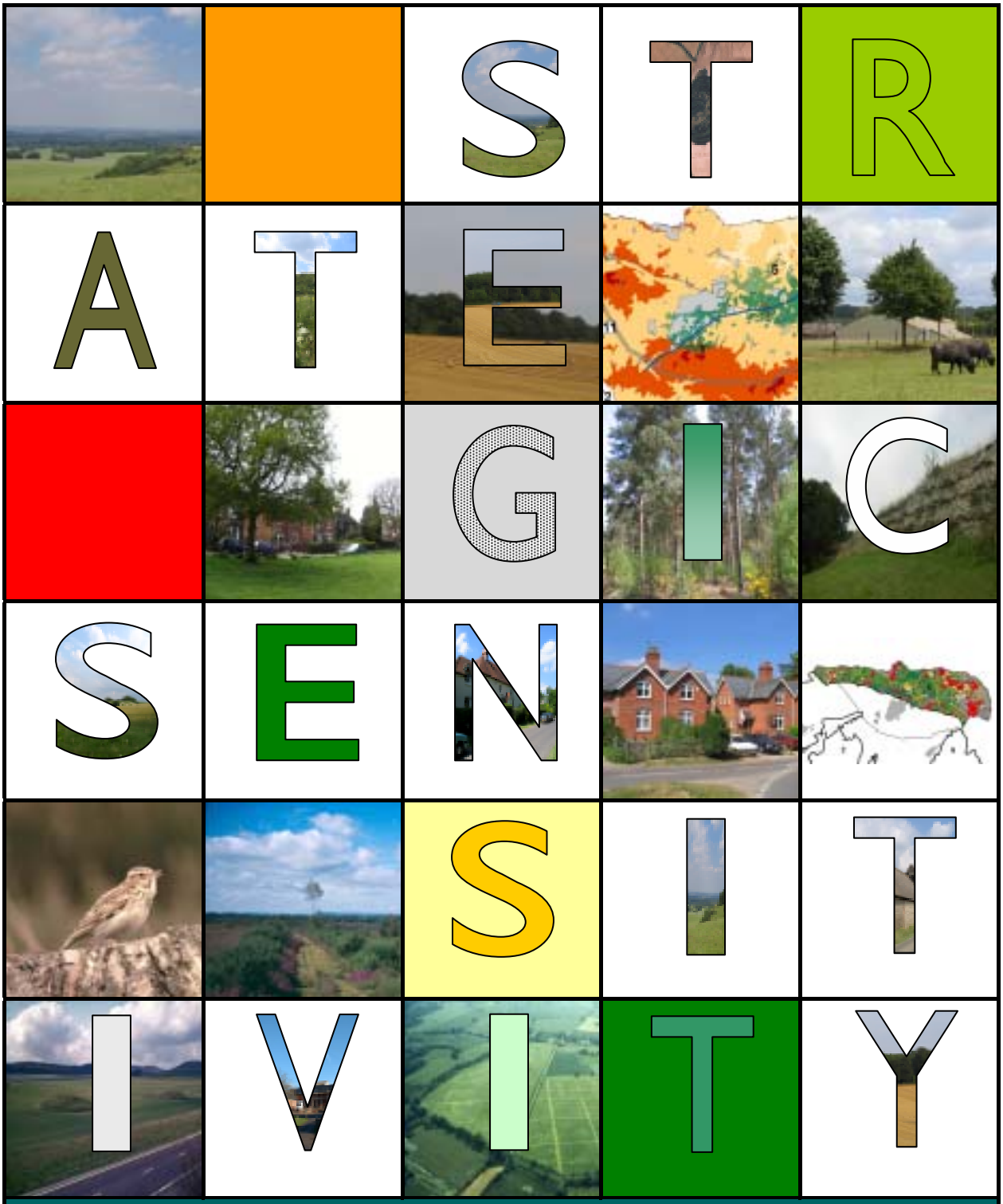

Strategic Landscape Sensitivity-

A paper on the working methodology for the Peer Group Workshop 20th July 2005

West Berkshire Council

Hampshire County Council

Joint officer working group

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Introduction:

Background and national guidance

The development of regional and sub-regional spatial strategies, local development frameworks and statutory land management plans is providing a great opportunity for the use of Landscape Character Assessment to inform land use and land management policy. In order to understand fully the implications of change it is necessary to understand and analyse the attributes of landscape as a basis for gauging their inherent sensitivity.

This is not a new message. Planning Policy Guidance Note 1 : General Policy and Principles (DETR, February 1997) states that *'policies should be based on a proper assessment of the character of the surrounding natural and built environment.'* More recently, government support for the application of LCA has been reinforced in PPS 7: *'Local planning authorities should prepare policies and guidance that encourage good quality design throughout their rural areas, in accordance with Annex C to PPS1, and utilising tools such as Landscape Character Assessments.'*

Meeting the demands for new employment and residential development, sustaining natural resources, providing sustainable transport solutions and responding to new land management support mechanisms are challenges that the new planning system is obliged to address. To address them, the planning system needs to understand the landscape in all its complexities, and at the moment this is not happening to the extent that it should. It is clear that the draft South East Plan and many of its sub-regional strategies are limiting their consideration of the environment to those sites and landscapes with national designations, and that landscape is seen as a separate subject from biodiversity and historic environment. Landscape Character Assessment should be playing a key role in informing policy in these areas, and the development of landscape character assessment into landscape sensitivity studies which are central to making well-informed decisions is one way of achieving this.

The techniques for determining landscape sensitivity are not new, but they are evolving. The challenge for the landscape profession is to develop a technique that cuts through the infinite complexity of landscape and presents a transparent, rational and auditable statement of sensitivity, underpinned where possible by data, that is of practical use to planners. The use of an agreed methodology, with consistency in terminology and baseline information sources, will go a long way to securing its acceptance as a meaningful decision-making tool.

Towards this end, Hampshire County Council's Landscape Planning and Heritage Group has been working with West Berkshire Council to develop an approach which it is hoped will meet these needs. This document sets out the principles underlying the approach and summarises the contributions of various professional disciplines in its development. It seeks to address some of the issues arising from working across political boundaries, where different resource levels, format and type of data and physical pressures on the landscape apply. Many questions remain unanswered, and the proposed approach is by no means finalised. It is also apparent that further studies are required to inform sensitivity. Therefore we are looking at a two or three tier approach to inherent landscape sensitivity. This paper deals with the first tier,

collating and making professional judgments on the data sets that we have currently to inform decisions.

The Countryside Agency's recent guidance in Topic paper 6 is the key reference for the work:

(from CA guidance: Topic paper 6 Fig 1)

Para 4.1 'Judging the sensitivity of the landscape as a whole , in terms of its overall character, its quality and condition, the aesthetic aspects of its character and also the sensitivity of individual elements contributing to the landscape. This can be usefully referred to as **landscape character sensitivity**.

Judging the **visual sensitivity** of the landscape in terms of its general visibility and the potential scope to mitigate the visual effects of any change that might take place. Visibility will be a function particularly of the landform of a particular type of landscape and the potentially screening land cover, especially trees and woodland. It will also be a reflection of the numbers of people who are likely to perceive the landscape…..whether they are residents or visitors'

Para 4.2 'Judging landscape sensitivity requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change without adverse impacts on character. This means making decisions about whether or not significant characteristic elements of the landscape will be liable to loss through disturbance, whether they can easily be restored and whether important aesthetic aspects of character will be liable to change.'

See fig 1 in topic paper 6

Combined, these give a measure of **overall landscape sensitivity**.

The approach does not try to place a value on different landscapes. It is about measuring the sensitivity of many themes, including historic environment, biodiversity, aesthetic attributes, the way that they interact and the level to which they define landscape character and are influenced by land management. The aim is to ensure that inherent landscape sensitivity is measurable and comparable and is not value based.

Aims and Objectives

AIM

To create a nationally accepted Strategic Sensitivity Assessment methodology which will be used by decision makers to inform land use and land management change.

OBJECTIVES:

1. To produce and test a methodology for analysing the inherent sensitivity of the landscape, which interlinks with the strategic aims of other disciplines related to the environment.

2. To ensure that the components of the landscape are considered in an integrated way.

3. To ensure that the landscape is understood and considered in all land use and land management planning decisions and that the components that contribute to landscape character are not needlessly or thoughtlessly damaged or destroyed.

4. To provide a framework for the delivery of landscape benefits that reflect local sense of place.

5. To protect, conserve, enhance or, where appropriate, change the setting of historic buildings, settlements and landscapes, designated archaeological and wildlife sites and countryside access provision and their contribution to landscape character.

6. To promote a better understanding and appreciation of the environment and its components.

7. To define a place and a function for Landscape Character Assessment in the land use planning system.

8. To alert practitioners to the possible threats to landscape character from land use change proposals and influence planning decisions at the earliest possible stage.

HCC Desired Outcomes

1. To work at a national and regional level in developing the methodology with the Countryside Character Network.

2. To make the methodology transparent, rigorous, easily understood and repeatable in other areas/regions and form the basis for more detailed study at District / Borough level.

3. To pilot the methodology e.g. in the Western Corridor Sub-Region with West Berkshire Council.

4. To identify key sensitive areas of the Hampshire landscape associated with the cultural and historic environment, wildlife and biodiversity sites and countryside access areas.

5. To identify gaps in landscape related information, which can be addressed at a further tier(s) of study.

Overarching Principles

'Landscape sensitivity relates to the stability of character, the degree to which that character is robust enough to continue and to be able to recuperate from loss or damage. A landscape with a character of high sensitivity is one that once lost would be difficult to restore, and, must be afforded particular care and consideration in order for it to survive'

from Chris Bray Worcestershire County Council CA's Topic Paper 6 Techniques and criteria for judging capacity and sensitivity.

Scope of study

The starting point for this work is the recognition that 'landscape' is not some separate topic from biodiversity, or historic environment, but is the collective term for all the components that make up countryside and settlements. In this definition, it can be interchangeable with 'environment', a concept that most people find easier to understand than landscape. This fact has not yet been appreciated by many of those making key strategic or local decisions that affect our environment, and in most land use planning documents 'landscape' is a subject heading on its own, often sitting below other environmental topics.

The key source of information about which components should be considered is the Landscape Character Assessment. For this study, the LCA's for Hampshire and Berkshire have been used as the reporting framework. The key characteristics of each character area define and describe the components of the landscape. These descriptions set the framework for deciding which aspects of each component are of importance in contributing to landscape character. Although the landscape character area is the reporting framework for the approach, It is possible that the landscape character area may be too large a scale for reporting some aspects of sensitivity, and some sub-division into smaller units based on landscape types may be necessary.

The components, or themes, of landscape in this study are:

- The **physical landscape**, covering soils, landform and land cover;
- The **experiential landscape**, covering ruralness, tranquillity and countryside access;
- **Biodiversity**, with reference to both common and rare habitats and species and their designations;
- **Historic environment**, addressing archaeology, built environment and historic landscape;

all of which contribute to landscape character sensitivity, and

- **Visibility**, covering physical prominence, enclosure or openness, zones of visual influence and types of view.

Each of these is assessed against indicators to establish the extent to which they are inherently sensitive within a landscape character area, and the individual findings aggregated up to

establish a level of sensitivity. It is the intention of this work that the components of landscape are considered in an integrated and equitable way, and where there is a need to make decisions about comparative importance that these are based on sound evidence.

It is inevitable that data is not always available to underpin a decision. For this reason, landscape sensitivity needs to bring together people from a range of disciplines, people who are capable of making judgements based on professional expertise, local knowledge and comparison. This is not the realm of the landscape architect alone.

Terminology

Themes

There are five themes which are encompassed by the term landscape: the physical landscape, the experiential landscape, biodiversity, historic environment and visibility.

Attributes

Attributes are the components that go to make up a theme. It has been established that the character area descriptions in LCA's provide a reasonable basis for identifying the component parts of the landscape. In landscape sensitivity assessment, these components and how they present themselves are called **attributes**.

Indicators

Three indicators are used to define sensitivity: **significance, robustness** and **condition,** and if these are to be used at a national level it is important that consistent definitions are agreed. The three indicators of sensitivity are assessed against the component attributes of Landscape Character to enable professional judgements on sensitivity. The indicators have been distilled from Topic paper 6 in particular s.4.2.

- **Significance**: Gives an indication of **rarity**, e.g. designations,(SSSI's, SAM's). It provides an understanding of the **representativeness** / **essence** of that attribute and how it is manifest or apparent in landscape character. It is also used to determine the extent to which the attribute **dominates**, **is distributed** or is **prevalent** and **how it contributes** to landscape setting.

- **Robustness**: this is an inherent property of particular attributes and provides an understanding of their vulnerability and fragility. **Inherent robustness can be considered in the context of likely threats, identified in the LCA. It is informed by judgements on whether the attribute is damageable, replicable, repairable or replaceable, and over what timescale it might recover.**

- **Condition:** is closely associated with Significance and Robustness, but deserves a separate section/analysis It is a useful monitoring indicator . Assessment of condition will provide an indication of **how well the attribute has been preserved/ conserved.** It is a measure of the **level and quality of land management**. It also includes a judgement on the level of **intactness** (we felt intactness and condition are too inter-related to separate). This includes matters such as whether a SSSI is in a 'favourable condition'. This indicator is very much about the **potential** of particular components of the landscape. It may have been rich at one time or purely has future potential. It is also

about **quality** and whether there are signs of **decline** or **neglect**. The analysis of attribute condition can be graded from poor/degraded to excellent/pristine. At either end of the spectrum the attribute could be measured as being highly sensitive to change, risking extinction or partial damage. The issue is whether the attribute has the potential for enhancement/restoration or can be retained/ preserved.

Visibility

Topic paper 6 refers to **'visual sensitivity'** as an area of study within landscape sensitivity. In developing this approach, a considerable amount of time was given over to defining and mapping visual sensitivity. However, it became apparent that the very factors which suggested a lower level of visual sensitivity occurred in landscapes with a particularly high level of enclosure, often associated with a very strong and intact field and woodland pattern. This tended to suggest that 'out of sight is out of mind', which undervalued the very essence of those landscapes, even if they were not immediately visible in their entirety or able to be appreciated by the casual observer. The visual sensitivity of these landscapes lay in their enclosure.

For this reason, the study focuses its attention on **visibility**, defined by measurable factors such as prominence, extent of visibility from roads and particular viewpoints and enclosure created by vegetation, without defining its relative sensitivity.

Limitations

It must be acknowledged that, within a landscape character area, an attribute's condition may be so variable, or impossible to record without extensive survey work, that condition cannot be considered. An example of this is the archaeological resource. This will be addressed later in the report.

It is inevitable that professional judgement of the degree of sensitivity will be relied upon to supplement any decisions that are informed by data. This does not invalidate the process provided that the thinking behind the decision is clearly recorded.

The process is entirely desk based and should not obviate the need for site work to double check findings. The finished product cannot supplant the involvement of contributing professionals in the decision making process.

Draft Methodology

Objective

Using a consistent methodology, identify the sensitivity of each theme for each of the 11 Hampshire County character area: (for the purposes of the Western Corridor Sub regional study the Hampshire Character Areas are predominantly 1 and 5 but a small part of 6 and 11)

Outline of Process

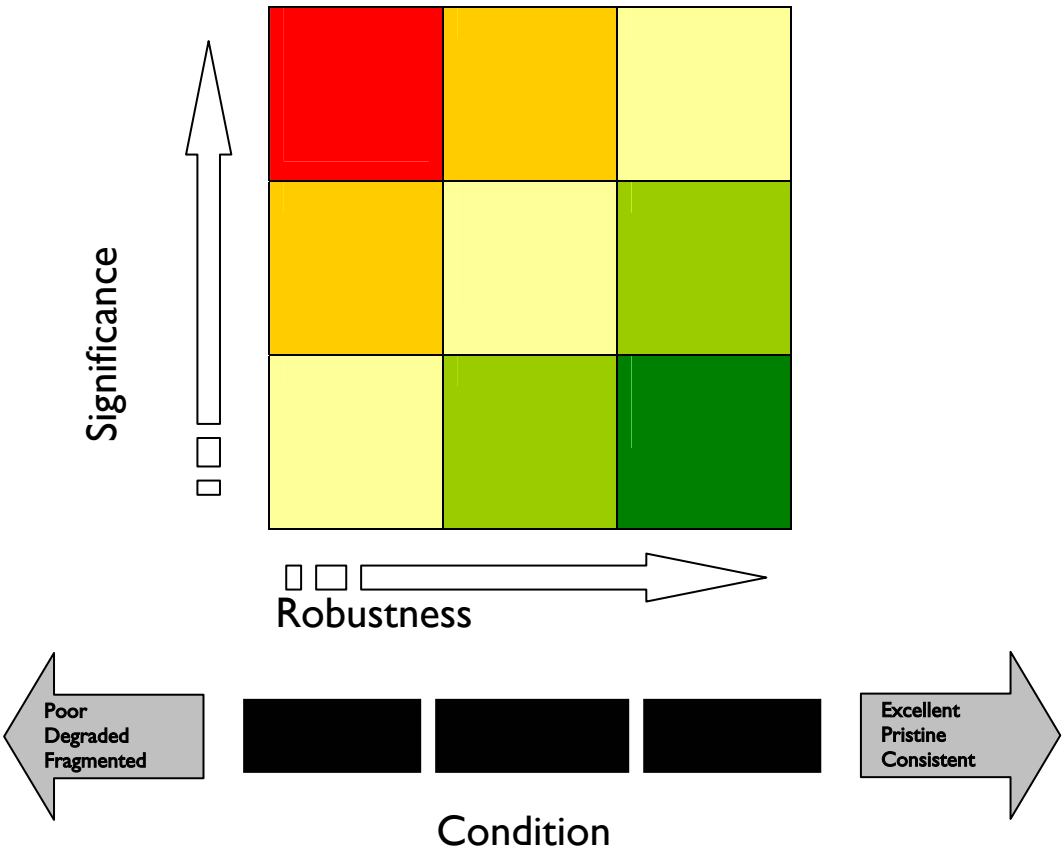
Landscape Character Sensitivity:

Using published Landscape Character Assessment, deconstruct the Key Characteristics of each character area into their individual elements or themes (i.e. *physical landscape, experiential landscape, historic environment, biodiversity*).

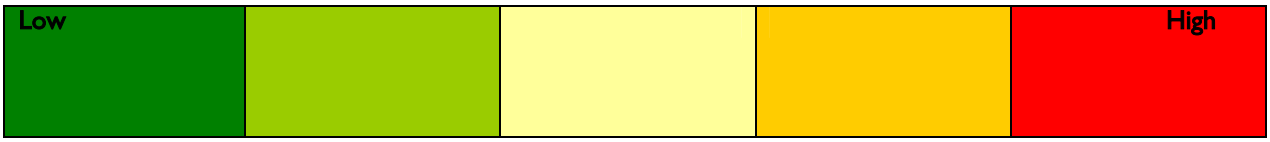
Assess the attributes of those themes in terms of 3 indicators (specialist input needed):

- **Significance**
- **Robustness**
- **Condition**

Significance and robustness are recorded on a matrix, and condition on a continuum, as shown below.



Once information has been gathered on the sensitivity for all the attributes, the findings can be aggregated to inform a level of sensitivity of each theme in each landscape character area and the finding placed on a five level scale of sensitivity, shown below, and mapped in GIS. It is likely that a character area will contain more than one of these categories.



Overall Character Sensitivity

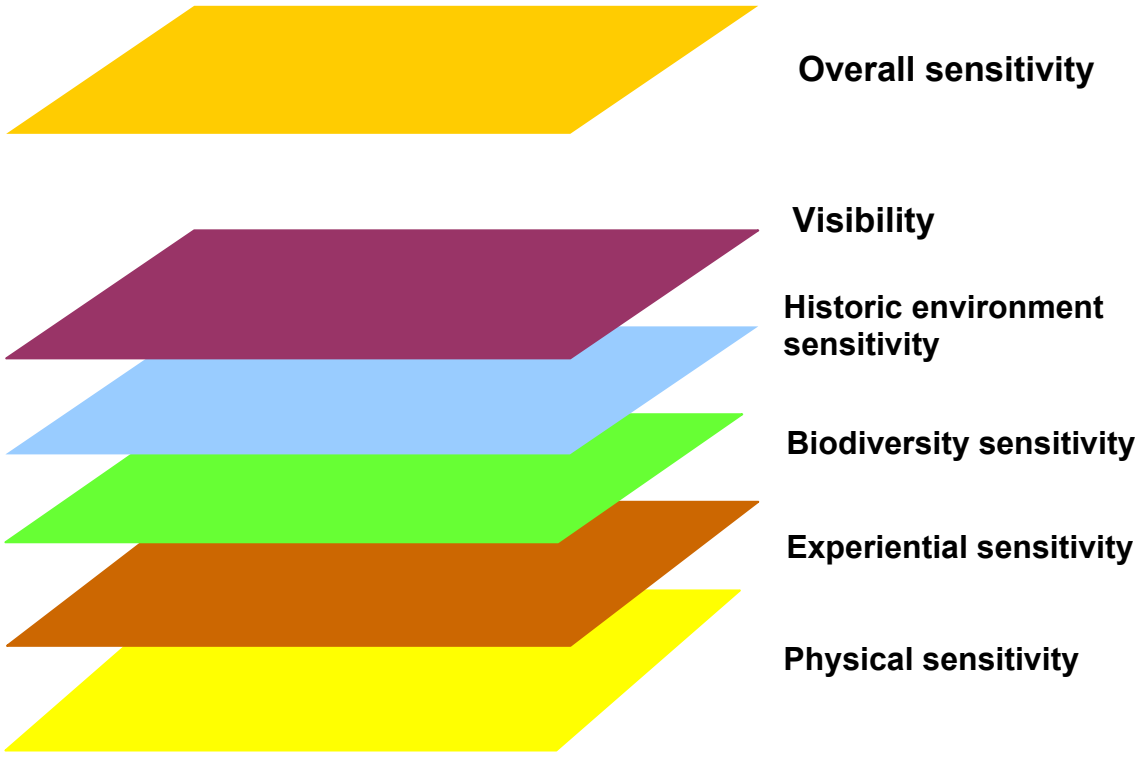
Visibility

The visibility of the landscape is analysed by mapping a range of factors:

- Land above the average elevation for the character area, giving an indication of **prominence**.
- The **Zones of Visual Influence** (ZVI) from major roads, key honey pot sites and settlements giving an indication of what the majority of people living in, visiting and passing through an area will see.

Where these factors overlap, a high level of visibility is likely. By mapping the pattern of woodland over the character area, this can provide an indication of a reduced degree of visibility and the scope for mitigation.

By overlaying landscape character sensitivity and visibility a model for Overall Landscape Sensitivity can be produced, as illustrated below.



The judgment is primarily a professional one, taken in the light of national and regional significance as this is a strategic study. Suggestions for further areas of study to substantiate the professional judgement are detailed towards the end of this paper. Cross reference with other relevant strategies needs to be identified.

Scale

There is a fundamental difference in terms of scale between the character areas at County level between Hampshire and Berkshire. In the Hampshire LCA relatively small-scale landscape types have been defined, reflecting geological (and therefore soil) changes, landform, landcover and land management. This differs from Berkshire, where landscape types are defined in very broad terms. The Hampshire landscape character areas are fairly large scale and encompass a number of landscape types, unlike Berkshire where the character areas are smaller scale sub-divisions of the landscape types. One of the challenges of the approach is to address the issue of different scales of definition of landscape types and character areas, whist maintaining consistency in reporting.

The following sections take each of the themes of landscape and sets out the approach that has been applied within Hampshire to establish their sensitivity.

The Physical Landscape

Principle: Analysis of the sensitivity of the physical elements which are the main defining traits of landscape character areas.

Reporting scale: Grouped up landscape types.

This theme is concerned with the elements that define landscape types, i.e. soils, geology, landcover and land management. Hampshire's landscape character areas are composed of different landscape types. Other counties have landscape character types composed of a number of landscape character areas. In these instances it is suggested that the geology and soil type are assessed and reported by character area.

The analysis comprises judgements of sensitivity based on the following information:

Landform analysis:

Empirical data source from altitude band mapping of Hampshire and character area descriptions with a County wide knowledge of landform features such as scarp, dip slopes, ridges, valleys and plains.

Significance is assessed on:

- A judgement is made on how unusual / dominant the landform is in the landscape character area and its perceived influence on the essence of character.

Robustness is assessed by:

- Risk of erosion especially major effects by man.
- Susceptibility to the effect from the type of land cover. For instance, it is judged that woodland cover has a particularly strong influence over exposed landform

Condition is defined by:

- Comparison with the desired vision, ideally set out in the Landscape Character Assessment. Thus landform which has been insensitively modified by man e.g. . a combination of insensitive anachronistic features such as road cuttings, excavations, development and pylons through/along a scarp may be considered to reduce the landform's intactness and thus be judged as being in poor condition. Alternatively a causeway, oyster beds, and artificial islands which fit well in a mudflat landscape could be considered to add to the character and thus have a neutral or positive influence on condition.

Soils analysis:

Principle: Soil protection is now focused on the full range of soil functions, including: biomass production; filtering, buffering and transforming materials; biodiversity support; spatial platform for development/activity; supply of raw materials; and protection of cultural heritage. It is important to recognise the principle of multi-functionality of soils and that the inherent nature of soil influences its functional capacity.

Reporting scale: Five main soil groups identified as most widespread in Hampshire and under most pressure. Reported on a Hampshire wide scale and as individual character areas.

Methodology: principles adopted from study carried out by the National Soil Resources Institute – Thompson, T.R.E, and Truckell, I. 2005. Protecting Hampshire's Soils: Development of a soil function-based methodology. NSRI.

Significance is judged by:
- Abundance as a proportion of the character area
- Rarity
- Functional capacity-the supporting text identifies which aspects of soil function it is related to. E.g. acid heath – high biodiversity value and highly significant as an input into deep water supply sources.

Robustness judged by identifying:
- Soil's inherent erosion risk
- Likelihood of inappropriate use/management malpractice; such as diffuse pollution from some agricultural practices
- Vulnerability to general development and people pressures

Land cover analysis:

Empirical data source adapted from GIS Phase 1 habitat data information, HCC hedgerow data and June census data by county level character area; 'grouped up' as follows:
Semi natural / ancient woodland
Plantations
Arable and fallow areas
Commercial grazing and improved (and rough) grassland
Hedgerows
Unimproved grassland and low level management intervention
Heathlands

Significance is assessed by considering:
- Natural vegetation cover and man's influence in managing it. Vegetation which is associated with the landscape type will affect sense of place to a greater or lesser degree depending on type.
- Land cover which is consistent, whether it be arable field and large straw bales in late summer, or extensive tracts of woodland which predominate the landscape.

Robustness is related to:
- Man's influence/intervention in arresting natural succession and the 'effort' that is required to keep the type and pattern of vegetation in its desired state. Land cover which does not depend heavily on regular intervention, such as plantation woodland, is considered more robust than arable crops which require considerable land management investment. Robustness is also related to the ease of replicating the vegetation if destroyed. Therefore ancient woodland would be considered less robust than both conifer plantation and arable farmland.

Condition is a reflection of:

- Its intactness over the landscape and how fragmented it is by insensitive development and man made features. Therefore a diverse land cover type is not judged to be in poor condition just because the vegetation type is varied.

Experiential Landscape-
(including Countryside Access)

Principle: There is a growing public recognition and awareness of the importance that perceptual qualities contribute to appreciation of the landscape. Techniques for evaluating tranquillity and experiential attributes of the landscape are being developed but there is no agreed national guidance on this subject. However, it is essential that landscape sensitivity analysis tackles this area.

Reporting scale: Whole character area level, using regional and national baseline information in conjunction with County level GIS corporate data catalogue sets.

Ruralness analysis:

This is a tangible attribute and can be related to recent government guidance. Recently DEFRA have produced a new Rural definition and map (see the Rural Strategy 2004; http://www.defra.gov.uk/rural/strategy/annex_a.htm) This information will be used as a basis for the analysis. Openness and Enclosure are analysed as part of the Visual analysis.

Tranquillity analysis:

This is defined by the CPRE 1995 study as 'places which are sufficiently far away from the visual or noise intrusion of development or traffic to be considered unspoilt by urban influences.' Essentially this study was judged on a series of negative aspects rather than attributes which make a positive contribution to tranquillity. Recently there has been work by CPRE and Northumbria University, and the Landscape Research Group; Newcastle University to further define tranquillity and refine its analysis. Their report states that: '*'Tranquillity' clearly has different meanings for different people. What we have done is incorporate this into the research method; indeed, our whole approach has been to examine what tranquillity means to people, where they go to experience it and why it is important to them. Tranquillity is essentially experiential, but we have developed a methodology to identify and map areas where people are more likely to be able to have a tranquil experience. In our research, certain variables emerge strongly and repetitively across many cases, which has allowed us to build a picture of what characterises, and detracts from tranquil areas, or areas that permit people to find tranquillity.*' Claire Haggett (Newcastle University).

A judgment based on the 1995 CPRE study and HCC officer local knowledge is used at this stage for the sensitivity study.

An appreciation of the extent of dark night skies is incorporated into the sensitivity study. A broad scale judgment-based approach is required for this study with a view to a more detailed analysis at a later date.

Countryside Access Analysis:

The way we access our surroundings is a key element of experiential sensitivity. A judgment of landscape sensitivity due to the influence of countryside access is arrived at by judging availability against importance(*significance*).

In order to 'map' countryside access sensitivity one way of making it fit with the other analyses (biodiversity, historic environment, physical aspects) is to identify a broad classification of landscapes and map the access sensitivity of each. It is considered that publicly accessible landscapes close to concentrations of people are sensitive due to their affinity as locally accessible or 'doorstep' countryside. In contrast remote areas which are also tranquil depend on the lack of large scale countryside access to maintain their character and are sensitive to overuse/overvisiting. Limiting the level of public access to these areas is important so people can experience tranquility, which will add to the weighting for significance. In some cases continually heavily accessed areas which are considered to be remote could have a negative effect on tranquility.

The following 'types of countryside' have been identified as a draft list. These provide particular types of access experience and provision which can be linked to historical use and landscape type:

Coast
Chalk downland
Fields, arable and pasture
River valley
Heath and scrub
Ancient and semi natural woodland
Conifer plantation
Designed parkland historic parks and gardens

We are working on developing a reporting framework for these that are relevant at a character area level.

For each area of each of these countryside types, an assessment is needed of 1) the significance of the access to the public and 2) the availability (the access equivalent of robustness) of countryside access. These two elements combined will then provide the ***overall sensitivity*** for the area.

Significance is determined by the level that the public value the site and can be identified by assessing:

- The proximity to settlement and population
- The level of facilities available for visitors e.g. parking, toilets, visitor centres, farm shops
- Whether they are nationally famous sites and landscapes or have far reaching views
- The level of information available to the public promoting the area

Availability (the access equivalent of robustness) is given a weighting by countryside type (see list above). This process recognises that there are certain generalisations that can be made about the amount of available access in a certain countryside type. Such generalisations arise from common factors such as historical development, geology and present management methods. In order to provide a weighting for each countryside type the following factors were taken into consideration:

- The presence and density of the definitive rights of way network

- The presence of open access land (particularly relevant for heath, down land and commons)
- The presence of permissive, paid for and grant aided access and de facto routes
- The presence of land managed for access by public bodies or trusts

Once this weighting has been agreed for each countryside type it is envisaged that they will remain the same through out the county and indeed nationally.

For example:

Countryside Type	Abbrv.	Statement about accessibility and availability	Weighting
Heath & Scrub	HS	Heath land is included in the Countryside and Rights of Way Act 2000 as open access land therefore availability is high for access on foot. Due to the sensitive and protected nature of heath, access on horse or bicycle is likely to be low-medium.	Medium

Cultural Analysis:

It is acknowledged that cultural associations are an important factor in people's experience of landscape. However it was concluded that at this time we do not have a sufficient level of baseline study on a county or regional scale. No doubt our awareness and knowledge will increase and in the future will become an important aspect of sensitivity.

Biodiversity:

Principle: Wildlife and habitat type has always been a key area of landscape characterisation. The national joint character areas mapping was based in part on English Nature's Natural Area mapping which divided the English Countryside into geographical areas that have ecological meaning at the landscape scale in terms of distribution of wildlife habitats and species. The recent advent of Biodiversity Action plans and more sophisticated and detailed habitat and species mapping at the local level have made it possible to identify and assess the most threatened habitats and plants, which has lead to prioritising of actions in biodiversity action plans.

Reporting scale: Using UK BAP Priority habitat criteria to identify relevant Phase 1 & 2 habitat polygon information on the corporate GIS, and grouped up by landscape type because of the close affinity habitats have with soils and land management.

Methodology

The habitat sensitivity analysis was based on the UK BAP Priority habitat terminology and criteria and matched as closely as possible to the corresponding habitat types mapped on the HCC GIS 'habitat layer'. The corresponding colour representing the level of sensitivity of each habitat type was assigned to the GIS data and saved as a layer file, sensitivity being a measure of significance and robustness with red being the highest level. This was done by individual character area as in some cases such as chalk streams the sensitivity judgment differs from one character area to another. Designated sites: e.g. SSSIs and SINCs data catalogue sets were overlayed on the above mapping and these were both identified as high sensitivity and assigned the corresponding red colour. Other habitats such as chalk streams were identified and mapped using the Hydrology EA main river centre line data set.

Significance and Robustness

Both these indicators are reflected in biodiversity related designations and action plan priorities. The scale is at county and national level. BAP Priority habitats have been identified as Habitats of Principal Importance under S74 of CRoW Act 2000 (to be kept under review) and are considered to be of high significance. These habitats also tend also to be those under threat and correspondingly less robust. For example; lowland heath has a high significance (a rare UK BAP habitat which defines landscape character) and low robustness (easily damaged and difficult to repair), which in the sensitivity matrix gives it a high sensitivity value.

For the purposes of this sensitivity study all SINCs through to SSSIs, SPAs and SACs are considered to be of high significance and therefore the designations layer of the GIS was overlaid on the habitat mapping and assigned the corresponding red colour. SINCs are included because they mostly contain S74 habitats and/or priority species. Priority habitats and species are often closely related.

Some non-BAP habitats such as conifer plantation over relic heath may be designated as either SINC or SSSI/SPA and this is reflected in where the habitat is placed in the significance/robustness matrix. For example conifer plantations over relic heath may support BAP priority bird species which raises the significance of the habitat type to the highest level.

Condition

Condition is a measure of the quality and intactness of the habitat. A high degree of local knowledge is required to make a judgement on habitat condition, in the context of the county or nationally. A judgment is required about the potential for restoration and where the habitat lies on a continuum from poor to excellent condition. For the lowland heath example condition is said to be poor due to the fragmented and degraded nature of the habitat.

Condition judgment linked to landscape type patterns provides us with information on where potential 'gains' for biodiversity can be made and can further prioritise action to improve habitats.

Historic Environment:

'The historic landscape forms the setting for our everyday life. Its natural and man made variations help define regional and local identity, and provide key historic sites with context and setting.' from English Heritage- The Historic Environment Issues in the Proposed London-Stansted-Cambridge Growth area

'So, the present situation is that we can map the sensitivity of historic attributes according to rarity, degree of survival and contribution to local landscape character, and perhaps add other variables such as accessibility or the presence or otherwise of statutory protection. But we cannot set up a single model that will anticipate all potential change. The best we can do is to create a robust model that can be interrogated in different ways according to the particular change being considered.' David Went, EH Characterisation team: August 2004 CCN discussion forum.

The Historic Environment section of the study represents one of the most complex analyses. Three aspects of the historic environment are assessed: **archaeology, historic built environment** and **historic landscape.**

Archaeology analysis:

Principle: The extant or visible archaeology is analysed in relation to its typical setting in different landscape character areas.

Reporting scale: AHBR/SMR on the corporate GIS data catalogue are used. The process of designation is nationally consistent. The data is point rather than polygon. After careful consideration it was considered inappropriate to convert this to polygons of specific archaeological type, rather the judgement was made across whole county character areas and has started to be done at the grouped up landscape type level.

Within 'The Hampshire Landscape; a Strategy for the Future' a broad and brief statement is included for each character area describing the range of archaeological features represented, with a few examples of these. This is a subjective review intended to seek to differentiate the archaeological range and icons within the character area. It is this subjective approach that has been developed to shed light on issues of landscape sensitivity.

The current sensitivity study compares historical attribute sensitivity and gives an indication of the scale of sensitivity within and between character areas. The range of archaeological sites (assets) which have expression in the landscape was subjectively established. Distribution maps within the context of the 11 county character areas were produced for each asset. This was the sole empirical content, and acted as an aide memoir more than an objective description.

The essential characteristics of the landscape were derived from the character area description in order to understand the context of these assets. Each asset mapped was reviewed subjectively within the authors experience and against the landscape described in the strategy.

This study is a rapid review of the contribution to landscape sensitivity by archaeological sites. Only those archaeological sites with a visible component, i.e. those that might be recognised in the landscape or contribute to landscape character, have been considered. There are many archaeological characteristics within the landscape that are not visible and would need to be

sought out via archaeological character areas and this work is currently reflected in the Research Frameworks initiative.

Significance is based on:

- Their significance in the landscape, not just in terms of scale, but also the time depth they add and recognisability.
- The archaeological rarity of the site,
- The archaeological value of the site,
- The degree to which it was visible in the landscape,
- The degree to which, if not highly visible, the site type is highly characteristic of an area.

Therefore a Hillfort is highly visible in prominent locations where seen on the high open downland, whereas a moat may not be highly visible in an assart landscape, but may be highly characteristic and an essential part of the evolution of the landscape. Condition was also an influence, where sites tend to be in a good condition or in a poor condition. There is also a degree to which significance sought to reflect public perception, for example Roman roads which express themselves at a landscape scale, for instance through alignments of boundaries reflecting a straight line, are perceived and recognised by the public and indeed are enjoyed by the public as landscape archaeology.

Robustness is discussed in terms of:

- Vulnerability to change that will destroy or obscure them. Archaeological sites are fragile and easily destroyed through development and farming and outside the discussion of their visual qualities there is a strong case that archaeological sites are significant and fragile.

This study seeks to distinguish between archaeological sites within the landscape and is not intended to convey that individual archaeological sites have been assessed in relation to development or agri environment proposals.

The sum of these factors is subjectively assessed and described as high medium or low.

The end result is a subjective understanding that, within each character area, various archaeological assets can be described by their significance and robustness. Plotting these on an x y axis may provide a visualisation of the 'sensitivity'. **Sites that are highly significant in landscape terms, but not at all robust are relatively more sensitive than those that are highly robust and not very significant.** By creating this differentiation it can highlight the relative position of historic environment assets. However, it should be noted that it provides a subjective differentiation only. It subsumes the range of conditions, significance and robustness within a character area. Archaeological sites are essential landscape element, albeit not often on a large or dramatic scale but certainly with a high degree of public recognition. In general they are vulnerable and as they cannot be recreated or replaced, they are sensitive to change.

Whilst this subjective process of amalgamating related topics, and smoothing a range into an averaged statement can provide an insight into the relative sensitivity between aspects of the landscape, it remains to be seen if the subjective review can be further analysed and made objective, or if for better or for worse, a well informed subjective view is the best one will get.

Historic Built Environment

Principle: The evaluation of the historic built environment concentrates on classifying settlement type by morphology, which is based on a nationally (English Heritage) recognised process. The building type and materials are also classified using recent mapping and survey work from English Heritage.

Reporting scale: At character area scale initially, with a view to identifying concentrations which have strong correlation with landscape types. Information sources are the 'Rural Settlements of Hamsphire' study carried out by HCC in the late 1990s and building type national distribution maps from English Heritage.

The work does not require the assessment of the sensitivity of individual building types but rather a rapid overview of the wider built environment. The only individual building type that was considered was mills, which can be important landscape features and are often isolated from other settlement forms.

Baseline data

To examine the built environment, existing data sources used were; the Historic Buildings point data derived from the Hampshire Archaeology, Historic Buildings Record (AHBR) and the Conservation Areas polygon data set. The Historic Buildings data relates principally to listed buildings although for the area of Basingstoke & Deane Borough Council the data includes unlisted curtilage buildings.

Although the historic buildings data can be used to provide an indication of nucleation and dispersion in the settlement patterns, the fact that it mainly represents listed buildings means that it cannot be assumed that the data also represents the characteristic elements of the built environment. For example, recent work on farmsteads has shown that for some areas of the county the characteristic buildings and groups tend to be unlisted. The plan types recorded are set out below.

The mapping of farmsteads in Hampshire, recording plan form and condition and using historic building data to record an earliest date provides a data set that extends beyond the listed resource, giving a more complete reflection of the historic built environment in relation to farmsteads. This data set was used to discuss the sensitivity of farmsteads.

The AHBR historic buildings data cannot provide consistent, reliable information regarding the character of settlement layout and form, including important characteristics such as evidence of planning, streets and boundaries. To better understand the character of settlements a point data set was created that recorded the plan type. Plan type was largely derived from work undertaken by Bournemouth University on the archaeological potential of rural settlement with some amendment and addition to include settlements that did fall within the compass of that work. The methodology for describing the settlement pattern and plan type is outlined below.

English Heritage commissioned a pilot project in Hampshire to examine the relationships between historic farmsteads and landscape character. This work included the mapping of all farmsteads shown on the Ordnance Survey 1st Edition 6" mapping of c.1870 within two small trial areas. The pilot project demonstrated that there was a correlation between farmsteads and landscape character, historic landscape character and, in particular, landscape types.

Following on from the pilot project, Hampshire County Council commissioned the mapping of farmsteads across the remainder of the county. The results of this mapping exercise were used to inform the statements regarding the character of the built environment in this project.

One of the main attributes recorded in the farmstead mapping project was plan form. The predominant farmstead plan types, which are subject to much variation are closely related to farm size, terrain and land use.

Settlement pattern morphology

Nationally, the present-day patterns of rural settlement had largely developed by the 14th century and were affected by shifting patterns of population and industrialisation in the following centuries. They vary from large, nucleated, villages to dispersed settlement areas with scattered, isolated hamlets and farmsteads, both located within distinctive patterns of field systems. The morphology of these forms of settlement has been studied and classified by Dr. Brian Roberts in *The Making of the English Village* (Roberts, 1987). English Heritage, working with Roberts and Dr. Stuart Wrathmell, has pioneered work on mapping these patterns in the English countryside, now published as *An Atlas of Rural Settlement in England* (Roberts and Wrathmell, 2000) and *Region and Place, A Study of English Rural Settlement* (Roberts & Wrathmell, 2002). In summary, it has been demonstrated that a Central Province mostly characterised by nucleated settlement, and by the 14th century by communal fields which occupied the great majority of the land area, is flanked by a South Eastern Province and a Northern and Western Province where settlement is mostly dispersed.

These three Provinces have been further divided into sub-provinces. Hampshire mainly falls into two sub-provinces within the South Eastern Province. The chalk of the downs and the south Hampshire lowland lie within the East Wessex sub-province. Being in the South Eastern Province suggests that settlement tends towards dispersion but this is clearly not the case across the much of the chalk. The discussion relating to the East Wessex sub-province accepts that its inclusion in the South Eastern Province is debatable and even suggests that it could be considered as a Province of its own. Settlement on the chalk is strongly influenced by terrain with linear villages concentrated along the river valleys. Although nucleated settlement dominates, the density of nucleated settlement in comparison to the Central Province is cited as the factor that led to East Wessex being allocated to the South Eastern Province (Roberts and Wrathmell 2000, 44).

The northern clays of Hampshire are included in the Thames sub-province. This area is described as a transitional area where local variations are often of sharp importance. Settlement is characterised by low densities of nucleations and higher levels of dispersed settlement, including moated sites in most parts of the sub-province other than the sandy heaths (*ibid.* 42-3).

Significance

The first phase of this project aimed to identify and map the relevant elements of the built environment. The next requirement was to develop a methodology to assess the significance of the built environment in relation to the landscape, using a number of indicators:

- **Rarity/Importance**. For the historic built environment the designation of a building or structure as a Building of Special Architectural or Historic Interest (a listed building) indicates that the building is of national importance.

- The designation of an area as a Conservation Area is undertaken at a local level and so this should be taken to indicate a level of local importance at least.

  In terms of an assessment of significance within a landscape rarity does not always equal significance. It is necessary to understand why the feature is rare within a particular area. A feature that was once widespread and 'typical' but now is rare may be regarded as highly significant as a fragment of the historic character whereas a feature that is rare because it is alien to the area may be of limited importance to the character of the area.

- **Representativeness/Essence/Dominance**. Clearly, settlements that contain high numbers of listed buildings and that are designated as conservation areas are inherently significant. However, this does not necessarily make them highly significant in terms of the *character* of a landscape. Equally, a particular settlement type may be rarely designated as a conservation area and may contain small numbers of listed buildings but is actually the typical settlement type of an area and so is highly significant. Generally, the smaller the settlement the less likely it is to be designated as a Conservation Area. Accordingly, few hamlets and isolated farmsteads lie within Conservation Areas. The designation of Conservation Areas is also largely dependent upon the will and resources of the local authority to undertake character area appraisals and designations, regardless of the importance of the built environment. Therefore, the assessment must be able to make a balance between the designated and the locally characteristic (if they are indeed different) to rate the significance of the built environment.

  To evaluate *transparently* how characteristic is an element of the built environment it is necessary to be able to quantify the total resource and so assess how dominant any particular element(s) is within an area. Herein lies a problem when using data based principally on the designated resource. The elements that are not considered of sufficient quality to be designated may be dominant and highly characteristic. Two of the data sets used in this assessment can claim to be at least more representative of the whole resource, albeit the date selected to record the 'whole of the resource' was dictated by the availability of historic mapping rather than being directed by any particular attribute of the resource itself: the farmstead data and the settlement form data were created without any reference to the designated elements of the built environment thereby allowing a characterisation of the historic resource across all of the landscape, not just those parts which might contain designated features.

  Through assessing the distribution and character of the resource it is possible to judge the relative dominance of any particular element of the resource and then compare it with designated data. A dominant characteristic that is also well covered by designations will be highly significant. Such an analysis must consider scale – isolated farmsteads may often be the most numerous element but it not necessarily the most dominant in terms of significance. Within the broad sweep of 'historic built

environment' it is necessary to compare similar types of feature when considering numeric data.

When working within an area based framework such as Character Areas, it is also necessary to evaluate the decisions made about significance in one area against the results of the others areas to ensure that there is consistency in the process.

- **Age.** The designation process for listed buildings takes the age of the building into account when selecting buildings for listing. Buildings pre-dating 1750 that are largely complete are likely to be listed whereas for buildings dated after 1840 there is a high degree of selection. For later 19th and early 20th century buildings only those of notable architects or representative of the innovative use of materials etc. are selected for listing.

Robustness

Four generic indicators for Robustness have been identified: Replicability, Replaceability, Repairability, Vulnerability/Fragility

- **Replicability and replaceability**. The historic environment is a finite, non-renewable resource. Therefore it cannot be replaced or replicas made that have any value in terms of historic significance.
- **Repairability.** All buildings can be considered as repairable provided sufficient resources are made available. However, with all buildings there will be a point in the decay process where insufficient historic material survives to allow 'repair' rather than a re-build incorporating some historic fabric. A factor that is of particular significance to the issue of repair is the supply of materials, for example, if a particular stone type is no longer commercially available. This circumstance exists in east Hampshire where the relatively soft malmstone is no longer quarried and alternatives are limited, particularly where rubble rather than ashlar stone is required for vernacular buildings. It may be argued that thatch also falls into this category with there being a shortage of thatching straw of sufficient quality leading to demands to change longstraw to combed wheat or even to water reed or imported grasses.
- **Vulnerability/Fragility.** This is a relevant attribute for assessing robustness. Most historic houses are highly valued assets and therefore it is in the owners interest to ensure that the building is adequately maintained. For those houses that are listed the controls provided by legislation also increase robustness. However, not all historic buildings are equally robust. Some historic buildings in the county have no longer have an economic use (and in the case of parkland buildings mant have never had an economic use). In these cases historic buildings have an increased vulnerability and although listing in theory brings controls to ensure their survival it is more difficult to prevent deterioration of a building than it is to control development changes.

Once the elements of the built environment and settlement have been identified it is then necessary to identify those elements that represent a key characteristic of the present landscape. This has been done by Character Area and the results are presented below. An assessment of the robustness of the built environment is also included.

Condition

After assessing the significance of the various elements of the historic built environment its condition must be considered in order to arrive at a judgement of sensitivity. At this scale of assessment an understanding of condition will be general and relate to factors such as the level of modern development within or around settlements. Information from Buildings at Risk Registers could also inform an assessment of condition.

Historic Landscape Character

HLC provides us with a holistic and complete coverage of our historic landscape. Recent work by English Heritage on sensitivity has attempted to combine historic landscape character types, to form historic landscape character areas. These are generally made up of combinations of similar HLC types, such as commons or assarts, or similar field pattern type. The EH Historic Environment Characterisation study into the Thames Gateway sub-region follows this approach to classifying landscapes whilst also acknowledging the visible archaeology. However, a separate sensitivity analysis was also carried out for all the archaeology of the area which necessitated a great deal of speculation about the potential extent of buried archaeology. The sensitivity of the historic urban environment was also assessed.

How does *time depth* affect sensitivity?

Palimpsest landscapes (interpretation of term used by EH) are those which display visible evidence of several historical landscape processes and patterns. It is implied that these landscapes are rich in character, and provide a high quality experience of the historic environment. They can indicate the level of human activity in the past and the degree to which they are manifest in today's landscape. Therefore it is implied that those areas with greater complexity have had high levels of historical human activity than those with fewer historical features. However the degree to which more recent processes have eradicated previous ones will vary, as will the ephemarilism of previous activity. Likewise a landscape may exhibit one particular historic landscape process in a particularly fine or unique way.

In conclusion a palimpsest landscape which shows many layers of historic activity is not necessarily more sensitive than one with fewer layers. However one which exhibits a **greater time depth** is probably very sensitive, based on factors like rarity, scarcity, unusualness, and cultural historic significance. The visible extent of a previous ancient land use has to be balanced with the likely extent to which the rest is buried beneath the modern landscape.

Boundaries:

The boundaries of the HLZ's or HLCA's are 'soft' By this it is meant that if observers were to stand on one side, and then the other of a boundary they would be unlikely to notice a significant difference between the two sides. Observers of the two areas from afar would notice a difference but the exact course of the dividing boundary would often remain unclear. The boundaries are therefore indicative, over a wide area rather than a line and work best at higher levels. (EH, Thames Gateway project).

Historic Landscape Character sensitivity

The EH study of the Thames Gateway study suggests 3 components

HLC
Ancient woodland data
Registered Historic Parks and Gardens

It scored Historic Landscape Types (HLT's) on a scale from 1 to 70. For example, ancient woodlands were judged to be of very high sensitivity as they are often a reservoir for archaeological features. Of historic parks and gardens on the EH Register, with a buffer of up to 250 metres, grades I & II* judged to be **more sensitive** than ancient woodland, and grade II to have parity with ancient woodland. More modern HLT's are judged to be least sensitive eg extraction and transport related. Palimpsest landscapes are considered to have added interest and sensitivity.

Taking the Thames Gateway methodology further:

Context and what is being assessed:

'When using the percentage of coverage to consider the degree to which a 'type' is characteristic, we have to have a frame within which we are measuring that percentage. HCC landscape character areas provide that frame, in that they are recogniseable comparatively large blocks of landscape and past studies have indicated that they do coincide with historical landscape patterns and processes. One exception that is already known is character area 1 (Hampshire Downs), which might be subdivided east and west as evidence seems to suggest different historical land management practices. (see the agricultural reports used by Bob Edwards).

Assemblage/Blocks of HLTs: When considering types of historic landscape, the most appropriate scale for a strategic study such as this would seem to be to combine them in such a way as to reflect historic landscapes that are interrelated by similar patterns of historical practice and land management. e.g. assart landscapes to be considered as a combined type of assart fields and assart woods. It maybe appropriate to combine this with other HLT's. There is a considerable degree of professional judgement needed in defining to these combined HLT's or *historic landscape character areas (HLCA's).*

Buffering landscapes such as historic parks and gardens by using a concentric ring approach (see Thames Gateway study) is a relatively crude tool to use which ensures more constraints for already sensitive landscapes. Instead of the 'concentric ring buffering' approach it is suggested that adding the component surrounding landscape types which are considered to be important to the setting of designed landscapes be identified, thus creating a particular block or HLCA.

The alternative is that Historic parks and gardens could be judged separately adding to the existing three categories of archaeology, historic landscape and built environment.

Significance

'Whilst the significance of an historic landscape will be driven by:

- the degree to which it is **historically characteristic** of an area
- there will also be some types whose significance derives from their **rarity**. Criteria / judgments will need to be evolved that will allow these to be picked out.

'Characteristic of an area', and 'rarity in an area' are likely to be at opposite ends of the spectrum, but may share similar levels of significance.'

It is also necessary to consider (in no particular order):

- Rarity of type at a County level e.g. Strip and furlong occupies a small percentage of the Hants landscape.
- Rarity at a national or regional county scale e.g. water meadows are fairly common in Hants, but nationally rare so would be judged to be high.
- Age e.g. Commons could generally be considered to be one of the oldest types.
- Assemblage of type: a diverse range of HLTs which have origins from a particular period.,
- HLTs contribution to the defining characteristics of a landscape character area, eg assarts in the South Hampshire Lowland and Heath would be judged to be higher than assarts in the Mid Hampshire Downs LCA.
- Dominance and consistency in the landscape or particularly fine examples; prairie fields would be judged to be high in terms of dominating landscape character but tempered by the fact that previous historic landscape has been obliterated and comparatively they are not unusual.
- Cultural importance: It is recognised that this is important but needs more baseline study and information gathering which is a major undertaking in its own right. Therefore at this stage it is not considered.

Robustness

HLTs which are likely to be judged as having **low robustness** include:

- HLTs whose fabric are under particular threat because of modern land management practices and would result in change or loss of character.
- Component features of an HLT which are unique and difficult to replace if lost e.g. those with ancient boundary characteristics
- HLTs which are more intricate in character, e.g. those with many field boundaries
- HLTs which require a high management input to retain their character e.g. watermeadows. Horticultural HLT would be judged to require a high management input but their 'modernness' would lessen their sensitivity.
- Ownership: large contiguous areas of ownership are likely to be more robust as there is a consistent management overview; e.g. Historic parks and gardens with single owners are less vulnerable to change than split ownerships.

Condition

Having assessed the blocks/assemblages of 'type' as being characteristic, there is also a need to assess their condition. HCC don't have the condition/survival data that West Berks have. Our mapping does not distinguish between those patterns recognised because they were clearly intact and those that were recognisable but very eroded. However, the condition of survival clearly influences significance and sensitivity. This might be supported by a review/comparison between modern and 1st edition mapping to assess percentage change, but as sample locations not across whole landscape blocks.

Landscape Visibility Assessment

Whilst developing the methodology we felt that analysing Landscape Visibility rather than Visual Sensitivity (as suggested in Topic paper 6) would be more appropriate. There is such a wide difference in opinion between what people call 'sensitive views' that without gathering a wide cross section of society's perspective on the subject, we could not make a judgement at this stage. In comparison, visibility can be agreed and judged much more consistently with the available data.

Enclosure – Openness

Key Principle:

An open landscape will have more far ranging views and intervisibility than an enclosed one.

Proposed analysis method:

Based on all woodland cover data, the level of openness is judged by comparing the amount of woodland edge to open area as a percentage (to nullify the effect of different character area size). This is compared in each character area. Woodland to be selected from the GIS Habitat Landuse type data. Hedgerow information is included but kept separate from the woodland combined data set. The hedgerow classification from the HCC Environment data sets GIS folder is used namely, HR4, 5, 6 and 7 as these are the tallest and thickest type and therefore have the greatest influence on landscape visibility.

Local Prominence

Key Principle

Landform which stands out from its surroundings both locally and over a wide area is termed as being prominent. Characteristically these areas will have the potential to be highly intervisible with their surroundings. The visibility of a prominent landscape feature is lessened by the amount of land cover in the area (see above).

Proposed analysis method

Local Prominence: The height difference between the lowest and highest point for each character area has to be recorded. A judgement has to be made as to the threshold height band which is considered to be prominent for each character area. The height band is specific to different Landscape Character Area.

Prominency	Height band metres	Comments criteria that influence prominency: (examples of landscape features and places that fall in each band)
		Most locally prominent..
		Medium high local prominence.
		Medium low local prominence
		Least locally prominent (maybe below high water mark in coastal locations)

Relating People to Landscape Visibility

Key Principle

The more people who experience an area of landscape, the greater the case for assessing it for visibility. Selecting sites / areas is key. Also to be considered is the aspect of expectation, which comprise:

i) **Where the expectation is essentially to visit and enjoy the countryside and landscape for its own sake; for example, specific visits, walks, to 'take in' the landscape.**

ii) **Where the experience of the landscape is more incidental such as from a transport network, where the main intention is getting from A to B, or from a settlement where the views form part of the experience of its setting.**

Proposed analysis method

Zones of Visual Influence (ZVI's) which are widely accepted in Environmental Impact Assessment work are the basis for recording the intervisibility between receptor and landscape. ZVI's are carried out in a similar and approved way in EIA guidance. The aim is to produce a visual envelope which can be recorded as a GIS polygon feature.

- Identify the extent of visibility, based on height of ZVI location and also what type of site it is. There is a presumption that if it is a high countryside access site the ZVI should be correspondingly taken over a wider area than, for example, from a major transport route where views will be of a more glimpsed nature. The closer to the receptor the greater the visibility.
- Carry out the ZVI analysis and identify near, mid and distant views.
- Create GIS shape files from the results which can be overlaid to inform where the greatest areas of landscape visibility are.

Example: North Hampshire part of the Western Corridor sub regional strategy are:
Table of ZVI analysis features / sites. Sites selected by Landscape Planning and Heritage and Countryside Access officers.

List of potential view points for ZVI	Comments and Possible radii of analysis	Priority/ Comments
Major settlements		
Basingstoke LCA 1	Radii 5k tbc, regular points on urban rural fringe/or high spot.	High
Fleet/Aldershot LCA 5	Radii 5k tbc, regular points on urban rural fringe/or high spot	

List of potential view points for ZVI	Comments and Possible radii of analysis	Priority/ Comments
Hills and ridges and Countryside access sites over a certain height		
Beacon Hill near Highclere 261m LCA 1	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	High
Watership Down ridge about 200m LCA 1	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	Include with Whitehill
Combe-Faccombe ridge c240m	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	Include with Inkpen Hill analysis.
Whitehill c180m on Wayfarers Walk. LCA 1	220 ° views north to south in westerly direction. < or= 3km Near views 3-6km Mid views 6- 15 km Distant views	
Inkpen Beacon / Walbury Hill c290m West Berks.	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	
Silchester LCA 5	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	From highest point
Broadmere trig point (SSE Basingstoke) 207m LCA 1	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	4 points from around top of high point at access points/routes
Need another site in the West of LCA 5 with popular public access.		Talk to Countryside Access
Stratfield Saye	360° views < or= 3.5km Near views 3.5-7km Mid views 7- 15 km Distant views	Largest Historic park and garden on the EH register in the area. Also very popular

List of potential view points for ZVI	Comments and Possible radii of analysis	Priority/ Comments
The radii for major transport routes should be less than for the countryside access sites on the basis that the 'receptor's' purpose and therefore experience sought is different for travelling on a main road / train is generally more fleeting and coincidental, compared with accessing the countryside for the specific purpose of going out to enjoy the views of the landscape.		
A339 Basingstoke boundary (urban areas 2000 data set) to County boundary	Radii 5k tbc every 5k 360° views < or = 2km Near views 5km Mid views Distant views (not high priority)	Medium
A33 Basingstoke boundary (urban areas 2000 data set) to County boundary	Radii 5k tbc every 5k 360° views < or = 2km Near views 5km Mid views Distant views (not high priority)	High (possible growth option along Basingstoke-Reading Corridor)
A34 Within Western Corridor and County boundary.	Radii 5k tbc every 5k 360° views < or = 2km Near views 5km Mid views Distant views (not high priority)	Low
M3 Within Western Corridor and County boundary.	Radii 5k tbc every 5k 360° views < or = 2km Near views 5km Mid views Distant views (not high priority)	High
Winchester/Basingstoke/Reading Mainline route. Within Western Corridor and County boundary.	Radii 10k tbc < or = 2km Near views 5km Mid views 5-10km Distant views	High (sustainability agenda reasons)

Table 1: List of examples of ZVI locations for North Hampshire part of the Western Corridor SRS.

Definition of view type

Visibility of receptors is directly dependent on distance from ZVI locations. A professional judgement has to be made as to when the landscape becomes less prominent from the viewer. Climatic and seasonal variations will have an effect on the viewable distance. The following gives the basis behind the analysis for determining levels of visibility from a receptor. The atmospheric conditions for the judgements are based on a clear bright day with the sun behind the viewer in summer i.e. when there is the opportunity for most extensive views.

Hampshire Downs Character Area 1

View Type	Criteria	Radii at height band		
		0-150m	150-200m	200-300m
Near Views	Individual trees and hedges distinct. Power line cables and pylons distinct. Individual buildings distinct. (possibly able to discern windows)	< or = 3km	< or = 3km	< or = 3.5km
Mid Views	Field pattern discernable Pylons only visible Only very large buildings (factories and chimneys, warehouses) discernable. A and B roads and Individual houses with 10 x 50 binoculars.	3 – 6km	3 – 6km	3.5 – 7km
Distant Views	Land form and woodland discernable. Large settlements discernable with 10 x 50 binoculars.	6-10km	6 – 12km	7- 15km

Table 2: Example of how different radii for ZVI's are assigned by height.

Mitigation

Topic paper 6 says that analysis of sensitivity 'depends on the potential for negating or minimising visual impacts of disturbance, through mitigation and compensation'. The mitigating factors of visibility are *landform* and *land cover*. GIS data sets of vegetation cover and contour information are considered to be a minimum to carry out the assessment as detailed above and are relatively easy to obtain.

View Type

This is an emotive and subjective area. For example the experience that an expansive landscape offers with long ranging views compared to an undulating landscape which gives a diversity of views near and far, creates different perceptions and preferences for different people. It would be unsafe to say that one is more sensitive than the other because of this.

The location of the countryside access related ZVI's is based on a professional judgement of known, popular areas which people visit. There is scope to identify locally important views. It is

recognised that future character assessments should give emphasis to community involvement, leading to identification of important specific views.

Appendix 1

Example sheet for assessing sensitivity

INDICATOR AND COMPONENTS	PURELY INHERENT (I) OR SPATIALLY AFFECTED (S)	JUDGEMENT (HIGH, MEDIUM OR LOW)			
SIGNIFICANCE					
Rarity/importance (nationally) *	I ,S	**International**	**National**	**Regional**	**County**
Representativeness/Essence (in the character area)	I,S				
Age	I, S				
Dominance (in the character area)	I,S				
JUDGEMENT FOR SIGNIFICANCE					
ROBUSTNESS					
Replicable (ease of, and in a different location)	I,S				
Repairable (ease of)	I				
Replaceable (time taken to recover 'in situ')	I				
Vulnerability/Fragility (not to a specific change). **	I,S				
JUDGEMENT FOR ROBUSTNESS					
CONDITION					
Intactness	S				
Quality	S				
Potential	S				
JUDGEMENT FOR CONDITION					

*Biodiversity and historic environment judgements are influenced by designation status. This is an **inherent** quality.
Physical and experiential judgements are not affected by designation status, as landscape designations are policy related.
** Designation is not seen as a factor affecting robustness in relation to biodiversity and physical/ experiential. This is yet to be decided for the historic environment.

NOTE:

- Each component of the three indicators can be given different weighting
- If inherent then the judgement will be generic wherever it is located.
- If there is a spatial influence then separate analysis is required according to different character area.

Designations

It is clear that the differences in how designations are incorporated into sensitivity needs to be very clear if the methodology is to gain acceptance. Wildlife and historic designations including SSSIs, SPAs, SACs & SINCs and SAMs, and listed buildings, listed parks and gardens could be classified as **'inherent designations'** and as such give important information about specific attribute's of landscape character. They are scientific/data based recognition of the presence of special features, rather than **'policy area designations'** such as AONBs, National Parks, Strategic Gaps whose boundaries are more subjective, and originate from the policy making process.

For the purposes of the Landscape Sensitivity study, inherent designations will be an important factor in weighting judgements of significance, but those designations which are judged to be inherently vulnerable would a have low level of robustness.

Policy designation areas are not considered to give weight to decisions on significance and robustness.

Appendix 2.

Example Assessment: Hampshire Downs - Historic Environment (Archaeology)

Hampshire County Council's archaeology group have developed and tested an approach which could be the basis for other disciplines/services to use, as illustrated in the following worked example:

LCA key characteristics

High, remote, tranquil, long panoramic views, ancient woodland and hedgerows, winding lanes and tracks, rich and well enclosed, unspoilt, extensive tracts of arable, enclosure and seclusion created by woodland and hedges, medium to large fields, regular and informal.

Archaeological features in LCA

Burial mounds, Hillforts, Castles, other earthworks

Discussion

Bronze Age burial mounds are present in large numbers, and in open high downland where they can be visually prominent. This may be particularly where the location is on a crest, or false crest, where a location has been accentuated by planting, or where a location is accentuated by differential management (e.g. an island in a ploughed field). They are under physical threat from ploughing, and may be under visible threat from scrubbing over, or woodland being created around them. Where they are already in woodland they have little or no visual prominence. **(Significance: High, Robustness: Low)**

Neolithic long barrows are few in number and a frequently prominently located. The same issues affect them as Bronze Age barrows and they should be considered together.
(Significance: High, Robustness: Low)

Iron Age hillforts are few in number, but large in scale and usually very prominently located. They can be well known or celebrated locally. Whilst there may be some ploughing threat to their interiors the ramparts are largely of sufficient scale and slope to preclude an agricultural threat. Their visual prominence may be diminished by a woodland context or by the development of scrub. Their susceptibility to designation means that they are not generally under threat of development, but in fact 2 of the 7 in this character area have been developed.
(Significance: High, Robustness: High)

There is a tight cluster of *dykes* in the south east corner of the character area, which may be regarded as characteristic of that small area, but not of the character area as a whole.
(Significance: Medium, Robustness: Medium)

There are four major *Roman road* routes within this character area. Whilst the fabric of the road is not usually of a scale large enough to be read in the landscape, the line of the road will often physically manifest itself in the landscape. Other landscape features respect or enhance it, and the lines of Roman roads can be visibly significant in the landscape, and are often an aspect

of historic landscape that people can recognise. In this character area there are several locations where the line of a roman road is manifest in the landscape. Their strong landscape presence can be eroded by being punctured by development, by changes to boundary alignments, by replacement of a strong boundary feature with a weak boundary feature, or by a straight boundary feature being replaced by a sinuous boundary feature. Conversely they can be strengthened by picking up their line in boundary recreation, or by reinforcing a boundary. **(Significance: High, Robustness: Low)**

Deserted settlements are frequently found, but in many cases they are characterised by no visual component or weak visual components. They are not a strong visual characteristic, and are susceptible to ploughing, scrub development, development and woodland planting. **(Significance: Low, Robustness: Low)**

Castles are predominantly earthworks, with only one masonry example in this character area. Although often of a significant scale, many are located at the fringe of the character area and in wooded locations. Even the most impressive example, Odiham Castle, can only been seen over very short distances due to its wooded context. **(Significance: Low, Robustness: High)**

There are some *park pales* particularly in the south eastern quadrant of the character area. Whilst they can be large and extensive they are often on low lying areas and within wooded contexts, and their visual contribution to the landscape is often limited. **(Significance: Low, Robustness: Medium)**

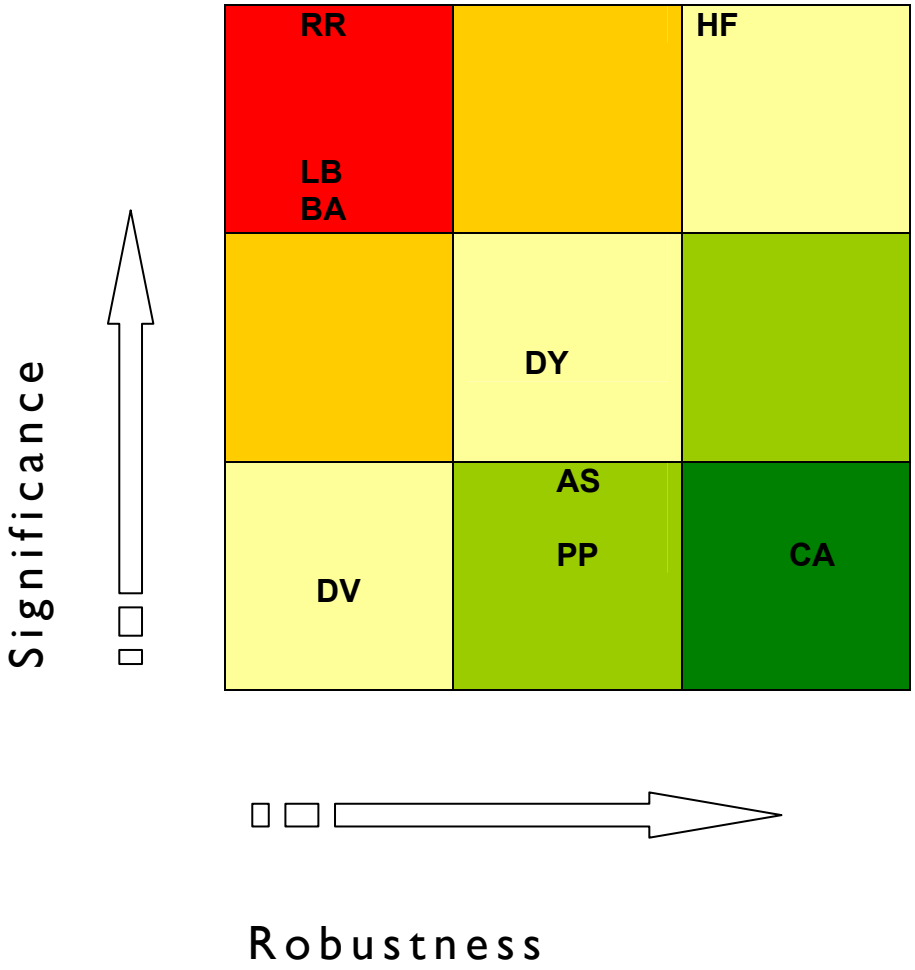
There are *assart woods and fields* distributed across this landscape character area, particularly on the high ground in the north west, and on the higher clay capped plateaus in the east. **(Significance: High, Robustness: Medium)**

The area is dominated at its western end by *parliamentary field systems* with more *informal enclosure* west of Basingstoke and at the eastern end of the character area.

These judgements of significance and robustness are carried through to the matrix, as illustrated below.

Example of Historic Environment Robustness / Significance Model:

Character Area 1: Hampshire Downs



LEGEND

BA	Bronze Age barrow
LB	Neolithic long barrow
HF	Iron Age hillfort
DY	Dyke
RR	Roman road
AS	Assart fields and woods
DV	Deserted medieval settlement
PP	Medieval park pale
CA	Castle/Fort

NB At this scale of study it is considered inappropriate to judge condition for archaeology and the historic built environment.

Appendix 3.

Generic Landscape Character Sensitivity Analysis

By placing all of the themes and attributes on a table, it is relatively easy to compare attributes within and between character areas. It is clear what the sensitivity indicators are and the data /analysis that is required to judge them. The process can be repeatable at every scale. It highlights shortcomings or gaps in data which is necessary to inform the analysis.

But relying solely on such a rigid approach to Landscape Character Sensitivity would be too constraining. The tabular analysis needs to be in conjunction with a written statement. The table gives a framework for the sensitivity analysis to be built around. It can give a quick overall summary to the reader but each cell must be able to be interrogated.

The following table is an incomplete draft summary sheet which brings together the themes and attributes of the Hampshire Downs character area.

Theme	Sensitivity of:	Attribute	Indicators			Comments
			Significance/ Robustness	Condition	Overall Measure	
Ecology / Biodiversity	Habitats					Includes BAP priority and non priority habitats.
	Specific species area associated					
Historic Environment						
	Historic landscape character areas					

Theme	Sensitivity of:	Attribute	Indicators			Comments
			Significance/ Robustness	Condition	Overall Measure	
	Archaeology	Bronze age barrow				
		Neolithic Long Barrow				
		Roman Road				
		Dyke				
		Hill Fort				
		Medieval Park Pale				
		Castle Fort				
	Historic Built Environment					
Countryside Access	**Type**	Recreational cycle routes				
		Short safe walks				
		Horse riding & carriage driving				
		Easy access paths				
		Accessible viewpoints				
		Open Countryside				
		Off road routes for motors				
		Countryside sites + facilities				
		Access to high nature cons.				
		Access to significant. historic sites				
Physical, Experiential and Social	Physical	Chalk and Clay				Generally the more sensitive physical landscape tends to occur in the north and west and isolated areas associated with the hangers in the south east
		Clay Plateau				

Theme	Sensitivity of:	Attribute	Indicators			Comments
			Significance/ Robustness	Condition	Overall Measure	
		Open Arable				
		Scarps: Hangers				
		Scarps: Downland				
	Experiential	Tranquillity				Generally the more sensitive experiential qualities occur in the north and west boundary with LCA 6.
		Ruralness				
		Countryside Access				
	Social	Farmstead, Hamlet, Village				The north and west and south and east areas contain the most sensitive farmsteads, hamlets and villages. The urban fringe landscape is less sensitive than other more developed areas of the County.
		Small Rural Market Town				

Appendix 4.

Determining and presenting Overall Landscape Character Sensitivity

It is necessary to find a method of mapping overall character sensitivity, which can be arrived at quickly and transparently from the component themes and attributes. Two options for defining sensitivity are available, a scoring approach or a judgement approach. We have used a judgement approach as this has a number of benefits over scoring:

- It allows authorities with a more limited range of GIS data sets to analyse sensitivity.
- It allows more flexibility in approach to arriving at an overall measure, as the source data varies from point based to area based mapping.
- One is not constrained if it is felt that the sensitivity of one theme or attribute has a geographically overriding influence over several others. However, it is generally the case that where several themes of high sensitivity combine the overall character sensitivity will be higher than where one theme is highly sensitive.

Mapping the sensitivity of the different themes within a character area is in most cases straightforward. The results from the matrix analysis are transferred directly to the corresponding GIS map and data. Area or polygon based data can be assigned the appropriate colour according to the level of sensitivity. Likewise individual site and point data can be assigned the appropriate sensitivity colour.

There is no clear scale for reporting the findings of landscape character sensitivity that is appropriate at both local and national/regional levels. **Landscape types** (as defined in the Hampshire landscape character assessment) seem to be the most appropriate reporting framework as they correlate well with sensitivity particularly of the physical, experiential, social, biodiversity and from an initial impression, the historic environment themes. However, the landscape types are sometimes at a fairly small scale and so to ensure that the scale is appropriate both locally and regionally, it is necessary at times to 'group up' landscape types. This happens where one or more themes are showing consistency in sensitivity across a number of contiguous landscape types.

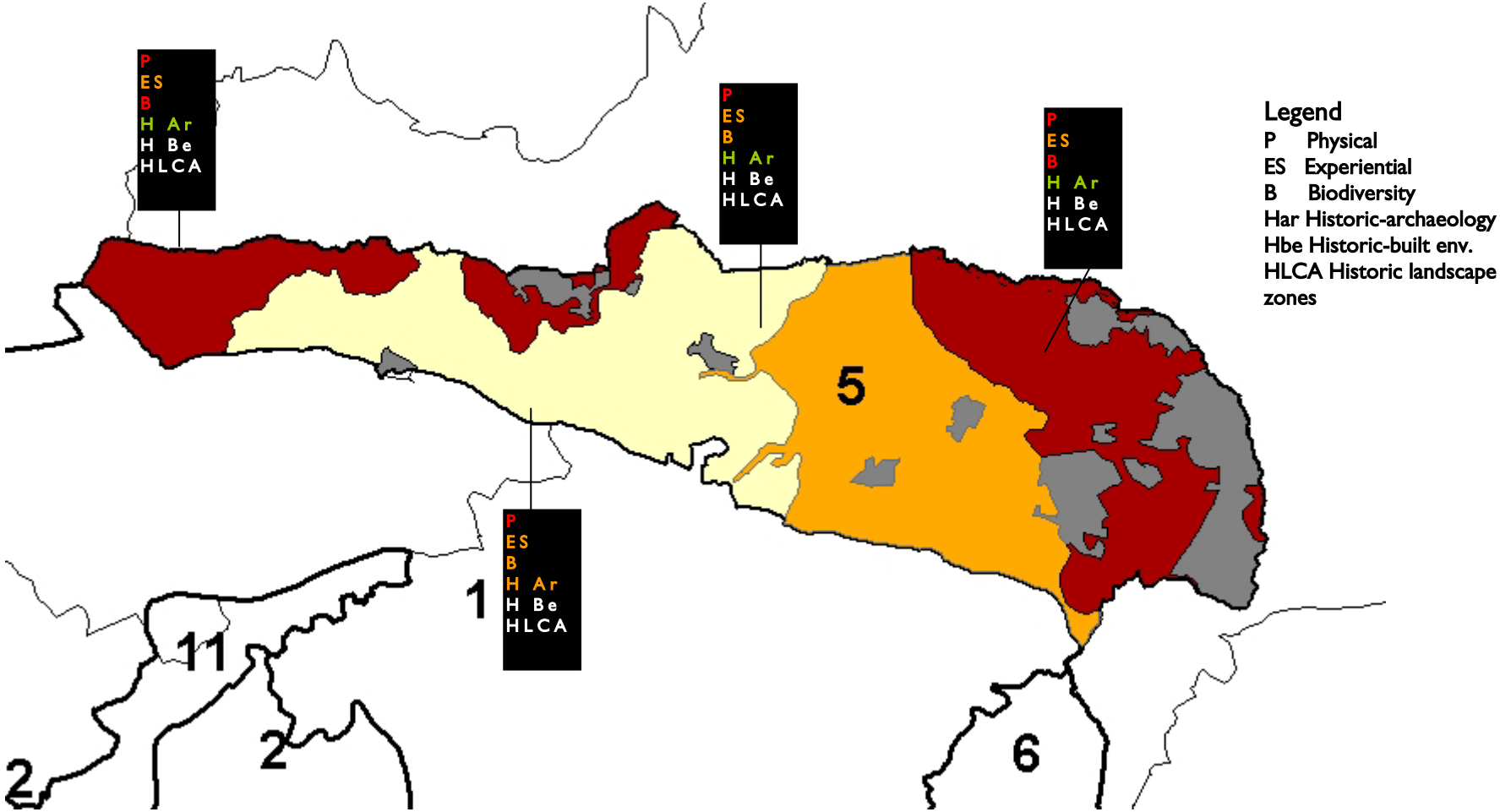
However, in arriving at a conclusion about the overall level of landscape character sensitivity it is necessary to decide **what factors will influence the weighting of different themes.** The judgement of sensitivity of physical, experiential, biodiversity and historic environment can be given a score from 1-5 which equates to the five possible levels of sensitivity. The judgment for the historic environment is the result of the average of the component parts: archaeology, historic built environment, and historic landscape. In some instances one could consider that the historic landscape and historic built environment should be given greater weighting than archaeology because of its importance in defining landscape character.

Taking an average across the four themes gives a measure of landscape character sensitivity. Visual sensitivity mapping is overlaid over the character sensitivity mapping and where the high judgements of both coincide these areas are considered to be the most sensitive.

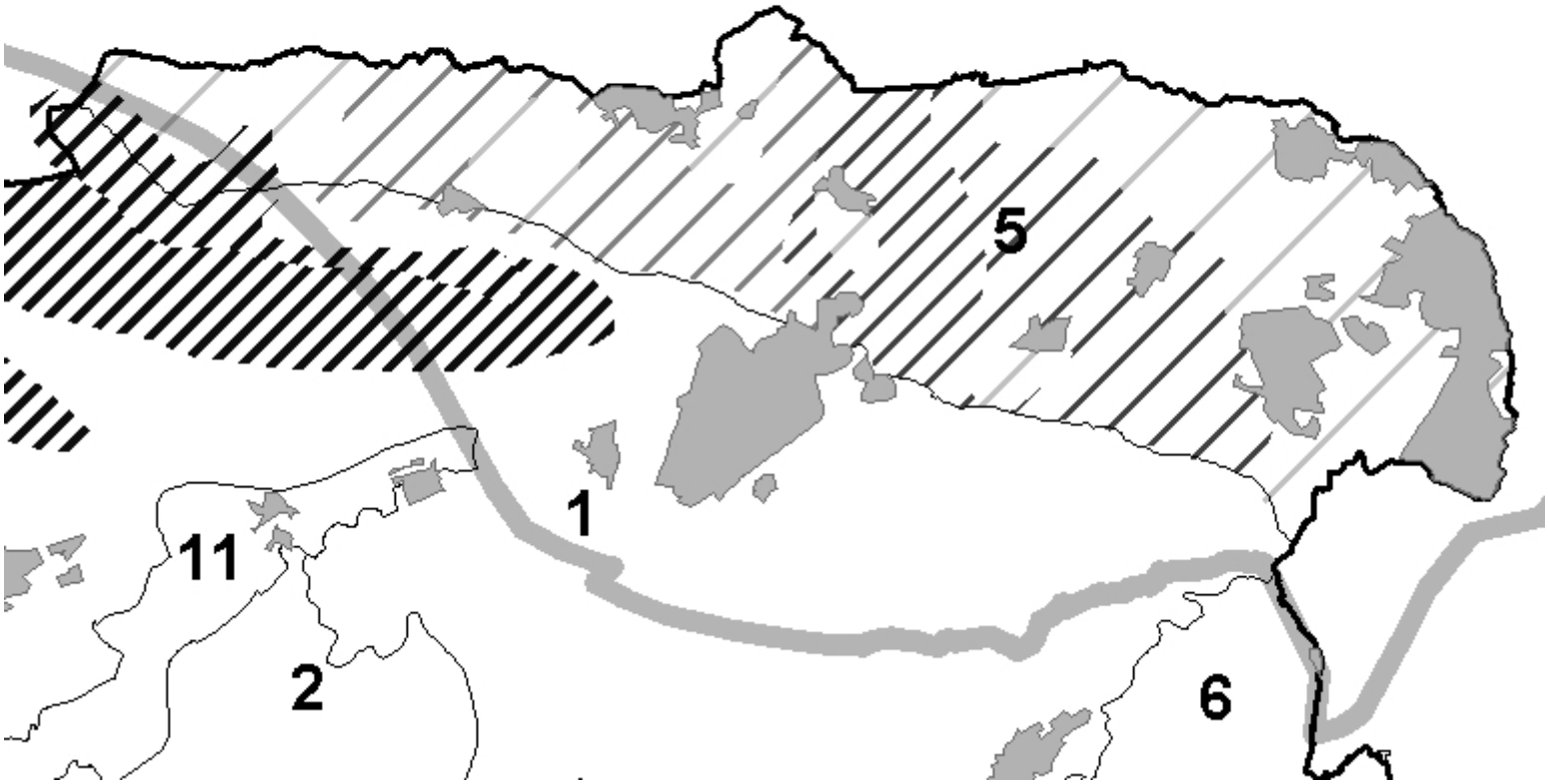
Using GIS, a link can be established between the overall character sensitivity map and the information and analysis that has informed it. A summary of the analysis of the component theme is given in tabular or drop down menu form which can be interrogated by ***hyperlinking*** to the matrix analysis, supporting text and the mapped evidence.

The illustration below shows a landscape character sensitivity map for one character area in Hampshire, broken down into 'grouped up' landscape types, with a menu that relates to each of the themes and, where relevant, sub-themes. In GIS or on the web this can be interrogated by clicking on the theme and accessing the underlying information.

Illustrative Landscape Character Sensitivity map with pop up menus for LCA 5



Illustrative Landscape Visibility map for LCA 5 and surroundings



Appendix 5.

Glossary of terms

Glossary of terms for Landscape Character Assessment

Analysis (Landscape)	The process of breaking the landscape down into its component parts to understand how it is made up.
Assessment (Landscape)	An umbrella term for description, classification and analysis of landscape.
Classification	A process of sorting the landscape into different types using selected criteria but without attaching relative values to different sorts of landscape.
Compensation	The measures taken to offset or compensate for residual adverse effects which cannot be mitigated or for which mitigation cannot entirely eliminate adverse effects.
Constraints Map	Map showing location of important resources and receptors that may form constraints to development.
Countryside	The rural environment and its associated communities including the coast).
Cumulative Effects	The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.
Diversity	Where a variety of qualities or characteristics occurs.
'Do Nothing' Situation	Continued change/evolution of landscape or of the environment in the absence of the proposed development.
Element	A component part of the landscape (eg roads, hedges, woods).
Enhancement	Landscape improvement through restoration, reconstruction or creation.

Environment	Our physical surroundings including air, water and land.
Environmental Appraisal	A generic term for the evaluation of the environmental implications of proposals. (Used by the UK Government in respect of policies and plans.)
Environmental Fit	The relationship of a development to identified environmental opportunities and constraints in its setting.
Environmental Impact Assessment	The evaluation of the effects of particular development proposals on the environment.
Field Pattern	The pattern of hedges and walls that define fields in farmed landscapes.
Geographical Information System	Computerised database of geographical information that can easily be updated and manipulated.
Heritage	Historic or cultural associations.
Indirect Impacts	Impacts on the environment, which are not a direct result of the development but are often produced away from it or as a result of a complex pathway. Sometimes referred to as secondary impact.
Landcover	Combinations of land use and vegetation, that cover the land surface.
Landform	Combinations of slope and elevation, that produce the shape and form of the land.
Landscape	Human perception of the land conditioned by knowledge and identity with a place.
Landscape Capacity	The degree to which a particular landscape character type or area is able to accommodate change without unacceptable adverse effects on its character. Capacity is likely to vary according to the type and nature of change being proposed.
Landscape Character	The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape and how it is perceived by people. It reflects particular combinations of

	geology, landform, soils, vegetation land use and human settlement. It creates the particular sense of place or different areas of the landscape.
Landscape Character Type	A landscape type will have broadly similar patterns of geology 'landform' soils, vegetation, land use, settlement and field pattern discernible in maps and field survey records.
Landscape Effects	Change in the elements, characteristics, character and qualities of the landscape as a result of development. These effects can be positive or negative.
Landscape Evaluation	The process of attaching value (non-monetary) to a particular landscape, usually by the application of previously agreed criteria, including consultation and third party documents for a particular purpose (eg designation or in the context of the assessment).
Landscape Factor	A circumstance or influence contributing to the impression of a landscape (eg scale, enclosure, elevation).
Landscape Feature	A prominent eye catching element, eg wooded hill top or church spire.
Landscape Quality (or condition)	Is based on judgements about the physical state of the landscape and about its intactness, from visual, functional and ecological perspectives. It also reflects the state of repair of individual features and elements which make up the character in any one place.
Landscape Resource	The combination of elements that contribute to landscape context, character and value.
Landscape Sensitivity	The extent to which a landscape can accept change of a particular type and scale, without unacceptable adverse effects on its character.
Land Use	The primary use of the land, including both rural and urban activities.
Landscape Value	The relative value or importance attached to a landscape, (often as a basis for designation or recognition) which expresses national or local consensus, because of its quality, special

	qualities, including perceptual aspects such as scenic beauty, tranquillity or wildness, cultural associations or other conservation issues.
Magnitude	A combination of the scale, extent and duration of an effect.
Methodology	The specific approach and techniques used for a given study.
Mitigation	Measures, including any process, activity or design to avoid, reduce, remedy or compensate for adverse landscape and visual effects of a development project.
Perception (of landscape)	The psychology of seeing and possibly attaching value and/or meaning (to landscape).
Precautionary Principle	Principle applied to err on the side of caution where significant environmental damage may occur, but where knowledge on the matter is incomplete, or when the prediction of environmental effects is uncertain.
Preference	The liking by people for one particular landscape element, characteristic or feature over another.
Quality	(See landscape quality.)
Receptor	Physical landscape resource, special interest or viewer group that will experience an effect.
Regulatory Authority	The planning or other authority responsible for planning consents or project authorisation. (Synonymous with Determining or competent Authority.)
Scenario	A picture of a possible future.
Scoping	The process of identifying the likely significant effects of a development on the environment.
Sense of Place (Genius Loci)	The essential character and spirit of an area: Genius Loci literally means 'spirit of the place'.
Sensitivity	(See landscape sensitivity.)
Sieve Mapping	Technique for mapping environmental constraints, working from a series of overlays,

	sieving out less important factors.
Sustainability	The principle that the environment should be protected in such a condition and to such a degree that ensures new development meets the needs of the present without compromising the ability of future generations to meet their own needs.
Technique	Specific working process.
Threshold	A specified level in grading effects, eg of magnitude, sensitivity or significance.
Visual Amenity	The value of a particular area or view in terms of what is seen.
Visual Effect	Change in appearance of the landscape as a result of development. This can be positive (ie beneficial or an improvement) or negative (ie adverse or a detraction).
Visual Envelope	Extent of potential visibility to or from a specific area or feature.
Visualisation	Computer simulation, photomontage or other technique to illustrate the appearance of a development.
Worst Case Situation	Principal applied where the environmental effects may vary, eg seasonably to ensure the most severe potential effect is assessed.
Zone of Visual Influence	Area within which a proposed development may have an influence or effect on visual amenity.

Appendix 6.

Recommendations for areas of further work / data sources

Ref	Research Required	Comment / Justification
1	Field Boundary Loss	To inform historical land use / field pattern change.
2	Landscape Type national context	In order to make judgements on rarity/ significance of different landscape types on a national scale. Questions over using LDUs.
3	Tranquillity	Further research on best practice for methodology. Review Nottinghamshire University research on Northumberland and the emerging Chilterns AONB.
4	Close monitoring of the effect of CAP changes	Countryside Quality Counts useful but could it info be supplied at the County LCA?
5	Historic Landscape Character Areas/Zone analysis	Refining the analysis carried out for this study, which aims to identify areas which exhibit consistent HLC pattern and incorporate similar time depth patterns and processes.
6.	Identify popularity/visitor numbers for EH parks and Gardens and Countryside access sites	To justify choices of ZVI's in determining overall visual sensitivity.
7	Undertake assessment for the historic built environment and historic landscape zones.	…and then assess the relative sensitivity of the different classifications. Consultant in place to be undertaken in February 2005.
8	Undertake literary artistic and cultural associations with the landscape study	To contribute to the experiential and social analysis. This is becoming a key area of work in Landscape Character Assessments. Test Valley provides a good example where aspects of people's perceptions of the landscape are drawn out and added to the description.

Appendix 7.

Working Group

This study is being developed by the following people.

Name	Position
Linda Tartaglia Kershaw	Head of Landscape Planning and Heritage HCC
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