project methods were applied by experienced practitioners of that method to the same test area, a 10x10 km sq in Surrey, where a full county HLC already existed. Some of the methods were also tested in each other's areas. In order to maximise the differences between methods to help comparison, the four methods chosen (Cornwall, Essex, Herefordshire and Lancashire) were selected to cover different stages of HLC evolution and indeed different assumptions about HLC. It was not expected that the results would be identical, and in the event the differences were extremely instructive, although not all explicable by virtue of different stages of development. The results were compared using key criteria such as methodological problems, functionality, comparability and HL character, and the conclusions are set out in chapter 5.

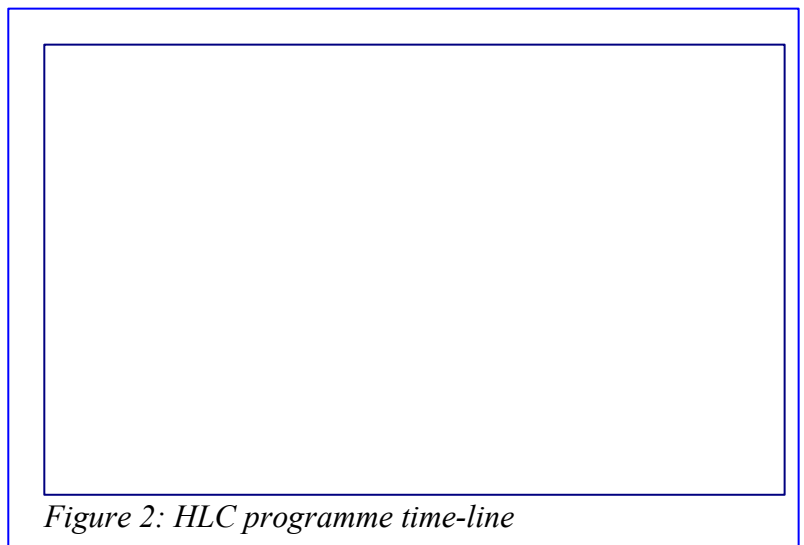
Chapter 2 - WAVES OF DEVELOPMENT

Introduction

The growth of the HLC programme, from the pilots that were carried out as part of a research and development project in 1993-94 (*Yesterday's World, Tomorrow's Landscape*) and from the Cornwall project, was designed to be evolutionary and experimental. Each new project was encouraged not to copy earlier methods but to improve on them, to borrow successful aspects but also to test new approaches and techniques, a process that has been hastened by the rapid development of GIS during the period acting as catalyst.

To understand this evolution, so that different aspects of methodology could be compared on a "like for like" basis taking into account their historic context, the Review arranged the HLC projects into four overlapping groups, termed 'waves'. These waves were defined mainly by chronology, which reveals each project's position within the method's evolution. The impact of one method on a later one has been varied – aspects of some projects have been emulated (ie "positive"), aspects of others have encouraged rethinking to find better ways (ie "negative") and an analysis of this helped the definition of waves.

Projects that used earlier methods without radical change were considered as part of the 'parent' project's wave. Examples of these were the Peak NP method used in the rest of Derbyshire, Cotswolds AONB in Gloucestershire, or Hertfordshire in Essex. Fig 2 shows that different waves have often run concurrently and inevitably some projects because of their timetable or history have therefore used outmoded methods, lagging behind the newest 'cutting edge' methods.



Origins (1990 – 1994)

The idea of HLC arose initially from the 1990 White Paper, *This Common Inheritance*. This invited English Heritage to consider the desirability of a list of landscapes of special historic importance, and from EH's subsequent advice that comprehensive characterisation of all of the landscape was preferable to a Register of selected areas. EH's advice, incorporated in government

policy in PPG15, was based on the conclusions of a one year national R&D project on existing approaches to historic landscape.

The English Heritage R&D project was carried out in 1993-94, by Cobham Resource Consultants and the Oxford Archaeological Unit and several subcontractors. Its conclusions were published later as *Yesterday's World, Tomorrow's Landscape* (Fairclough et al 1999). The project concluded that it would be better to assess and understand historic landscape character everywhere, rather than selecting a few special areas for inclusion in a national register in contrast to the approach adopted in Wales. It recommended that a new, rapid and robust, approach should be identified that could deliver multiple objectives and serve multiple uses, notably it significantly raised awareness that the whole of the landscape has an historic dimension. The approach would need to be capable of use in conjunction with other types of landscape assessment.

This was investigated separately in *Views from the Past – historic landscape character in the English countryside*. This discussion paper was prepared collaboratively by the Countryside Commission and EH to promote archaeologists' perspectives as a way of reaching a fuller understanding of the cultural landscape as a humanly-formed and semi-natural construct (Countryside Commission 1994; re-issued 1996).

The project reviewed existing approaches to historic landscape, and tested two new approaches. These pilots (in Oxfordshire and County Durham) taught useful

lessons, but the project as a whole showed that no suitable method for HLC yet existed.

The delayed publication of the R&D project as *Yesterday's World, Tomorrow's Landscape* in 1999 was a significant step forward to widen the debate (Fairclough et al 1999). It was the first formal presentation and promotion of the HLC programme, and was influential in defining subsequent HLC projects.

The late publication delayed the widespread adoption of HLC, but had some advantages in the long-term. It enabled the book to include accounts of successful HLC work that had been carried out since the R&D project, thus providing a summary of current best practice. This included the influential work in Cornwall (Herring 1998) and wave 1 and some wave 2 projects such as Hampshire. The late publication also enabled HLC to be placed into the context of new ideas on sustainable development, as set out for example in the English Heritage discussion paper *Sustaining the Historic Environment* (English Heritage 1997). It could also take fuller account of the links between HLC and the broader frameworks of the Countryside Character Map (Countryside Commission/Agency 1998/99) and the EH Settlement Atlas (Roberts & Wrathmell 2000).

Cornwall and Wave 1: an experimental phase (1994-1999)

Towards the end of the R&D project, the Cornwall Archaeological Unit puts these emerging ideas for HLC into practice by (Herring 1998, Johnson 1999). This was as part of a landscape assessment, first on

Bodmin Moor (by Land Use Consultants for the Countryside Commission), and then applied to the whole of Cornwall (CAU and LDA).

Many parts of the pioneering methodology developed in Cornwall are found in the current HLC programme projects. All HLC projects in England and beyond descend to some extent from Cornwall's

Cornwall HLC's guiding principles (CAU and LDA 1994; Herring 1998, 12) were that the method should:

- characterise the whole landscape, in the present day;
- be straightforward, consistent, repeatable and verifiable with further assessment;
- be as far as possible objective, with areas of subjectivity made transparent;
- consider no part of the landscape to be greater in value than another;
- generalise, ie identify *dominant* historic landscape character;
- use a concept of mainly visible time-depth over long periods of time;
- use present-day 1:25000 OS maps as the primary base;
- map discrete areas of HL character within the present-day landscape;
- use a pre-defined classification;
- provide a common, easily understandable language for users and a starting point for further research;
- use an archaeological approach to the interpretation of HL character.

All HLC projects in England and many beyond descend to some extent from Cornwall's use of YWTL theory (eg Fairclough (ed) 1999, Dyson-Bruce et al 1999, ERM and ERA 2000, Dixon and Hingley 2002, Cooney et al 2002).

The rest of the first wave HLC projects - Peak District (and Derbyshire its offshoot), Avon and the Isle of Axholme - followed the successful Cornwall project but represent further experimentation using the principles of YWTL, 'Views' and the Cornwall HLC. There was consensus regarding the Cornwall method, and many aspects of it were used in the new projects, but new techniques were also developed. These exploited newly-available if primitive GIS, they used other techniques such as time-sliced historic mapping, and they reflected local identity and priorities as recommended in the national Research & Development project (Fairclough et al 1999, 55

HLC in the Peak District continued the tradition of Cornwall as a relatively simple and easily understood method with clear classifications, but it was more heavily GIS-based. It differed, however, in its reliance on historic maps (Barnatt forthcoming). While this was valuable, leading to greater objectivity, it focused less on the surviving landscape. Its characterisation was however supported by information about how characterisation decisions were made (a series of note boxes attached to each polygon to describe sources and decisions), thus starting to make HLC method more transparent. A closely similar method was extended to the rest of Derbyshire (Barnatt et al 2000).

Nottinghamshire combined techniques from Cornwall, the Cotswolds and, indirectly, the Peak District. Part of the product was a 19th century map reconstruction of the historic landscape as well as a characterisation of the present-day historic landscape (Bishop 2000). Comparison of the 19th century and the present-day map was used to demonstrate landscape change and time-depth.

Hampshire's HLC project was carried out by Oxford Archaeology Unit, one of the consultants on the *Yesterday's World, Tomorrow's Landscape* project. This project took account of preceding projects but put more of the YWTL R&D theory into practice. It was less dependent on land-use than on easily identifiable attributes such as morphology, as well as the spatial, functional and chronological distinctions of types (Lambrick and Bramhill 1999, Fairclough et al 2002). Kent followed an almost identical method, although with the addition of confidence levels for each polygon (Croft et al 2001). Surrey, much later, broadly followed suit, but also developed in new, Wave 3 directions and is discussed later.

In Suffolk's HLC project, emphasis was placed on recognising land-use types in reference to earlier map sources within a morphological basis for field patterns (Ford 1999). It was the first within a rolling

regional programme for the East of England, which was planned to use the same methodology for all of East Anglia, but changes for Hertfordshire were so great that

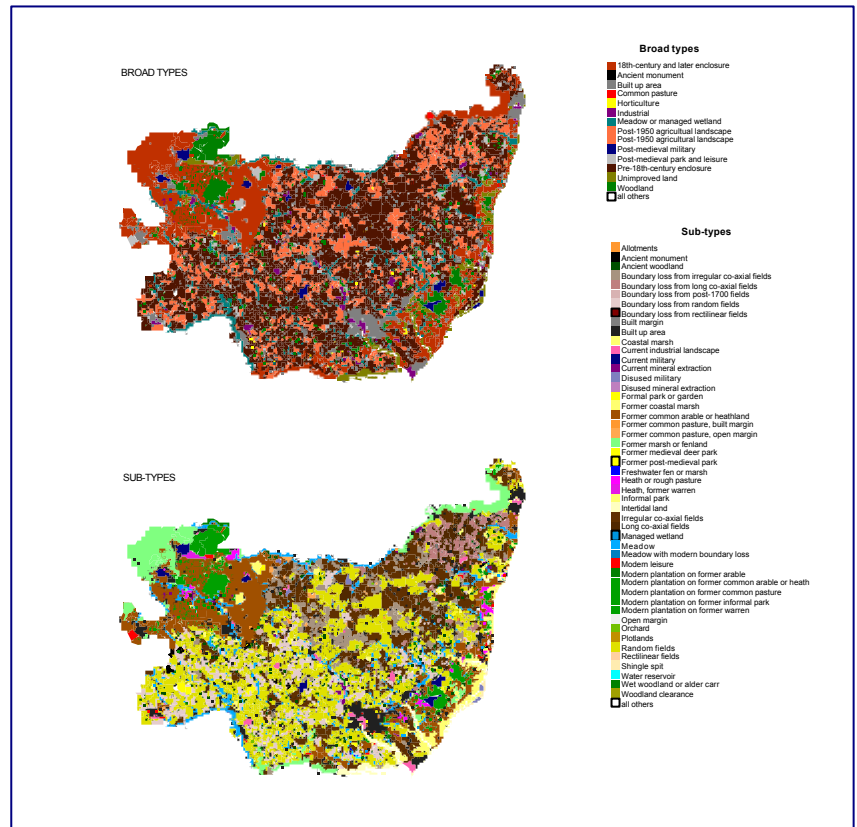


Figure 4: Suffolk HLC - Broad & Sub types

later Eastern projects are part of Wave 3.

In summary, Wave 2 projects moved slightly away from the pure form of the Cornwall method, but contained several major contributions to HLC evolution:

- Continued use of GIS as a display tool, and the first use of attribute data; these projects were the first with the fully-developed ability to interrogate their GIS to produce multiple outputs;
- Modelling time-depth, past

- HL character, change through time, via GIS; Significant development in description of HL character in terms that recognised previous HL character and analysed historic process and morphology.

Wave 3: development (1999–2000)

Wave 3 developments were prompted by a number of factors, not least the experience of the ten previous successful Wave 1 and 2 projects. The promise and limitations of various aspects of the method were by now evident in a range of easily available publications and tested project designs (Fairclough et al, 1999, Herring 1999). An HLC progress review was presented in December 1998 in the first of what has become a biennial series of English Heritage HLC seminars held at the Society of Antiquaries in London. Its published papers enabled future projects to use techniques and concepts based on the same guiding principles (Fairclough (ed.) 1999). Networking between HLC practitioners was growing as well, and the potential use of GIS in characterisation and analysis was becoming more widely recognised, just as the availability of GIS in SMRs was becoming commonplace. Wave 3 projects were Lancashire, Somerset, Herefordshire, Surrey, Hertfordshire and Essex.

Lancashire took many aspects of Cornwall, Hampshire and the Cotswolds to create a system based on multiple attribute data (morphology, process, chronology and source references) for each polygon, as well as indicating past

changes by comparison between the present-day and 1st edition 6" maps. The Peak method was also influential, in terms of increasing the transparency of decision-making about character. The range and scope of HL character interpretation was greatly increased, because it was not constrained by fitting within predefined type-lists but able to generate a large number of potential types subject to GIS interrogation (Darlington 2002, Ede with Darlington 2003, DCMS 2002 p31).

Somerset at the same time developed a system using the same distinctions, but more explicitly and with greater reliance on morphological attributes held within discrete data fields (Aldred 2001). This further increased the range and scope of types, and made interpretation more transparent. Previous landscape change was also assessed.

Herefordshire, like Lancashire and Somerset, further developed the attribute-based approach. It was, however, set within a broader analysis and a quite different scale of characterisation than previously used. It explored stratigraphic principles of landscape analysis at a very high level of generalisation, and brought a new level of theoretical clarification to the process (White with Ray forthcoming).

The Surrey HLC used the Hampshire method, but improved it with new ideas. More sophisticated use of GIS, the addition of several new categories, increased time-depth, and further levels of transparency brought its approach

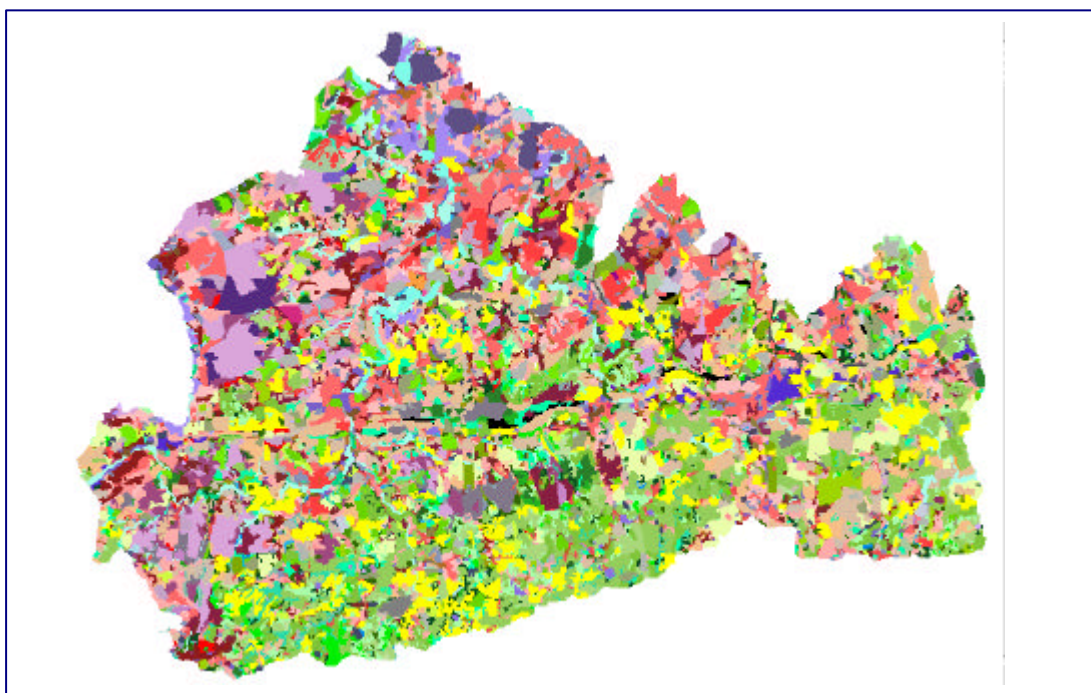


Figure 5: Surrey HLC

very close to the other Wave 3 projects (Bannister 2001).

Hertfordshire, the second East of England project (and Essex, the third), departed from their predecessor in Suffolk by adding assessment of the depth of historic character for each polygon using a variety of sources, all referenced through multi-tiered attribute data fields (Dyson Bruce 2002). The Eastern HLC project officer also added experience gained in Scotland, where HLA had evolved from the Cornwall starting point, by-passing some English evolutionary paths (Dyson Bruce et al 1999).

The key contributions of Wave 3 projects to the development of the HLC method were:

- Use of GIS not just as a display tool but for analysis, to provide a platform for query-led HL character types, as well as providing increased flexibility and transparency

in the method which was easily replicable;

- Use of *metadata* on the digital and other data used in HLC;
- Increased functionality in the outputs to produce both detailed and amalgamated forms of the data, especially combinations of interpretation and description;
- Development of the HLC *model* concept for spatial and temporal analysis;
- Greater consistency in classification; data structures with separate attributes.

Wave 4: higher evolution and consolidation (2001-02)

Wave 4 projects are the most methodologically consistent set of projects. They have clear antecedents in earlier waves and combine all the best elements of preceding methods. They have greater emphasis on assessing

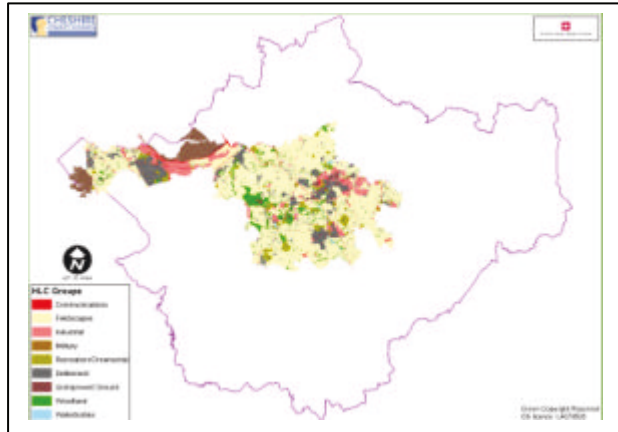


Figure 6: Cheshire HLC: broad summary types (in progress, Dec 2002)

changes in the past with direct comments for individual polygons, in a similar way to Hertfordshire and Essex but with Lancashire-type use of attribute recording. GIS was even more central in this wave, and continued to influence techniques and the method, being more than simply a tool for displaying results. There is an increased concern for flexibility and transparency.

One tendency of Wave 4 projects is towards smaller polygons and finer grained characterisations, which at county scale risks losing sight of broad patterns and strategic overview. Perhaps some degree of legibility, although sophisticated use of GIS should normally be able to avoid this pitfall by use of appropriate levels of amalgamation (Fairclough 2002). This tendency also implies a high degree of resolution that may not be reflected in the accuracy of available data, which relate to the scale and confidence of the HLC.

Wave 4 projects were Devon, Cumbria & the Lakes, Shropshire and Cheshire, and almost identical methods are used in projects starting

or being planned in 2002, for example Buckinghamshire, Isle of Wight, Northamptonshire and Dorset. During the review, these were all at an early stage, and are therefore not fully described here.

The contribution of Wave 4 projects to HLC's methodological evolution can be summarised as mainly:

- An important level of consolidation;
- Increased standardisation, providing a basis for a template Project Design;
- Increased complexity in attribute recording, thus strengthened interpretation;
- More emphasis on previous HL character that better reflects time-depth;
- Highly sophisticated and flexible use of GIS, coupled with greater transparency;
- Better digital map bases (notably 'MasterMap'), therefore avoiding new digitising or scanning etc;
- Increased use of geo-referenced vertical APs and other pre-existing digital data.

Further development of HLC – using HLC

At the time of publication of this report, a second national HLC review was in full swing, reviewing the uses and applications to which HLC was being put. The results will be available towards the end of 2003. It will look at applications in many fields, notably spatial planning, landscape management, agri-

environmental programmes, and research frameworks and agendas, and provide exemplars and case studies.

Apart from all the varied applications of individual HLC, the HLC technique is also being used in a range of follow-up ways, which will in turn extend the methodology and introduce it to new scales, whether at more local level or higher, regional levels.

Several HLC projects are using the HLC method in other contexts: for example. Cornwall CC has carried out a more detailed HLC using GIS and incorporating additional data for the Lynher Valley and for areas around a mining World Heritage Site bid. Lancashire CC is developing and testing part of its HLC at a local level in Bowland and the Lune Valley within the *European Pathways to Cultural Landscapes* Culture 2000 programme (Darlington 2002, Nord Paulsson and Fairclough 2002). Both Cornwall and Lancashire county councils are also carrying out urban characterisation based on the ideas and philosophy laid down by HLC (Ede with Darlington 2003).

Other projects have followed up HLC at more local level, either as part of an application of the data, to include further detailing, or used as contextual information. The New Forest DC local assessment built on the Oxford Archaeological Unit's HLC work in Hampshire, as did Hampshire CC's urban hinterland landscape assessments for Winchester and Basingstoke. The East Anglian Historic Fields Project is using the East of England HLC as part of a more advanced study of the character of historic field patterns

and regional identity (Dyson-Bruce 2002).

A planned second stage of the HLC programme is to produce regional HLC maps drawn from county level work and absorbing other landscape-scale work such as EUS and NMP. A draft regional overview of this type has been undertaken by the Cornwall Archaeology Unit within the South West, linked to English Heritage's *A Strategy for the Historic Environment in the South-West*. It used county-scale HLC where it was available, but filled gaps in HLC coverage (Dorset and Wiltshire) by rapid top-down interpretation in discussion with the relevant county archaeologist or

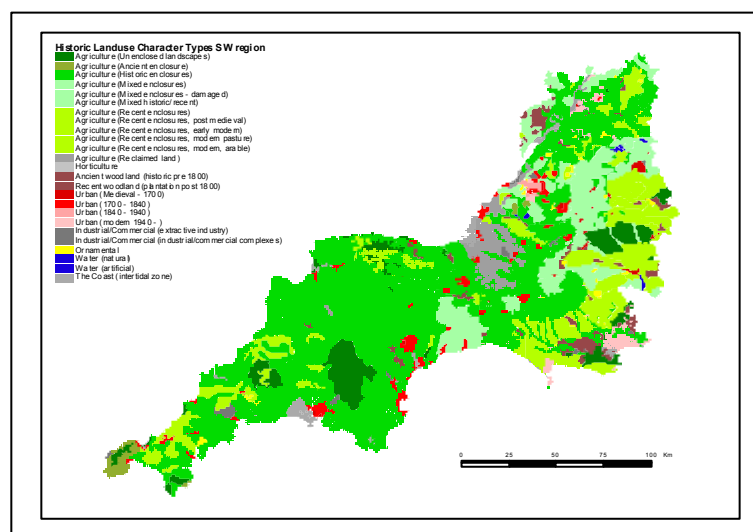


Figure 7: SW Regional Character Map. Produced as part of *A Strategy for the Historic Environment in the South-west for SW Region EH*. (Cornwall, Somerset, Avon and Gloucestershire are derived from completed HLCs)

HLC officers. The success of this trial (particularly given that South West HLCs represent all four waves) demonstrates that regional

HLC overviews will be feasible even if individual county HLCs used different methods. If it is possible in a context of such methodological diversity, it will be easy elsewhere.

First stage county coverage of HLC is nearing completion in several government regions, notably in the NW, and the next step of regional synthesis and overview will be able to begin soon.

Summary of Chapter 2

From this overview of the evolution of HLC, some principal milestones can be identified:

1. The R&D project (*Yesterday's World, Tomorrow's Landscape*), and *Views from the Past* – these established the guiding principles of HLC.
2. Cornwall (CAU) – this pioneering project definitively put these ideas into practice, and introduced the main aspects of

the HLC method (Herring 1998).

3. Hampshire (OAU) - the principal YWTL consultants testing their own interpretation of its findings. Very influential on subsequent projects.
4. Lancashire (along with others, notably Somerset) - the further development of the Cornwall and Hampshire projects, using GIS to transform the method, changing direction from classification-led methods to attribute-based ones.
5. Current Wave 4 projects (Cumbria, Shropshire, Devon and Cheshire) – mature attribute-based methods, incorporating the Lancashire, Somerset and Hertfordshire methods, with increased flexibility, greater transparency, more time-depth potential and fuller characterisation of past changes to the historic landscape. This provided the springboard for the best-practice consolidated methodology that is set out in the accompanying Template PD.

Chapter 3 - MODES OF CHARACTERISATION

Introduction

Dividing projects into broadly chronological waves (generations) was useful to identify trends and isolate which differences were historic and obsolete, and which were still active. To emphasise similarities between methods, the Review also grouped projects into “families”, defining these by how they collected and used the data and by their methods of interpretation, ie the input and output mechanism at the heart of the HLC process. The “families” were defined from a series of criteria. The first set of these were based on the assumptions and decisions used to create the maps and database of each HLC (eg whether classification-led or attribute-based - see later in this chapter); and second, on its products and results (eg whether “time-slice” or “time-depth” – see later in chapter).

20 projects were assessed in this way: 16 *completed* projects and 4 *in progress* or *commissioned* projects. Where projects displayed aspects of more than one mode, its predominant approach decided its position in the categorisation, but secondary components were sometimes identified as well.

Modes of Input (Table 1)

Input modes, or how HL Character is determined, were defined using these criteria:

- Whether areas are allocated to HL types on the basis of

- ☐ prescriptive criteria (ie predefined classification) or
- ☐ descriptive (ie recording attributes that later are used to create types), or
- ☐ a mixture of both.
- Is the primary source of interpretation
 - ☐ historic maps or
 - ☐ morphological analysis?
- Method of input to GIS (manual, computer display, computer manipulation).
- Is HL character reconstructed from
 - ☐ historic maps or
 - ☐ interpretation (modelling) from the HLC?
- Degree of transparency – is the way data is used for HLC
 - ☐ implicit or
 - ☐ explicit?

Modes of Output (Tables 2 and 3)

The output modes concern ways of presenting interpretations and results. A series of factors were examined:

1. Functionality (the ease with which the same data can be used to produce different outputs, usually facilitated by GIS and relational databases);

| Project | Wave | Starting point | Criteria used | Classification Approach | Data source usage | Data structure | Input type | Parts of |
|------------------|------|----------------|---------------|-------------------------|-------------------|----------------|-----------------|-----------------|
| Cornwall | 1 | Field Morph | Prescrp | 1 | Model | Implicit | Class-led | |
| Avon | 1 | Field Morph | Prescp | 2 | Model | Implicit | Class-led | |
| Axholme | 1 | Hist. Maps | Prescrp | 1 | Reconstruction | Implicit | Document-led | |
| Peak District NP | 1 | Hist. Maps | Prescrp | 2 | Reconstruction | Implicit | Document-led | Class-led |
| Derbyshire | 1 | Hist. Maps | Prescrp | 2 | Reconstruction | Implicit | Document-led | Class-led |
| Cotswolds | 2 | Field Morph | Prescrp | 2 | Model | Implicit | Class-led | Attribute-based |
| Kent | 2 | Field Morph | Prescrp | 2 | Model | Implicit | Class-led | Attribute-based |
| Gloucestershire | 2 | Field Morph | Prescrp | 2 | Model | Implicit | Class-led | Attribute-based |
| Nottinghamshire | 2 | Field Morph | Prescrp | 2 | Model/Reconstr | Implicit | Class-led | Document-led |
| Hampshire | 2 | Field Morph | Prescrp | 2 | Model | Implicit | Class-led | |
| Suffolk | 2 | Field Morph | Prescrp | 2 | Model | Implicit | Class-led | |
| Lancashire | 3 | Field Morph | Descrp | 3 | Model | Explicit | Attribute-based | |
| Somerset | 3 | Field Morph | Descrp | 3 | Model | Explicit | Attribute-based | |
| Herefordshire | 3 | Field Morph | Descrp | 3 | Model | Explicit | Attribute-based | |
| Surrey | 3 | Field Morph | Prescrp | 2 | Model | Implicit | Class-led | Attrib & Doc |
| Hertfordshire | 3 | Field Morph | Both | 3 | Model | Implicit | Multi-mode 1 | |
| Essex | 3 | Field Morph | Both | 3 | Model | Implicit | Multi-mode 1 | |
| Cumbria | 4 | Field Morph | Both | 3 | Model | Explicit | Multi-mode 2 | |
| Devon | 4 | Field Morph | Both | 3 | Model | Explicit | Multi-mode 2 | |
| Shropshire | 4 | Field Morph | Both | 3 | Model | Explicit | Multi-mode 2 | |

Table 1: Input method type for 20 projects.

[Classification approach: 1, manual, 2, computer display, 3, computer manipulation]

2. Classification method (determined by the approach taken during characterisation) – manual, computer display, computer manipulation.
3. Project Classification: (time depth, documentary, combination).
4. Data source usage (is data used to produce models or reconstruction of HLC).

Two main types of output mode, one subdivided into three, were defined, mainly on the basis of Project Classification and Data source usage.

These output types are:

Time-slice: these projects reconstruct historic landscape at different periods in time, eg by period maps that may show

landscape features that no longer exist, or that do not necessarily have connections to the present-day landscape. Prime amongst such projects are Axholme, Peak District

National Park and Derbyshire, while Nottinghamshire has some time-slice elements. They tend of course also to rely heavily on historic maps, and three of them are the primarily document-led methods.

Time-depth: these projects find ways to identify the historic depth of the present day landscape from morphological analysis, general understanding or extrapolation. By definition they identify still surviving visible HL character and features, but the method does not often allow reconstruction of past environments at particular dates. They are closest to the basic guiding principles of HLC, rather than

trying to achieve landscape archaeology.

Time-depth is divided into three sub-groups, mainly distinguished by differences in their approach to Classification, Functionality and Classification methods (Sub-group A uses Manual analysis, B Computer display and C Computer manipulation).

- A Manual Analysis - Cornwall, and Axholme partly so.

- B Computer Display - Avon, Cotswolds & Gloucestershire, Hampshire, Kent, Suffolk and Surrey, whilst Nottinghamshire (mainly Time Slice) also has some aspects of B type time depth.
- C Computer Manipulation - Cumbria, Devon, Essex, Lancashire, Herefordshire, Hertfordshire, Shropshire and Somerset. In terms, of evolution, Time-depth C is the most advanced.

| Project | Wave | Functionality index | Classif. type | Project Classif. Type | Data source usage | Output type |
|------------------|------|---------------------|---------------|-----------------------|-------------------|--------------------------|
| Cornwall | 1 | 1 | 1 | Time-depth | Model | Time-depth A |
| Avon | 1 | 2 | 2 | Combination | Model | Time-depth B |
| Axholme | 1 | 1 | 1 | Document | Reconstruction | Time-slice |
| Peak District NP | 1 | 2 | 2 | Document | Reconstruction | Time-slice |
| Derbyshire | 1 | 2 | 2 | Document | Reconstruction | Time-slice |
| Cotswolds | 2 | 2 | 2 | Combination | Model | Time-depth B |
| Hampshire | 2 | 2 | 2 | Combination | Model | Time-depth B |
| Suffolk | 2 | 2 | 2 | Combination | Model | Time-depth B |
| Nottinghamshire | 2 | 2 | 2 | Combination | Model/ Reconst | Time-slice/ Time-depth B |
| Gloucestershire | 2 | 2 | 2 | Combination | Model | Time-depth B |
| Kent | 2 | 3 | 2 | Combination | Model | Time-depth B |
| Surrey | 3 | 3 | 2 | Combination | Model | Time-depth B |
| Essex | 3 | 3 | 3 | Combination | Model | Time-depth C |
| Lancashire | 3 | 4 | 3 | Combination | Model | Time-depth C |
| Herefordshire | 3 | 3 | 3 | Combination | Model | Time-depth C |
| Hertfordshire | 3 | 3 | 3 | Combination | Model | Time-depth C |
| Somerset | 3 | 4 | 3 | Combination | Model | Time-depth C |
| Cumbria | 4 | 5 | 3 | Combination | Model | Time-depth C |
| Devon | 4 | 5 | 3 | Combination | Model | Time-depth C |
| Shropshire | 4 | 4 | 3 | Combination | Model | Time-depth C |

Table 2: HLC Output type for 20 projects [Functionality Index: 1 Low, - 5, High; Classification Index: 1, Manual, 2, Computer display, 3, Computer manipulation]

| Output | Wave 1 | Wave 2 | Wave 3 | Wave 4 | Total |
|--------------|--------|--------|--------|--------|-------|
| Time-slice | 3 | - | - | - | 3 |
| Time-depth A | 1 | - | - | - | 1 |
| Time-depth B | 1 | 6 | 1 | - | 8 |
| Time-depth C | - | - | 5 | 3 | 8 |

Table 3: Relationship of Wave and Output type

The families (Table 4)

Four “families” were defined:

- Classification-led
- Document-led
- Attribute-based
- Multi-mode

Classification-led:

- Use *prescriptive* criteria: areas assigned to a pre-defined classification of types;
- Map-based field morphological analysis is a starting point;
- Relatively straightforward interrogation and analysis;
- Tend to build *models* from the HLC data, rather than recording what documentary or map sources suggest;
- Date structures tend towards being *implicit*.

Classification-led approaches belong predominantly to Waves 1 and 2. Some (Cornwall, Avon, Hampshire and Suffolk) tended to be wholly classification-led. Their immediate successors (Cotswolds AONB, Kent and Gloucestershire) in addition developed some elements of attribute-based modes. Surrey added elements of both attribute-based and document-led approaches into its essentially classification-based approach and is close to being multi-modal. Nottinghamshire has elements of the mixed approach, being classification-led with elements of document-led.

Document-led:

- use *prescriptive* criteria (pre-defined classification);
- very firmly have as their starting point use of historic maps;
- characterise by manual means, with simple GIS;

- draw *reconstruction* from their data;
- have an *implicit* data structure.

This is an approach of early (but not the very first) projects: Axholme, Peak District and Derbyshire. It represents an experiment to underpin the Cornwall and other classification-led approaches, perceived by some as overly interpretative, with historical certainty rather than archaeological interpretation.

Attribute-based:

- Record attributes (ie use *descriptive* criteria) rather than attributing areas to predefined types;
- Use field morphology as a starting point;
- Use computer analysis of attributes in HLC to create models and types;
- Tend to build *models* from the HLC data, rather than simply recording data from documentary or map sources;
- Tend to have open, transparent, *explicit* data structures.

Attribute-based methods represent a different answer to the need to underpin interpretation with greater “objectivity”. Lancashire, Herefordshire and Somerset (all wave 3) are considered attribute-based. Other wave 3 projects, and some earlier projects, such as Cotswolds, Gloucestershire, Kent and Surrey, began to demonstrate elements of the attribute-based approach.

Multi-mode:

- use both *descriptive* and *prescriptive* criteria;
- use morphology as their starting point;

- base their characterisation on manipulating computer data;
- aim to create *models* of landscape character.

Multi-mode projects include the most recent. They use interpretation, but their subjectivity is framed, controlled and made transparent by the use of attribute-based approaches within advanced GIS. They draw on aspects of all the other families, creating a fusion of the best techniques but drawing most powerfully on attribute-based methods.

There are two types of multi-mode approach, type 2 being more advanced, and more attribute-based, than type 1. The two types differ for example in terms of data structure (in type 1, data structures are *implicit*, in type 2 they are *explicit*). They are also distinguished in respect of their transparency. In type 1, source information determines the polygons on 4 or more levels and this information is included for each polygon. Type 2 uses more

attributes than type 1, which includes source-recording and cross-referencing, whilst morphological interpretative descriptions also justify the decision-making with an increased range and scope of analysis. Hertfordshire and Essex are type 1, Cumbria, Devon and Shropshire are type 2 (and since the review, Cheshire has followed the same path).

The sequence of the families

Although the families were not defined by chronology, each occupies a distinctive place in the HLC story. Early HLC methods were classification-led, a number then experimented with document-led approaches in support of classifications, while the attribute-led mode, evolving in part as a response to perceived limitations of classification-led ways, fed later projects. The most recent projects, and new projects at the end of 2002, adopt a hybrid, multi-mode approach that incorporates the best of all previous methods.

| Input | Wave 1 | Wave 2 | Wave 3 | Wave 4 | Total |
|--------------------|--------|--------|--------|--------|-------|
| Classification-led | 2 | 6 | 1 | - | 9 |
| Document-led | 3 | - | - | - | 3 |
| Attribute-based | - | - | 3 | - | 3 |
| Multi-mode Type 1 | - | - | 2 | - | 2 |
| Multi-mode Type 2 | - | - | - | 3 | 3 |

Table 4: Number of projects in each family and waves. Multi-mode are the most advanced in terms of HLC evolution

Summary (Table 5)

Table 5 summarises the input/output attributes of each project, and thus the family groups defined by the

review, including the likely character of some projects about to start.

| Project | Wave | Input | Output | Adaptability |
|------------------|------|---------------------|-------------------------|--------------|
| Cornwall | 1 | Classification-led | Time-depth A | 1 |
| Axholme | 1 | Document-led | Time-slice/Time-depth A | 1 |
| Peak District NP | 1 | Document-led | Time-slice | 2 |
| Derbyshire | 1 | Document-led | Time-slice | 2 |
| Avon | 1 | Classification-led | Time-depth B | 2 |
| Cotswolds | 2 | Classification-led | Time-depth B | 3 |
| Hampshire | 2 | Classification-led | Time-depth B | 3 |
| Suffolk | 2 | Classification-led | Time-depth B | 3 |
| Kent | 2 | Classification-led | Time-depth B | 3 |
| Gloucestershire | 2 | Classification-led | Time-depth B | 3 |
| Surrey | 3 | Class-led/Attribute | Time-depth B | 3 |
| Nottinghamshire | 2 | Class-led/Document | Time-depth B | 2 |
| Herefordshire | 3 | Attribute-based | Time-depth C | 3 |
| Lancashire | 3 | Attribute-based | Time-depth C | 3 |
| Somerset | 3 | Attribute-based | Time-depth C | 3 |
| Essex | 3 | Multi Mode Type 1 | Time-depth C | 3 |
| Hertfordshire | 3 | Multi Mode Type 1 | Time-depth C | 3 |
| Cumbria | 4 | Multi Mode Type 2 | Time-depth C | 4 |
| Devon | 4 | Multi Mode Type 2 | Time-depth C | 4 |
| Shropshire | 4 | Multi Mode Type 2 | Time-depth C | 4 |
| Cheshire | 4 | Multi Mode Type 2 | Time-depth C | / |
| Buckinghamshire | New | Multi Mode Type 2 | Time-depth C | / |
| Bedfordshire | New | Multi Mode Type 1 | Time-depth C | / |
| Cambridgeshire | New | Multi Mode Type 1 | Time-depth C | / |
| Staffordshire | New | Type 2 | Time-depth C | / |

Table 5: Summary of the families, showing Input and Output modes, and indication of Ease of Adaptability (1: Hard; 2: Difficult; 3: Easy; 4: Very easy)

It seems clear that the core method is now Multi-Mode, and essentially type 2 combined with Time depth B and C. This represents the best foundation for a future common (but nevertheless still evolving) methodology. It is the method that forms the heart of the Template Project Design.

Table 5 also assesses how easily each project could in future (eg when updating, or in regional overview projects) be adapted to this model (1 difficult, 4 easy). Resources needed to adapt projects

at level 2 will be significantly more than needed for those with 3 scores. In level 2 projects, a time-consuming re-distribution of attributes into distinctive data fields may be needed. Level I projects (Cornwall and Axholme) might need major rebuilding, but neither are in GIS, and Cornwall at least has already begun the creation of a new generation HLC and when this is fully underway is likely to adopt Multi-Mode type 2 and Time depth C.

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; 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 (“fieldsapes”, 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:

1st ed 1"; 1950-1970s 1:25000; 1st & 2nd ed 6"; 1st 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, 1st & 2nd eds 6" and 1st 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.

Chapter 5 - TESTING METHODS IN NEW AREAS

Introduction

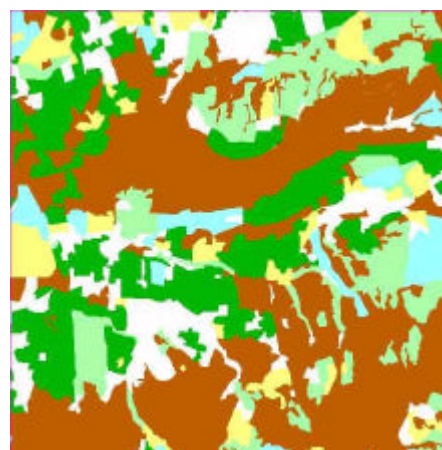
Most HLC projects were designed after consideration of their predecessors' methods. The Programme's evolution itself therefore provides evidence about the transferability and general applicability of specific methods (see chapter 2). In addition, several HLC methods have been applied in more than one county (eg Peak in Derbyshire, Lancashire in Cumbria, Suffolk in Hertfordshire), and this provides some measure of how successfully methods have been transferred to 'new' areas, and how much modification was necessary or otherwise thought desirable.

A further level of comparison was however needed for the Review. This took four of the most influential, innovative and well-developed methods, chosen for their spread across the whole evolutionary spectrum of HLC, and used them to do HLC in identical areas in a controlled manner.

This Inter-Project Comparison (IPC) applied the methods used in Cornwall, Essex, Herefordshire and Lancashire to an area that had already been subjected to HLC in the Surrey project. This allowed each of these distinctive methods, including the very earliest in Cornwall, to be compared directly with the Surrey HLC. Surrey in turn represents a fifth method, derived mainly from the Hampshire/Kent approach, which

was one of the most straightforward and elegant of the early methods. The same sources and same time-scale were used, thus helping to isolate method and interpretation as the main factors. Additionally, the Herefordshire method was used on the same basis in three other counties (Cornwall, Essex and Lancashire), and the Essex and Lancashire method was used in Herefordshire

It was realised that the selection of projects from such widely different stages of HLC evolution would exaggerate the appearance of diversity. Had all four tests been wave 4 projects, for example, it is



HLC
■ Post medieval
■ Woodheath/common
■ Parkland
■ Modern
■ Ancient/Medieval

Data source: Surrey County
Map source: OS map © Crown Copyright
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and may lead to prosecution or civil
proceedings.

0 2
km

Figure 8: Characterisation of the Surrey IPC sample area in the existing whole-HLC for Surrey

likely that very closely similar results would have been obtained. This would have been a very poor test of the whole HLC method, however - the purpose of the IPC was to explore difference, even though a lot of this diversity is no longer extant in current best practice.

IPC aimed to test the extent to which a method devised and used in one or a limited number of contexts can be replicated elsewhere, and broadly to establish how comparable their results are. Each IPC test characterised the same 10x10 km map square, the time period was limited to 5 days + 1 day to write a report, and using the OS 1:1250/2500 map as baseline and the same sources of other data.

Interim results of the IPC tests were presented by Paul White, Herefordshire County Council, at the Review Workshop in April 2002, with the main focus being put on the Surrey IPC as that area had at that date been completed by all the participating projects. After the workshop discussion, Dr Nicola Bannister, who had carried out the Surrey HLC, was asked to compare the test results in some detail with her own HLC results for the same 10km sq., using her wider whole county perspective. Her report is summarised in the following section.

Surrey IPC

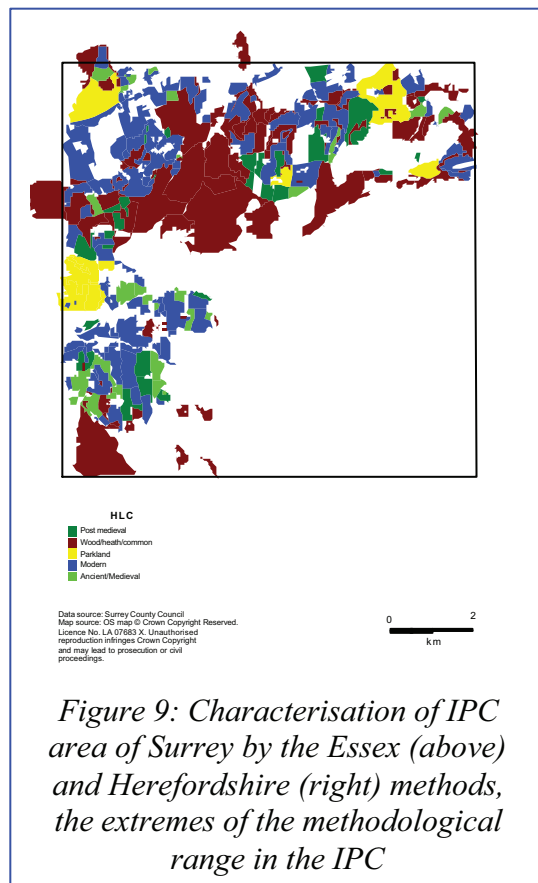
The aims of the Surrey IPC were in particular to assess both broadly and in more detail the similarities and differences of the four chosen methods, and to explain some of the reasons behind the results, particularly whether differences

arose from method or interpretation. Comparison of the four tests with Surrey aimed:

- To look at the similarities and differences between the methods, based on the HLC maps they produced;
- To explain the reasons behind differences, taking into account the background to the different methods, their place in HLC evolution, the sources used and the interpretation of both the character types and the landscape;
- To identify ways of mitigating the effects of the differences and developing the similarities into guidelines for future methodologies.

Statistical assessment

Table 6 shows the diversity in methods at the statistical level and



highlights several key facts. All the methods except Essex completed the area in the time available. Although Essex completed only 60% of the area, it still used the greatest number of polygons, 598. Herefordshire used the fewest, 45. Cornwall most closely matched Surrey in the number of polygons.

The relationship between mean polygon size and number of polygons illustrates that the difficulties of completing the Essex method in the time provided was also connected with the detail of the characterisation method.

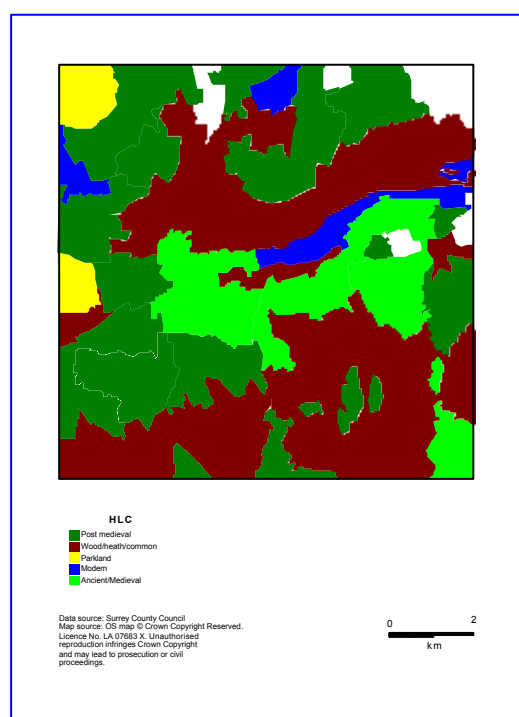
The number of Types used was

fairly consistent between the IPC projects, with a range of between 25 and 34. The Surrey HLC itself had greater diversity in the range of types, using 62 types, probably an indication of the greater level of understanding and refinement that arises from characterising a whole county rather than a 10 km sq fragment as an isolated experiment.

The statistical assessment of the methods therefore suggests that the Essex method is the most time-consuming and costly, partly because of the considerable detail involved in defining individual polygons (although time was also lost through exceptional

| Method | Actual area tested (ha) | No of Polygons | size of polygons (ha) | | | No of HL Types used | % of Area |
|---------------|-------------------------|----------------|-----------------------|------|---------|---------------------|-----------|
| | | | Mean | Min | Max | | |
| Surrey | 12,633.4 | 470 | 26.9 | 1.0 | 367.9 | 62 | 126.3 |
| Essex | 6,129.9 | 598 | 10.3 | 1.0 | 172.2 | 30 | 62.1 |
| Cornwall | 9,977.2 | 521 | 19.2 | 1.0 | 313.7 | 34 | 101.1 |
| Lancashire | 9,868.5 | 177 | 55.8 | 3.4 | 372.5 | 25 | 100.0 |
| Herefordshire | 9,775.6 | 45 | 217.2 | 15.3 | 1,552.7 | 28 | 99.0 |

Table 6: Statistics for the Surrey IPC, Surrey HLC as a baseline for comparison



data-transfer problems so the picture may be exaggerated). It also suggests that the methods employ rather different perceptions of historic landscape character, as shown by the variations in

the number of polygons and the mean size of polygon. Each method used a number of factors to determine HL character, and the variation illustrates both differences in HL character interpretation and in the method itself.

On the other hand, although the detail in the characterisation may be different, higher level views are similar. There is a greater

correlation between the results of each method when HLC is pitched at a higher level of interpretation, such as would be used for a regional overview of county HLCs - for example HLC groups such as Ancient or Medieval, Post Medieval, Modern, Woodland, Heath, Downland, Ornamental. In other words, much of the difference in the tests reflects the levels of output chosen. The underlying methods and GIS show greater comparability, but each method's use of rather different scales of output emphasised the differences.

The number of HLC types used by each method reflects the decision taken by an individual project on the level at which to characterise. What is missing from a consideration of the range of types, however, is the sense of the decision-making that lay behind the attribution of areas to types. The Surrey HLC, for example, like Cornwall's, has a more or less 'flat' classification, and all of this detail is visible in the main level map. The Lancashire results, in contrast, present a simplified version with only c25 types of a much more complex database of attributes that if wished could produce more detailed mapping at similar level to Surrey.

Similar results to the Surrey IPC characterisation were seen in the Essex and Lancashire characterisation of an area of Herefordshire.

Qualitative assessment of the Surrey IPC results took place in 4 stages:

- Coincidence of HLC types between the five methods
- Comparing interpretations
- Comparing methods

- The Broader Landscape Texture

Stage 1.

Coincidence of HLC types between the five methods

The results of the four tests in Surrey were compared at the level of Historic Landscape Character types with an extract from the whole-county Surrey HLC.

The Cornwall and Lancashire methods provided sufficiently detailed IPC reports to clarify understanding of what the types mean and how they are defined. They highlight apparent difficulties in assigning field and enclosures types, probably due to different levels of familiarity with particular areas. As an example of differentiation introduced by differing degrees of local knowledge, both Cornwall and Lancashire results understated the complex woodland aspects of Surrey's landscape, for instance. Their accompanying descriptions helped in understanding the HLC types and a greater degree of correlation between the historic landscape character types for each method was obtained.

Stage 1 (Outcome 1)

HLC types need to be clearly defined and described, with supporting text and attributes that summarise the principal decision-making factors and types of processes involved in creating the type.

Stage 2.
Comparing interpretations of HLC

The second stage of analysis, using randomly selected polygons, compared the Surrey HLC interpretation with that of the four IPC tests to assess the level and degree of interpretation.

There is considerable variation in interpretation between the four IPC test results and the Surrey HLC, and relatively little close correlation at detailed level. Greatest variation was in defining and understanding field types and field patterns - correlation was not good with respect to field patterns, but better for woods, common, heath and downland, and good for ornamental areas. This confirms that it is the complexity of enclosed land that is least well understood.

Broadly speaking, the Cornwall and Lancashire results came closer to replicating the Surrey HLC than Essex and Herefordshire, and on this basis those three methods have

the greatest interpretative kinship. They are also much closer in other aspects of method, theory and principle as well.

The differences that were identified between the methods in the interpretation of field patterns highlight several key points. Both spatial interpretation and the interpretation of HL character varied. This suggests that the great variation in the types assigned to a particular polygon reflects not only the individual assessor's understanding of the landscape but also the definition of each method's HLC Types.

Sensible comparison of the tests worked best at broad levels of HL character. The Surrey statistics show diversity in the factors used to produce the polygons so that comparison between the extremes, i.e. Essex and Herefordshire, cannot be made viably. The results of the stage 2 IPC analysis, however, suggest that the Cornwall and Lancashire results are valid comparisons, especially given that HLC aims to define broad patterns in the landscape, not the detail. All the projects agree more or less on what they are characterising at this broad level, eg. field patterns, woodland, or ornamental.

They differ most in the use of criteria for defining the more detailed character types and how data sources are used. It is this, along with different personal approaches to interpretation, which creates the variation in the results. Synthesis at regional, and trans-county, level will therefore be relatively straightforward, as demonstrated by the recent SW England test-run using partial HLC data. Trans-county comparisons are also possible, but care will clearly be needed if directly comparing separate parts of two counties directly. Where planning or managing authorities cross county boundaries, however (eg AONBs) HLC has usually been carried out in both parts at the same time to the same method, or its results have been rationalised (as in the Gloucestershire / Avon parts of the Cotswolds).

The IPC tests were unrealistic tests in their lack of local knowledge, because this is a critical and always-present component of 'real-life' HLC. The IPC participants used

their own methods in unfamiliar areas, over very small areas and very quickly, and much of the detailed difference of interpretation can be ascribed to this. The lessons to be drawn from the IPC are higher level ones.

Stage 2 (Outcome 3)

The method should continue to develop with local objectives and priorities to take advantage of local knowledge and experience, though with greater attention to inter-county correlation at the appropriate scale (regional).

Stage 2 (Outcome 2)

To facilitate comparison between standard terms and types, similar data structures should be used wherever possible, though with some scope to continue to be flexible to include locally distinctive types

Stage 3.

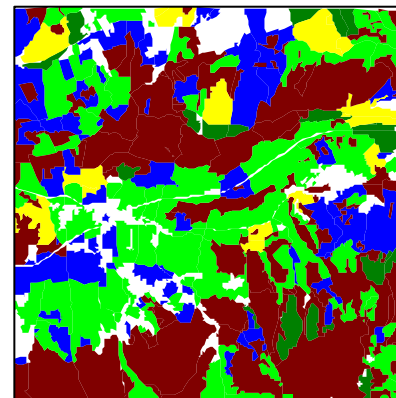
Comparing methods with Surrey

In order to look further at how each method interpreted the Surrey landscape, an example of each method's HLC Types was compared to the Surrey HLC, a reversal of the stage 2 test. There was very great variation in which aspects of the historic landscape (particularly fields and enclosed land) were attributed to which types.

This probably reflected variation in interpreting HLC types and in how the landscape was read, especially the approach to matters of

judgement such as the degree of straightness or waviness of boundaries, or how much boundary loss (and what date?) is needed before fields are interpreted as 'prairies'? What is large and what is small in terms of field size? - is it absolute or contingent on surrounding context? Medium in Surrey may be large in Lancashire.

There is no agreed national standard for such measurement, and perhaps the importance of context makes it impossible (at least at present levels of understanding). This indicates, however, the need for further debate about the standard terms used in HLC. It has been assumed that national standardisation will emerge when all representative parts of the country have been HLC'd but this point is fast approaching. The latest HLCs are already benefiting from much greater informed standardisation, and the first wave of updates must also do this.



HLC
 Post medieval
 Woodpasture/common
 Parkland
 Modern
 Ancient/Medieval

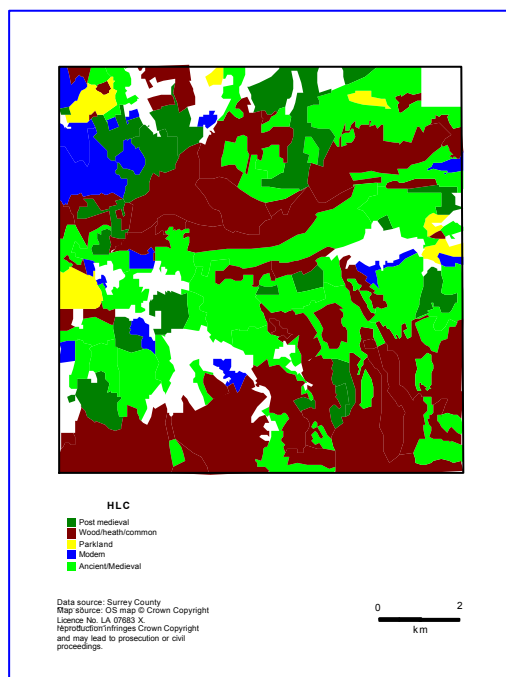
Data source: Surrey County
 Map source: OS map © Crown Copyright
 Licence No. LA 07583 X
 Reproduction infringes Crown Copyright
 and may lead to prosecution or civil
 proceedings.

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 km

Figure 10: Characterisation of Surrey by Cornwall (above) and Lancashire (right) methods, the core of the methodological range

The IPC exercise highlighted the variation at specific levels between the five methods and also the degree to which any given method was either process-led or visually led in assigning HLC types. For example, Herefordshire characterised a farmland golf course as a degraded historic landscape with straight boundaries, which it is, but the same area of land could equally be characterised as a golf course, with its farmland origins flagged up as previous HLC. There is little consensus about when ‘loss’ or ‘degradation’ is out-weighed by the creation of new landscape types; the HLC philosophy of characterising the historic dimension of the present landscape ought to give precedence to interpretations that include current character first, but not all methods are yet consistent in this. On the other hand, the problem is fading away as projects start using the ‘previous HLC’ attributes of the latest wave 4 and later projects.

A brief assessment against the Surrey HLC was made of the types used by each method. Cornwall



used 75% of the same types as Surrey, Essex 60%, and Lancashire and Herefordshire 55% each (based on the cross-tabulation of the Stage 3 tables provided by Nicola Bannister). Such a level of core-agreement, given the unreality of aspects of the tests, seems reasonably high, especially as the core correlation covers the most significant, broad, inclusive types. Admittedly, correlation is lowest in the case of enclosed land, the most difficult aspect of HLC because the least understood, and this is a prime area for further research and development with HLC.

Stage 3 (Outcome 4)

The factors behind the decision-making need to be clearly stated for each type, and if possible for each polygon.

Stage 4

The Broader Landscape Texture

In an attempt further to draw out and highlight some of the similarities between the methods, this fourth stage of analysis took a step back to look at the broader picture without the risk that differences in method (eg Essex’s small polygons) would distort overall patterns and trends. The historic landscape character types for each of the five methods were put into two main groupings: Enclosures (medieval and post-medieval), and Woodlands, Heath & commons and Other).

All five maps revealed the essential grain of the historic landscape character of this small area: a

similar very broad pattern of woods, heaths and commons on the Downs and Greensand Hills, and fields on the lower slopes of the Greensand and the dip slope of the downs. All show settlement concentrated in the Tillingbourne Valley and along the northern edge of the dip slope. The greatest degree of similarity with the Surrey map is shown by Cornwall and Lancashire both of which have identified the wooded

uplands of the Downs and Greensand Hills, with the older settlement in the vales and dip slope of the chalk hills.

A comparison was made for Lancashire and Cornwall (the two closest to Surrey) of the percentage area covered by each of the broad types. Table 7 shows a good correlation between these.

| HLC Zone | Percentage area covered | | |
|----------------|-------------------------|------------|--------|
| | Cornwall | Lancashire | Surrey |
| Fields | 47.5 | 48.2 | 40 |
| Woodland | 37.3 | 38.8 | 29.5 |
| Settlement | 6.7 | 9.6 | 10.9 |
| Ornamental | 5.4 | 2.6 | 7.2 |
| Recreation | 1.2 | 0.2 | 1.5 |
| Rough Ground | 0.8 | 0.5 | 3.2 |
| Communications | 0.6 | / | / |
| Water | 0.4 | 0.1 | 1.4 |
| Industrial | 0.2 | 0.1 | 0.2 |

Table 7: Comparison of landscape texture of the Lancashire and Cornwall IPC tests with Surreys' HLC

Some of the differences that exist are explained by the unreality of the test, notably lack of local knowledge and the falsity of comparing a rapid test with a real properly-resourced, year-long full-county project. But variation in the interpretation by individuals is undoubtedly a factor as well. At the broad level (i.e. the HLCs ability to reflect the general texture of the historic and present-day landscape) each method identifies more or less the same areas, both statistically and spatially, but this concordance does not always survive at greater levels of detail.

More direct comparisons between the Surrey HLC and the Cornwall IPC test of the Cornwall method (chosen for this purpose because of

CAU's detailed report) shows that the proportion of woodland to fields to settlement is approximately the same, although the Cornwall test placed many commons in the woodland group. Many smaller landscape gardens which are defined as Ornamental in the Surrey HLC were subsumed by the Cornwall method into other adjacent field types because of the Cornwall method's greater level of generalisation; similarly, Cornwall uses a higher size threshold for water features, thus reducing their number. Some adjusting and manipulation of the figures would bring them more into line, although there are real differences at detailed level for field types.

The greatest variation is in the

categorising of the field types. Cornwall, Herefordshire and Lancashire, for example, all show a core of medieval fields in the Tillingbourne Valley (Essex was incomplete) whilst Surrey defined much of this as post-medieval. Areas identified as Ancient by the Surrey HLC were on the contrary labelled post-medieval by the Herefordshire method. The Essex map identified many more modern (modified) field enclosures.

Conclusions

At a very broad level there are similarities in the mapping process between all five methods. Nearly all the methods (except for Essex, only 60% completed) identified the main broad 'texture' of the historic landscape character, with the Lancashire and Cornwall methods showing the greatest degree of correlation with Surrey. They corresponded with the Surrey HLC in highlighting wooded hills, settlement in the valleys, ancient enclosures, with post-medieval enclosures on the dip slope and on the margins of the ancient enclosures. All the methods identified parkland, although the polygon boundary depended on attributes such as whether woodland was included, or whether parkland that is now farmed is counted as enclosed land (as it should be given the philosophy of 'present day' HLC) (an issue resolved in wave 4 HLC by 'previous HLC data'). At more detailed levels, the correlation became weaker, especially with regard to enclosed land. With Lancashire and Cornwall, however there was closer correlation at lower level as well. Correlation is weakest with the definition of ancient and modern

fields, and with the degree of boundary sinuosity and field size; both of these are inherently subjective, heavily influenced by practitioner and context.

These differences at detailed levels appear to be due to several factors, most importantly the different aims of the methods. Cornwall for example aims to be generalised at county scale and deliberately avoids detail, and Lancashire takes a similar approach. These are the most similar results, and the most compatible with Surrey. They are closest to Wave 4 and to current best practice. Herefordshire, however, takes a higher level of generalisation based on quite different stratigraphic techniques almost exclusively targeted at field types (leaving other aspects to be added from other data sets), while Essex, in contrast, leans on documentary sources to produce a much more fine-grained approach. Not surprisingly, Essex and Herefordshire differ most from the others.

The use of different terminology and definitions by projects sometimes reflects real differences in interpretation but sometimes disguises similarities. Different factors are used to derive HL character, for example either process-led (ascribing HL character to its causes), or visually-led (ie simply describing the appearance of fields, eschewing interpretative assumptions). The variation in the weight given to the range of available types exacerbates these differences.

Different ways of reading the landscape, or interpreting it, are perhaps the most fundamental

factor. This, of course, sits at the heart of the issue - is HLC simply a process of collecting “facts” from documents and maps, or is it about creating interpretation from material remains, ie is it the task of historians or of archaeologists?

Many of these factors are already largely resolved in the wave 4 projects and will be addressed. It may be that they are so marked in the IPC tests because the test methods were chosen to represent the full range of HLC evolution, so as to highlight differences for comparison. Certainly had 4 Wave 4 projects been chosen for the IPC the result would have been different again. The last factor, however, is more fundamental, indeed an accepted part of the HLC programme with its emphasis on HLC being interpretation more than data, based on the premise that landscape is a construct created by perception and therefore to some extent subjective. The real issue raised by the IPC tests, and the whole review, is not that of how to standardise and make HLC objective, but rather how to make ever more transparent the varying decisions that make up each county’s characterisation.

The IPC, and its assessment by Nicola Bannister, indicates several areas of enhancement in the method, which will be resolved as far as is possible in the Recommended Approach in Part 3. They are:

- The importance in HLC of local knowledge (which in ‘real’ HLC is built into the process unlike in the IPC tests); taking into account local objectives and priorities establishes the

best method with which to characterise the local area.

- Acceptance that characterisation is an interpretative process and that its results will consequently inevitably differ between projects. The recommendations will seek to limit the differences by suggesting the sources, data structure and standard terms used in HLC. At the end of the day, however, there will always be differences caused by varying perceptions and stages of understanding.
- A strong requirement for more standardisation in terminology (eg of classification terms or criteria for attribution) and further increase in the transparency of the method. This is identified as one of the main problem areas in the IPC tests. In best practice, however, it needs to be balanced with the desirability of retaining some individuality of method to reflect local contexts.
- HLC is a learning process; later projects (those not yet started) will benefit from the work of the pioneer projects, which in their turn will benefit when they reach the stage of updating, second-round HLC or more detailed local work. Standardisation, insofar as it is possible, will thus be achieved in more than one way, and over time, and the Review has allowed a major step forward, in the Conclusions presented in the next, final, chapter and in the accompanying volume, the Template HLC Project Design.

Chapter 6 - DRAWING CONCLUSIONS

Part 3 of this report brings together all strands of the Review, including a view of current best practice in over 20 projects, the core and trend analysis described in Chapter 4, and the IPC results summarised in Chapter 5. It is in effect an introduction to the companion report, a newly written Template HLC Project Design which reflects the Review's conclusions, mainly using methods of the convergent "wave 4" attribute-led projects (Cumbria, Cheshire, Shropshire and Devon). The Template also, however, takes account of more recent experience of HLC gained since the Review's main data collection phases, in project designs during 2003.

The Review demonstrated a need for new HLC projects to use a more consistent and standardised method, and the Template now provides this. Future standardisation of terminology (eg of classification terms or criteria for attribution) is required, and greater transparency, and this will emerge from use of the Template for new projects and for regional integration projects for old HLCs. The limited standardisation is identified as a problem area in the IPC tests, although they also demonstrated that any national standardisation should be balanced against the desirability of retaining some individuality to reflect local contexts. This need not eventually rule out the production of a suitably overarching classification arising from regional synthesis of the

county HLC.

The Review showed that recent projects already more or less achieve the necessary level of inter-project consistency. It seems that the diversity of method noted by some observers is now largely historical, although it remains a problem for future integration between counties. In particular, the Review's analysis of perceived strengths and weaknesses showed that most strengths are firmly part of the core of HLC whilst most weaknesses are peripheral, and becoming more so. Another conclusion of the IPC project was that greater attention is needed to inter-county correlation at the appropriate scale (eg regional), although it also concluded that the HLC method should continue to develop with local objectives and priorities to take advantage of local knowledge and experience.

Most important, however, is the need for practitioners and users to recognise that characterisation is an interpretative process and that its results will consequently inevitably differ between projects. These conclusions, and use of the Template, will limit differences by suggesting the sources, data structure and standard terms that should be used in HLC, but ultimately, differences will always remain caused by varying perceptions and stages of understanding.

HLC has been a learning process for all participants. Later projects have always learnt from earlier methods, but their borrowings have always been accompanied by fresh invention; thereby the method has steadily improved. The latest projects (and those not yet started) will continue to benefit from the work of the pioneer projects. Their own development and testing of the method will in its turn provide benefits and inspiration

for 'old' HLCs during their updating stages, or when they reach the stage of second-round HLC, or if they use county HLC for more detailed local work.

Principles of HLC

A best practice HLC method will follow all the established guiding principles of HLC (see chapter 4), with the addition of two further principles, transparency and integration, whose importance has arisen from the Review. These principles have formed the basic philosophy of the HLC programme from the outset (*Yesterday's World, Tomorrow's Landscape*), and they have been refined and added to. They are a development of the initial thinking behind how to define the historic landscape and of its subsequent refinement (Fairclough 1994, 1995, 1999, Countryside Commission 1994, 1998), based on the first practical applications in Cornwall which established both the theoretical and practical aspects of a methodology underpinned by a set of guiding principles (CAU and LDA 1994, Herring 1998).

The principles are the foundation for HLC and are coming to be adopted in other areas of characterisation, such as EUS,

Metropolitan urban characterisation, and landscape work in other European countries (eg Ermischer 2002, Nord Paulsson 2002, Macinnes 2002, ERM/ERA 2001, Fairclough 2002b and c). Most importantly, they are fully compatible with the approach set out in the European Landscape Convention (see Fairclough and Rippon 2002). They establish the practical extent of the approach and the conceptual framework in which the method is applied, and should be used to underpin both theoretical and practical aspects of an HLC project.

The principles are much more than simply a guide to the method - they define the basic objectives and purpose of the project. They also link HLC to current aspirations and agenda for the involvement of people, and the sustainability of our past for the future, for example in *A Force for our Future*.

The principles were set out in Chapter 4, and are repeated here in a highly concise form. They state that HLC should:

- Define historic character first and foremost in the present-day landscape.
- Identify interactions and change in the landscape through time.
- Characterise the whole of the landscape, not designate selected parts – ie no part of the landscape is to be regarded as intrinsically more important than any other.
- Use an archaeologist's approach to 'read' landscape as material culture.
- Use the present day landscape itself as the main

- source, through the desk-based medium of maps and air photos, using GIS.
- Understand “landscape” through interpretation and perception rather than purely as an objective thing ie “landscape as perceived by people”.
 - 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.
 - Ensure that its conclusions and interpretations are transparent, checkable and updateable.
 - Be fully integrated into other environmental and heritage management databases, particularly (in England) the SMR (or in future the HERC).

Data Sources

The range and use of source material is the one of the principal determining factors in HLC methodology, but closely linked to questions of data structure. What is used and how it is used ultimately influence the decisions made in defining HL character. It is important therefore that the sources used consistently and comprehensively cover the whole area of the project, and that they are treated in a similar way between projects.

Maps are the primary source, providing a direct proxy access to the landscape itself. They need to be digital, first, *OS 1:25000, c.1997-2002 and 1:1250/2500 LandLine maps*, or wherever possible

MasterMap. The OS 1st/2nd edition 6” (1:10560), c.1840-1910 is essential, preferably also digitised, and other map sets OS 1st edition 1”, c.1810-1850, sometimes also 1920, “County series” 6” and OS 1:25000, 1950s are very useful.

Second only to maps are *vertical air photos*, where they are up to date and fully geo-referenced in GIS.

Thereafter, any county-wide digital dataset will be helpful, particularly if polygon-based. Many of these will *incorporate data within county council*, such as *Habitat survey, Ancient Woodland Inventory, Countryside Agency Character Areas, English Nature Natural Areas*.

There is also a wide range of other useful supporting data, sometimes (but rarely) available digitally, such as other historic mapping (eg 18th century county maps, Estate maps), archaeological landscape surveys, some SMR and similar data. The Template Project Design includes an Annex listing a range of commonly used sources.

Use of Data Sources

Data sources must be used consistently across the whole project area, and their interpretation must be within a rigorous framework of clear separation between decision-making and interpretation. Multi-tiered sources are used to measure depth and change, and to create models of HL character. An overall perception of HL character is best established at 1:25000 scale, but recent projects, influenced by MasterMap, capture (digitise) at c 1:10000 scale.

The size of polygons that are defined is an issue of both use and

structure of data. The Review found that the core method was to create polygons of a mean size of between 18 and 61 ha. in size; there was little correlation between mean size of polygons and the wave to which a project belonged. MasterMap carries the risk that polygons will become ever smaller because that map base has its own highly detailed polygonisation (Fairclough 2002a). This is described as a risk because it will weaken HLC's generalising power. The tendency needs to be countered in new projects, and this is already happening. New projects will need to amalgamate MasterMap polygons into large HLC polygons in order to reflect similarities between areas and their HL character rather than the differences - the latter are easily observed, the former – synthesis – is much harder to achieve. There is no hard and fast rule, but means of c25 to 50ha are probably preferable.

Data Structure

The information about HL character (even when a flat file text and map as in Cornwall and Axholme) was originally envisaged to be a single, if flexible, response to questions about the complex historic landscape. Much of what was originally devised is still at the core of the method. With advances in GIS, however, a more complex method is now used, in which the map is not simply a display tool with text descriptions and time-depth matrices, but a method of analysis in its own right. The core approach is through GIS (usually MapInfo or ArcView) linked to a structured database (eg Access). A main conclusion of the IPC project was that (as well as standard terms and types) similar data structures should be used wherever possible, to facilitate comparison between

projects. It was recognised that there should also be some scope for continued flexibility to include locally distinctive types.

The recent projects use data structures that perform combination queries of attributes that produce varying results to specific questions being asked about the data. They are all attribute-based rather than classification-led methods (see chapter 4). Furthermore, in terms of how data is handled – ie whether manual, computers used for display, or computers used by manipulation (see chapter 4), the first approach, naturally, is fully peripheral and (while display and manipulation are currently both core) the trend is clearly for use of computerisation purely for display to become peripheral as well.

Separate sets of data fields (attributes, attached to HLC polygons) are needed for present day HL character and for previous type(s) of HLC. Attributes will cover subjects such as field pattern morphology, function, sources, period (whether by broad date-range or attached to particular major sources, eg map editions), indicators of historic process eg of enclosure process. Well-tried examples of attributes and the terms to be used to capture them are provided in the Template Project Design.

By recording these attributes for each individual GIS polygon, it becomes possible to use data fields or sets of data fields to build more than one classification of HLC Types on demand and subject to specific needs and questions. Most Projects (as the Template recommends) also find it useful, despite this flexibility, to 'hard-wire' a simple classification (c10

‘groups’, eg enclosed land, settlement, industrial, both to produce an easily accessed entry-level to the GIS and to structure data capture screens within it.

Multi-tiered referencing is needed, for example for Sources, when more than one document type is used in the decision-making process, and Confidence (‘validity’) whether attached to single attribute fields or groups of them. The main data field(s) used in the decision-making must be clearly defined.

As an example of the approach to attributes, the morphology of field patterns might be treated as follows. The overall perceived form of the field pattern within a polygon could be Regular or Irregular; the shape of their boundaries could be Sinuous or Straight. The percentage of the dominant type within a polygon could be recorded (thus allowing generalisation). Overall dominant field size could be recorded, noting that variation in field size produces different classes: for example, smaller field sizes in South-west produce a lower end bias, whereas in other regions the emphasis may be within the mid to upper ranges. An example of a 4-class system, used in Somerset based on Lancashire, is 0-3 hectares: 3-6: 6-12: 12+. MasterMap may enable automated calculation.

The morphology of individual boundaries inside a polygon can provide indicators of time depth and character, such as whether Reversed S or Dog-leg boundaries, or strip fields, closes, water meadows, or specific previous land-use such as common or open field. Groups of boundaries can indicate aspects of layout and planning that have historical meaning (eg, Piecemeal,

Grid, Co-axial). Whether field patterns have been Modified (and how) is worth recording, as is boundary loss against a past benchmark.

Documenting the Decision-Making Process

It is essential that HLC is as transparent and checkable as possible and in practice this means keeping an audit trail of decision-making processes. Even the earliest HLC did this, even if as manuscript annotations on maps, but the current norm is to incorporate reference material (meta-data as some call it) into the data structure of the HLC. The IPC concluded that the factors behind the decision-making need to be clearly stated for each type, and if possible for each polygon in order to avoid any confusion during comparison

This needs to include:

- Information about the sources used to create the character type should be documented, at the polygon level (information about the creator, date created, capture scale and/or digitised scale).
- Information connected with the decision-making process for each polygon including commentary on the evidence for, and association with interpretations of, eg, morphology or enclosure process.

Analysis

The analysis of HLC data is dependent on the way it is collected (data sources) and how it is stored (data structure). The first conclusion of the IPC projects was that HLC

types need to be clearly defined and described, with supporting text and attributes that summarise the principle decision-making factors and types of processes involved in creating the type. This is the first goal of analysis in the current method.

Time-depth

The visible evidence in the present-day landscape for change and continuity over long periods of time. The difference between Time-depth and Date of enclosure is that Time-depth celebrates the changes that have occurred to HL character without making value judgements based on its origins. Time-depth is the best means to represent HLC to other professions, and is the preferred method in HLC.

Past landscape change

Change as opposed to continuity is more prevalent in the present-day landscape; landscape itself is ever changing and dynamic. In the future HLC should be used to measure change in the historic landscape for the State of the Historic Environment reports.

Date of enclosure

The origins of enclosure are intrinsically linked to Time-depth, but where change is shown by Time-depth, Date indicates the period of enclosure creation. This helps inform the recognition of degraded and much changed landscapes within an associated context, which is useful for management of the landscape as well as for research.

Enclosure process

By indicating the processes of enclosure, a greater understanding about the landscape formation and the history of the landscape may be

gauged. This is useful for a variety of applications, and reinforces the HLC's application as a management tool.

Morphology

Because coverage of documentary sources (a clear-cut source for understanding the historic landscape) is uneven, and its use can sometimes lead merely to mapping of the documentary sources instead of a characterisation of the whole landscape. It is also very limited in its time depth so that over-reliance on documents can significantly understate time-depth. Interpretation based on analogy and morphology is a more comprehensive indicator of HL character. The majority of the projects used morphology as a primary factor, and it is a key method of HLC. Indeed, documentary evidence is mainly used in supporting roles, for example to confirm morphological assumptions in well-known sample areas before using them elsewhere.

Previous land-use

The representation of previous land-use is connected with a broad understanding of the earlier HL Character and the historic processes that have created the current palimpsest and the long sequences that are often visible in different ways in the present day landscape.

Present-day land-use

The present-day land-use is the connecting point for the modelling of historic landscape so that it is available to other professions using a clear and simple common language.

Data sources

The spatial coverage of source material used by HLC is used to

demonstrate the depth of evidence for HL character. This is useful for identifying the areas of potential enhancement with further, less comprehensive sources.

Stratigraphy of landscape

Identifying the horizontal stratigraphic process of landscape, as opposed to the vertical that is measured through Time-depth, was carried out in Herefordshire. By using a method that identifies specific parcels of landscape that are late, intermediate and early, a network of patterns in the present-day landscape is shown, without identifying chronology, but showing the evolutionary process of landscape.

Conclusion

This HLC Method Review and its conclusions have facilitated the

preparation of a Template Project Design for HLC. This forms a companion volume to the Review, but is also a freestanding document and it is intended that it is revised as necessary over the coming years. Whilst it is mainly an amalgam of four current project method statements, it also picks up the recommendations and observations that have arisen from the review, and provide the means for implementing the review's recommendations. Until now the Project Designs of new HLC projects have been drawn up in the light of the best 4 or 5 available Project Designs of recent projects, but each project has selected what it perceived to be the key elements. The Template Project Design has centralised this process, and presents in a single document all the lessons of nearly 10 years of HLC methodological development.

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