

Preparing a detailed project plan for CQuEL

Summary Report Final Report

May 2010

Supported by:









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Preface

CQuEL, Character and Quality of England's Landscapes, is Natural England's principal integrated monitoring project. CQuEL will provide place-based evidence about the character and function of landscapes and the provision and quality of selected ecosystem services delivered by England's natural environment.

CQuEL will provide an enhanced and up-to-date understanding of Natural England's contribution to enhancing and improving the condition of the natural environment. CQuEL will also provide evidence to key strategic partners, particularly Defra. Defra has been a funding partner of the project planning stage.

The work to prepare the CQuEL project plan has been carried out by a consortium comprising Countryscape, Fabis Consulting and Land Use Consultants. The work has been guided by a Project Board at Natural England. The findings have been informed by Expert Panel workshops and the project team gratefully acknowledge the input of stakeholders at the workshops.

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Recommendations

Key recommendations are shown in bold with a grey highlight. Each recommendation is referenced with a code to identify the Work Package and recommendation number, for example the second recommendation of Work Package 1 is referenced **[R1.2]**.

Work package 1: Methodological Review

Shaping Objectives: The Importance of Place

We recommend that to clarify CQuEL's objectives it be viewed as providing a 'place-based' evidence about the character and function of landscapes and the provision and quality of selected ecosystem services delivered by England's natural environment [R1.1].

In CQuEL 'place' provides a means of integrating different perspectives and concerns, and a framework in which the cultural and ecological aspects of landscape and ec`osystem services can be brought together in a coherent and unified way. The notion of place is also a good starting point for fostering public engagement in questions about the value of landscape and ecosystem services, and for understanding the visions that different groups have for the future.

An understanding of the linkages between places is probably more important for the analysis of ecosystem services in CQuEL than it was for the analysis of landscape character in Countryside Quality Counts (CQC). This is because of the more complex relationships between places where services are generated and places where they are consumed. It is recommended that key steps in the CQuEL methodology must include: (a) some kind of screening/prioritisation of services according to local circumstances; and (b) some kind of review of the importance of services potentially flowing 'into' and 'out of' the area (places) concerned [R1.2]. The spatial relationships between places are especially important in the coastal and marine context. This prioritisation of services is likely to be captured in the final Integrated Objectives for each NCA that will be developed as part of the programme for updating the NCA descriptions. The integrated objectives are programmed to be completed by March 2011. These integrated objectives will capture priorities for both landscape character and ecosystem services, seeking synergy between the two.

Linking Landscape Quality Objectives and Ecosystem Services

There is a close relationship between the work undertaken through CQuEL and the development and monitoring of landscape quality objectives that are needed to support implementation of the European Landscape Convention (ELC). However, we recommend that although the formulation of landscape quality objectives and objectives for the output of ecosystem services are complementary, the mechanisms by which they are developed should be kept distinct [R1.3]. While a long term goal for Natural England in relation to the natural environment must be to match 'required functional needs with desired landscapes', this will only be achieved by explicitly considering the consistency between the two sets of objectives and understanding the implications of any conflicts or synergies between them. It is this approach that is being captured in the formulation of the final Integrated Objectives for each NCA and that will be tested through CQuEL

The formulation of landscape objectives for each National Character Area (NCA) that are consistent with the requirements of the ELC is an important goal for Natural England. However, for the purposes of CQuEL, it is essential that these landscape objectives are defined in sufficient detail or with specific precision, so that they can be used to assess change in relation to the seven thematic elements used in

CQC. If this condition is not met then the refinement of the landscape objectives will be an additional task that would need to be undertaken within CQuEL in order to fulfil Defra's requirement that the indicator of change in landscape character should be maintained [R1.4].

If character area descriptions are to be updated, then the extent to which this process takes in issues related to their functional properties and relationships also needs to be considered. [R1.5]. It is understood that the functional role of individual NCAs will be considered as part of the update of the NCAs and the development of service objectives. This understanding of services and functions will be vital to CQuEL and will require an iterative approach. The first stage could involve a more generic assignment of service characteristics to NCAs, which could then be refined during a second stage to determine how the general objectives for services translate into NCA actions or other transformations that can be monitored.

Assessing the Significance of Change

For the significance of change in landscape character and function to be assessed, an understanding of the magnitude and direction of desirable or required change needs to be developed, either as part of CQuEL or through associated work:

- a. In the context of the ELC landscape quality objectives; if they are generic, aspirational and qualitative, then work undertaken within CQuEL will need to include some process of refinement or translation for them to be used as the basis of assessing the significance of landscape change.
- b. In the context of functional objectives for ecosystem services, the development of the criteria for assessing change is more problematic, and further work is required to determine whether this is best done from the bottom up (knowing the characteristics of the individual NCAs) or from the top down (knowing broad national and regional patterns and trends).

We recommend that both issues are the focus of attention in the later stages of this scoping study, particularly within Work Package 3, since their resolution is fundamental to designing a robust methodology for CQuEL.

The use of NCAs to develop landscape quality objectives and a set of character area descriptions that are sensitive to the ecosystem services associated with each area provides a compelling argument for using these spatial units as the framework for CQuEL. Use of the NCAs would also ensure consistency with what went before. The acceptability of using the NCAs as the primary spatial framework for CQuEL, nevertheless, needs to be examined critically. The question was therefore put to the Expert Panel. While no single view prevailed, the overarching theme in the comments received was that, whatever spatial analysis and reporting units are used, the evidence base must be capable of exposing or capturing issues across *scales*. NCAs were seen as helpful in providing context for analysis and interpretation and a way of communicating information to people, but they may not be the only spatial framework that is needed if Natural England is to achieve the goals it has set in relation to landscape and ecosystem services. While NCAs are a key part of the analytical framework to be used for CQuEL we therefore recommend that the approach is sufficiently flexible to permit analysis and reporting for a variety of other types of spatial unit, such as major catchments, administrative regions or more generic types of landscape such as the 'uplands' or 'coastal landscapes' [R1.6].

Internet-based consultation with expert-stakeholders played a key role in CQC. It was used both to define the criteria against which landscape change at the NCA level was to be assessed, and to test the acceptability of the judgements made after they had been applied, given the data available. **Given the brief for CQuEL it is apparent that the same considerations will also apply, although these consultations may need to take in a wider range of experts and the public [R1.7]**. Consultation processes will be needed to:

- c. Translate ELC landscape quality objectives into quantifiable targets against which landscape change can be assessed.
- d. Test the descriptions of the role of individual NCAs or NCA groups in relation to broad patterns of ecosystem service outputs and recent trends and to extend (included in the updated NCA descriptions to include issues relating to ecosystem services.).
- e. Agree the priorities for the functional objectives for ecosystem services delivery at the level of individual NCAs or groupings of them. (that will form part of the Integrated Objectives).
- f. Assess the acceptability of the judgements made about the magnitude and direction of change in both landscape character and the output of ecosystem services once the preliminary analysis has been completed.

The identification of thresholds or limits potentially provides one way in which the significance of change in landscape character and service output might be judged. As previous work has identified, the specification of such thresholds or limits is difficult. Although the issue will continue to be an important one in terms of framing strategies for sustainable development more generally, the extent to which it is a priority for CQuEL is an open question. We therefore asked members of the Expert Panel to comment. Although views were mixed, the general view should be that an attempt to identify thresholds or limits should be made where it is appropriate and feasible. It was also recognised that the specification of limits of acceptable or desirable change must be based on stakeholder input and may vary from place to place. We therefore recommend that in developing approaches to measuring ecosystem services, a range of criteria should be used for assessing performance. However, where it is possible to go beyond simply identifying the direction of change, the feasibility of identifying some limit or threshold through stakeholder consultation should be considered [R1.8].

In terms of identifying suitable methodological frameworks for CQuEL it is recommended that it would seem appropriate to treat the analysis of landscape and ecosystem services as independent but linked processes [R1.9]. It is recommended however, that the interaction between character and function should be the explicit focus of the subsequent reporting. While some clear methodological directions for CQuEL can be identified on the basis of the review presented here, further work is required to test the practicalities of these approaches and the costs and risks associated with them. This is particularly important given the evolving methodological work being carried out in the context of the on-going National Ecosystem Assessment (NEA) and more specific work being undertaken by Natural England to assess ecosystem service delivery, especially in the uplands. Further work is required to understand just how the range of services identified by the NEA will be made operational, but it seems evident that the selection of 'things to measure' within CQuEL might usefully be done in ways that nest within the broad NEA methodology.

The Added Value of CQuEL

Any consideration of the case for CQuEL must consider the relationship that it has to the NEA, and what contribution it might make, given this other major national initiative. In order to examine this question we invited views from the Expert Panel who confirmed that far from duplicating the work of the NEA, CQuEL would add significant value to the future evidence base. Not only would CQuEL establish a strong link between ecosystem services and landscape character, it would also extend the analysis down to a much finer geographical scale – one that people might better understand. The foundation that CQuEL provides for longer term monitoring was also considered significant. We therefore recommend that the methodology developed for CQuEL does not merely seek to be consistent with the NEA, but complements, refines and extends the understandings that the NEA is seeking to provide [R1.10].

Scoping the Analysis of Ecosystem Services

The question of what the relationship is between CQuEL and the NEA is an important one, not least in terms of identifying which ecosystem services should be included in the analysis. The issue is central to the design of CQuEL and has been explored in detail in Work Package 2. However, as part of this more general scoping exercise some key issues were identified and discussed by the Expert Panel. As a result some preliminary recommendations can be made:

- a. That in recognition of the problem of placing 'biodiversity' within an ecosystem services framework, we recommend that care is taken to specify precisely what aspects of biodiversity are being considered [R1.11]. The agreed service typology used for CQuEL should distinguish between contributions that different components of biodiversity make to all aspects of service delivery, especially their contribution to the provisioning, regulating and cultural services.
- b. That the balance between the supply and demand for ecosystem services is a fundamental part of any assessment relevant to management or policy. Therefore, we recommend that CQuEL should consider both the potential of an area to deliver a service as well as the actual demand for it [R1.12]. However, experience from other work suggests that it is often easier to identify the changing capacity of an area to generate services than to measure consumption, and so a complete analysis of both components may not be possible in all circumstances. Nevertheless, the focus of CQuEL should be on an understanding of the outputs of 'final products' that directly impact on people's well-being; measures of supporting services or ecological functions may be taken as a surrogate if service output is difficult to measure directly.
- c. That while the focus of CQuEL is on the contributions that ecosystems and biodiversity make to human well-being, the issue of 'geodiversity' and associated abiotic outputs of ecosystems are considered but that these are not a central component of the analysis. We recommend that the scope of CQuEL be restricted to ecosystem outputs that are renewable and which depend on a combination of biotic and abiotic factors [R1.13]. Thus aspects such as the potential of a landscape or seascape for wind energy would be excluded from the analysis.

- d. That in recognition of the fact that it is important to understand patterns of supply and demand for ecosystem services, the links between different places or areas, and the geographical flows of services across space, the geographical scope of CQuEL should include rural and urban areas and those aspects of the marine and coastal environment directly or indirectly affected by terrestrial activity [R1.14]. The scope should include:
 - i.rural *and* urban areas: thus urban green space (and the service it provides) and periurban areas and their relationship with the main centres of population should be considered; and
 - ii. those aspects of the marine and coastal environment that are directly or indirectly affected by terrestrial activity namely physical coastal processes, biophysical processes influenced by inter-tidal habitats, and water quality issues relating to pollution derived from terrestrial sources.

Timeframes

An important set of constraints on the development of the CQuEL methodology are those imposed by the reporting timetable. The methodology needs to be robust, but if results cannot be delivered within a relatively short time, then it is unlikely that the work would be supported. Fortunately, given the advanced state of current work and initiatives, CQuEL can make a significant, on-going contribution to current debates by publishing staged reports [R1.15]:

- an 'historic' assessment of trends in ecosystem services using existing NEA and CQC data in 2010, possibly linked to the production of the 'England Synthesis' for the NEA, being led by Natural England;
- an assessment of future landscape and ecosystem service trends for NCAs as part of the 'Vision 2060' exercise in mid-2011;
- the update of the CQC landscape indicator in the first quarter of 2012; and
- an updated review of landscape and ecosystem service trends by NCA in mid-2012.

Work package 2: Which Ecosystem Services?

Overall scope of the services under CQuEL

The scope of CQuEL will be to provide a framework against which the performance of Natural England can be judged, in terms of the ecosystem services Natural England can enhance through its interventions and its influencing. In terms of the latter, if the scope is cast too wide the ability of CQuEL to successfully monitor outcomes will be diminished and expense will increase significantly. **Therefore, we recommend that the focus of the CQuEL assessment should be on those services over which Natural England has primary leverage and/or influence [R2.1]**.

The geographical scope of services under CQuEL

It is important to understand patterns of supply and demand for ecosystem services; the links between different places or areas; and the geographical flows of services across space. It is therefore clearly appropriate for CQuEL to extend to the urban and marine but, with a clear focus on those geographical aspects over which Natural England currently has the most influence, and where data is most readily available. Therefore, we recommend that CQuEL should cover both the urban and marine environments but should focus on those geographical aspects over which Natural England currently has the most readily available [R2.2].

Actual and potential service delivery

Potential service delivery has many facets. In particular it relates to (a) how natural assets are managed and (b) where natural assets are located relative to the populations they serve. As examples: woodlands will only provide biomass if they are under active management but all woodlands have the 'potential' to provide biomass. Equally woodlands close to centres of population have greater 'potential' to provide the cultural services compared to those that are relatively inaccessible. Therefore, **it is recommended that potential service delivery forms an important part of CQUEL [R2.3]**.

Factors underpinning service delivery

At the Expert Panel workshop there was a strong call for 'biodiversity for its own sake' to be identified as a specific service. However, **we recommend that CQuEL sees biodiversity, geodiversity and indeed landscape as underpinning and universal [R2.4]**. This is not to downplay their role but rather to acknowledge their central importance in the provision of all ecosystem services: To identify biodiversity, geodiversity or landscape only as a specific service is to significantly downplay their overall role in the delivery of all ecosystem services. They form part of the underlying supporting services; they provide many of the natural assets (such as specific habitats) and govern many of the functions that are responsible for the delivery of many services. Equally they may be identified as specific services, such as providing genetic diversity (biodiversity) and sense of place (landscape). They are therefore central to the overall narrative of service delivery.

There remains the question, whether CQuEL should monitor the supporting services such as soil formation and photosynthesis. **We recommend that the supporting services should not be monitored separately by CQuEL [R2.5]**. This is because they provide the processes and functions that underpin many of the other services: they are the fundamental building blocks to all service delivery.

Scope of the provisioning services

At the Expert Panel workshop there was a desire that CQuEL should monitor all forms of renewable energy, not just biomass production (where Natural England exerts direct leverage), and that it should also monitor minerals production. These are not aspects over which Natural England exerts direct control or leverage, although some of Natural England's influencing work does address these elements. Instead, we recommend that electrical power generated by wind and minerals extraction be identified as a force for change that has the potential to affect the delivery of other services [R2.6].

Scope of the Cultural Services

It is recommended that CQuEL should use the classification of cultural services identified in the study commissioned by Natural England - Capturing the Cultural Services of Landscape (2009) Research Box / LUC [R2.7]. As Natural England is providing the lead in this area, and as the Research Box/LUC study is developing further insight, it is important to use these results, especially as one of its tasks (being developed in the current Phase 2 study) is to consider how these services can be identified. To ensure linkage with the NEA, there is potential to nest these cultural services under the 'final' cultural services identified in the NEA.

In addition, while it may be difficult for CQuEL to cover more abstract services such as Community Development and Cultural Diversity (which are currently not well understood), aspects of cultural cohesion provided through Green Infrastructure and Accessible Natural Greenspace might be measured through a metric of populations served by accessible greenspace. Nevertheless **it is recommended that CQuEL avoids getting drawn into aspects of cultural service delivery that require considerable new research to justify the method of measurement selected [R2.8].**

Development of a nested hierarchy of services

Finally, one of the observations of the Expert Panel was that the identified list of services for consideration under CQuEL, was 'bumpy'. In other words, some services covered a wide range of facets and could do with splitting down while others were 'small' and would benefit from grouping together – a nested hierarchy of services would tackle this. A nested hierarchy would also provide a better illustration of how the identified services in CQuEL link with the NEA final services. It could also help in the identification of relevant datasets. **Therefore, it is recommended that a nested hierarchy of services is used to guide the selection of relevant data within CQuEL [R2.9]**.

Work Package 3: Communications

The purpose of the communications strategy is to provide a framework and direction for communicating with the project's key audiences.

The aims of the strategy are to:

- Establish a distinct identity for the CQuEL project: aiming to distinguish it from other activities within the Natural England portfolio.
- Clearly define the target audiences of the project: identifying and categorising the people and organisations with which the project needs to communicate.
- Clearly define the key messages of the project: setting out its core purpose, outcomes and benefits and presenting this information in a format (or level of detail) appropriate to each audience.
- Clearly define the most appropriate communication channels: identifying the ways in which the project's key messages will reach target audiences and elicit responses.
- Develop an action plan to guide the delivery of CQuEL communications: setting out key tasks and milestones; clarifying what needs doing when and by whom.

The communications strategy contains the following chapters:

- Introduction: a brief summary of CQuEL and its objectives, together with a summary of communications aims.
- **Perceptions:** an outline of current perceptions and aspirations of the CQuEL project, to be completed in discussion with NE and key stakeholders.
- **Communications Vision:** setting out key aspirations and milestones for monitoring the delivery of communications.
- **Communications Objectives:** clarifying what the strategy seeks to achieve in terms of the project's image and identity, promotions and publicity, consultation, teamwork and partnership.
- **Communications Protocols:** guidance on managing communications activity (to be agreed with NE communications personnel).
- Key Messages: a breakdown of the project's key messages (i.e. what we want to say about it), including a core message and 'targeted messages' appropriate to public and professional audiences.
- **Issues and Opportunities:** events and developments beyond the remit of CQuEL, which may impact on the project and present either challenges or opportunities for communications.
- Branding: notes on managing the CQuEL 'brand' as part of Natural's England existing portfolio.
- **Key Audiences:** a breakdown of the various people and organisations with which the project will communicate, including individual, collective and thematic audiences (the latter based on the thematic work areas currently used by Natural England to categorise its own stakeholders).

- **Communication Channels:** making links between the various communication channels available to the CQuEL project and the audience(s) that each channel has the potential to reach.
- **Evaluation:** setting out the means by which external communications will be monitored and evaluated (*not included in current draft*).
- Workplan: a schedule for the delivery of communications activity throughout the course of the project (not included in current draft).

We have made the following recommendations for communication:

Links to Natural England communications

It will be crucial for the communications consultant have a strong relationship with the NE press and publicity office during the course of the project (particularly regarding the design/production of communication and consultation materials, and the EDLP launch event in 2011) [R3.1].

Relationship to Countryside Quality Counts

Although CQuEL is an evolution of the former CQC project, it is recommended that CQuEL be treated as a new initiative for Natural England in terms of communications [R3.2]. It cannot be assumed that audiences will be familiar with the project and its objectives. Hence, the core message of CQuEL needs to focus on clarifying the purpose of the project and its benefits, rather than focussing on the methodology *per se*.

Messages for public and professional audiences

It will be necessary to develop separate methods of engaging and communicating with the general public and professional audiences (there is risk of the project appearing 'too scientific' and inaccessible to public, which will require careful management) [R3.3].

International interest

There is good potential to publicise and promote the project internationally, as well as nationally. We recommend that opportunities to promote the project internationally should be taken [R3.4].

Production of a consultation plan

We recommend that a separate Consultation Plan should be developed to specify and inform the consultation process [R3.5].

Work Package 4: Data sources

Recommendations are shown in **bold.** The recommendations are split into three groups: those relevant to both CQuEL and the assessment of ecosystem services; those relevant to CQuEL only; and those relevant to ecosystem services only.

Recommendations relevant to both CQuEL and ecosystem services

Relationship with the National Ecosystem Assessment

It is recommended that there should be consistency of approach and complementarity in the use of data between CQuEL and the National Ecosoystem Assessment (NEA), where this is appropriate to the needs of CQuEL [R4.1]. Work Package 1 (recommendation [R1.10]) has identified the need for the methodology developed for CQuEL to be consistent with the NEA but to extend the understandings that the NEA seeks to provide. Similarly, CQuEL must use data that is consistent with that used within the NEA, although CQuEL will inevitably use additional and more refined datasets.

Sharing of data and development of common platforms

It is recommended that there is close liaison between CQuEL and other projects exploring the measurement of ecosystem services allowing the development of common platforms for gathering and sharing data [R4.2]. There are now a number of projects being run within and outside Natural England that are exploring the measurement of ecosystem services and there is therefore considerable potential for shared working and exchange of intelligence.

Recommendations relevant to CQuEL only

Revisions to the assessment of CQC themes

Revisions to key datasets in the last five years means that there will be discontinuities with some of the data streams used by CQC (e.g. agri-environment and woodland schemes and water quality) although these should not invalidate conclusions on long term trends. It is recommended that CQuEL continues to use the same or compatible datasets as those used in CQC for the assessment of change in landscape character accepting that there have been some changes in how these data are recorded [R4.3].

Recommendations relating to ecosystem services only

Definition of services in relation to Natural England's remit

In order to identify appropriate datasets, work undertaken in Work Package 4 has developed precise and succinct definitions of the ecosystem services (based on a two tier hierarchy). This has extended the work carried out within Work Package 2 (Appendix 6). It is recommended that these definitions of ecosystem services should undergo a process of consultation and endorsement through peer review before final decisions on the data used to measure them are made [R4.4].

Measurement of environmental quality and service delivery

In terms of the use of data to measure service delivery, it should be recognised that there is an important difference between the measurement of the outputs of services (such as water quality or flood risk management) and the contribution that ecosystems play in delivering these. Therefore it is recommended that key metrics (such as the ecological status of water bodies) used by organisations such as Natural England and the Environment Agency are interpreted by CQuEL, rather than being directly adopted as measures of service delivery [R4.5].

Distinguishing different populations benefiting from services

It is recommended that, for many of the services, assessments should take account of the size of populations that are the beneficiaries of the service [R4.6]. For some services (particularly the cultural services) the proximity of these populations will be an important factor in determining the level of the benefit achieved. Whereas, for others (such as some of the regulating services), the beneficiaries may be located remotely from the locations in which the services are generated. One example that would be invaluable for several services is the measurement of urban greenspace in relation to population density (on the basis of Accessible Natural Greenspace Standards).

Taking account of the management and precise location of natural assets

Data on the extent and quality of natural assets will be needed for the assessment of many services. In some cases this is because there is no suitable data to measure service delivery. In other cases it is because an understanding of the role of natural assets in service delivery is needed to understand Natural England's level of influence. It is recommended that where data on natural assets is used to assess service provision, this will need to take account of the location and management of these assets as key determinants of the service provided [R4.7].

Key gaps in scientific understanding

There are several of the regulating services (particularly the control of flood run off and recharge of aquifers) where there is currently insufficient scientific confidence in the contribution of ecosystems to the delivery of the service to justify their assessment by CQuEL. In these cases factors such as climate and geology may be the determining influences and the role of habitats and soils may be less important. It is recommended therefore that CQuEL keeps up to date with emerging research on ecosystem service delivery and contributes to debate on areas requiring further research [R4.8].

Requirements for new data analysis

There are several of the services (such as soil erosion control, reduction in green house gas emissions, and local climate amelioration) where new data gathering and analysis will be required before wellevidenced judgements of service delivery can be made at the scale of National Character Areas (NCAs). In many cases, work is ongoing to collect these data. It is recommended that later work under CQuEL includes the further collection and detailed analysis of data to allow well-evidenced judgements to be made on service provision [R4.9].

The role of expert judgement

In order for reasoned assessments to be made by CQuEL on the delivery of many services in individual NCAs, scope needs to be built in to allow the use of expert judgement to assess the quality of service

delivery, building on empirical data on the extent and location of assets. Wherever possible, it is assumed that such judgements can be made at a regional level, through a process of stakeholder consultation, and applied to NCAs based on data that describes the extent and location of key environmental assets. Therefore it is recommended that judgements on service provision are tested and scrutinised through CQuEL by relevant experts and stakeholders at the regional level [R4.10].

Use of uptake data from Environmental Stewardship

Data on the uptake of individual Environmental Stewardship options will prove an invaluable source of information for many (particularly the regulating) services. The results of new research by Defra will be needed to confirm the findings of earlier work, before these links can confidently be made in all cases. (Defra is proposing work on this between 2010 and 2014, which may be mirrored by other work within NE). It is recommended therefore that CQuEL keeps up to date with all work that is assessing the delivery of ecosystem services through Environmental Stewardship [R4.11].

Work package 5: Links to Natural England's Land Use Strategy and Vision 2060

This work package has explored the relationship between CQuEL and Natural England's Land Use Strategy and Vision 2060 initiative. Two key aspects are considered:

The extent to which CQuEL can be used as a tool to refine and deepen the scenarios developed by Natural England; and,

The extent to which the Natural England's current vision can be used to identify objectives and targets against which recent changes in landscape and the output of ecosystem services can be judged, and against which future changes can be monitored.

It is clear that the spatial framework proposed for CQuEL and the 'spatial logic' that it uses to link ecosystem services and landscape can make a significant contribution to Natural England's 'futures thinking' in two ways, namely by:

- better describing and understanding the *geographical contexts* in which future change might occur; and,
- helping to better understand how future landscapes might be valued.

The following recommendations emerge in relation to these two themes:

We recommend that the historic and proposed third assessment of change in landscape character and function be used to assess the extent to which Natural England's land use strategy and institutional vision are being achieved [R5.1].

We recommend that spatially explicit representations of the Natural England's Vision 2060 scenarios be developed as the basis for interpreting alternative trajectories of change and as part of its wider work on England's 21st Century Landscapes [R5.2].

We recommend that the outputs from the National Ecosystem Assessment be used to identify how contemporary trends in landscape character and function at NCA level relate to the contrasting geographical futures suggested in Vision 2060 [R5.3].

We recommend that the results of CQuEL are used to look at the consistency between objectives for landscape character and function at national and local scales, using both public and expert based opinion [R5.4].

We recommend that the evidence base created by CQuEL and the framework of the National Character Areas are used to help construct a benefits transfer database that could support Natural England's future valuation work [R5.5].

We suggest that although CQuEL can make a significant contribution to the development of benefits transfer methods, it is not appropriate that this element be included in the future CQuEL work programme. However, we have suggested that the first four recommendations should be incorporated in this project, and have suggested how these tasks can be sequenced in relation to the main analytical and consultative phases identified in the Work Package 1 Report.

Tasks and timing

		201	10 - 2	011		2011	- 2012	2012		2012 - 2	
Work Package	Tasks	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Work Package 1: Historic	Load and review data										
Assessment and	sources										
Refinement of Analytical Methods	Linking ecosystem services and landscape character		1								
	Reporting historic change in										
	ecosystem services										
	Informing NE interventions			2							
Work Package 2: Public	Developing consultation										
consultation	method										
	Piloting consultation method		3								
	Assembling consultation										
	materials										
	Developing online consultation tools			4							
Work Package 3: Building	Restructuring NCA										
the evidence base	objectives										
	Building data/analysis				F						
	platform				5						
	Importing new datasets										
	Basic analysis of landscape change				6						
Work Package 4:	Developing consultation plan			7							
Consultation and communications	Managing internal										
communications	communications										
	Liaison with NE										
	communications										
	Consultation with general public					8					
	Consultation with								9		
	professional stakeholders								9		
Work Package 5: Review NE visions and scenarios	Assessment of change across NCAs										
	Assessment against NE										
	scenarios										
	Assessment against 2060 vision						10				
Work Package 6:	Initial assessment of change										
Assessment								11			
	Finalisation of results										
	following consultation										
Work Package 7: Reporting	Publish CQC III indicator								12		

Milestones

Work Package	Mile	stone
Work Package 1: Historic Assessment and Refinement of Analytical	1	Report on methodology for linking services and landscape character
Methods	2	Recommendations on NE interventions
Work Package 2: Public consultation	3	Report on pilot consultation method
	4	Online consultation tools launched
Work Package 3: Building the evidence base	5	Data analysis platform established
	6	Basic analysis of landscape change complete
Work Package 4: Consultation and communications	7	Consultation plan published
	8	Report on consultation with general public
	9	Report on consultation with professional stakeholders
Work Package 5: Review NE visions and scenarios	10	Report on links to vision and scenarios
Work Package 6: Assessment	11	Initial assessment of change published
Work Package 7: Reporting	12	CQC III Indicator published
	13	Report on quality and functional integrity of the English landscape