

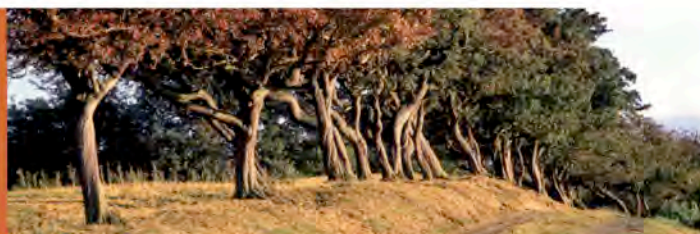


Countryside Quality Counts

Tracking Change in the Character of the English Landscape, 1999-2003



June 2007



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Executive Summary

The Countryside Quality Counts (CQC) study provides evidence about the ways the English countryside is changing and what implications this might have for achieving sustainable development.

The study was undertaken because we need evidence and information to understand and manage change and to plan strategies to ensure that long term development is sustainable. The UK Government has long recognised the importance of understanding the nature of countryside change, and the 2000 Rural White Paper for England (Department of the Environment, Transport and the Regions, 2000) recognised that more needs to be done. This need will become increasingly important, as policies are developed and implemented to cope with the impacts of climate change and its possible effects on the ecosystem goods and services on which we all depend.

We need to know **where change is occurring** and **whether those changes matter** to people in terms of the way change affects the things about landscape that they value. The White Paper stressed the importance of future monitoring and made a commitment to publish an indicator of change in countryside quality that would take account of aspects such as biodiversity, heritage, tranquillity and the overall character of the landscape. The case for such an indicator was based on the belief that the linkage between people and their environment needed to be more clearly identified, so that future social, economic and environmental goals become more closely aligned.

The CQC study has made an assessment of countryside change for two periods, 1990-1998 and 1999-2003. This report covers the most recent assessment, which has shown (see Figure 1) that between 1999 and 2003 existing landscape character is being maintained in 51% of England's landscapes, while in a further 10% existing character is being enhanced. However 20% of our landscapes are showing signs of neglect, in the sense that past loss of character has not been reversed, while in a further 19% new characteristics are emerging. Compared to the earlier assessment, these results suggest that the erosion of valued landscape character has been arrested in some places and has slowed in others. There is also evidence that in many key localities, the existing landscape character has been sustained or strengthened.

Landscape character is an important aspect of the overall quality of the countryside. Local distinctiveness not only reflects the rich historical and cultural diversity of the English landscape, but also, with increasing globalization of economies, constitutes a resource that can contribute to directly improving people's well-being. It can help, for example, to 'market' different localities and their associated products in the context of tourism or the local and regional labelling of food and other goods. In the long term, the deeper understanding of the relationship between landscape structure and cultural and economic values will enable us to address the consequences of long-term environmental change. The European Landscape Convention also recognises the importance of this link; in the future CQC could play role in the monitoring of landscape change, which is a requirement of the Convention.

The study has also shown how landscape information of the type used by CQC can inform strategies for targeting and monitoring agri-environmental schemes as well as other initiatives which affect the landscape, and that CQC can be important in the development of Regional Spatial Strategies. It may also provide a framework in which an integrated assessment of ecosystem goods and services can be developed and enable a better understanding of sustainability limits in rural England.

Second Assessment of Change 1999-2003 Headline Indicator



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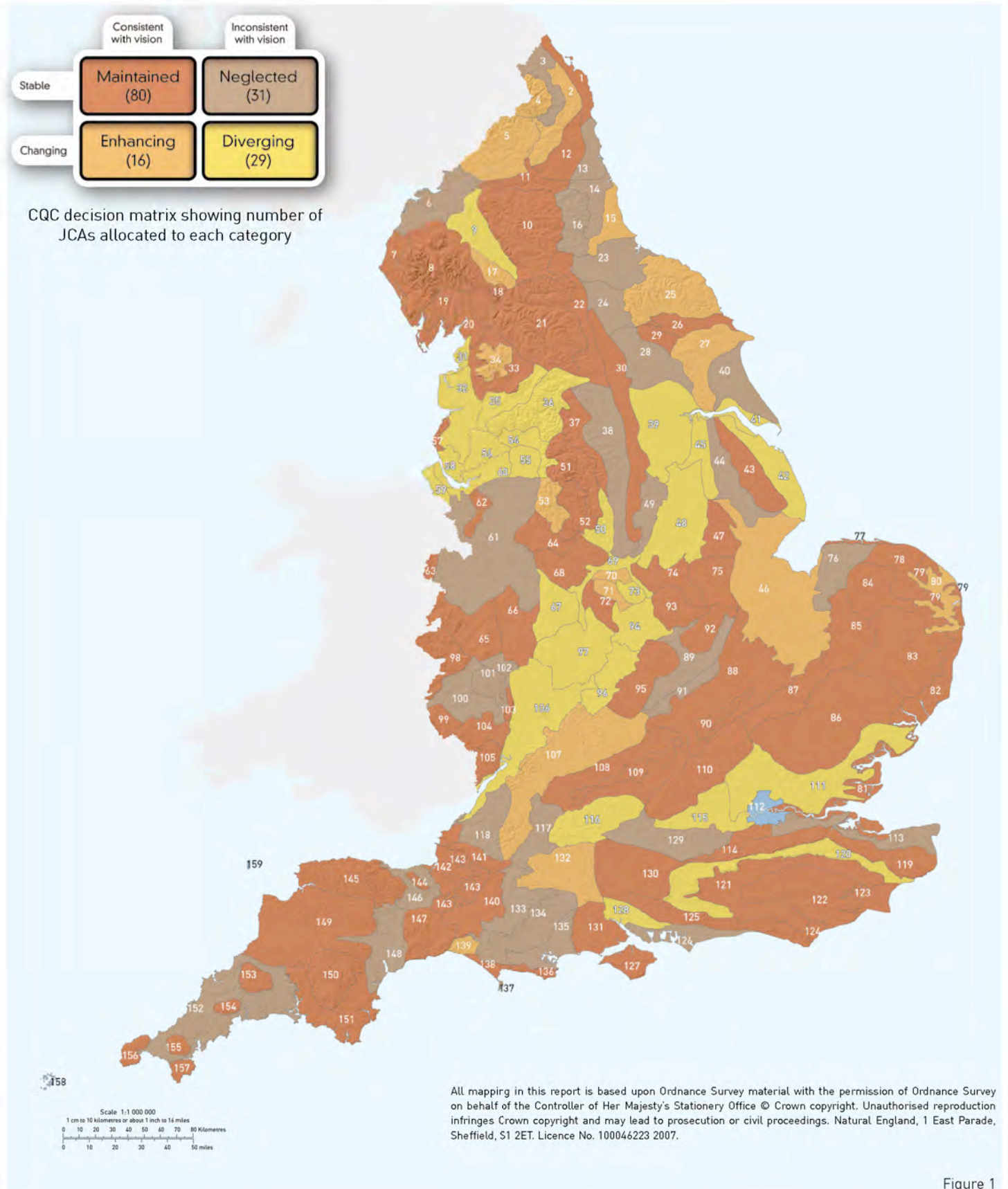


Figure 1



Second Assessment of Change 1999-2003 Headline Indicator

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1	North Northumberland Coastal Plain	55	Manchester Conurbation	108	Upper Thames Clay Vales
2	Northumberland Sandstone Hills	56	Lancashire Coal Measures	109	Midvale Ridge
3	Cheviot Fringe	57	Sefton Coast	110	Chilterns
4	Cheviots	58	Merseyside Conurbation	111	Northern Thames Basin
5	Border Moors and Forests	59	Wirral	112	Inner London
6	Solway Basin	60	Mersey Valley	113	North Kent Plain
7	West Cumbria Coastal Plain	61	Shropshire, Cheshire and Staffordshire Plain	114	Thames Basin Lowlands
8	Cumbria High Fells	62	Cheshire Sandstone Ridge	115	Thames Valley
9	Eden Valley	63	Oswestry Uplands	116	Berkshire and Marlborough Downs
10	North Pennines	64	Potteries and Churnet Valley	117	Avon Vale
11	Tyne Gap and Hadrian's Wall	65	Shropshire Hills	118	Bristol, Avon Valleys and Ridges
12	Mid Northumberland	66	Mid Severn Sandstone Plateau	119	North Downs
13	South East Northumberland Coastal Plain	67	Cannock Chase and Cank Wood	120	Wealden Greensand
14	Tyne and Wear Lowlands	68	Needwood and South Derbyshire Claylands	121	Low Weald
15	Durham Magnesian Limestone Plateau	69	Trent Valley Washlands	122	High Weald
16	Durham Coalfield Pennine Fringe	70	Melbourne Parklands	123	Romney Marshes
17	Orton Fells	71	Leicestershire and South Derbyshire Coalfield	124	Pevensy Levels
18	Howgill Fells	72	Mease/Sence Lowlands	125	South Downs
19	South Cumbria Low Fells	73	Charnwood	126	South Coast Plain
20	Morecambe Bay Limestones	74	Leicestershire and Nottinghamshire Wolds	127	Isle of Wight
21	Yorkshire Dales	75	Kesteven Uplands	128	South Hampshire Lowlands
22	Pennine Dales Fringe	76	North West Norfolk	129	Thames Basin Heaths
23	Tees Lowlands	77	North Norfolk Coast	130	Hampshire Downs
24	Vale of Mowbray	78	Central North Norfolk	131	New Forest
25	North Yorkshire Moors and Cleveland Hills	79	North East Norfolk and Flegg	132	Salisbury Plain and West Wiltshire Downs
26	Vale of Pickering	80	The Broads	133	Blackmoor Vale and The Vale of Wardour
27	Yorkshire Wolds	81	Greater Thames Estuary	134	Dorset Downs and Cranborne Chase
28	Vale of York	82	Suffolk Coast and Heaths	135	Dorset Heaths
29	Howardian Hills	83	South Norfolk and High Suffolk Claylands	136	South Purbeck
30	Southern Magnesian Limestone	84	Mid Norfolk	137	Isle of Portland
31	Morecambe Coast and Lune Estuary	85	Breckland	138	Weymouth Lowlands
32	Lancashire and Amounderness Plain	86	South Suffolk and North Essex Clayland	139	Marshwood and Powerstock Vales
33	Bowland Fringe and Pendle Hill	87	East Anglian Chalk	140	Yeovil Scarplands
34	Bowland Fells	88	Bedfordshire and Cambridgeshire Claylands	141	Mendip Hills
35	Lancashire Valleys	89	Northamptonshire Vales	142	Somerset Levels and Moors
36	Southern Pennines	90	Bedfordshire Greensand Ridge	143	Mid Somerset Hills
37	Yorkshire Southern Pennine Fringe	91	Yardley-Whittlewood Ridge	144	Quantock Hills
38	Nottinghamshire, Derbyshire and Yorkshire Coalfield	92	Rockingham Forest	145	Exmoor
39	Humberhead Levels	93	High Leicestershire	146	Vale of Taunton and Quantock Fringes
40	Holderness	94	Leicestershire Vales	147	Blackdowns
41	Humber Estuary	95	Northamptonshire Uplands	148	Devon Redlands
42	Lincolnshire Coast and Marshes	96	Dunsmore and Feldon	149	The Culm
43	Lincolnshire Wolds	97	Arden	150	Dartmoor
44	Central Lincolnshire Vale	98	Clun and North West Herefordshire Hills	151	South Devon
45	Northern Lincolnshire Edge with Coversands	99	Black Mountains and Golden Valley	152	Cornish Killas
46	The Fens	100	Herefordshire Lowlands	153	Bodmin Moor
47	Southern Lincolnshire Edge	101	Herefordshire Plateau	154	Hensbarrow
48	Trent and Belvoir Vales	102	Teme Valley	155	Carnmenellis
49	Sherwood	103	Malvern Hills	156	West Penwith
50	Derbyshire Peak Fringe and Lower Derwent	104	South Herefordshire and Over Severn	157	The Lizard
51	Dark Peak	105	Forest of Dean and Lower Wye	158	Isles of Scilly
52	White Peak	106	Severn and Avon Vales	159	Lundy
53	South West Peak	107	Cotswolds		
54	Manchester Pennine Fringe				

Part 1: Developing the Evidence Base



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1.1 Introduction

The Countryside Quality Counts (CQC) study provides evidence about the ways the character of the English landscape is changing.

We are particularly fortunate in this country that our landscapes are so rich and varied. Our landscapes represent a record of our cultural and historical heritage, and are a vital asset on which we depend for the production of a wide range of goods and services, such as food and recreational opportunities. The distinctiveness of our landscapes will continue to be an important resource as we face the challenges of globalisation, as we seek, for example, to maintain and develop new opportunities for tourism and recreation, or to market locally branded products. In the longer term, an understanding of the way landscapes will respond to climate change will be essential to inform development of strategies for the future management of our countryside and its natural resources.

The differences in landscape character that we see across England are the result of many factors. Important influences are the variations in geology and relief, local climate and the cover of semi-natural habitats. The ways people have used and settled the land over time are also significant. Our history also demonstrates that landscapes have never been static. Centuries of economic and social development have left their mark. Changes in the landscape as a result of natural processes have also been important.

Change is a constant theme in England's landscape. We need to understand how and why these changes occur if we are to cope with change and plan strategies to ensure that long term development is sustainable. We need to know **where change is occurring and whether those changes matter to people and the natural environment**. CQC was developed to provide a systematic way of assessing the significance of landscape change, using the geographical framework of the Joint Character Areas (JCAs) of England.

1.2 Background

The UK Government has long acknowledged the importance of understanding the nature of countryside change. The 2000 *Rural White Paper for England* (Department of the Environment, Transport and the Regions, 2000) recognised the importance of future monitoring, and made a commitment to publish an indicator of change in countryside quality that would take account of aspects such as biodiversity, heritage, tranquillity and landscape character. The case for such an indicator was that the linkage between people and their environment needed to be more clearly identified, so that future social, economic and environmental goals become more closely aligned. The CQC Project was initiated by the Countryside Agency in 2002 in response to this commitment.

The concept of an indicator of change in countryside quality was new in the UK, so the first phase of the work was exploratory. The project led to an assessment of change in countryside quality for the period between 1990 and 1998 that was published in 2004 (The Countryside Agency, *State of the Countryside Report 2004*). This first assessment was judged to have been sufficiently

successful to merit a further period of analysis - and this now forms the basis of the current report.

For the second assessment the methodology was refined and the range of data used was extended to enable a more robust assessment that was also consistent with the first. It has not been possible to incorporate all of the aspects listed in the Rural White Paper. Although information on biodiversity and heritage aspects has improved it is still limited. These aspects are included in their relation to landscape character. It has not been possible to incorporate the aspect of tranquillity, because this type of information only became available in usable format as the project was nearing completion. CQC therefore concentrates on assessing changes in landscape character, which lies at the heart of countryside quality.

1.3 Aims

The overall aim of CQC was to develop the method and describe how and where there is change in countryside quality. An exploration of why change is occurring, and the social, economic and environmental factors driving this change, is outside of the project's scope; but CQC provides a breadth and depth of information for others investigating these drivers of change to draw upon. The more detailed aims of CQC were:

- To develop a systematic and robust method of assessing landscape change
 - To assemble datasets for use in the assessment
 - To test the new method and report on confidence
 - To report on the results of the assessment, including a headline indicator
 - To make recommendations for future application of the method
- In operational terms the aim of the CQC Project was to make an evidence-based judgment about the implications of countryside change for the landscape character of each JCA in England. To do this, two tasks need to be achieved, namely to:
- Bring together a body of information that was relevant to the problem of identifying where change was occurring ('**the data**')
 - Develop an understanding of the characteristics and trends that people thought were important for each of these areas ('**the context**').

1.4 Policy Context

The outputs of the current work meet the requirements set out in the *Rural White Paper*, but the policy context for CQC has evolved at an increasing rate since its original inception.

Securing the Future (Defra 2005), is the UK Government strategy for achieving sustainable development and it identifies natural resource protection and environmental enhancement as one of the four priority areas for Government action. Natural resources encompass biodiversity, air, land, water, soils, and access to the countryside. Defra recognises the environmental, social and economic value of the natural environment in its 'Vision for the Natural Environment'.

'The vision is for a diverse, healthy and resilient natural environment, which provides the basis for survival, well-being and prosperity now and in the future' (Defra 2006a)



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Part 1: Developing the Evidence Base

Specifically, Defra (2006a) indicates that the natural environment:

- Provides resources needed for basic survival (air, water, soils and food)
- Contributes to our good physical and mental health
- Provides natural processes such as climate regulation, flood control, pollination of crops and control of disease and pests
- Supports a strong and healthy economy
- Has social, cultural and educational benefits
- Has intrinsic value, in that its beauty and unique character are valuable in their own right

Sustainable development is the process for achieving sustainability in the natural environment in social, economic and environmental terms. Sustainable and healthy ecosystems are able to maintain the flow of goods and services throughout time, whilst being resilient to human exploitation and natural events (Defra 2006).

Sustainable development requires an integrated approach, and Defra's Whole Ecosystem Approach Project will help provide an integrated framework for looking at whole ecosystems in policy making, to ensure the continued supply of ecosystem services vital to our health, economy and well-being. CQC could provide an important contribution to structuring this approach.

Under the England Rural Development Programme (1999-2006), policies and incentives were developed to help farmers and foresters to respond to consumer requirements and become more competitive, diverse, flexible and environmentally responsible. It also provided help to rural businesses and communities which needed to adapt and develop. Environmental Stewardship (now under the Rural Development Programme England 2007-13) with its 'broad and shallow' approach has the potential to significantly influence England's landscape, and is on target to meet its 60% coverage of England's farmland by the end of 2007.

The Rural Development Programme has led to implementation of many other schemes and incentives such as Energy Crops and Woodland Grant Schemes, which can affect landscape features in the countryside. The *England Forestry Strategy, A New Focus for England's Woodlands* (1998, reviewed in 2006), guided policies towards sustainable management of our existing woodland heritage and provisions for the future, which can also affect landscape quality. These examples demonstrate the importance for policy of landscape quality as well as changes in functionality of the landscape and the capacity of the natural environment to deliver ecosystem goods and services. CQC could provide a means of measuring and reporting on these effects.

The UK ratified the Council of Europe's Landscape Convention in November 2006 and it became binding on the UK from 1st March 2007. This convention aims to formally recognise the importance of landscape in a whole territory, rather than a special area. It is the first international agreement specifically addressing landscape issues and applies equally to urban, peri-urban and rural landscapes. The UK has taken an active role in the development of the Convention, mainly through the then Countryside Agency and English Heritage. The Government has concluded that the

UK already meets the Articles of the Convention so will not need to change existing policy or legislation. Defra will work with Natural England (who are leading on drafting an implementation plan) and other stakeholders to see how compliance might be strengthened during the normal course of review. Under the terms of the convention Natural England are committed to monitoring its implementation. CQC provides the most robust means currently available of reporting on landscape across England at the regional scale, and it could also serve as an exemplary method for adoption by other countries.

Other policy areas may affect landscape, such as the increasing interest in policy and planning for the effects of climate change, especially in respect of effects on our ability to deliver biodiversity targets and ways of providing mitigation (UK Climate Change Programme 2006²) and promoting adaptation to the effects of climate change for people³ and biodiversity⁴. In addition, there is an increasing demand for economic growth and affordable housing which could affect our landscapes^{5,6}, and so CQC may become increasingly important as a tool for planning decisions.

The types of information provided by CQC can inform decisions to optimise benefits across a range of policy areas. Such decisions include design, targeting and monitoring aspects of Environmental Stewardship at a national scale, and provision of a framework in which policy advisors can begin to think about the state and trend of ecosystem goods and services at the landscape scale, particularly in the context of the need to live with and adapt to long-term environmental change and the need to appreciate socio-economic drivers of change.

Natural England has wide ranging powers and duties across the natural environment, which in the terms of the Natural Environment and Rural Communities (NERC) Act 2006, includes landscape. A set of landscape related policies is currently being developed, but existing work commitments already demonstrate the present and potential future use of CQC.

CQC provides the best available aggregation of landscape related data for England. It also provides an invaluable foundation for a range of work in support of policies that will include:

- Natural England's approach to agri-environment schemes (for example, targeting landscape components of Environmental Stewardship Schemes)
- Future landscapes – knowledge of past change will help inform our forward looking position on landscape change (including how we can adapt to and mitigate the effects of climate change)
- Protected landscapes – for example helping to monitor the impact of local management policies on landscape
- Sustainable development and one planet living (including an exploration of the contribution of an ecosystem goods and services approach)

If we are to live with the effects of social, economic and environmental change, then the insights on these issues gained by looking at them through the 'prism' of landscape will be essential.

¹ Defra 2006a: <http://www.defra.gov.uk/wildlife-countryside/natres/pdf/v061218.pdf> IA New Vision for the Natural Environment - Towards an Ecosystem Approach, draft 2006

² <http://www.defra.gov.uk/environment/climatechange/uk/ukccp/index.htm>

³ <http://www.defra.gov.uk/environment/climatechange/uk/adapt/index.htm>

⁴ <http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/index.htm> [working with the grain of nature - taking it forward volume 1, page 21]

⁵ http://www.hm-treasury.gov.uk/media/053/C7/barker_review_execsum_91.pdf

⁶ <http://www.sd-commission.org.uk/publications/downloads/Eddington-Transport-Study.pdf>

Part 1: Developing the Evidence Base



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1.5 The CQC Approach

The geographical framework used by CQC to describe and assess variation and changes in landscape character in England is the system of 'Joint Character Areas' (JCAs) (Figure 1.1). This was defined in the 1990s by the Countryside Agency, English Nature and English Heritage. At that time it was agreed that the geographical, ecological and historical variations in landscape character within England could best be described in terms of a set of discrete 'character areas'. This could have been done at a range of spatial scales for the purposes of developing a national overview, but the JCAs were thought to represent units of an appropriate size that could be used to describe the differences in landscape character in ways that people could understand and relate to.

The Joint Character Areas are not formally designated areas for administrative or conservation purposes, like counties or our National Parks or Areas of Outstanding Natural Beauty. They were promoted in the 1990s to emphasise that the 'everyday' landscapes outside our national network of protected areas are also important. The Character Areas Initiative aimed to describe what made each JCA distinctive, and what gave them their 'sense of place' (Swanwick and Land Use Consultants, 2002; Swanwick, 2003). This resulted in the publication of a set of descriptions for each of the Character Areas, and a summary of the recent changes that had affected them and what pressures might affect them in the future (Countryside Commission, 1999).

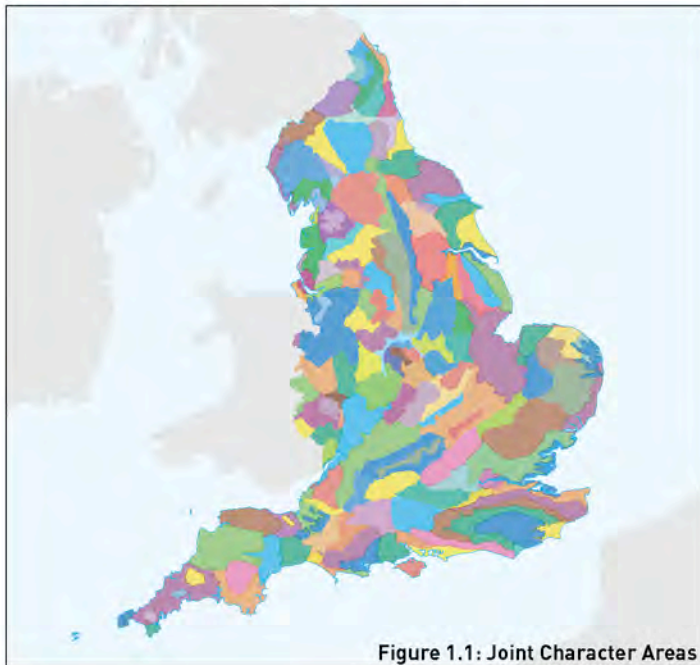


Figure 1.1: Joint Character Areas

To identify where landscape change is occurring and whether these changes matter in relation to the landscapes within each JCA, the CQC project set out to accomplish 5 key tasks:

- the construction of a database that can be used to analyse and describe changes in the features that shape landscape character

- the creation of a set of profiles for the JCAs that describe their important characteristics and the changes that could affect them, that can be used as assessment criteria in subsequent analysis
- a set of protocols that can be used to judge the significance of the changes that the analysis revealed
- an assessment of the magnitude and direction of change in landscape character for each JCA
- a review of the results by others to assure the quality of the assessment

This work enabled a systematic assessment of the significance of change for landscape character in each JCA, summarised as a national 'headline indicator' and a map showing the pattern and significance of change across the landscapes of England.

The datasets used for CQC were already largely in the public domain, although many were re-processed at the Joint Character Area level. The information available covers 7 themes: woodlands and trees, boundary features, agricultural land cover, settlement and development patterns, semi-natural habitats, historic features and river and coastal features.

This report focuses on the assessment of change during the 5 year period between 1999 and 2003.

The criteria used to make judgements about the significance of change were derived from a variety of sources, including the original descriptions of the JCAs themselves, and other sources of information such as the landscape guidance developed during the design of the new Environmental Stewardship Scheme. English Heritage provided further information on the historic aspects of landscape. The criteria consisted of a set of statements about each JCA describing how the different elements shaped their character. The statements also indicated whether these features needed to be strengthened or maintained, or what processes might threaten them.

Within CQC the statements are regarded as criteria, because they form the basis of the assessment. That is, they were used to determine whether the changes observed for each JCA were maintaining or enhancing the features that made each area distinctive. Alternatively, they were used to determine whether the direction of current change was likely to restore these characteristic features if they had been lost in the past, or to further erode them. The validity of the assessment criteria and the conclusions that were drawn from the analysis were tested by a process of consultation with people who had good, professional knowledge of each of the Joint Character Areas.

- The results of the CQC Project are presented in Part 2
- The details of how the analysis was undertaken and the methods used for consulting stakeholders are described in more detail in Parts 3 and 4
- Part 5 gives a review and assessment of the method and the available data resources
- Part 6 presents the types of policy application that the outputs of CQC can support and inform



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Part 2: Our Changing Landscapes 1999-2003

2.1 Introduction

The key concept that underpins CQC is that if landscape character can be described consistently at different points in time, then judgements about the significance of change can be made. CQC focuses on the Joint Character Areas (JCAs) of England. The study has determined whether the scale and direction of change suggests that their character has been maintained, or enhanced, or alternatively, if character had been eroded or modified in the past, whether current changes suggest that an area remains neglected or is continuing to transform.

Figure 2.1 shows the evaluation matrix used for the CQC analysis. The overall assessment was built up in a stepwise fashion by first considering the magnitude of change and then its direction for each of the main elements or themes that determine landscape character. The themes considered were:

- woodlands and trees
- boundary features
- agricultural land cover
- settlement and development patterns
- semi-natural habitats
- historic features
- river and coastal features

The judgements about each theme were then weighted in terms of their contribution to overall character, so that an integrated assessment about the nature of landscape change could be made for each JCA. On the basis of the changes observed between 1999 and 2003, each of the JCAs was assigned to one of the categories

described in the evaluation matrix. The method is detailed in Part 3.

The evaluation matrix shows the magnitude of change along the **vertical axis**. JCAs were assessed as either stable or changing. The assessment of the direction of change is shown along the **horizontal axis**, which classifies JCAs according to whether the direction is consistent or inconsistent with our understanding of what makes them distinctive.

Within the matrix, the contrast between the 'maintained' and 'neglected' categories emphasises that lack of change can be a problem if the vision for an area includes the desire that the past erosion of character should be restored. Similarly, the contrast between the enhancing and diverging categories highlights that change *per se* is not undesirable, providing that the direction of change serves to enhance or strengthen existing landscape character. The creation of this two-way matrix has allowed the project to account for a wide variety of different types of change, both positive and negative in nature.

The ways the information about the individual landscape themes was used to look at changing character is discussed in detail in Parts 3 and 4 of this report.

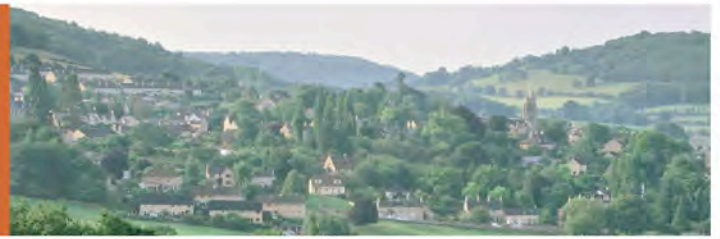
The results for the period 1999 to 2003 are presented in this section both in aggregate terms and for the individual landscape themes. A comparison is given between the patterns of change from the results of the first assessment for the years 1990-1998 and the 1999-2003 assessment.

An account of the methods used to make the judgement about the magnitude of change is also provided in Part 3.

		Direction of Change	
		←	→
		Consistent with vision	Inconsistent with vision
Magnitude of Change	↑	Stable Maintained: if the character of an area is already strong and largely intact, and the changes observed for the key themes served to sustain it, or simply because the lack of change meant that the important qualities are likely to be retained in the long term. An appropriate synonym for maintained is 'sustained'.	Neglected: if the character of an area has been weakened or eroded by past change, and the changes observed in the key themes were not sufficient to restore the qualities that made the area distinct. Synonyms for neglected are 'weakened', or 'degraded'.
	↓	Changing Enhancing: if the changes in the key themes tended to restore the overall character of an area, or to strengthen it. 'Strengthening' is an appropriate synonym of 'enhancing'.	Diverging: if the change in the key themes appeared to be transforming the character of the area so that either its distinctive qualities are being lost, or significant new patterns are emerging. 'Eroding' or 'transforming' are appropriate synonyms of 'diverging'.

Figure 2.1: CQC evaluation matrix

Part 2: Our Changing Landscapes 1999-2003



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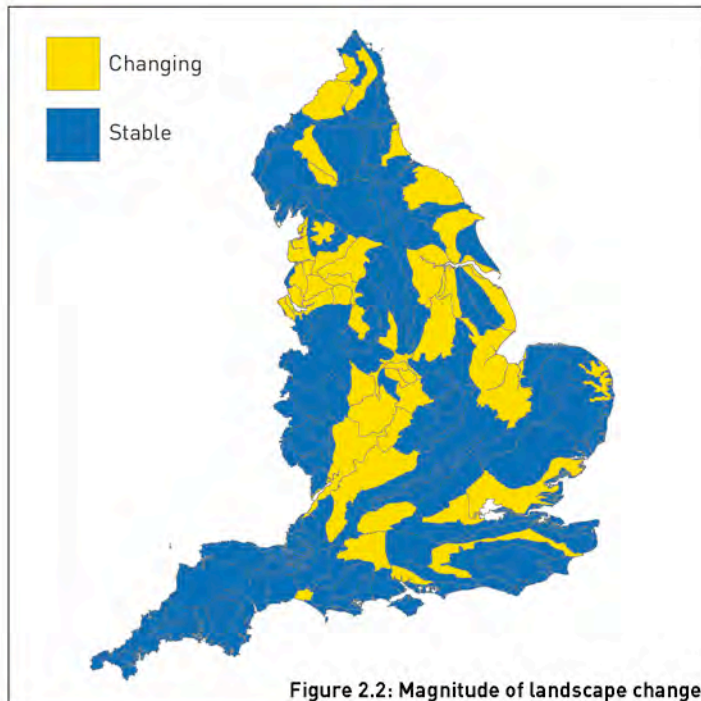


Figure 2.2: Magnitude of landscape change

2.2 The Magnitude of Change

The results of the assessment of the magnitude of change showed that 71% of our landscapes were stable between 1999 and 2003, while 29% were changing in relation to the key elements that shape their character.

Figure 2.2 summarises the results for the assessment of the magnitude of change at the JCA level. The map suggests that while many parts of England appear to be stable or showing only low rates of change in relation to landscape character, there are concentrations of more marked change, particularly along an axis running from the Severn and Avon Vales through the West Midlands to Humberside. There is also a concentration of more marked change in the North West, associated with the Manchester and Merseyside conurbations and the Lancashire valleys.

2.3 The Direction of Change

The results for the assessment of the 'direction' of change showed that for about 62% of our landscapes change is consistent with character, while for the remaining 38% change is inconsistent.

Figure 2.3 summarises the results for the assessment of the direction of change; the map divides the JCAs into two groups: one where the nature of change is largely consistent with existing character and the other where it is not. While there are marked similarities with the patterns shown in Figures 2.2 and 2.3, there are also important differences. The lack of change could be an issue in those JCAs where valued character had been eroded in the past, and where restoration or mitigation was suggested as desirable by those consulted. Character Areas in the South West and around London fall into this category, along with a block of areas extending from the Trent Valley northwards through to the Tyne and Wear Lowlands.

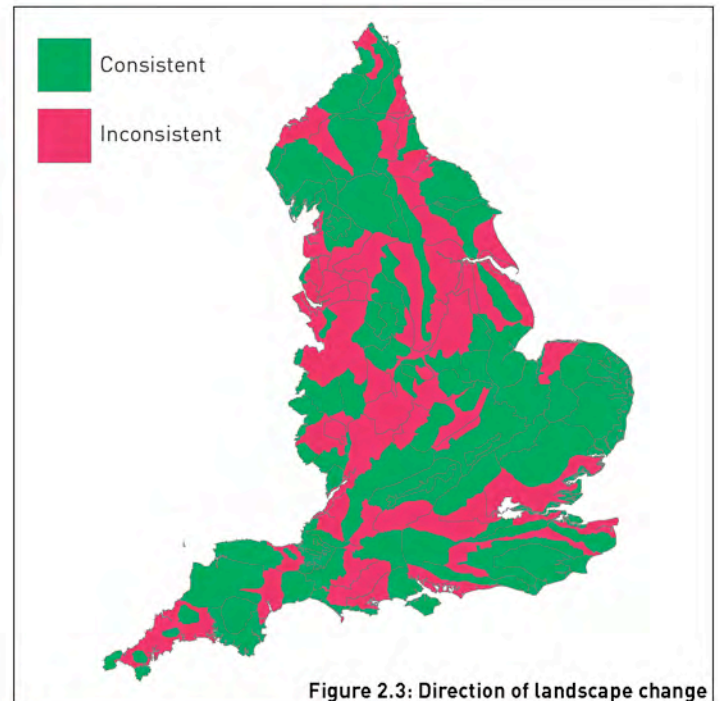


Figure 2.3: Direction of landscape change

2.4 The CQC Indicator of Change in Countryside Quality

The results on the magnitude and direction of change have been presented separately in order to provide as simple a picture as possible. The fuller interpretation is made when both are considered together.

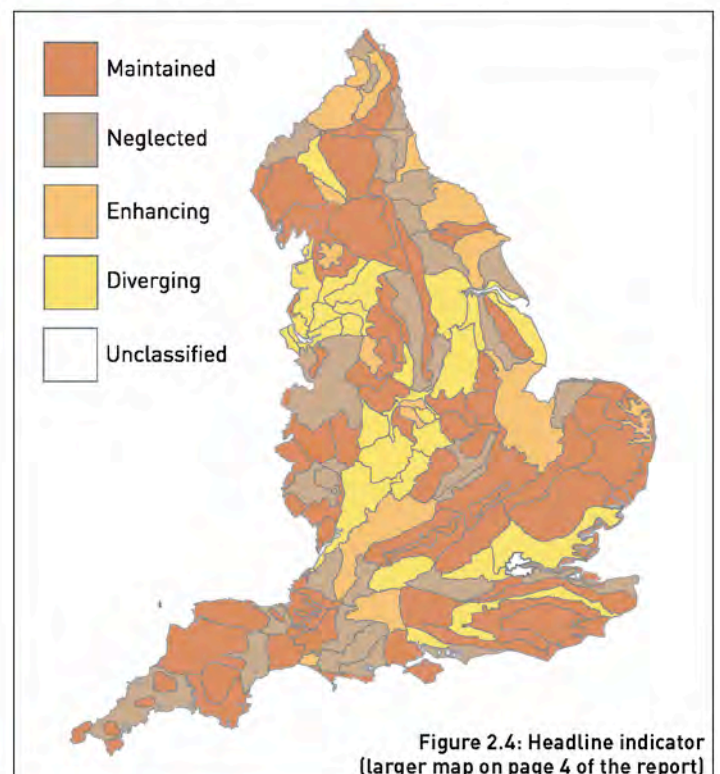
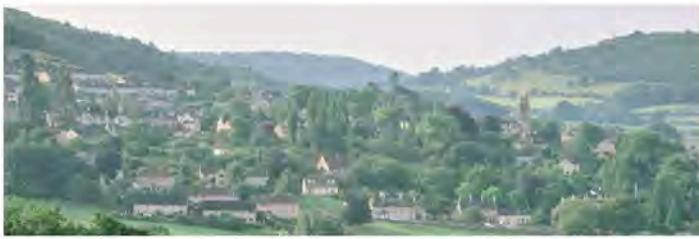


Figure 2.4: Headline indicator (larger map on page 4 of the report)



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The overall results of considering both the magnitude and direction of change, between 1999 and 2003 showed:

- existing landscape character was maintained in 51% of England's landscapes
- while in a further 10% existing landscape character was enhanced
- 20% of our landscapes showed signs of neglect, given the loss of character suffered in the past
- while in 19% new landscape characteristics have emerged

Figure 2.4 shows the overall assessment, and is the basis of this 'headline result'.

The grouping of areas where the assessment indicated that

landscape character was being maintained or enhanced demonstrates that large parts of rural England are retaining the important qualities that make them distinctive. Many of our protected areas are in these categories. Character Areas that were assessed as neglected or diverging are generally associated with the areas around the major centres of population and the major route corridors.

The results show clusters of JCAs with similar linked assessments (maintained – neglected or enhancing – diverging) into larger blocks, which suggest reliability of the individual assessments. Part 2.6 gives further details of how the robustness of the analysis was tested.

Box 2.1 illustrates the types of output generated by CQC for 4 case study areas.

Box 2.1: Case Studies

The case studies presented here have been chosen to illustrate what is meant when the character of a JCA has been assessed as 'maintained', 'enhanced', 'neglected' or 'diverging'.



Figure 2.5: Cumbria High Fells

The Cumbria High Fells (JCA 8, Figure 2.5) is a JCA that makes up a large part of the Lake District National Park. Its distinctive qualities result from its upland character and include the extensive tracts of unimproved rough grazing land in the higher areas, with semi-improved and improved pasture and rectilinear fields in the valleys. There are relatively few trees on the exposed higher land, but in more sheltered sites there are extensive areas of ancient, semi-natural broadleaved, mixed



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and conifer woodlands. Settlement density is low throughout. Analysis of the national datasets that were available for the area suggested that change in the features that produced its strong sense of place were limited, and so the overall conclusion was that character was **maintained**. The first assessment also suggested that the pace of change was slow, and the direction was largely consistent with character.

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Figure 2.6: Cotswolds



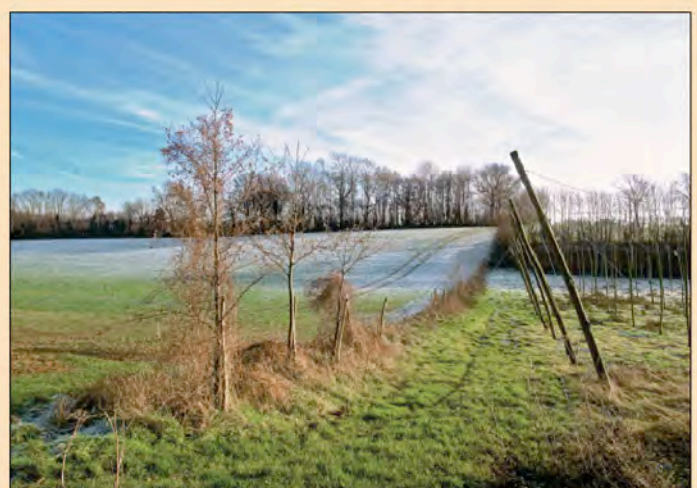
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By contrast, the evidence available for the Cotswolds (JCA 107, Figure 2.6) suggests that overall its character is **enhancing**. This area consists of a steep scarp and a long, rolling dip slope that has been cut into a series of plateaux by the valleys that bisect it. Much of the high ground of the plateaux is dominated by arable and woodland. Pasture is predominant in the valleys, at least on steeper slopes, and meadows and tree-lined watercourses are found along the valley bottoms. The beech woodlands of the escarpment are an especially characteristic feature. In the statements making up the Profile for this area,

it was suggested that character could be strengthened by more extensive woodland management and the restoration and management of the limestone grasslands and dry stone walls that are typical of the area. The number of agreements made through the Woodland Grant Scheme, Countryside Stewardship and the Environmentally Sensitive Areas initiative suggests that this is occurring so that overall, the character of the area is continuing to strengthen. The first assessment also suggested that overall change was consistent with character, although the rate of change now seems to have increased.



Figure 2.7: North Kent Plain



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The North Kent Plain (JCA115, Figure 2.7) is a low and gently undulating landscape, characterised by high quality, fertile loam soils that have supported intensive arable cropping, horticulture and orchards. It is mostly a treeless landscape with occasional scattered small woodlands, and a sparse pattern of hedgerows and shelterbelts around settlement and farmsteads. Evidence suggests that there is a slow decline in the number of mixed farms, and the uptake of agreements for the management of boundary features and orchards is

low. Development, particularly in the peri-urban fringe, has transformed the character of many parts of the area. Since significant opportunities to restore or strengthen the distinctive qualities of the character therefore exist, the area was classified as **neglected**. In the first assessment it was concluded that change was marked and inconsistent with character. Thus while the rate of change may have slowed for the second assessment period, there is little sign that past erosion of character is being reversed.



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Figure 2.8: Trent Valley Washlands



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The Trent Valley Washlands (JCA 69, Figure 2.8) differ markedly from those of the North Kent Plain, in that landscape change is more clearly continuing to transform the character of the area, which has been assessed as **diverging**. This is an area of flat, wide valleys, contained by gentle side slopes, with wide rivers flowing on alluvial floodplains between terraces of sand and gravel. There is very limited woodland cover, although in places the growth of riparian trees and shrubs give an impression of woodland cover. Hedgerows are low, sparse and often well trimmed on the slightly elevated river terraces where they divide large arable fields, but there are also stretches of

permanent pasture where dense, overgrown hedgerows enclose small riverside meadows. Between 1999 and 2003, grassland area has declined and there is loss of mixed and general cropping. This, coupled with the significant development that has occurred along the major route corridors and around the large settlements, suggests that landscape change is producing patterns that are inconsistent with those that previously made this area distinctive. This conclusion was the same as that for the first assessment, which also suggested that change was marked and tending to transform the traditional character of the area.

2.5 The Results of the Assessment of Landscape Themes

Figure 2.9 provides an overview of the assessments made for the individual landscape themes that determine and shape character.

- For the **trees and woodland** theme, most JCAs were assessed as enhancing or maintained, roughly in equal proportions
- For the **boundary features** theme, most JCAs were classified as neglected
- For **agriculture**, again the majority of JCAs were assessed as maintained, with roughly equal numbers falling into the enhancing, neglected and diverging categories
- The assessment for **settlement and development patterns** suggested that the character of the majority of JCAs was diverging
- Roughly 70% of the JCAs were classified as either maintained or enhancing, in relation to **semi-natural features**
- For the **historic features** theme, the majority of JCAs were assessed as neglected
- For **river and coastal features**, most JCAs were classified as maintained

It should be noted that for the historic and river and coastal themes, there was not sufficient data available for a number of JCAs, so an assessment could not be made. As a consequence 34 JCAs could not be classified for historic features and 14 could not

be classified for river and coastal features.

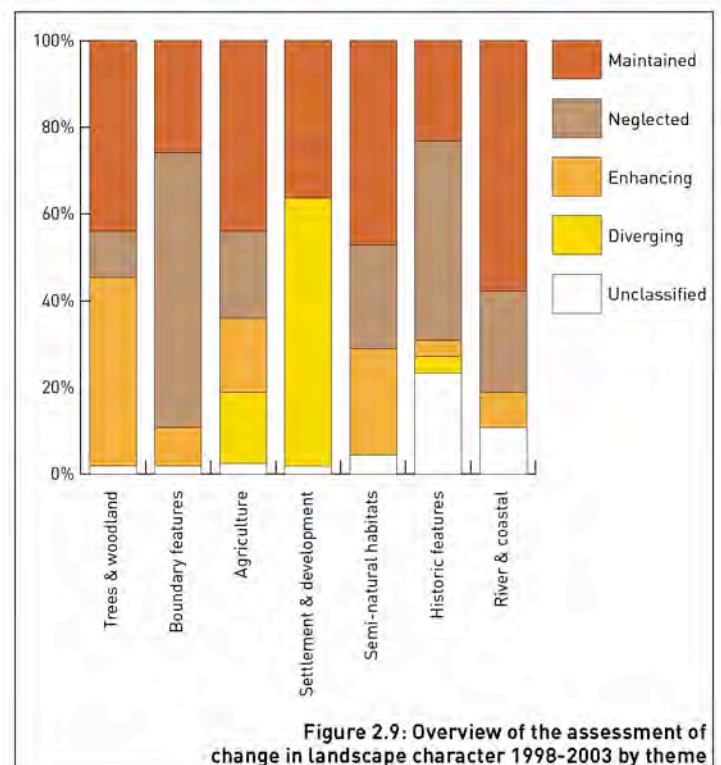
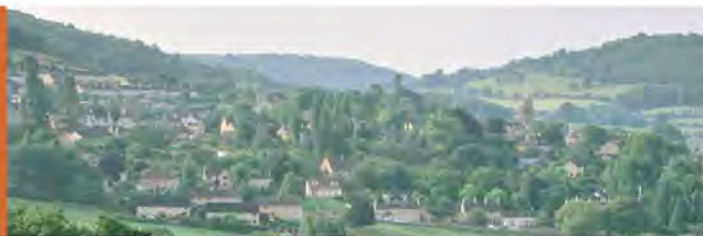


Figure 2.9: Overview of the assessment of change in landscape character 1998-2003 by theme

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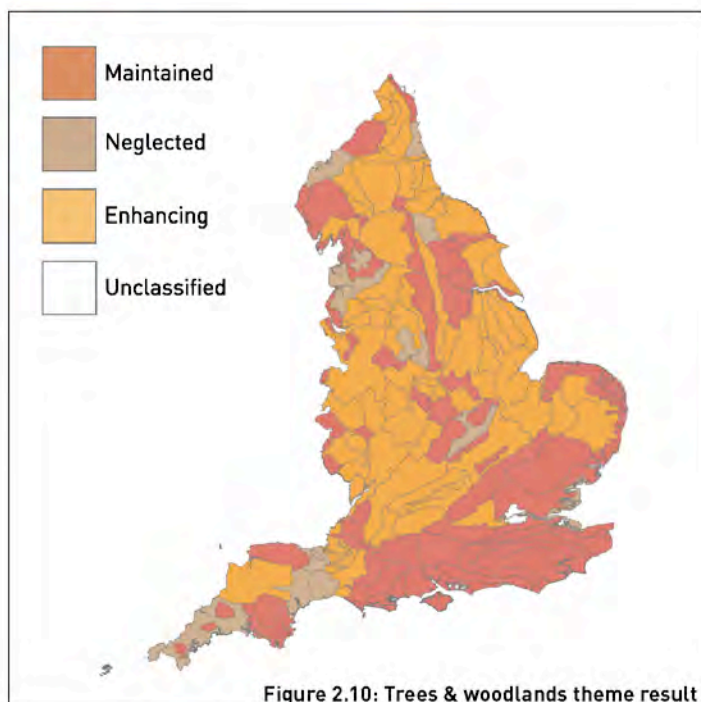
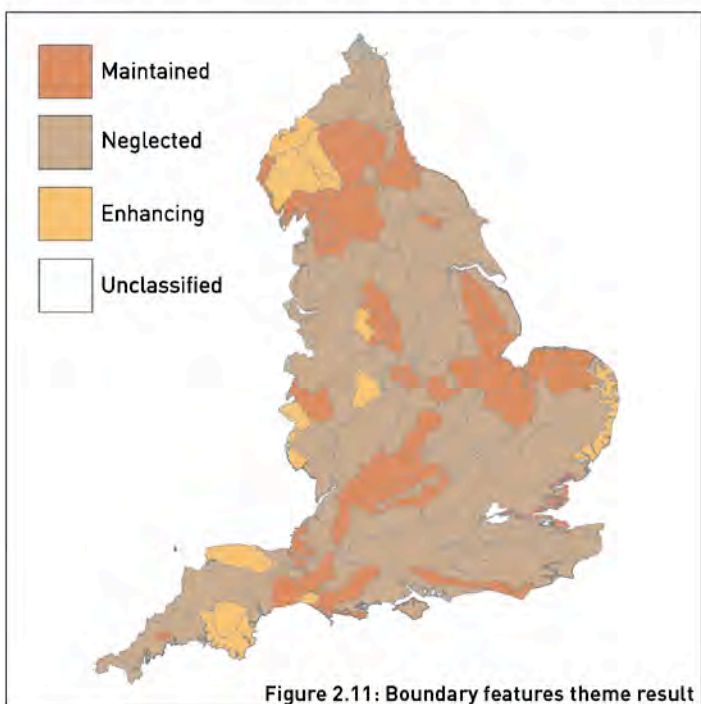
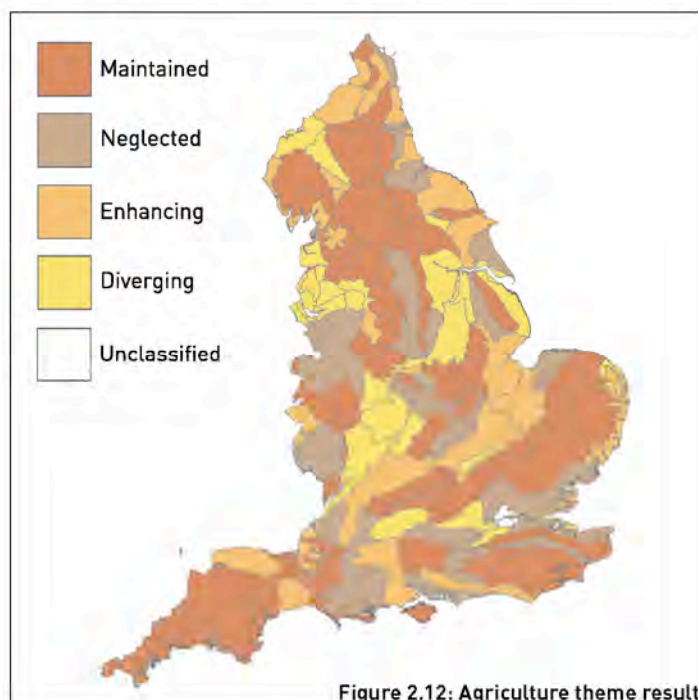


Figure 2.10 shows the analysis for **woodlands and trees**. The analysis suggests that between 1999 and 2003, **the majority of JCAs (85%) were assessed as either maintained or enhancing** in terms of the recent patterns of planting (on land outside the Forestry Commission Estate), and the uptake of management agreements through the Woodland Grant Scheme. The remaining areas were all assessed as 'neglected'. These were mainly to be found in the south west (Cornish Killas, Devon Redlands, Blackdowns and the Vale of Taunton) and in the north west (Lancashire and Amounderness Plain and Lancashire valleys).



The results obtained for **boundary features** are shown in Figure 2.11. In contrast to woodlands, **the majority of JCAs (64%) were assigned to the 'neglected' category**, because the evidence suggested that the character of boundary features have been eroded in the past and that uptake of agreements to restore or manage features was limited in comparison to the total stock of features within the area.

As Figure 2.11 shows, there are some JCAs where the character of boundaries appears to have been maintained or enhanced; the North West and the areas of eastern England around the Wash stands out as a major block of JCAs where the quality of the resource appears to have been sustained.



The patterns of change observed for the **agricultural landscape** are shown in Figure 2.12. **The majority of JCAs (64%) showed patterns of change consistent with maintaining or enhancing landscape character.** There are a substantial number of JCAs that showed no signs of reversal of past losses, or where change continued to transform the character of the area. The areas classified as neglected or diverging tend to be concentrated in central and southern England; the West Midlands stand out as a major concentration of JCAs which show such patterns of change.

Figure 2.13 shows the assessment for **settlement and development**. This theme differs from the others in that JCAs were only assigned to two of the four categories: 'maintained' or 'diverging'. Thus the JCAs were grouped according to whether development patterns appeared to be significantly transforming character or not. **The majority of JCAs (61%) were classified as diverging.** Most of the JCAs where the character was classified as maintained were associated with the uplands or the protected landscapes of the National Parks. For the majority of JCAs a new character of settlement and development is emerging.



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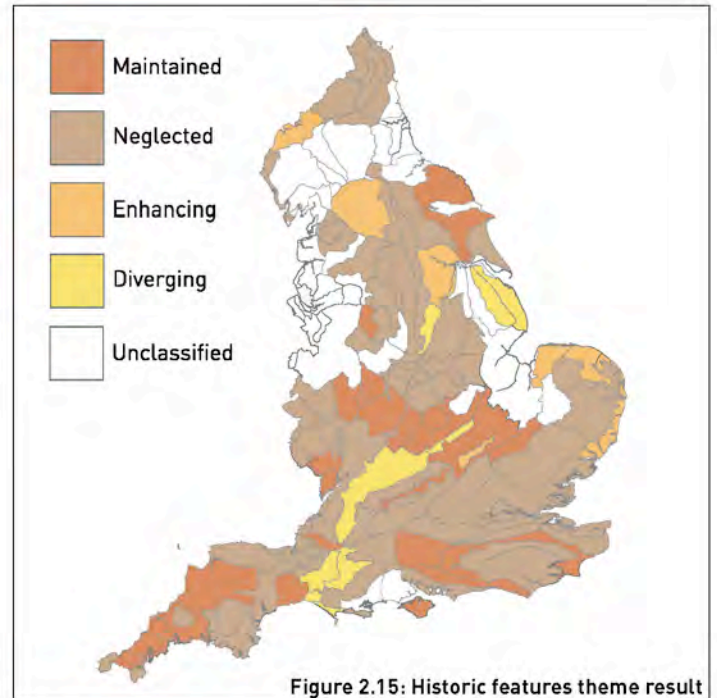
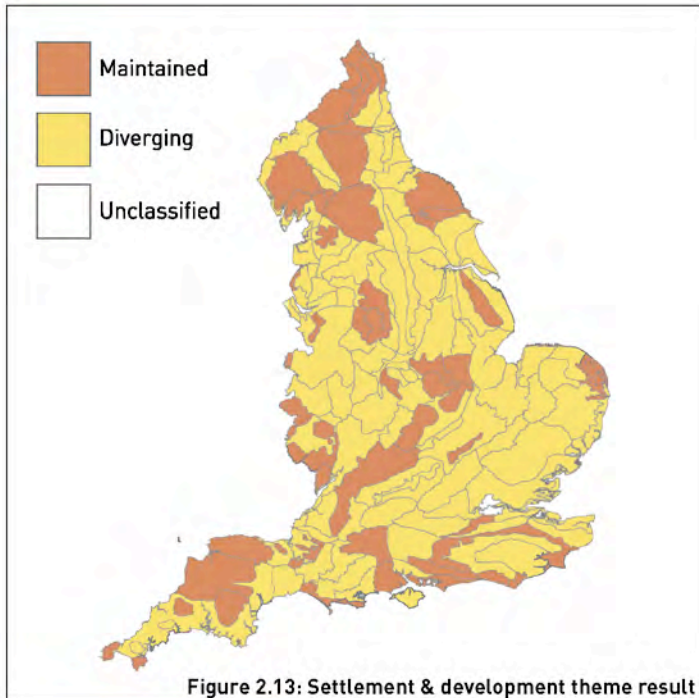
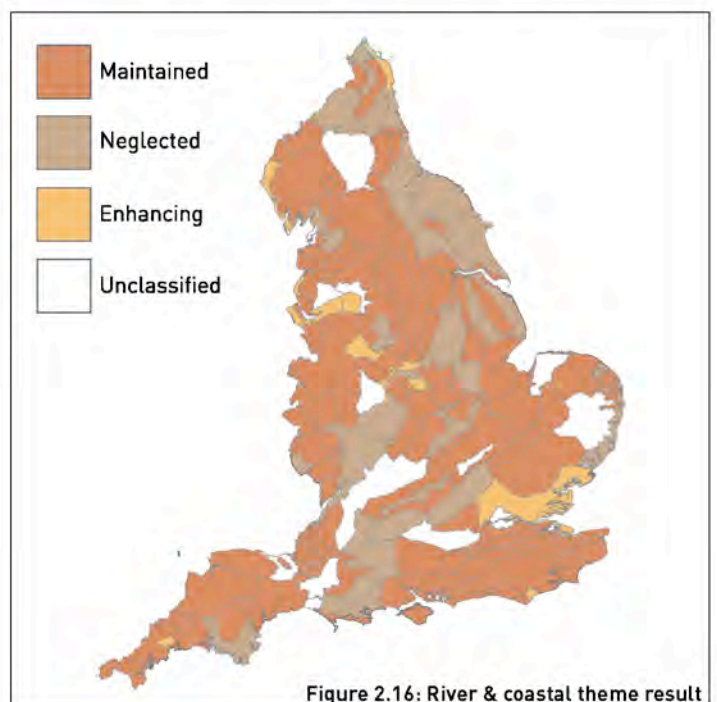
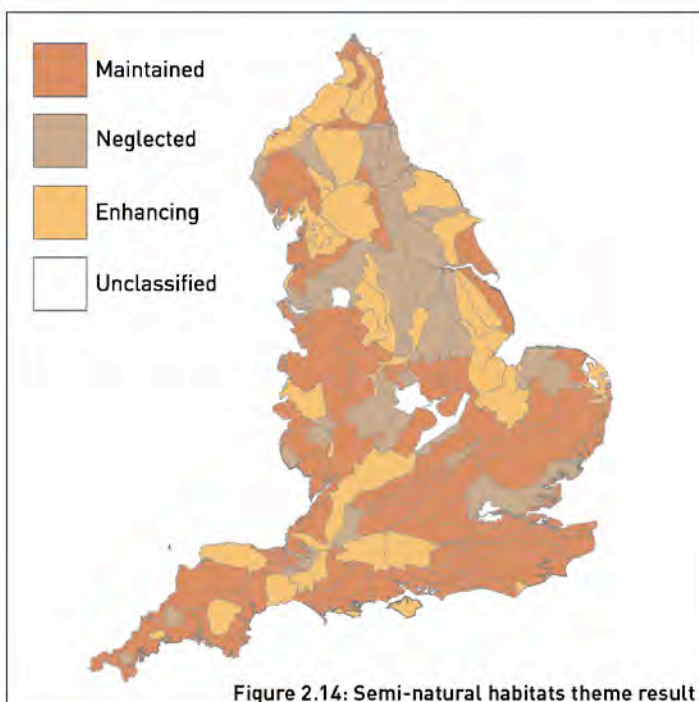


Figure 2.14 shows the assessment for **semi-natural** features. On the basis of such factors as the condition of SSSIs and the uptake of Countryside Stewardship and Environmentally Sensitive Area agreements for semi-natural elements, about **3 out of 4 JCAs were assessed as having their character maintained or enhanced**. The remainder were all classified as showing signs of neglect. These were mainly to be found in a block extending from the East Midlands through the Yorkshire and Humberside Region into the North East.

Of all the themes assessed, the **historic** was the most problematic in that in a number of cases insufficient data were available to make an assessment. Thus 23% of JCAs were unclassified (Figure 2.15). **For those where an assessment was considered possible, the majority (65%) were assigned to the 'neglected' category**. As will be explained in Part 5, it should be noted that the range of information for historic character was limited and was mostly related to the uptake of agri-environmental agreements for historic parklands and historic



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farm buildings. Those JCAs where the evidence suggested that character was being maintained or enhanced were mainly to be found in central England and the South West.

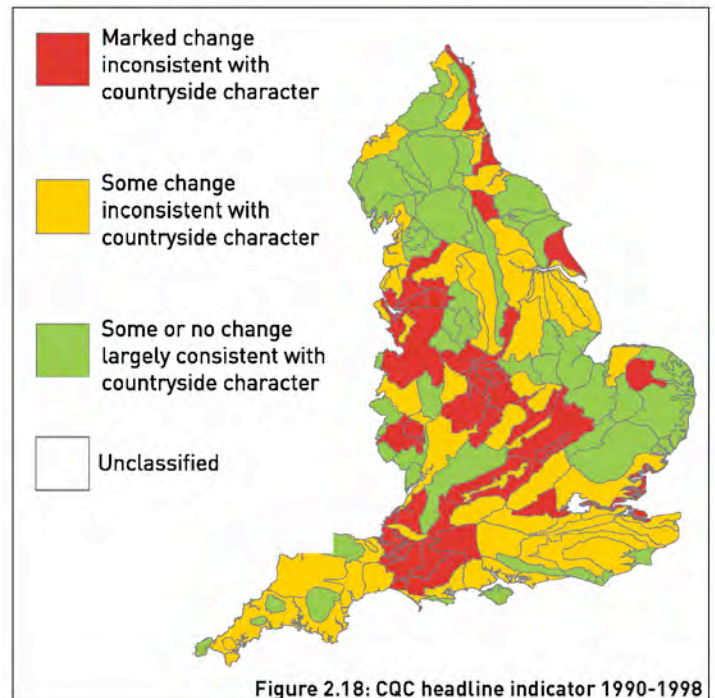
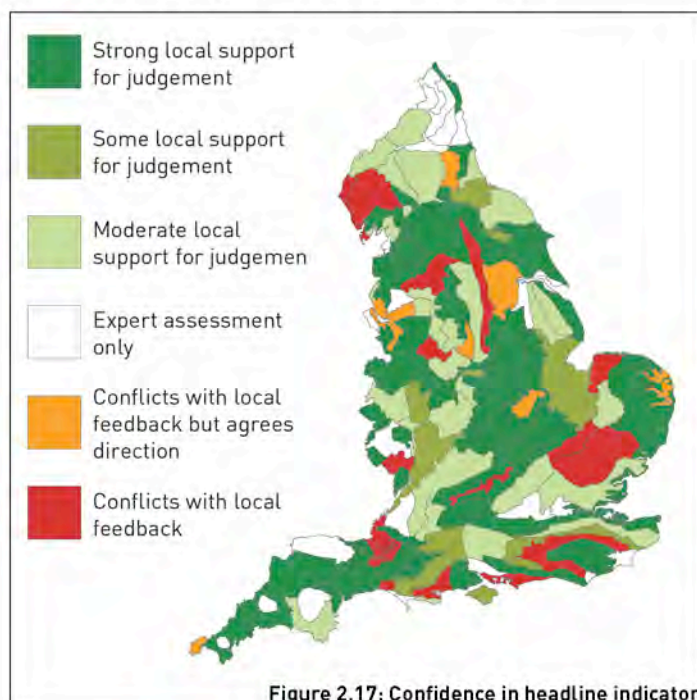
The final theme considered in the CQC assessment related to **river and coastal features**. As in the case of historic character, the range of information available to the project team was sometimes limited, although for only 10% of the JCAs considered was no assessment attempted. The assessment was largely based on changes in the chemical and biological quality of rivers and streams, SSSI condition and the uptake of agri-environmental agreements for the management or restoration of riverine or coastal features. **The majority of JCAs (64%) (Figure 2.16) showed changes that appeared to suggest that character was being maintained or enhanced.** All of the remainder were classified as neglected; these JCAs appeared to lie in a belt extending through south and central England, northwards through the Yorkshire and Humberside region and the North East.

2.6 Testing the Reliability of the Assessment

Parts 3 and 4 of this report describe the key stages of the analysis that led to the results shown Figure 2.17, and how they were tested through consultation with people who knew each JCA well. The process of consultation enabled agreement between the method and expert opinion to be tested as a measure of reliability.

The inset map in Figure 2.17 shows the level of agreement between the final judgement made by the CQC method and the expert opinion.

Independent observers, as represented by the consultees, agreed with the assessment made by the Project Team about the magnitude and direction of change in roughly 88% of cases. This suggests that the CQC method is reliable. Further details of the results from testing agreement are given in Part 3.



2.7 A Comparison with the First CQC Assessment

The matrix used to classify the JCAs for the second CQC assessment differed from that used for the period 1990-1998 in that the earlier groupings were much simpler and the analysis of change was based only on the original JCA descriptions. Nevertheless, the results of the two assessments can be compared to detect longer term changes in character.

To make the comparison between the two assessments, it is necessary to re-express the results of the earlier assessment using the categories devised for the most recent analysis. Those JCAs showing consistent change between 1990 and 1998 would be classified as either **maintained** or **enhancing**, while those showing inconsistent change would be described as **diverging** or **neglected**. Thus the equivalent 'headline result' for 1990-1998 would be that:

- about 36% (56) of JCAs were stable or showed changes that were consistent with either maintaining or strengthening their character
- about 64% (100) were diverging, in the sense that they showed marked patterns of change that were transforming or eroding the elements that made them distinctive

Comparison between the results of the two periods showed the number of JCAs with patterns of change that either **maintain or enhance character has increased from 36% to about 61%**, while the number with signs of **neglect or loss of character appear to have decreased**.

This suggests that the character of the English landscape is being sustained.



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Part 2: Our Changing Landscapes 1999-2003

Of the 56 JCAs that were assessed as limited or no change consistent with character in the first assessment, 54 have been classified as 'enhancing' or 'maintained' for 1999-2003. There is therefore a good level of consistency between the two assessments in terms of longitudinal trajectories. The two JCAs that show some erosion of character since 1998 were the Eden Valley (JCA 9) and Durham Coalfield Pennine Fringe (JCA 16). In both cases this appeared to be related to the impact of development, although in the Eden Valley agricultural change was an additional factor.

Of the **100 JCAs that showed marked or some change that was inconsistent with character** between 1990 and 1998, **42 of them showed some slowing or reversal of this trend since 1999**. In the second assessment these JCAs were classified as either maintained or enhancing. As Figure 2.19 shows, these JCAs were predominantly in the central and southern parts of England.

The remaining **58 areas that experienced marked or some change inconsistent with character up to 1998, continued this trend through to 2003**. The JCAs falling into this group occur in a broad belt running from the South West of England northwards, and show a particular concentration in the West Midlands, Yorkshire and Humberside Region and the North West.

The first CQC assessment was exploratory and its methodologies were refined for the second assessment; hence differences between the two headline results could be expected. Not all of the differences can be attributed to changes in analytical approach, however. In part, the differences may reflect the fact that given a longer term perspective, we can be more certain about trends. In this sense we can be more confident about the second assessment than the first. Nevertheless, it is also clear that with the wider uptake of agri-environmental and woodland management agreements, and changes in the patterns of agricultural land cover apparent since 1999, the reversal of fortunes for the JCAs that previously showed trends inconsistent with character is probably a real feature of the analysis rather than an artefact of any changes in methodology.

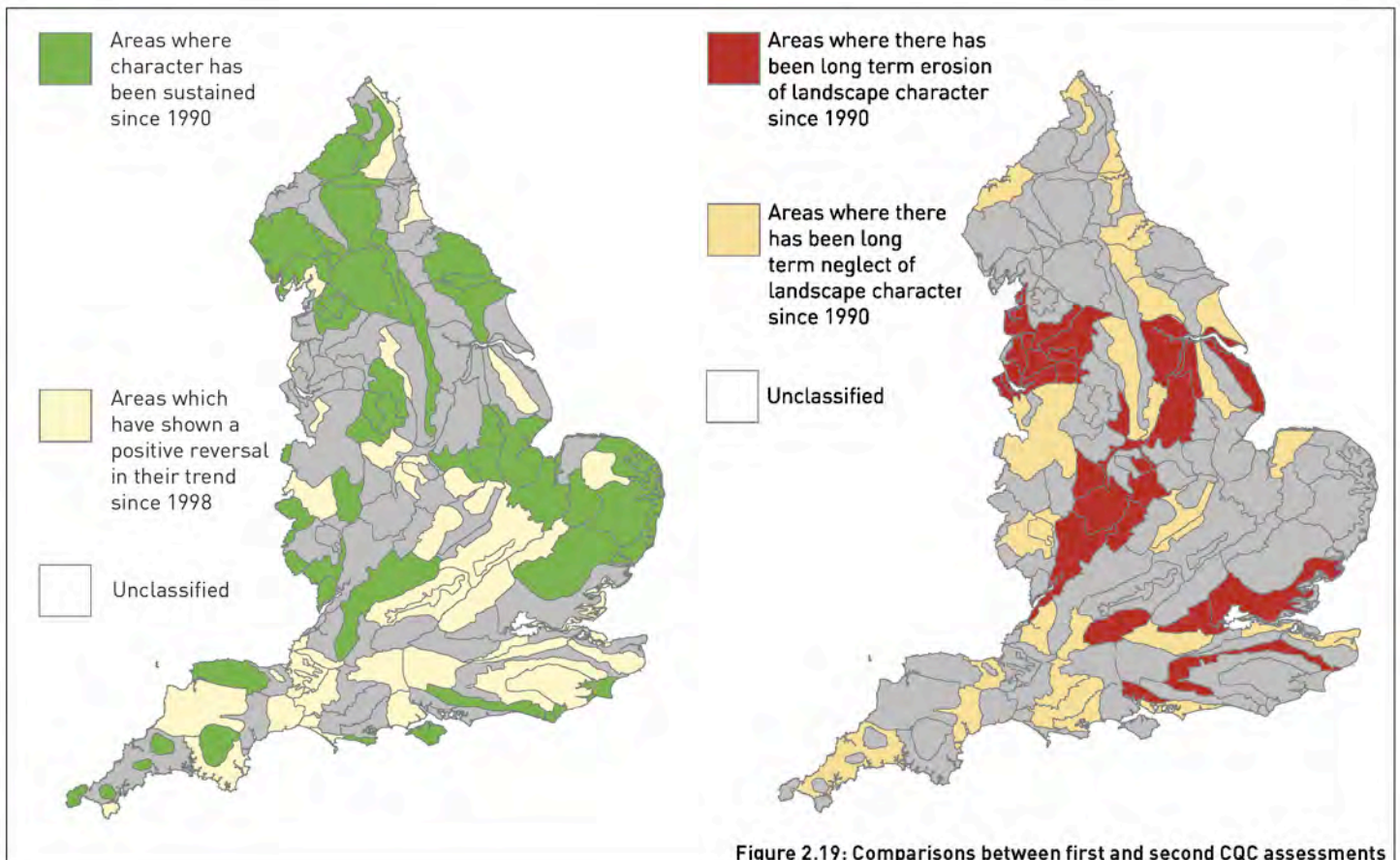


Figure 2.19: Comparisons between first and second CQC assessments

Part 3: An Overview of the CQC Methodology



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3.1 Introduction

The analytical approach for CQC was the same as that developed during the first phase of the study that was completed in 2004. The earlier project explored alternative approaches and made recommendations about the most appropriate way forward¹.

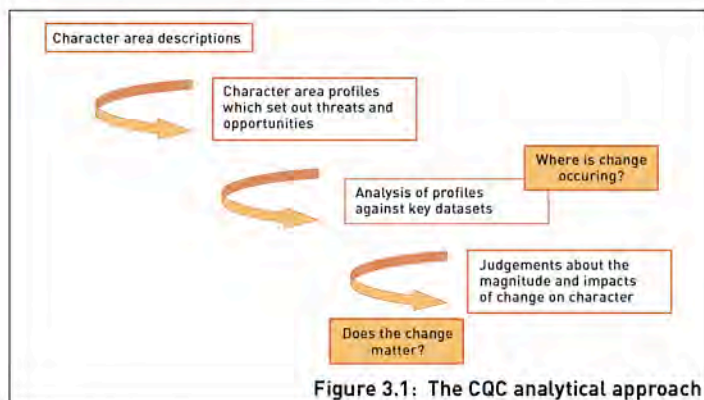


Figure 3.1: The CQC analytical approach

Figure 3.1 provides an overview of the stages of work that lead up to the production of the finalised profile for each JCA. Four key steps were involved:

Stage 1: Drafting the JCA Profile

Stage 2: Reviewing the draft Profile

Stage 3: Making the analysis

Stage 4: Testing the results

Various materials were available to build a *profile* of each JCA that could be used for the subsequent *analysis*. They also helped the project team to identify what kinds of data were most useful for monitoring any change in landscape character.

The set of profiles, which contain the statements used to judge change, are available on the CQC website and provide a systematic overview of the features that distinguished each JCA. They are called profiles to distinguish them from the original set of JCA descriptions published by the Countryside Agency, and to emphasise they include statements and have a distinctive role in this method for assessment of change.

Each of these steps is described in the rest of this section and the role of the consultation processes is highlighted.

3.2 Stage One: Drafting the JCA Profiles

Each JCA profile is built around a set of criteria expressed as statements about what makes each area distinctive, what types of change would sustain or strengthen their character, or alternatively what types of change might erode or transform it.

The statements making up each Profile were derived from several independent sources. The published character area descriptions formed the basis of each Profile. These were useful because they described the key features of each area and highlighted the

impacts of recent change (up to 1995) in each JCA, and identified the threats and opportunities for the future. Since the original character area descriptions were published in the late 1990s, the insights they provided needed to be updated and where necessary extended.

The statements derived from the original character area descriptions were augmented with materials from:

- Guidance notes developed by Defra for the Environmental Stewardship Scheme
- 'Fine grained' landscape descriptions created by the Countryside Agency to inform targeting of Environmental Stewardship
- Descriptions of the historic features of each JCA created specifically for CQC by English Heritage²

The complete set of statements making up each draft Profile were initially edited and refined by the project team and then reviewed by a programme of web-based consultation with landscape professionals who had good, evidence-based knowledge of each JCA.

3.3 Stage Two: Reviewing the Draft Profiles

The first round of consultation on the draft profiles ran from September to December 2005. It aimed to check that the statements making up the Profile were up-to-date, valid and comprehensive. The consultation process informed people about the development of JCA Profiles and how they were to be used to make an assessment of change. The consultees were invited to review and modify the content so that a robust assessment framework could be developed.

The consultation materials organised the statements about the distinctive characteristics of each area around the seven landscape themes that were to be used for the analysis. During the drafting process, the statements were phrased to highlight either the potential threats to existing character or the opportunities that existed for restoring or strengthening landscape character. Under each theme, the statements were grouped according to whether they mainly referred to past or future change. The first group of statements were listed under 'changing landscapes' while the second were referred to 'landscape visions'. This treatment was necessary given the different sources for the initial set of statements. Some statements referred to recent change and the implications for character that have arisen. It was important to check with consultees that these issues remained relevant. Other statements were more 'aspirational', referring to need to restore or strengthen character through some future type of intervention. The current relevance for these statements was again checked through the consultation process.

Consultees were also provided with maps of each JCA, showing landform, topography and major rivers. They were asked to comment on variation within each area, using a set of sub-zones created by the Countryside Agency as part of work to help inform targeting of the new Environmental Stewardship scheme. Consultees were asked to comment on the significance of each

¹ The results of this work are fully documented and can be found in the archive section of the CQC website at www.cqc.org.uk

² The original versions are available via the project website at www.cqc.org.uk



Part 3: An Overview of the CQC Methodology

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Theme	Dataset	Status and comment
1. Trees and woodland	1.1. NIWT National Inventory of Woodlands and Trees	Updates of the NIWT are available through to 2002, thereafter status of data product is being reviewed. Will supplement 2002 version with WGS data on new planting from other sources for 2003 assessment
	1.2. AW Ancient Woodland Inventory	Not revised
	1.3. WGS Woodland Grant Scheme Data	Updates available until 2004
	1.4 EN Habitat Inventory Data	Gives status of higher value woodland for assessment of WGS coverage of key woodland resources
	1.5 FC Legal ownership	By exclusion defined extent of woodland eligible for WGS
2. Boundary features	2.1. Countryside Survey 2000	Data used for descriptive purposes
	2.2. Countryside Stewardship Monitoring	Data will be available in disaggregated version, with agreement information provided on a holding basis.
	2.3. ESA Monitoring	Data will be available in disaggregated version, with agreement information provided on a holding basis.
3. Agriculture land cover	3.1. Agricultural Census	Data will be disaggregated by JCA
4. Settlement & development patterns	4.1. Land Use Change Statistics (LUCS)	Updated to for period 1999-2003
	4.2. 2001 Urban Boundaries	2001 boundaries used as reference
	4.3 Post Office Address File	Barn conversions
	4.4. Rural Urban Morphology	2001 version used as baseline, with recalculations for 1998 and 2003 to provide an understanding of the locations of change at peri-urban fringe.
	4.5. Wind Farms	Updates available from British Wind Energy Association, and OS X-Point.
5. Semi-natural habitats	5.1. LCM 2000	Used as reference only to cross check percentage of semi-natural cover
	5.2 Countryside Stewardship & ESA agreements	Disaggregated by JCA
	5.3. SSSI Condition	Updates used where available
	5.4 EN Habitat Inventory	Distribution of valuable habitats and coverage by CSS and ESA agreements
6. Historic features	6.1 Farm Buildings at Risk	Available at JCA level
	6.2 Historic Parks	Available for 1918 and 1995
	6.3 Countryside Stewardship & ESA	Disaggregated by land holding
7. River & coastal features	7.1 Countryside Stewardship & ESA	Disaggregated by JCA
	7.2 National River Water Quality Monitoring	Available on an all England basis
Contextual data	<ul style="list-style-type: none"> • OPDM urban areas • JCA Designated Area, LFA boundaries, landscape nature protection (SSSI, NNR) • Extent of common land • Extent of Access Land 	Used for statistical background

Figure 3.2: Key data sources

Part 3: An Overview of the CQC Methodology



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statement for the JCA as a whole and for each of the sub-zones, choosing from the categories 'Key', 'Secondary' and 'Not Applicable'. Against each statement, they were asked to provide local evidence and comments to support their judgement.

The final section of the consultation concluded with a section to capture ideas about future landscapes. Consultees were invited to consider the key drivers of change and to describe 'best case' and 'worst case' scenarios for each JCA in 2025. This information was collected together and is now available via the CQC website, but it has not been used as part of the CQC analysis that is presented here.

3.4 Stage Three: The Analysis

An extensive review of existing data sources was made to determine their suitability for assessing change. The work focused on the extent to which data sources could be used to track change over time for each of the landscape themes, and whether these data could be disaggregated to at least JCA level.

The review showed that while no single dataset supplied all the information needed to make an assessment for each theme, different combinations of datasets could be used to explore different aspects of landscape character so that an overall assessment might be made.

Figure 3.2 shows the key data sources used for the second CQC assessment. In general these were the same as those employed for the first assessment, although some of the processing methods were revised and improved.

The data are mainly available on an annual basis, and so the trends can be monitored periodically. For the purposes of assessing the significance of change in terms of existing landscape character, it was decided that CQC should look initially at the period 1990-98, mainly to test concepts and approaches, and subsequently consider the period 1999-2003. It was decided to use 2003 as the cut-off because there is a lag in the publication of some of the datasets and this year represented the latest

point in time. It was considered important to assess the period up to 2003 because the information could be used as a base-line against which the landscape outcomes of the new Environmental Stewardship Scheme, which began in 2005, can be judged.

Using the statements in the JCA profiles as a framework, tabular and spatial data were prepared by extracting data from the different thematic sources, to determine whether the changes observed were consistent or inconsistent with the overall vision for the JCA captured in the various statements.

The finalised profiles for each JCA contained a summary of the results of the analysis made against each statement, and linked the materials to an underlying 'evidence file' for each JCA that gave a more complete view of the data. (These are available via the CQC website³.)

Once the analytical material had been assembled against each statement in the Profile, an overall assessment was made of the changes exhibited. Firstly each of the seven landscape themes was assessed and classified as either 'Maintained', 'Enhancing', 'Neglected' or 'Diverging'. In a number of instances it was not possible to make an assessment; in these circumstances the theme was left unclassified. Once this process had been completed an aggregated assessment was made for each JCA as a whole, based on which of the themes were most important or key, given the character of the area concerned (Figure 3.3).

For each JCA the 'default' position was that the overall assessment was mainly based on three 'key' themes: trees and woodland, agriculture land cover and settlement and development patterns. This was because these themes are spatially most extensive, and are therefore likely to contribute the most to the character of a JCA. However, where semi-natural cover was extensive (>10%) this was also treated as being 'key'; and where local feedback suggested that one of the other themes ought to be given greater weight, such as river and coastal features in an estuarine JCA, this was also considered.

Final Second Overall Assessment	Bedfordshire Greensand Ridge (JCA 90): Maintained	Border Moors and Forests (JCA 5): Enhancing	North West Norfolk (JCA76): Neglected	Lancashire and Aounderness Plain (JCA 32): Diverging
Trees and Woodland	Maintained (key)	Maintained (key)	Maintained (key)	Diverging (key)
Boundary	Neglected	Neglected	Maintained	Diverging (key)
Agriculture	Diverging (key)	Enhancing (key)	Neglected (key)	Maintained
Settlement and Development	Maintained (key)	Maintained	Diverging (key)	Diverging
Semi-Natural	Neglected	Enhancing (key)	Neglected	Maintained
Historic Features	Neglected	Unclassified	Maintained	Neglected
River and Coastal	Unclassified	Neglected	Unclassified	Neglected

Figure 3.3: Illustration of how final assessments were made

³ www.cqc.org.uk [accessed 01.05.07]



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Part 3: An Overview of the CQC Methodology

When assigning a JCA to an assessment category, the approach was to use a 'majority rule' (JCAs 90, 5 and 32, Figure 3.3), or if the themes were spread across the classes, to choose the 'mid-point'. For example, where there were three key themes, and they were enhancing, maintained and diverging, the judgement would go with 'maintained'. Similarly, if the three were 'maintained', 'neglected' and 'diverging', then the JCA would be classified as 'neglected' (e.g. JCA 76, Figure 3.3).

A more detailed account of the methods used to make an assessment of change in relation to character for each of the seven landscape themes is given in Part 4 of this report.

3.5 Stage Four: Testing the Results

The second round of consultation ran from August to October 2006. The draft results and associated evidence files were made available via the website and consultees invited to comment in light of their local knowledge and evidence. People were asked to consider the significance of any measured change in relation to the evidence provided, and to confirm or suggest amendments to the draft assessments as made by the Project Team.

The consultation was carried out via a purposely structured web-based tool that guided the user through the decision making process. The tool allowed each landscape theme to be reviewed separately. A graphical decision matrix was devised to allow consultees to confirm or amend the draft assessment of each theme using the categories: 'Maintained', 'Enhancing', 'Neglected' or 'Diverging'. In addition, consultees were invited to consider the weighting of the themes and to highlight those themes they considered 'key'. The final screen of the assessment presented two summary grids of the theme assessments, both highlighting key themes. One contained the draft assessment the other the assessment made by the consultee. At this stage consultees were asked to make an overall assessment for the Joint Character Area in question.

The feedback obtained during the second round of consultation was important to judge the reliability or confidence of the final headline result. A detailed breakdown of the level of support obtained for the final JCA assessments is provided in Part 2.6 and Figure 3.4. The details of this consultation are summarised as follows:

- The draft assessment for each JCA was in agreement with local feedback in about 81% (108) of the 133 JCAs for which feedback was available
- For a further 7% (9 JCAs out of 133) there was some disagreement about the assessment, but consensus on the direction of change. It was agreed that the area was either 'maintained' or 'enhancing' and that character was broadly sustained; or in contrast it was agreed that the character of the area remained neglected or was continuing to transform in some way
- Only in about 12% (16 out of 133) of the JCAs was there any marked difference between the final assessment made by the project team and the local feedback obtained
- No feedback was available for roughly 15% (i.e. 23 out of 156) of the JCAs

Final assessment	Strong local support for judgement	Moderate local support for judgement	Some local support for judgement	Conflicts with local feedback but agrees direction	Conflicts with local feedback	Expert assessment only	Grand Total
Maintained	38	16	3	3	11	9	80
Neglected	15	5	2	1	3	5	31
Enhancing	4	5	3	1	1	2	16
Diverging	10	5	2	4	1	7	29
Grand Total	67	31	10	9	16	23	156

To calculate the level of agreement, the proportion of consultees agreeing with the team assessment was calculated. This could be done because in many cases more than one consultee provided feedback on a JCA. If the proportion of agreements was >0.75 , then level of support was judged to be 'strong'; 0.5-0.75 support was judged to be 'moderate'; 0.25-0.5 indicated 'some' support. Outcomes were assessed as a disagreement if level of support was <0.25 . In terms of 'direction', conflicting assessments of 'maintained' and 'enhanced' were considered as an agreement, as were 'neglected' and 'diverging'.

Table 3.4: Level of support for final assessment obtained through second round of consultation

The geographical pattern of feedback is shown in Figure 3.5. In general terms there was a fairly even spread of interest across the regions, although it is apparent that the level of consultation achieved in the North East and South West was lower than that achieved elsewhere.

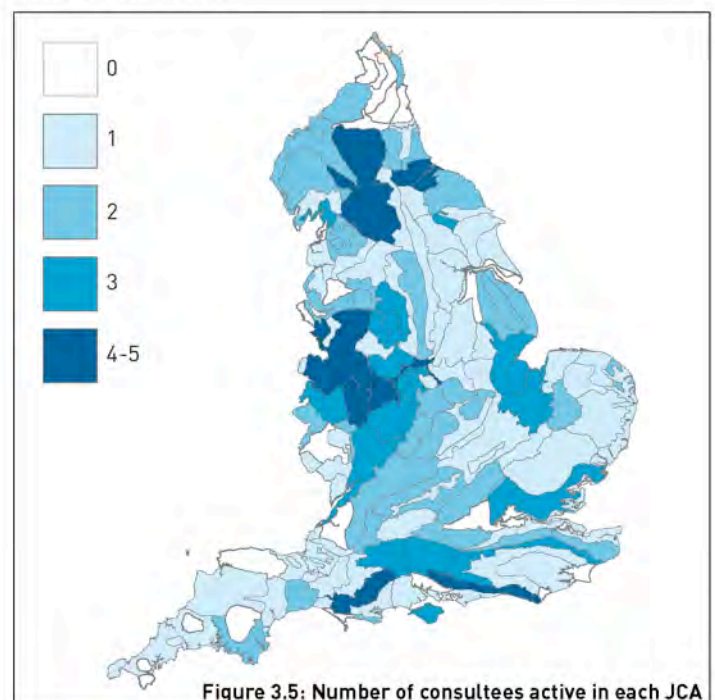


Figure 3.5: Number of consultees active in each JCA

Part 3: An Overview of the CQC Methodology



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The comments received were screened to eliminate any factual or logical errors in the draft results and associated evidence, before the team assessment was reconsidered. On the basis of the feedback the team assessment was retained or revised. **The assessments for 24 of the JCAs (15%) were changed as a result of the consultation process.** As Figure 3.5 shows, for some JCAs more than one person provided feedback. In some cases local opinion about the final assessment was split, and so a change in the team's assessment could still be supported by local feedback or conflict with it. The comparison provided in Table 3.4 gives the match between the final revised assessments and the level of support they had from local feedback.

3.6 The Importance of Consultation

From the outset of the project, it was recognised that although the CQC assessment method was based on the analysis of quantitative data, the final judgements about the magnitude and direction of change were qualitative. Since it is possible that other people may interpret the underlying evidence differently, it was important that the analysis undertaken by the CQC team was tested, so that the overall agreement with the headline result could be determined. Thus the two phases of consultation described above, to review the landscape profiles and to test agreement with the results of the applied CQC assessment method, were a very important element in the overall methodology.

Each stage of consultation was open to all, but some effort was made to target those involved in countryside planning and landscape management. Letters of invitation were therefore sent out to the following groups:

- Local authority planners and countryside officers
- National Park and AONB officers
- Government agency specialists
- Landscape Character Network
- National Heritage Landowners Group

The consultation was also widely publicised in landscape and environmental publications, newsletters and networks so that the circle of consultees could be expanded. Telephone contact was made with local stakeholders in an effort to stimulate interest in areas where less response to invitations was forthcoming.

In total 434 consultees (both individuals and organisations) registered for the two rounds of consultation, with 169 joining after August 2006, and thereby participating only in the second round. Figure 3.6 provides a breakdown of the different groups of people who participated in both phases.

In the first round of consultation comments were received on the statements describing the character of the thematic elements for 140 (90%) of the JCAs. In the second round of consultation comments were received on the final assessment for 133 (85%) of the JCAs. Within the group of 23 for which no feedback on the final assessment was available, only 5 JCAs were not examined by consultees. The other 18 had been examined at the theme level, but the consultation contribution had not been finalised in terms of making the overall judgment for the JCA.

Stakeholder Group	No.
Local Government (Planning Departments)	153
Government Agencies	117
Designated Landscape Teams (AONBs and National Parks)	48
Private sector organisations	40
University / Research Institute (UK and International)	26
Local interest group (e.g. County Wildlife Trusts)	21
Landowner / Agent	19
National NGO	5
Regional Government	3
General Public	2
Total	434

Figure 3.6: Consultee responses by sector



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Part 4: Landscape Theme Analysis and Assessment Protocols

4.1 Introduction

This part of the report provides a more detailed account of the datasets used and how they were analysed to determine magnitude and direction of countryside change. The material is organised around the seven landscape themes that were used to structure each JCA Profile.

4.2 Trees and woodland

The key datasets used for woodlands were:

- the Forestry Commission's National Inventory of Woodlands and Trees (NIWT)
- the Woodland Grant Scheme (WGS) Database.

Further contextual data on woodlands were provided by the Ancient Woodland Inventory, the Community Woodland Boundaries and information on the extent of land within the Forestry Commission estate.

While NIWT was a 'one-off survey' made by Forestry Commission (that was intended to show the distribution and character of woodland parcels greater than 2ha across Great Britain for the target date of 1999/2000), updates are published showing where new woodland planted through the WGS are located. Additionally, the base-line dataset identified where planting in the last 10 years had probably taken place¹.

The NIWT and WGS databases are important sources of information that can be used to monitor the planting of new woodland and the character and management of the existing stock. It must be recognised that both only give a partial picture. For example, neither dataset provides information about woodland loss. In the CQC analysis it has been assumed that losses of woodland to other land cover types have been limited or only locally significant over the period considered. In addition, the WGS database gives information on planting and management of woodlands that are outside the Forestry Commission Estate and within the Scheme. It has not been possible to take account of trees planted on private land outside WGS (although a note is made of the management of orchards using Countryside Stewardship and Environmentally Sensitive Areas data), and the analysis takes no account of any new planting carried out by the Forestry Commission since the initial publication of NIWT, because these have not been included in any subsequent NIWT updates.

Box 4.2 describes the assessment criteria used to determine whether the character of woodlands found in each JCA was being maintained, enhanced, neglected or diverging. If new planting exceeded 5% of the existing stock, then a significant change was recorded for the JCA. Similarly, if the area of management agreements exceeded 30% of the eligible stock, then the woodland theme was assessed as maintained or enhancing. The cut-offs served to distinguish between areas at either end of the spectra for 'change' and 'management'. The final assessment of magnitude was always grounded upon a detailed understanding of the character of each area, and was tested through a process

of consultation. A 5% change in a well-wooded area, for example, would be far less significant for character than a similar change in a less well-wooded landscape. Local knowledge was used to determine how important the individual themes were to the overall character of each JCA.

Box 4.2: Assessing the trees & woodland theme

Woodland character within each JCA was judged to have been:

Maintained, if the JCA profile indicated that:

- Woodland cover was largely intact
- The main issue for the JCA was the need for better woodland management and the coverage of WGS schemes was high (greater than ~25% of NIWT non FC stock)

Neglected, if the JCA profile indicated that:

- Woodland cover was intact or could be expanded
- The area covered by management agreements had not increased substantially or declined, or a substantial area of new trees had not been added (less than ~5% of existing stock)

Enhancing, if the JCA profile indicated that:

- Woodland cover was intact or could be expanded
- The area covered by management agreements had increased substantially, or a substantial area of new trees had been added (> ~5% of existing stock)

Diverging, if the JCA profile indicated that:

- Woodland cover was intact or that additions to woodland were not appropriate
- Woodland cover had increased substantially and that patterns of new planting were inconsistent with the aspirations recorded in the JCA Profile

Example of commentary for trees and woodland from JCA 69: Shropshire Hills. Information on WGS uptake was used to assess management status of eligible stock. In 1999 about 13% of the established eligible NIWT stock was covered by a WGS management agreement. In 2003 the proportion of established, eligible NIWT stock was about 27%. Thus the character of the resource has probably been enhanced.

4.3 Boundary features

For boundary features the datasets used were:

- Natural England's Countryside Stewardship (CS) and the Environmentally Sensitive Areas (ESA) schemes
- formation from the field element of Countryside Survey 2000

The boundary features were one of the most difficult individual landscape themes to assess within the CQC project, because while they are an important determinant of landscape character,

¹ For the NIWT base-line survey, parcels were assigned to 'young trees' if the air photography suggested that they were likely to have been planted in the 10 years prior to survey; for the updates, 'young trees' are the parcels in which new planting has been approved under WGS.

Part 4: Landscape Theme Analysis and Assessment Protocols



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there is limited national base-line information on the extent of existing stock, past losses and current condition. The assessment therefore mainly depended on the construction of a response-type indicator based on the uptake of management agreements between 1999-2003 through the Countryside Stewardship (CS) and the Environmentally Sensitive Areas (ESA) schemes. Background information from the field element of Countryside Survey 2000 was used to estimate the total boundary length for each JCA. It should be noted that this is only a crude estimate of stock, since it is extrapolated from sample data and represents only what we might expect 'on average' for the kinds of landscape expected within the JCA. These data could be used to indicate roughly what proportion of the total boundary stock might be covered by an agri-environmental scheme. A 1% threshold was used to judge whether the proportion of the stock covered by some kind of management agreement was 'significant'.

Box 4.3 describes the assessment criteria used to determine whether the character of boundary features found in each JCA was being maintained, enhanced, neglected or diverging.

Box 4.3: Assessing the boundary features theme

The character of boundary features within each JCA was judged to have been:

Maintained, if the JCA profile indicated that:

- The present stock of boundaries was intact and coverage of CS and/or ESA agreements was high (>1% of the boundary stock)

Neglected, if the JCA profile indicated that:

- Boundary loss had occurred or poor boundary management was an issue, and coverage of CS and/or ESA agreements was low (<1% of the boundary stock)

Enhancing, if the JCA profile indicated that:

- Boundary loss had occurred or poor boundary management was an issue, and coverage of CS and/or ESA agreements was high (>1% of the boundary stock)

Diverging, if the JCA profile indicated that:

- Boundary loss had occurred or poor boundary management was an issue, and coverage of CS and/or ESA agreements was lacking or inconsistent with the visions implied by the Profile

Example of commentary for boundary features from JCA 21: Yorkshire Dales. The uptake of Countryside Stewardship agreements for boundary features was used to indicate likely condition. There has been significant uptake of agreements for the management and restoration of hedgerows and walls. The estimated boundary length for the JCA is about 8987km. Total length of agreements between 1999-2003 is equivalent to about 5% of this total. The resource has probably been maintained.

4.4 Agriculture

The datasets used for agricultural land cover were:

- Defra's June Agricultural Survey (formerly the June Agricultural Census)
- Environmentally Sensitive Areas (ESA) schemes

The assessment of change in the character of the farmed landscape was mainly based on the June Agricultural Survey (formerly the June Agricultural Census), which was disaggregated to JCA level for the purposes of the study. The Survey gives a picture of the extent of the main agricultural land cover types (e.g. 'rough grass'), and the number of holdings of different size and holding type classes (e.g. 'cereal holdings', or 'holdings >100ha' in size). The information was supplemented by data from Countryside Stewardship and Environmentally Sensitive Areas agreements, to determine the extent of management or restoration of the semi-natural cover types associated with the farmed landscape.

Box 4.4 describes the assessment criteria used to determine whether the character of the agricultural landscape in each JCA was being maintained, enhanced, neglected or diverging.

Box 4.4: Assessing the agriculture theme

The character of the agricultural landscape was judged to have been:

Maintained, if the June Agricultural Survey showed that:

- The present mix of cover and holding types were consistent with the Profile and had not changed substantially since 1990

Neglected, if the June Agricultural Survey showed that:

- Trends since 1999 had not reversed past losses of land cover (e.g. more than 5% decline of grassland area between 1990 and 1998), and the JCA remained in a condition that was at variance with the desired character of the area

Enhancing, if the June Agricultural Survey showed that:

- The present trends in cover and holding types were re-establishing a pattern that had previously been lost or eroded (e.g. by the expansion of grassland area, which had declined between 1990 and 1998)

Diverging, if the June Agricultural Survey showed that:

- Trends since 1999 continue to transform the character of the area (e.g. if grassland loss continues and the pastoral quality of the area has been highlighted as an important characteristic)

Example of commentary for the farmed landscape from JCA 98: The Clun and North West Herefordshire Hills. The Agricultural Census was used to track major changes in agricultural land cover. JCA 98 show that the mix of cover types have been fairly stable, suggesting that character has probably been maintained.



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Part 4: Landscape Theme Analysis and Assessment Protocols

The assessment took account of the fact that due to the nature of the Agricultural Survey, holdings may report on land held outside an individual JCA. This is mainly a problem for small JCAs and was evident, for example, along the Scottish border, where one area reported a total cultivated area in excess of its size. The assessment also took account of changes in the design of the Survey. For the period covered, this mainly related to the inclusion of smaller, non-economic holdings since 2000. Most JCAs showed marked increases in the 'small' and 'other' types of holding which have been recoded as a result of this inclusion. This trend did not necessarily reflect the growth of small, non-economic units, nor could the data be used to identify any significant differences between areas that might impact on character.

As used for the first CQC assessment, a change threshold of about 5% of the initial stock of grassland in the JCA was used to highlight a significant change. The second assessment also considered the overall trend since 1999, and the extent to which it has restored past losses where these had impacted on pastoral character.

4.5 Settlement and development

For settlement and development patterns the datasets used were:

- DLCCG's Land Use Change Statistics (LUCS)
- Post Office Address files (PAF)

Change in landscape character due to development was mainly assessed using two sources: the Land Use Change Statistics (LUCS) and Post Office Address files (PAF). These were used in conjunction with Office of National Statistics Morphology of Settlement Types to calculate two indicators:

- the share of the national build outside urban and fringe areas
- the rate of conversion to urban.

The data was also displayed in map form, using a 1ha grid, to review the locations of changes, so that, for example, green field development in the open countryside and peri-urban development could be identified and assessed. These data could also be used to identify important developments in relation to the transport network (e.g. The Birmingham North Relief Road in JCA 67).

Information on the number of barn conversions was deduced from the appearance of new addresses in the Post Office Address file containing the word 'barn'. The data were looked at on a unit area basis (number of conversions/km²) to determine the rate of conversions since 1999. The top 50 JCAs were described as having a 'high' rate of conversions, the next 50 as 'moderate', and the remaining set as 'low'. These data can also be used alongside the information available for English Heritage on the proportions of historic farm buildings at risk in each JCA. Information from the British Wind Energy Association on the location of major wind farm developments since 1999 was also used to look at development impacts.

Box 4.5 describes the assessment criteria used to determine whether the character of settlement and development pattern in each JCA was being maintained or enhanced, or was in fact being neglected or diverging.

Box 4.5: Assessing the settlement and development theme

The judgment about the JCA was mainly based on the intensity of development and its location or context. Given the nature of development it may only be 'locally significant' for character. JCAs were judged to be:

Maintained, if the development indicators showed that:

- Development and redevelopment rates were largely consistent with existing patterns of settlement and infrastructure

Diverging, if development and redevelopment since 1999 had a major impact on the JCA either by:

- Expanding the area of urbanization, through the widespread greenfield development in the more rural parts of the JCA (e.g. due to new road links)
- The construction of new infrastructure (e.g. wind farms)

Example of commentary for settlement and development from JCA 89: Northamptonshire Vales.

The assessment was mainly based on the pattern of development observed, and its extent in relation to the size of the JCA. There was a moderately high rate of change to urban and a large share of national build outside urban and fringe. There is development around M1 motorway junctions near to Northampton and around Towcester in association with the upgrading of the A43, and also around Thrapston and Rushton, Desborough and Wellingborough. Thus it was judged that for development the character is diverging, because development continues to transform the character of the area.

4.6 Semi-natural habitats

For semi-natural habitats the datasets used were:

- Natural England's SSSI Condition Monitoring data
- Natural England's Countryside Stewardship (CS) and the Environmentally Sensitive Areas (ESA) schemes

The major information sources used for assessing semi-natural habitats were Natural England's SSSI Condition Monitoring data, and data on the uptake of agreements for semi-natural habitats under the Countryside Stewardship (CS) and Environmentally Sensitive Areas (ESA). The SSSI monitoring data published in 2003 was used to determine the extent of sites in favourable condition or recovering at the end of the CQC assessment period and thus the overall trend in relation to these key environmental assets. CS and ESA data could be used to determine the extent of management activity to conserve various cover types. Care was taken to minimise any overlap or double counting in the assessment by using CS or ESA data in relation to the character of the farmed landscape, or those linked to the historic and coastal themes.

Box 4.6 describes the assessment criteria used to determine whether the character of semi-natural habitats in each JCA was

Part 4: Landscape Theme Analysis and Assessment Protocols



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being maintained, enhanced, neglected or diverging. Where SSSIs covered more than 10% of the JCA area, semi-natural habitats were flagged up as a key landscape theme. This threshold was justified by the observation that once semi-natural cover exceeds this level, it is on a par with woodland, for example, in terms of its overall importance as a factor that shapes the character of a JCA.

Box 4.6: Assessing the semi-natural habitats theme

Focusing only on semi-natural habitats, other than those associated with the farmed landscape and riverine or coastal environments, the JCAs were judged to be:

Maintained

if the area of SSSIs was significant (>10% of JCA area); and the majority of SSSIs were in 'favorable' condition; and/or the uptake of CS or ESA agreements for semi-natural habitats deemed to be important, in relation to the character of the area, was high (> ~5% of the area of rough or permanent grass).

Neglected

if the area of SSSIs was significant (>10% of JCA area); and the majority of SSSIs were in 'unfavorable no change' condition; and/or the uptake of CS or ESA agreements for semi-natural habitats deemed to be important, in relation to the character of the area, was low (< ~5% of the area of rough or permanent grass).

Enhancing

if the area of SSSIs was significant (more than 10% of JCA area); and the majority of SSSIs were in 'unfavorable recovering'; and/or the uptake of CS or ESA agreements for semi-natural habitats deemed to be important, in relation to the character of the area, was high (> ~5% of the area of rough or permanent grass).

Diverging

if the area of SSSIs was significant (>10% of JCA area); and the majority of SSSIs were classified as 'unfavorable declining'; and/or the uptake of CS or ESA agreements for semi-natural habitats was not consistent with those deemed to be important, in relation to the character of the area.

Example of commentary for semi-natural habitats from JCA 110: Chilterns. Uptake of Countryside Stewardship (CS) and ESA agreements was used to help assess the status of semi-natural habitats. CS annual payments for area features is consistently above national average until 2003. The most extensive annual Countryside Stewardship agreements in 2003 were for calcareous grassland (757ha), lowland pastures on neutral/acid soils (568ha), regeneration of grassland/semi-natural vegetation (430ha), lowland hay meadows (327ha), and re-creating grassland on cultivated land. Thus the character of the semi-natural resource has probably been maintained.

A 5% threshold for the area of rough and permanent grass covered by agri-environmental agreements was used to judge significance. This is arbitrary, since there is little information on when uptake is sufficient to restore or sustain a habitat resource. The assumption is that if coverage of agreements exceeds this level, a relatively large proportion of the resource is being managed in ways that would sustain or restore it. The area of rough and permanent grass was used, rather than total agricultural area or area of open countryside, since this was thought to provide a better guide to the extent of 'low intensity' land use within the JCA.

4.7 Historic features

National information on the status of the historic environment is mostly lacking at the present time, especially in relation the extent of monuments and historic farm buildings at risk. Thus this theme has often been left as 'unclassified' when making the assessment. The information available mainly related to the status of historic parkland, which in some JCAs is a significant factor in terms of its historic character, and the proportion of historic farm buildings at risk.

The data available on historic parkland provides information on:

- The extent of parkland in 1918 and the proportional area covered by it in each JCA
- The extent of parkland in 1995 and the loss since 1918
- The area of existing parkland covered by the Historic Parkland Grant or agri-environmental agreements (Countryside Stewardship and Environmentally Sensitive Areas)

The data available for historic farm buildings at risk provides information on:

- The proportion of the current stock (circa 2003) that has not been converted to other use
- The proportion of the current stock that is structurally intact

Where information is available it is provided for each JCA, even if an assessment is not made because the range of data available for the historic resource is limited. Where parklands and historic farm buildings are the main themes covered in the vision statements, an assessment has been attempted.

Box 4.7 summarises the assessment criteria used to determine whether the character of historic landscape in each JCA was being maintained, enhanced, neglected or diverging.



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Part 4: Landscape Theme Analysis and Assessment Protocols

Box 4.7: Assessing the historic features theme

If the area of parkland or stock of historic farm buildings was highlighted as important in the JCA Profile, then change in the overall character was assessed as:

Maintained

if the historic character of an area is already strong and largely intact, and evidence suggested that only limited loss of historic parkland or historic farm buildings had occurred

Enhancing

if the character of the resource represented by historic parklands and historic farm buildings was strong and largely intact, and evidence suggested there had been significant uptake of grant aid for the historic parklands within the area

Neglected

if the character of historic parklands and historic farm buildings had been weakened or eroded by past change, and that little uptake of grant aid to manage or restore them was apparent

Diverging

if the change in historic parkland and historic farm buildings continued to be marked, so that either its distinctive qualities of the historic landscape continue to be lost

Example of commentary for historic features from JCA 110: Wealden Greensand. An important source of information for the historic theme was the fate of historic parkland. In 1918 about 7% of the JCA was historic parkland. In terms of the share of the resource the JCA was ranked 6. By 1995 it is estimated that 51% had been lost. However, about 35% of the remaining parkland is now covered by an Historic Parkland Grant, and about 34% is included within an agri-environmental scheme. In the same JCA rate data on historic farm buildings suggests that only about 56% of historic farm buildings remain unconverted, of which about 93% are intact structurally. Thus overall the historic character was assessed as maintained.

Since many of the JCA profiles made reference to water quality, the CQC team attempted to make an assessment of this theme by using the biological and chemical water quality data available from the Environment Agency. These data are available on a 5-yearly basis and for the purposes of CQC only cover the period 1995-2000. Thus they can be used to give an approximate guide to trends. The EA survey assigns each river reach to a set of quality classes, and over time we can see what proportion of the rivers in an area have improved their quality, remained the same or have lost quality. The data for rivers were processed at the JCA level, and the proportions of total river length in each quality class in 2000 determined.

Box 4.8 summarises the assessment criteria used to determine whether the river and coastal features were judged to have been maintained, enhanced, neglected or diverging.

Box 4.8: Assessing the river & coastal theme

Thus, for each JCA, the river and coastal theme was judged to be:

Maintained

if the river and coastal SSSIs were mainly in 'favorable' condition and/or river water quality was good or excellent and had been maintained or improved, and/or Countryside Stewardship and ESA agreements had targeted significant areas of river and coastal habitats

Enhancing

if the river and coastal SSSIs were mainly 'unfavorable and recovering' condition and/or river water quality had been improved, and/or Countryside Stewardship and ESA agreements had targeted significant areas of river and coastal habitats

Neglected

if the river and coastal SSSIs were mainly assessed as 'unfavorable no change' and/or river water quality was in the lower quality classes and had not been improved, and/or Countryside Stewardship and ESA agreements had not targeted significant areas of river and coastal habitats

Diverging

if the river and coastal SSSIs were mainly assessed as 'unfavorable declining' or 'part destroyed' and/or river water quality had mainly declined, and/or Countryside Stewardship and ESA agreements had not targeted significant areas of river and coastal habitats

Example of commentary for river and coastal features from JCA142: Somerset Levels. Information on changes in biological and chemical water quality was a major source of information for the assessment of the river and coastal theme. It suggests that quality is being maintained. For this area other data suggested that the management of water levels within the ESA is a high priority. About 51% of the rivers and streams that are designated as an SSSI are in favourable condition, while the remainder are classified as unfavourable no change. Thus overall for the Somerset Levels this theme was assessed as maintained.

4.8 River and coastal

The datasets for river and coastal features were:

- Natural England's Countryside Stewardship (CS) and the Environmentally Sensitive Areas (ESA) schemes
- Environment Agency Water Quality

The assessment of this theme was made using the same data as for semi-natural habitats (Natural England's SSSI Condition Monitoring results, and the uptake of Countryside Stewardship and Environmentally Sensitive Area agreements). In order to avoid overlap, the analysis focused only on semi-natural habitats associated with riverine or coastal environments. Where rivers or coastal areas have been designated as an SSSI, this was particularly useful because the Condition Monitoring data allowed a direct assessment of the status of the resource to be made.

Part 5: A Review of the Second Assessment of Change



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5.1 Introduction

In this part of the report we review the issues surrounding the two main activities, collecting data sources and the consultation exercise, that were involved in the development and testing of the CQC methodology, to suggest recommendations for future work.

5.2 Assessing Landscape Change: Data Resources

The resources available did not allow any new monitoring data to be generated specifically for the purposes of the project. All of the data used were obtained from existing, publicly available sources. This was the most significant resource constraint on the project, but development of the CQC methodology also provides added value for these datasets, because it adds an extra dimension to their usefulness. For most of the datasets, 'raw information' was used and reprocessed to make it as useful as possible. The data available often only gave a partial insight into the landscape patterns or characteristics that we really needed to consider. Gaps in the evidence base therefore exist.

Many of the data sources used provided information on the management of different landscape elements, rather than the state of the features themselves or how their stock and condition changed over time. As a result a key assumption made is that uptake of management agreements for woodland, boundary features and semi-natural habitats, for example, does result in significant improvements 'on the ground'. Information about the effectiveness of management agreements or direct measurement of the state and condition of key landscape features is essential to reduce the assumptions and improve our assessment capability.

Woodland and trees: The National Inventory of Woodlands and Tress (NIWT) proved to be a key data resource for helping understand both woodland pattern and the development of new woodland in the landscape through the Woodland Grant Scheme. It was not initially created as a resource for monitoring woodland change. It could be made so if the Forestry Commission were able to update the inventory on a regular, say 5-yearly basis. The updates should include not only the new planting added through WGS, but also the new planting undertaken by the Commission itself and by landowners who undertook significant planting outside any formal scheme. The Inventory should also record woodland loss, data on which is currently limited.

In developing NIWT the Commission should also consider linking the woodland spatial data to the WGS database that they also make available, so that the patterns of planting and management can be more easily explored. Assimilation of attributes and greater consistency with the Ancient Woodland database would be beneficial. One important gap is the lack of data on small woodlands (i.e. woodlands <2ha) and isolated trees, particularly veteran trees. The Commission could consider whether statistical summaries could be generated from their survey data at JCA level.

Boundaries: the lack of information on the stock, condition and change for boundaries of all types is a major gap in the current national rural data infrastructure. Although Countryside Survey has and will continue to produce useful national estimates, the field sampling intensity means that reliable data cannot be generated at JCA level or similar scale. We recommend that in developing future monitoring strategies, consideration should be given to the extent to which remotely sensed (e.g. high resolution image or LIDAR data) or other field-based methods can be used to give better local estimates for boundary features.

Uptake of Countryside Stewardship agreements for boundaries has been provided at JCA level for the CQC project, and in the future similar data could be provided for agreements made under Environmental Stewardship. The utility of these types of data could be enhanced if information on the spatial patterns of uptake could be provided, so that some assessment of the landscape context can be made. A 1km or 5km gridded approach could be employed for the mapping.

Agricultural land cover: Although the present agricultural survey data has proved an effective monitoring tool for the major agricultural land cover and farm types, the utility of this information would be enhanced if Defra were able to generate change data directly from the returns. Since the methodology used for the survey changes over time (the inclusion of a larger number of small units in the census since 2000 is a case in point), simple differencing of returns for a given spatial unit may not provide reliable information about change. Downloadable change data published by Defra, through the 'Agricultural Atlas', for example, for the major agricultural cover types, the mix of farm types and associated employment would represent an authoritative and consistent data resource. In addition, information on the density and location of horses in different types of holding would also be valuable, to plot the potential impacts of 'horsiculture' in the countryside and around our cities and towns.

Settlement and development: the Land Use Change Statistics have proved to be a valuable resource for monitoring development patterns. Unfortunately, as the work of Bibby (2006) has shown, the reliability of using these data for other rural land use types (e.g. woodlands) is more limited. It is recommended that the utility of these data for monitoring change between broad land use types is reviewed, and more robust methodologies are developed. These data could enable a consistent set of land cover accounts to be created, which identify the major types of land cover transition at a range of different spatial scales.

In order to take forward the type of analysis begun by the CQC project, Natural England should open a dialogue with Defra and the Department for Communities and Local Government to ensure that the information on urban extent within the rural-urban definitions map is updated regularly, so that patterns of urban and sub-urban expansion can be tracked more easily over time.

Semi-natural habitats: although the monitoring of SSSI condition has provided important information on change in this resource over time, its better integration with the other habitat inventories held by Natural England, and the disaggregation to JCA level of information about the state and trends of the BAP Priority Habitats, would greatly enhance the range of information



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Part 5: A Review of the Second Assessment of Change

available to those concerned with countryside change. As with boundaries, Countryside Survey has and will generate such estimates at national and regional level. The extent to which these data can be combined with other information to make better estimates at the scale of the JCA should be considered.

Spatially disaggregated information for the uptake of Countryside Stewardship and Environmental Stewardship agreements for semi-natural habitats would also be valuable in terms of monitoring patterns of landscape change.

Historic Features: at present the major limitation for historic data is its availability at JCA level. Data on historic ancient monuments at risk were not available nationally when the CQC assessment was completed. It is recommended that these data are maintained and updated periodically so that change trajectories can be better understood.

River and coastal elements: as noted for boundaries and semi-natural features, spatially disaggregated information for the uptake of Countryside Stewardship and Environmental Stewardship agreements relevant to river and coastal features would also be valuable in terms of monitoring patterns of landscape change. Moreover, data on the condition of river corridors at JCA level would also be an important additional data resource. It is recommended that a dialogue is opened with the Environment Agency to determine whether and how such information could be made available.

Our comments and recommendations about data should not be taken to imply that there are not many good, local information sources that can also tell us much about landscape change. For a study such as CQC it was difficult to use these sources effectively because coverage is often incomplete, and data collection methods were often inconsistent between different areas.

The second CQC assessment is the best national picture of countryside change available at this time, at the scale of the Joint Character Areas, but there is scope for improvement with improved data availability. Despite the limitations of data availability, CQC has made a significant contribution to the problem of monitoring landscape change in England. It has shown how additional value can be gained from existing, publicly available data, by bringing them together into a consistent assessment framework.

5.3 Understanding Context and Developing Landscape Visions

The internet-based methods of consultation that supported the second CQC assessment were more effective than the discussion groups used for the first. They ensured greater consistency in the feedback and a greater level of detail in the responses. The web-based techniques also enabled a larger group of people to be approached.

For the future, these internet tools could be expanded and developed, and used to build a richer and more formal vision for the landscapes within each JCA, and to create a more refined and comprehensive framework in which the assessment of change could be made.

Within CQC the concept of a 'vision' has been used in a very broad way – to mean a statement (or set of statements) about the characteristics that make each area distinctive, and the types of change that might strengthen those characteristics or transform them. These statements, which were collected together in the Profile for each JCA, were therefore both 'positive' and 'negative' in their content. They reflected some of the hopes and fears that people had about the magnitude and direction of change for each landscape area. They also included statements about the past.

Some of the consultees indicated that the JCA Profiles did not represent 'a vision' for each JCA, in the sense that not all of the statements were in the form of 'aspirations' or 'future goals'. We accept that some of the Profiles were probably incomplete due to the coverage of issues in the materials available to us. The consultees also suggested that statements about past change were not relevant to something we might describe as a 'vision', and that many future issues potentially affecting the JCAs were omitted from the Profiles. Statements about past change were included in the Profiles because it was felt that they helped people to understand whether current landscape character was intact or not, and what types of change local people might want to promote to ensure that character was sustained or restored in the future.

For future development of the CQC method, it is recommended that the first phase of any future consultation is more ambitious in its scope than the one tried here. It should aim to build a more systematic and detailed vision for each JCA, that draws upon a wider range of local materials and sources than was possible during this study. These can include materials from local landscape characterisations, local landscape and environmental strategies, and Regional Spatial Strategies.

Periodic updating of the JCA profiles to take account of the effects of recent landscape change, and the evolution of people's visions for the future of each area, would ensure the continuing relevance of the JCA framework for decision making. These more dynamic accounts would also ensure that the idea of landscape character is not taken to imply that the landscape should be frozen in some particular state, or that the goals of management and planning should be solely concerned with restoring some past condition. The main function of the visions for each JCA is to help identify what types of change are occurring and what implications that change might have. This approach is very much in the spirit of the *Rural White Paper* for England that led to the CQC study, in that it provides a framework in which better informed discussion about the nature, scale and acceptability of countryside change can take place.

Part 6: Developing CQC as a Policy Support Tool



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6.1 Introduction

If we are to secure a healthy natural environment for England, that can be enjoyed by people and which can be sustained in the long term, then decision making at all levels needs to be supported by sound information and evidence. Information is needed to support individuals, organisations, land managers and businesses in taking decisions and actions that will conserve and enhance the natural environment and to increase the opportunities that the environment offers to people through the contribution that it can make to their well-being. This project has demonstrated that provided systematic contextual information is available, it is possible to go beyond reporting that environmental change has occurred to an understanding of why such changes matter to both people and the natural environment.

The CQC project was designed to support this broad strategic need for information about environmental change in England. A better understanding of the structure of our different landscapes, and the way they are being transformed directly by human activities and natural processes (including accelerated changes related to climate change), will ultimately provide a framework for better decision making - linking our concerns about people, places and nature, and the choices offered.

Since the idea of an indicator of landscape change was first proposed in the 2000 *Rural White Paper*, the need for such a tool has increased. This part of the report considers how the body of information built up by the CQC project can be more generally used as an input into a number of different policy areas.

6.2 Landscape and Ecosystem Approaches to Natural Resource Management

There is currently interest, both in Central Government and its agencies, in developing and understanding an 'ecosystem approach' to decision making, and the way this framework can be used to ensure the sustainable management of our natural resources¹. The ecosystem approach has its origins in the Convention for Biological Diversity, but its relevance is much more wide-ranging than the conservation of species and habitats. Maltby (2000), for example, suggested that it is a broad strategy for *'...the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way, and which recognises that people with their cultural and varied social needs, are an integral part of ecosystems'*.

The importance of the ecosystem approach is that it promotes 'joined-up' thinking about environmental management and policy issues by stressing the links between natural and social systems at the landscape scale. Those advocating the approach conclude that while management strategies are essentially a matter of societal choice, decisions have to be grounded on a scientific understanding of biophysical limits that constrain ecological processes, and the spatial and temporal scales at which they operate. The landscape scale is advocated because it encompasses many of the important linkages and inter-dependent processes that need to be considered in natural resource management.

The landscapes of England are mostly cultural in origin and represent the outcomes of a long interaction between people and the natural environment. Although these landscapes are heavily affected by the activities of people, the ecological systems and processes embedded within them provide essential goods and services upon which we all depend. These services include the production of food and fibre and the regulation of land, air and water quality, and are the basis of a range of cultural, recreational, educational, scientific and aesthetic values and benefits.

The publication of the Millennium Ecosystem Assessment (MA, 2005) has stimulated much interest in assessing the state and trends of ecosystem services, and the implications for human well-being at global, regional and national scales. Defra, for example, are currently considering its relevance in the English context, and particularly how the management of ecosystem services can be promoted through an ecosystem approach (Environmental Audit Committee, 2007).

As the review of data used to frame the CQC assessment shows, there is already an implicit linkage to things that might be termed 'ecosystem services'; these include, for example, the changes in water quality, within the river and coastal theme, and the condition of SSSIs within the semi-natural component. Landscape character is therefore perhaps one service amongst many. A more integrated approach that explicitly considered the cultural and natural services associated with different landscape units or administrative units, might help us to better understand the problems we face in dealing with multi-functional landscapes, and the types of trade-off that have to be considered when planning for change. Such work would help ensure that as a society we are able to develop and promote sustainable solutions to environmental problems at a national, regional and local level and thus increase and underpin the interdependence between social, economic and environmental values.

In order to help take this forward, it is recommended that:

- A review is made of the extent to which the JCAs of England can be used to understand the patterns of supply and demand for ecosystem services that are associated with, or only meaningful at, the landscape scale. A JCA Profile constructed around the concept of ecosystem services could help ensure that planning decisions take better account of the possible consequences of development, and that local landscape initiatives take full account of national trends and priorities.
- An assessment is made of the extent to which the analytical approach developed by CQC can be further developed to produce a more integrated assessment that covers both the cultural and natural goods and services that are produced by the landscapes of England. A key task in taking the ecosystem services approach forward is to understand how people's values vary from place to place, and how different groups prioritise different resources. The consultative approach developed by CQC could be extended to capture both the visions that stakeholders have of the natural resource systems found within each JCA, and their views on the 'minimum levels of service' that are possible or desirable. Such work would greatly inform our understanding of sustainability limits.

¹ <http://www.defra.gov.uk/wildlife-countryside/natres/rationale.htm> (accessed 01.05.07)



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Part 6: Developing CQC as a Policy Support Tool

6.3 Monitoring Change in our Protected Landscapes

Protected Landscape Areas (PLAs), including National Parks and Areas of Outstanding Natural Beauty (AONBs), represent our most valued landscapes. They have been designated on the basis of their natural beauty and so the goals of conservation and enhancement are implicit in their policy and operational objectives. The PLAs cover about one quarter of the land area of England, and contain many of our best known landscapes. There is therefore some value in considering the ways in which the CQC methods and results can be applied to these areas to help monitor and report on the success of these policies.

The CQC method was applied at JCA level as a means of making an assessment at national or regional scale. Since most of the boundaries of the PLAs do not coincide with those of the JCAs, it is difficult to make a direct 'read across'. At present the CQC results can only be used in an indicative way for those PLAs that either make up a large part of an individual JCA, or which are composed of several JCAs. A more precise assessment of the effectiveness of designation on countryside change across PLA boundaries cannot presently be made. The CQC study shows how a national framework for monitoring change within the PLAs could be developed. This might be of relevance if, for example, a Public Service Agreement were developed around the idea of ensuring that the landscape quality of these areas was being sustained.

The variation of AONBs (e.g. in size from 16 to 2038km² and in landscapes from moorland to coast) means that if successful other similar analyses of landscape areas or catchments could be undertaken by CQC.

The CQC assessment method could be carried out for the set of PLAs in England. Consultation and review of individual management plans could be used to develop a detailed set of profiles for each protected area. Most PLAs have a Landscape Character Assessment, and are also legally required to have management plans. Whilst both documents follow a variety of formats, they potentially provide another useful source of information to support assessments. Profiles generated from these sources (including the nationally available datasets used by CQC) could then be 're-cut' using the boundaries of each PLA to give a national overview. The advantage of using the nationally available datasets for an assessment of change in the PLAs would be that a consistent framework would be available within which comparisons could be made.

In addition the same type of assessment made for the JCA could be undertaken for the PLAs, and for each PLA its constituent landscape types, which provide a suitable scale of regional and local assessments, could be developed with stakeholders. Thus a more appropriate long-term strategy might be to develop a complementary and more 'bottom up' approach, in which both the content of the profiles and the analysis of change are constructed around an understanding of local values, needs and resources.

If approaches to the monitoring of change in our protected landscapes are to be taken forward, it is recommended that:

- A study is undertaken in partnership with the PLAs to develop a profile for the landscape character of each area (and major subdivisions within them) that could be used as a basis for a nationally consistent approach to monitoring change. Recognising that resources may be limited in some of the PLAs, the study should not only produce a set of guidelines about how the profiles could be developed and maintained, but also provide the tools by which the PLAs could construct and develop them. The consultation tools provided by the CQC website could be customised for individual PLAs and the output of the resulting profiles automated.
- A review of data holdings for each PLA is made to determine whether it is feasible to undertake an analysis using locally available data, or whether a 'top-down' approach based on national data is the only option. The development of more targeted and specific CQC assessments for PLAs would provide a number of benefits. It would provide a more accurate and representative evaluation of landscape change in PLAs against the wider context of change across England. In addition, conducting more detailed work at the sub-Character Area level and examining consistency, would also provide further insights into the accuracy and representativeness of the 'national' datasets, which would aid future assessments both in PLAs and across the wider countryside.

6.4 Landscape and Environmental Stewardship

If we are to ensure that the payments made under agri-environmental schemes are achieving the best value for money, then we must be certain that the types of management agreement made are appropriate in the context of the landscapes in which they are set. We also need to be sure that the scale of intervention is sufficient to achieve the environmental benefits that such schemes seek to promote.

In covering the period up to 2003, the second CQC assessment provides part of the base-line information that we will need in any future review of the new Environmental Stewardship arrangements that were introduced in 2004. If the success of Environmental Stewardship is to be judged at the landscape scale, then we need a systematic and detailed understanding of the variations in landscape character and how it is changing. The information provided by CQC will allow the patterns of uptake to be reviewed, and an assessment made of the scale of management input in relation to the needs of different landscapes. The outcomes of this type of analysis could inform future approaches to targeting and monitoring, which increasingly will have to take account of the need to promote adaptive strategies for living with the consequences of environmental change.

Part 6: Developing CQC as a Policy Support Tool



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6.5 Making Environmental Assessments

The outcomes of the CQC project are also relevant to the more general problem of environmental monitoring and assessment. The study demonstrates how the design of an effective monitoring programme has to go 'beyond data'. It has to include the construction of a contextual framework that can be used to make judgements about the significance of any changes identified. CQC has shown how evidence can be expanded to include both a set of quantitative indicators and more qualitative values or visions that people bring to the table when confronted with the question of whether a particular environmental change matters or not.

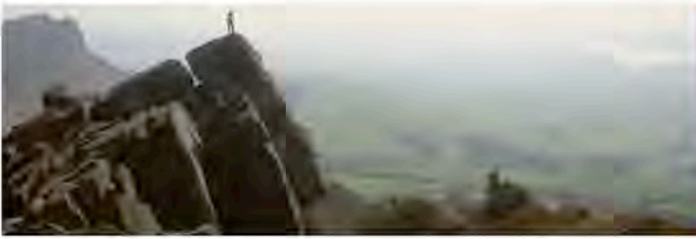
The CQC approach is relevant to a wider range of applications beyond the assessment of landscape character, and could be used to help monitor environmental issues more widely. This is applicable where the consultation process is used to identify and quantify the limits or thresholds of acceptable or desirable change for the environmental parameters under consideration. The CQC project consultation was limited to 'professionals', but in the future, expansion of the consultation exercise to include a wide range of publics would clearly enable a richer and more nuanced assessment to be made. The goal of such work should not be to prescribe what kinds of change are appropriate or acceptable, but to provide a more systematic body of evidence that can inform debate about the implications of environmental change for different groups within society.

The need to go 'beyond data' to the 'construction and identification of context' can be illustrated by reference to the recent development of a number of policy support tools. Methodologies for Strategic Environmental Assessment (SEA) are, for example, somewhat similar in character to Environmental Impact Assessments (EIA) except that they are meant to ensure that the environmental implications of decisions are taken into account in a more strategic way. They also emphasise the need to look for alternatives and to ensure early participation of stakeholders in decision making (Sheate et al., 2005). SEAs have been required since 2004 under EU Directive 2001/42/EC (European Commission, 2003) and are currently being implemented in the member states. A key issue is to find ways of monitoring and assessing the significance of the environmental effects of implementing a given plan or program. The SEA-Directive stresses the importance of using sufficient baseline information to provide the basis for predicting and monitoring environmental effects. In the UK, SEA guidelines (see ODPM, 2005) suggest a number of questions that need to be answered using such data - but 'data' alone are clearly insufficient to resolve them fully.

All of the questions arising from the SEA guidelines imply some understanding of the visions or values that different people or groups bring to the assessment of change, and so require that the evidence base be expanded to include such intelligence. Similar points could be made in relation to other decision support tools such as sustainability appraisals, Environmental Impact Assessment and Quality of Life Capital Assessment (Potschin and Haines-Young, 2003; see also Natural England²).

The CQC project has sought to move beyond the assembling data about landscape, or environmental change, and has gone on to show how, through consultation, the values that people hold about the landscape can be represented systematically, and used as a template for making judgements about the implications of change. The project has demonstrated how, in general terms, such an assessment framework can be developed and used to describe the significance of landscape change.

² <http://www.countryside.gov.uk/LAR/Landscape/Quality/index.asp> (accessed 01.05.07)



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The CQC project was undertaken because we need evidence and information to understand and manage change in the landscape, and to plan strategies to ensure that long term development is sustainable. We need to know *where change is occurring* and *whether those changes matter* to people in terms of the way change affects the things about landscape that they value.

Results

- Results of the assessment of the magnitude of change showed that 71% of our landscapes were stable between 1999 and 2003, while 29% were changing in relation to the key elements that shape their character
- Results for the assessment of the 'direction' of change showed that for about 61% of our landscapes change is consistent with character, while for the remaining 38% change is inconsistent

The overall result of considering both the magnitude and direction of change between 1999 and 2003 showed:

- existing landscape character was maintained in 51% of England's landscapes
- while in a further 10% existing landscape character was enhanced
- 20% of our landscapes showed signs of neglect, given the loss of character suffered in the past
- while in 19% new landscape characteristics have emerged

A test of the reliability of this assessment was made using wide-ranging consultation with people who had a good professional knowledge of the JCAs. This suggested that independent observers would agree with the assessment made in about 88% of cases.

Assessments made for the individual landscape themes that determine and shape character suggests that:

- For the *trees and woodland* theme, most JCAs were assessed as enhancing or maintained, roughly in equal proportions
- For the *boundary features* theme, most JCAs were classified as neglected
- For *agriculture*, again the majority of JCAs were assessed as maintained, with roughly equal numbers falling into the enhancing, neglected and diverging categories
- The assessment for *settlement and development patterns* suggested that the character of the majority of JCAs was diverging
- Roughly 70% of the JCAs were classified as either maintained or enhancing, in relation to *semi-natural features*
- For the *historic features* theme, the majority of JCAs were assessed as neglected
- For *river and coastal features*, most JCAs were classified as maintained

Comparison between the results of the second CQC assessment and the earlier analysis made for the period 1990-1998 showed that the number of JCAs with patterns of change that either maintain or enhance character has increased from 36% to 62%, while the number with signs of neglect or loss of character appear to have decreased. This suggests that the character of the English landscape is being sustained over the most recent period.

Contribution to Environmental Assessment

The CQC project has:

- developed a systematic and robust method of assessing landscape change
- assembled datasets for use in the assessment and provided these for others to use on the CQC website (www.cqc.org.uk)
- shown how internet-based consultation tools can be used to develop an assessment framework and test the results of the analysis of change in landscape character

Recommendations

On the basis of the work undertaken, recommendations have been made for:

- improving the source data so that analysis of countryside change can be improved, thereby enhancing the robustness of future assessments
- developing the internet-based consultation tools so that a more comprehensive vision for the character of each JCA could be established through dialogue with a larger stakeholder group

In addition to fulfilling the commitment to produce an indicator of change in countryside quality (as set out in the 2000 Rural White Paper), the future applications of the CQC method in a range of policy areas was identified. It was shown that this could meet our increasing needs to understand changes in the landscape, especially to plan and adapt to climate change and to maintain ecosystem goods and services to provide for a sustainable future.

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Countryside Quality Counts



Countryside Quality Counts (CQC) is a project to develop a national indicator of how the countryside is changing. It aims to understand how and where change is occurring, and most importantly, where change matters the most. This information can be used to help plan future landscapes and inform change that delivers public benefits - enhancing and maintaining the character and quality of our countryside for this and future generations. The Joint Character Areas (JCAs) of England are used as a reporting framework for the CQC project. For more information visit www.cqc.org.uk

