

UK NEAFO Work Package 10 - Appendices

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Appendix 1: Preliminary Interview Summaries

Birmingham and the Black Country NIA

This piece is a summary of a discussion between Professor Alister Scott, Neil Wyatt and Chris Parry. The discussions predominantly focussed on the Birmingham and the Black Country NIA, with actions listed at the end of the piece.

Research Question

Key research question posed extending remit beyond the simple consideration of the NIA to encompass more strategic perspectives related to how can we connect ecosystem assessment frameworks thinking into the wide range of agendas that are now being developed across built and natural environment (through on-going work of the Birmingham and Black Country Wildlife Trust) so it maximises integration and joined up policy and decision making (across scales, sectors and stakeholders).

Key aspects mentioned included:

Nature Improvement Area ; Local Nature Partnership , Geopark , Local Enterprise partnership ; urban park ; River basin management plan Catchment management Plan

BCU Research

Set within the BCU led research National Ecosystem Assessment follow on project this can be translated into a research question as to how can we develop tools that cut across these boundaries and spatialities which are multifunctional and transferable to other settings and locations ?

- Research by partnership where academic, policy and practitioners form one research team which works with the NIA partners to answer YOUR specific research questions. In that respect the research evolves as issues sand opportunities emerge
- See a whole host of partnership initiatives out there important and need to find ingredients that make them work set across these different band diverse agendas that are now being pursued. Important issues raised by duty to co-operate but also way local authority work on their own patch
- See a range of tools being used for a variety of different purposes and important to evaluate them but set within the work and activities of ONE initiative.
- Need to incorporate a wide range of professional and public views And ensure it goes beyond the usual suspects , significant that the NIA has over 50 partners

- Key tools may include GI, habitat banking, rufopoly, CIL and visitor payback. The mapping approach used for the NIA application is also a valid tool
- Important to assess the strengths and weaknesses of the NIA approach as employed by BBCWT:
 - Weaknesses: interesting issue that the agricultural fringe areas might have escaped attention here
 - Strengths: partnership includes over 50 organisations; excellent data sets for producing map tools
- Currently there are a whole series of workshops and a conference planned as part of the NIA process. Important for the research that we use existing and planned events in the main. This seemingly fits in with our timeline for submission by May 2013
 - Key role to support these and advise, facilitate, record as appropriate (ideally important that one of us is able to attend meetings as an observer as part of the research process)
 - Use a range of participative techniques; our team has experts in facilitation
 - Think about interfacing with the LEPS and other interests not covered by the partnership
- The research is therefore set within two related phases

Phase 1 developing a framework for tool development

Phase 2 testing and adapting within a range of different environments (important that the tools are tested in the BBCWT NIA)

Emerging Actions

1. Neil Wyatt to invite Alister to attend meetings of the NIA partnership and other related initiatives as an observer where appropriate (permissions need to be sought first)
2. Alister to formalise invite to Chris Parry for research team meeting on 18 May and send more detailed briefing note 9.30-10.15. In this context BBCWT are seen as a research partner
3. Alister to send dropbox invite to Neil and Chris to share folder files for the project to aid communication
4. Alister to invite a rep from BBCWT to Rufopoly workshop on 30th May
5. Alister to edit the proposal for the research for WP9 and 10 for approval by BBCWT and associated partners. On the basis of the meeting it was felt more desirable to work with this and then compare with other areas such as Cannock Chase AONB
6. A simple exchange of letters is required once a clearer understanding of the proposed work is agreed (18th May meeting will help formalise this.) in order to secure the case study
7. There was an opportunity to focus in depth with one aspect of this work for a knowledge exchange grant for ESRC deadline 7th June. Again we need to identify one key area that allows the messages from our research to support your work. Given our discussions perhaps developing a rufopoly type tool for you might be one of the key approaches we could deliver. As part of this I will send you the rufopoly questions and screenshot of the board. There is an invite to view it on 18th anyway

Black Country Local Enterprise Partnership Consortium

This is a summary of the key points and actions arising from a meeting with Laura Shoaf from the Black Country Consortium. This meeting took place on the 14th June 2012, with several TABLES members representing the project.

Summary of key actions

The TABLES-NEA project seeks to work with stakeholders across the NIA area identifying and understanding key management and planning issues in order to inform and develop existing tools to help co-produce management solutions. As part of this a key goal is to implicitly or explicitly (as appropriate) embed ecosystem thinking within such tools. The ultimate success of our mission will be if the potential users and managers are able to test, use and validate these tools themselves set within the pragmatic and messy reality that they confront.

The key issues identified from the meeting were as follows:

1. Black Country consortium has amassed a good evidence base for its work and is a key link in joined up policy across the region.
2. The hidden green spaces and GI both in terms of physical and perceptual barriers within the Black Country. A lot of the true value of the Black Country is hidden from view both above and under the ground. The case of geology is a key asset.
3. The lack of understanding or appreciation amongst black country residents of the real costs and benefits of such spaces particularly when new environmental investment is made within them. The NIA is a classic opportunity space but for many publics they lack visualisation of how that change will appear and how it is relevant or accessible to them.
4. Loss of staff both in the consortium and planning LPAs which means that issues of time mean we have to work SMARTER and more efficiently. Hence our work needs to fit within this agenda; we need to work with existing tools to show how they will improve policy and decision making processes and outcomes.
5. The proposed Geopark provides a real opportunity to address some of the above concerns. Ongoing mapping work within the Environment forum of the consortium should provide an evidence base to help focus on other hidden opportunity spaces again interfacing with NIA.
6. Important to look at embedding work in innovative planning authorities and Wolverhampton City Council under Steven Alexander was recommended as good authority to work with as they had recently restructured their planning unit to have a more joined up response.

Your actions

1. To check accuracy of note above and add any other thoughts/actions as appropriate.

My actions

1. To contact Geo park via Alan Culter (Email sent.)
2. To liaise with Wolverhampton (will do this after exam boards)
3. To enable a meeting between Nick Grayson and his GI strategy and Laura (I have spoken to Nick about this and he will contact you).

4. To progress the hidden aspect of the Black Country within the tools development set within a value assessment that is locally relevant. (will contact Natural England team members).

Brecon Beacons National Park Farmers Focus Group

This document provides a summary of the key points arising from a meeting held between Professor Alister Scott and a group of farmers from Brecon. The meeting occurred on the 8th October 2012 and took place in Brecon. The raw interview data can be found below the summary piece.

1. The importance of farming as an industry to produce food.
 - a. Issues of food security
 - b. Issues of loss of good agricultural land to conservation grants
 - c. Issues of environmental fundamentalism threaten future of farming as no farmers to take over reins

2. Technocentric and expert led definitions and regulations create a tick box culture that threatens integrity of good farming practice
 - a. Inadequate imposed definitions lead to widespread misreporting eg permanent pasture
 - b. Cut off dates for agricultural operations imposed within one size fits all model
 - c. Regulations create tick box constraints limiting good agricultural practice with regional/geographic flexibility
 - d. Scientists tend to treat local farmer knowledge and experience with disrespect
 - e. Poor communication breeds a climate of distrust resulting in and us and them culture

3. Grant regime distorts the farmer and threatens identity
 - a. Turned into subsidy chasers to keep business viable
 - b. Grants favour loss of best agricultural land which seems counter intuitive.
 - c. Low prices mean many farmers is tied to subsidies whether wants them or not
 - d. Short term economic response
 - e. Changes in grants regime causes problems. The loss of Tir Gofal lamented given its replacement perceived as inadequate
 - f. Important to see wider business grants and opportunities but there is limited take up due to lack of awareness and advice
 - g. Role of independent adviser key . ADAS was a good service. Lack of such advice now unless you pay for it
 - h. Issue of farmer mindset and goals forgotten

4. Lack of succession to farm threatens long term future of valued landscapes
 - a. Current climate threatens future of farms through lack of young farmers
 - b. Lack of tenancies to enable people to get a rung on the ladder

5. Centralisation of power through national government and national park
 - a. Highly centralised policy responses constrain individual farmer responses
 - b. Lack of flexibility in decision making key problem in running a successful business.
 - c. Planning can produce inconsistent advice
 - d. Limited understanding of farming with too many parkologists
 - e. Limited opportunities for localism
 - f. Potential castration of farmers which could destroy the very things that people value

6. Changing Structures of rural communities
 - a. Wave of new migrants changes structure of communities and land holding patterns
 - b. Lack of understanding with farming brings conflict with ongoing agricultural operations
 - c. Resistance to change in community (can this be applied to farmers as well)

7. Planning system
 - a. Planning favours those with knowledge and resources to win the planning game. Need to pay for good consultants
 - b. Professional Planners do not really understand farmer business and they are risk averse
 - c. Local farmer knowledge and experience is not a material consideration with clear feeling that views are consistently ignored in favour of expert agencies
 - d. Inconsistent planning advice fuels distrust

8. Education
 - a. Farmers are taught how to farm which conflicts with thrust of current policy. Issue of culture change required
 - b. Too much theory in university means people and so called experts ill adapted to the messy reality on the ground
 - c. Lack of willingness to engage in real communication maximises conflict.
 - d. Issue of mindsets

9. Officialdom
 - a. Too many officials use tick boxes rather than common sense.
 - b. Regulations imposed rather than negotiated.
 - c. Need to have more adaptive strategies promoting a learning by doing approach
 - d. Important to change culture of officialdom in the idea that they know best
 - e. Worries about NRW single body although a more joined up government would be beneficial to farmers but risk of another tick box approach divorced from the real world

10. What does success look like

- a. Farming as a food production industry
- b. Flexibility to do what is good for the farm and the environment rather than trade-offs
- c. Future succession critical as young farmers are dying out
- d. Farming as a business not a museum or wildlife reserve

Cotswolds AONB

This is a summary of points arising from a meeting between TABLES team members, the AONB Chief Officer Martin Lane and Richard Wakeford of the Cotswolds Conservation Board. The meeting occurred on the 10th July 2012 and was situated at the Cotswolds AONB offices.

TABLES-NEA

The project was briefly introduced via a PowerPoint presentation, which aided with setting the context.

Governance

The Cotswold AONB is set within a complex and messy governance arrangement between 15 local authorities, 6 LEPs and other LNPs. It has a small core staff of 16, and 250 volunteer wardens with an important role as communicators.

As a conservation board there are both appointees via local authorities (including parish councils) and secretary of state. Collectively this provides a large group (37) as a whole board to tap into.

Management plan Review Timeline and progress

Summer 2011 Thematic workshops on key issues (with all notes on record)

Record of meetings on the Plan (available to consult)

Consultation documents produced with SEA Spring 2012

Currently initial consultation of plan finishes 13 July

Around October 2012 review document deposited for a further 6 weeks consultation

Preliminary Identification of issues

1. The role of the management plan as a tool
 - a. Role is currently a policy tool for policy makers (important to research which policy makers use it – e.g. just local planners, or Defra people deciding rural development grants); can it have a wider remit without being lost in translation
 - b. How it can be linked more positively with the NPPF and development plans (including neighbourhood plans) and raft of other statutory and non-statutory plans now emerging across the complex governance arrangements that characterise the AONB
 - c. Financial inducement as a tool: Issue of agri env payments coming to an end with less monies available to secure benefits raises issue of what tools you can use to help people do the right thing for the landscape

- d. How the management plan itself can be a more effective tool for the range of publics it affects and involves?
2. The strategic role of the AONB (with its place-based boundary) versus the disintegrated role of constituent local authority partners and new partnerships structured around political boundaries (LEP/LNP).
 - a. Role of partnerships as tools in themselves. What makes a successful partnership?
 - b. New governance arrangements are compounding the disintegrated nature of understanding the AONB as a coherent body
 - c. Need tools that help cross boundaries and scales
 - d. Role of funding as a tool (eg HLF) in supporting goals
 - e. Quality of data and evidence currently available
 3. Tourism in the AONB through the visitor ' lens' for reinforcing place and place identity
 - a. Destination management philosophy challenges contemporary approaches that fragment AONB area and identity with each district council promoting its own bit (or not)
 - b. Need better signposting of AONB as a designation within which its value can be measured
 - c. Need better integration across boundaries and sectors
 - d. Issue of culture change (ie what tools affect the way developers and land managers approach decisions that impact on the AONB's ecosystems)
 - e. Need to understand better what is valued (by tourists, local businesses, residents)
 4. Other issues discussed
 - a. AONB versus National parks and the comparative role of duties
 - b. How you prioritise decision making across different sectoral interests
 - c. What tools and approaches are you currently using to address ecosystem services
 5. Tools specially mentioned
 - a. SEA
 - b. Agri Env schemes
 - c. Visitor Payback
 - d. Public Consultation
 - e. Business investment districts
 - f. Enterprise Zones
 - g. Simplified Planning Zones
 - h. Management Plan
 - i. Partnerships
 6. Actions for BCU
 - a. Provide you with copies of today's presentation and timeline for project (see Appendix)
 - b. Mike Hardman to visit to capture output from thematic workshops and Board meetings
 - c. Mike to capture views from Malcolm Watt (Planning Officer for the AONB)
 7. Actions for AONB

- a. Identify any tools that you currently use and particularly value in pursuit of your goals
- b. RW to prepare simplified version of draft management plan – as a potential influencing tool – under headings such as AONB natural ecosystem goal, what action will deliver the goal, what are main influences over deliverer, what tools are available to Conservation Board
- c. Check note above for any other issues missed in discussion or after reflection. Ideally circulate finalised note between other officers and Board members
- d. Plan for a meeting around the end of September with a core group to receive summary of our tool reviews and help prioritise future development

Geopark (Black Country)

This is a summary of a meeting between representatives of the TABLES project and Graham Worton of the Geopark project located in the Black Country. This meeting occurred on the 25th July 2012: originating from discussions originally with the Black Country Consortium.

1. The Geopark Designation

770 sites for geodiversity

The designation of the Geopark is seen as a key tool to improve the way natural history is taken into account by a range of decision makers and in particular the planners. Much natural history currently misses geology.

The designation will change perception of natural history and raise the profile and understanding of the special qualities that give rise to the designation with potential to change the perception of place which is currently seen as negative. The Geopark has potential to transform the image of the area. The example of Torbay illustrates the importance of creative branding and theming (Agatha Christie) as a cultural icon. In the Black Country using the mining heritage as the key focus

Working with the countryside project and the Ripples through time approach to improve knowledge and understanding of natural heritage.

Several years of experience in collecting data for geodiversity and the application.

2. Fear of designation

Issue of decision makers fearing any element that drags a decision into a difficult place made worse by lack of communication across sectors. Important to change the culture of the designation tool and questions whether the ecosystem approach with the focus on ecosystem services might be able to do this. This raises wider issue of the way the local public perceive a designation.

3. Population loss

Major issue in Black Country is the loss of people from the region in terms of places to live; huge loss of talent and creativity. Key assets are hidden and there is a cycle of negativity that reinforces a negative place identity. Attempt to reverse this through Big lottery funding project. Some sites of immense value that are not really celebrated and valued by local people at the moment. This raises issues of security in terms of crime and also connectivity of sites that are of value. Wrens nest NNR of national importance. Important role of countryside project to act as bridge to maximise local buy in and wider appreciation of assets.

4. Planning

Major issue in terms of the quality of development management which has led to poor quality places.

Important issue to engage more people in the planning process. There are a whole set of villagers amidst much development each with their own identities set at different scales of interaction with the site(s). Need to understand that and think about tools to meaningfully engage across the whole geological heritage. Come up across issues of tension of ownership of patches. This brings in the need for connectivity in terms of site integrity and cumulative impact and the extent to which can be made much more accessible and visible to the public. The designation offers a very explicit route to do this.

5. Community development involvement

Key issue in engaging the local community in the natural heritage. Ripples through time project does this thru a dedicated post. (Apologies forgot name). Range of ideas to engage with local young people who are in the area. Thinking outside the box using ideas of Forest Schools., artist in residence to get people interacting with sites in novel and unusual ways. Trying to build respect for place in the range of activities. However scattergun approaches used at present

6. Hidden Assets

The issues of hidden assets was a key theme here in that with the amount of new development there was little connection or understanding from local people of the value and potential benefits of the assets in their scientific value yet use was made indirectly. Need to think about tools to engage more people across these and discussion centred around the use of Geocaching treasure trails using GPS. In addition the need to think about the investment and benefits from the natural heritage in terms of grants and monies invested via grants etc. The current black country slogan see it in colour is one message to help bring this out but important to have the financial value of the natural heritage here to local people.

Action Points

1. Alister offered to help facilitate a range of consultation workshops in venues to be agreed around early September to boost local community involvement. An open space format would allow the Geopark to be advanced with other ideas as a mechanism to help address specific issues and priorities but it was felt important to have a neutral format that allowed people to talk about the following issues
 - a) Sense of place and current place identity
 - b) Issues that concern them in the community
 - c) Possible ideas to address these

Dates include early September with a venues to be decided across Black Country area (pubs). BCU has other staff who worked on a connected communities project in Rugeley supporting community champions. There is also the scope for facilitator roles using a range of techniques and materials;

ability to write up such workshops for the bid, staff resources to help other aspects of the bid process (if appropriate).

2. Graham offered to share bid material with Alister within which member so Alister's team could offer particular help.
3. General agreement that the project was a viable case study and the thinking

High Weald AONB

This meeting occurred on the 16th July 2012 between representatives from TABLES with Ruth Childs and Sally Marsh of the High Weald AONB. The following document summarises the key points from this discussion and actions which were followed up by those in attendance.

1. TABLES project The Tools: Applications Benefits and Linkages for Ecosystems
 - a. Definition of tool important and broad an all encompassing

2. AONB Governance
 - a. Four counties, 15 districts 99 parish councils creates a complex governance structure
 - b. Limited flexibility across their statutory functions
 - c. AONB boundary causes districts both due to lack of flexibility in implementation of their procedures. (Strategic versus localism)

3. The AONB Management Plan
 - a. Seen as a key tool in delivery of AONB objectives but not “owned” by all stakeholders
 - b. The style does not set out specific actions and targets and lacks direction to potential partners (issues of accountability and responsibility)
 - c. Issues of trying to define and engage key audiences set within consistent messages
 - d. Currently the plan is not informing planning and business and community representatives
 - e. Rethink the process and audiences for the management plan ; engaging with twitter and social media
 - f. The review process offers an opportunity to build on the successful foundations set within some wider consultations. (Scope for the TABLES project to help with this as appropriate)
 - g. Management plan needs to embedded more effectively in the decision making structures of other actors

4. Hooks for wider AONB engagement
 - a. Duty to cooperate provides a really important and positive hook through the emphasis on partnership and the AONB model across 3 local authorities and 15 districts and 90 parish councils. The cross working officer group and joint advisory committees provide a readymade model to engage planners
 - b. The LEPS are a potential opportunity but as yet have not been
 - c. Discussions with local planning authorities across this
 - d. Neighbourhood plans are being developed across the High Weald and there is some officer support. Seen as an important tool to synchronise AONB management plan and local plan
 - e. Strong evidence base particularly historically and over GI offers a platform for wider involvement and support for policy making
 - f. Peoples strong support and interest for historical aspects of the landscape

- g. Changing focus of scales from landscape to village is an area where AONB experience increasingly dovetails with changing needs of planning
5. Evidence Base
- a. Lots of good evidence across environmental and economic domains
 - b. The Making of the High Weald Time Depth approach was the base for the current plan. (available via web)
 - c. Ancient woodland inventory
 - d. Aerial photo coverage
 - e. Wind energy assessments
 - f. Accessible green space
 - g. Gap in some of the social data although the census might help
 - h. Key point is evidence is helping to limit the use/abuse of political arguments
6. Grants and incentives
- a. Limited time to develop thinking and true partnerships for funding activities.
 - b. Eg Rural growth hub for LEPS
 - c. Experience in EU via INTERREG
 - d. Opportunity spaces if better lead in time
7. Barriers to Progress
- a. Issue of language and jargon can be a problem
 - b. Go beyond usual suspects in consultation processes
 - c. Issue of decisions being made and tools to justify afterwards. Eg SEA not used to best effect. (Problem of too many tools)
 - d. Progress in areas such as GI and others takes time as other institutional structures and rules and complex messy governance require investment and patience
 - e. People detached from landscape and therefore can fail to connect with the historical aspects of landscape
 - f. AONB messages used by some to thwart development reflecting a tension between the rhetorical and the local political reality
 - g. Lack of understanding of what are the special qualities that give rise to the designation
 - h. Lack of support given to the features that shape AONB; landscape can be a secondary issue in the minds of many decision makers
8. Best practice in AONB
- a. Developing their own tools to reflect local opportunities and challenges. (mainly to secure better and improved evidence base)
 - b. Some limitation of roll out of some of their tools due to different IT systems and compatibilities
 - c. Demonstration projects supporting local wood products; education programmes and targeted publications to users. Difficulties of engaging across different planning authorities
 - d. Farmstead assessment framework tool AONB already developed still developing it being published by Kent county council 5 years

9. Tools mentioned in the discussions
 - a. SEA
 - b. Management plans
 - c. Development plans
 - d. Visitor payback
 - e. Consultation tools
 - f. Local tools developed by AONB project.
 - g. Neighbourhood plans
 - h. SUDS

Actions/Questions for High Weald

1. Can you amend or add to anything above?
2. What tools would you most favour us working on to support your current work priorities? (Equally what ones are of least value to you?)
3. Milestones are in the Appendix here and our goal is to work with you via the review, development and testing phases; how do these fit your AONB management plan timescales
4. Is it possible for one of my team to come back and look at your evidence base in more detail to fully understand what you do currently use?

Royal Town Planning Institute

This event occurred on the 18th July 2012 and was in the form of a workshop organised by Professor Alister Scott. The workshop enabled the TABLES team to consult with multiple partners; engaging the group on priorities, their perception of the ecosystem approach and current mechanisms for enabling the concept. The bullet points represent notes left by participants on the day and are housed under generic themes for ease of interpretation.

Rural Priorities

This could form the hit list for a series of dedicated rural seminars following this launch event.

1. Farming and Food issues
 - Farm Diversification – type, scale and economic benefits ; increase local tourism and employment ; increase local produce awareness and increase benefits to local rural businesses
 - Intensification of farming ; although huge buildings are required presumably won't be over whole of farms area but if producing enough of a particular food from these buildings s what will happen to the rest of the farms land?
 - Food security and local food production
 - Food production
 - Farm diversification and intensification
 - Keep Farmers in business
 - Farmers keep themselves in business; given them tools
 - Allow farmers to diversify with renewable energy to help the rural economy and climate change
2. Rural environmental issues
 - Give more weight to biodiversity. It helps to combat climate change but is itself threatened by climate change. NEWP priorities for habitats can be summarised as “More bigger better and joined” These principles also appear in the NPPF. When will we learn that we have to gain from working with nature than against it
 - Landscape management as a crucial element of development planning
3. Multifunctionality
 - Critical that the nature /scale/purpose of approach to rural development is established for an individual area. Need to maximise its benefits and minimise its impacts
 - Appropriate scaled growth for self sufficiency
 - We need more multifunctional hubs whether based on pubs, churches or farmsteads to act as centres of enterprise and community services
 - Holistic solutions that respect the environment
 - Persuade Local Enterprise Partnerships to produce an annual report on what they are doing for the rural economy in their area.
4. Housing
 - Affordable housing and key worker housing
 - lack of affordable housing provision ; younger generation migrating out
5. Community Change and Problems
 - New urban people in rural areas providing new ideas and bringing new crafts

- Demographic extremes ageing population ; care home accommodation and demands on local services and lack of affordable housing provision ; younger generation migrating out
 - It is important to have CPRE and protection of the natural environment but it is more important to protect communities problems of pubs, shops, schools and businesses closing.
6. Energy
 - Renewable energy initiatives
 - Affordable energy and warmth
 7. Rural Transport and connectivity
 - Car clubs and commuting plans sponsored by development
 - Transport initiatives eg community transport
 - Good Access to broadband
 - Broadband hubs

Current rural initiatives

1. Current rural initiatives in the West Midlands with named contacts
 - Worcestershire Green Infrastructure partnership Ben Horovitz (Worcester County Council)
 - John Iles (Grow with Wyre)
 - Neighbourhood planning and community involvement critical Sam Banks / Jane Worrall Hereford (note they have a neighbourhood team section in the council*)
 - Total Environment a joined up approach to green infrastructure for major development sites
 - Community Renewable Energy projects Fenland Green Power Cooperative Ken Blackhurst BCU
 - NFU Farm Energy Service Advice
 - Boughton Butler Alternative models for housing to urban accretions based on Home working hubs; Housing clusters with self-managed components e.g. allotments or shared community growing spaces; Car clubs non fossil fuel vehicles
 - Farming and Forestry Improvement scheme DEFRA
2. Generic Ideas for rural initiatives
 - Community Development Trusts
 - Examples of elected members working with development teams
 - Landowner initiatives towards balanced development of communities
 - Landscape partnerships

Current Tools used in rural planning

1. Communication tools
 - Good practice demonstration events
 - Identification and use of champions to percolate through networks
 - Easy points of contact via on line or phone; one stop shops
2. Regulatory tools
 - Strategic Environmental Assessment
 - Habitats Directive and regulations 2010

3. Funding tools
 - Heritage Lottery fund
 - Landscape Partnership scheme
 - New Natural England natural Character Areas is this going to help?

4. Tool development priorities
 - Neighbourhood planning (positive and negative issues)
 - Enabled development especially in the green belt ; ie give 50 acres of new woodland for 5 acres of development
 - Planning should be about managing change including change in response to climate change and accept countryside will be different in 10, 50 , 100 years' time
 - The lens of climate change could be a useful tool through which to value ecological components currently not appreciated in current planning regime. The need for contribution of ecological adaptation

5. Miscellaneous
 - Integrate farming and biodiversity on to each other not impose
 - Need rural transport packages of community transport; car share, bus and car. Needs co-ordination and broadband and local shops
 - Improved evidence about local (farm) businesses ; no of farms; no of employees type of farming; development needs
 - Community development groups as promoters of development and self-checking
 - Tools for integrated rural development why does it matter if Birmingham merges with Coventry if they do so what

Barriers to rural planning

1. Knowledge and understanding of key rural issues and agendas
 - Urban sustainability agenda dominates
 - Rural urban divide hinders effective planning
 - Lack of understanding of the natural rural environment work
 - Professional self-interest blocks working together in silos
 - Lack of awareness of NEWP in planning community
 - Member/Councillor support and knowledge on sustainable rural development and environmental issues
 - Lack of understanding and misunderstanding as to what form sustainable development takes in rural areas
 - Lack of easy access to advice and confused mixed messages

2. The role of the Green belt
 - Green belt is too restrictive
 - Reluctance to review green belts
 - Without green belt cities will spread outward and rural land will be lost
 - Green belt designation is applied too strictly to restrict rural activity and development which (should) will be readily acceptable in the green belt.
 - Green Belt policies will never weaken
 - Green Belt policy
 - Green Belt should be a strategic planning tool not an excuse for petty micromanagement

3. The NIMBY effect
 - Parish councils and the perception that the countryside should never be altered
 - NIMBYism

- NIMBY movement; not happy to see change in the countryside
 - Increase in rural elderly who wish to see village preserved even if this means it dies i.e. no longer has support for school shops etc
 - Rural protectionism by rural townie idealist views prevent sustainable development and future opportunities
4. Identifying community needs
- Most communities feel let down by the planning system
 - Lack of broad engagement
 - Engagement dominated by the usual suspects
 - Will neighbourhood planning deliver what communities really need- which parts of the community are politically active and are those most in need less likely to be involved
 - Lack of financial support assistance to key tools such as neighbourhood planning
5. Rural transport and connectivity
- Broadband and working from home all very well but I have come across people who have tried this but miss the face to face contact and interaction that others get in the workplace
 - Transport from villages to job and leisure opportunities
 - Transport with changing bus routes
 - Rural transport will need to be more than a few bus changes/routes. Car will remain the main mode and its cost will start to restrict people's ability to move around
 - IT Broadband is needed with fast speeds to connect rural areas
6. Power issues
- Landowners unwilling to release land for low cost local needs housing
 - Corporations eg Tesco and Sainsbury in food produce supply price
 - Location will not work until developers actually delivers what they promise
 - Seem to have heard much of this in the 1990s; how much of this talk is actually different from then
 - Impact of HS2
7. Non planning barriers
- Business rates can be as big a barrier to farm diversification as planning controls.
8. Other
- Potential water Storage planning approval issues ; water efficiency and conservation is crucial especially in terms of climate change.

Staffordshire County Council

The following is a summary of discussions between TABLES team members and Staffordshire County Council 25th July 2012. . The session began with an overview of the project before shifting to a more informal discussion regarding opportunities and needs.

Focus on the umbrella role of the County Council

Newly created roles and team to cover rural section incorporating existing environment team, AONB team, PROW and access

Put the wider rural agenda up the political agenda covering both landed and business interests

Take a holistic view of the rural problem/opportunity but framed within a rural urban (peri-urban identity)

Looking at using ecosystem services within this role set within the value of the rural economy; access to services and quality and value of rural environment.

Role of GI stressed as a key facet of work; looking at networks and connections as a whole

Idea of how to engage with all the other players out there; shape its role as a county council through the idea of a compact

Need a tool within which the districts and the rural voice of Staffordshire can be heard and actioned

This is about a strategy that joins up across sectors and partners. Common set of goals and vision. Essentially a rural proofing exercise with shared priorities

Progress

Experience of PURPLE network

LEP toolkit work via Natural England (Tim Sunderland)

Meetings with agencies and usual suspects (what about the unusual suspects)

Chernell valley are interested in becoming their own AONB

Engaging with a wider range of parents at EU level via Purple and other work networks including academic

E.g. Mike Christie re local nature partnership and NIA?

Pilot for NCA and LEAD projects with ecosystem approach

EU funding projects

Issues

Interesting issue/opportunity with Chasewater Park now under their role and how to use it as an asset to the council

Need to articulate and state the value of rural (economy); country parks for instance. Need tools that can provide quick and dirty first answers to help demonstrate value

Urban focus can dominate attention but so much of Staffordshire is rural urban fringe. So lack a proper understanding of its value

Values of nature

Engaging the LEPS (two leps)

Defining a role for the Local Nature Partnership as a tool to help deliver this strategy? Important however within this to ensure that actions occur and it is not as talking shop

Issue of working at and across the appropriate scale(s) for engagement across the rural sectors and joining up the messages and actions

Actions

1. Alister to send relevant material from RELU project(rural urban fringe) and TABLES (NEA follow on) to Ian
2. Stafford County Council to become a member of our case study team and work with us to co- develop our thinking
3. Alister will forward invite to Staffordshire team at LEP meeting on 6 September
4. Staffordshire team to look at notes and add any extra information

Wolverhampton Planning Department

This meeting occurred on the 6th July 2012 and took place in Wolverhampton with the head of planning. This particular department received awards and praise for their innovative efforts in introducing the ecosystem approach ethos into decision-making processes. The following provides a summary of this meeting.

- Recognition of importance of ES through NPPF commitment (par109), yet question what additionality it brings to existing planning policy and development management; i.e. issues over full understanding and implementation.
- Understanding of ES predominantly focussed around food, water, resources etc. Ties primarily to the implementation of environment aspects set within broad thematic approaches embedded in policy. The issue of integration of such matters was raised with guidance on how to reconcile competing priorities across sectors.
- Important to define at the outset what a tool is: set within BCU mind-set it is merely the “means to achieve a desired goal”. This allows a range of tools to be developed in the project.
 - GIS and similar spatial mapping packages
 - Section 106s
 - Evidence and data quality
- Wolverhampton have implemented a common policy approach within the joint core strategy which enables:
 - Cross boundary thinking
 - Strategic flood risk assessments – protection from development etc.
 - Set within themes
- Current work at implementing/managing/thinking about ES involves:
 - Providing greenroofs
 - Biomass
 - Urban wetlands
 - Spaces for food
 - Corridors

This whole discussion reinforced the need for a better planning-related summary of the ecosystem approach and ecosystem services.

- The issue of SEA revealed a view that this was a statutory process that had to be followed rather than a tool to improve plans or policies.
- The issue of CIL was briefly referred to and the question asked by Alister over whether ecosystem services might be incorporated within your framework.

A series of further questions then emerged from discussion:

- How do you implement ES within policy and development management processes specifically to help with competing demands for new development across sectors? Some services are well defined (flood risk assessments) others are not.
- We have good spatial maps of nature conservation sites but ecological network not really defined; need to make sure this is protected (on-going initiative).
- How do we monitor environmental effects of the plan? Already monitoring things like air pollution, waste, climate change etc.
- Management of land, with the council as a landowner; can such spaces provide an exemplar of Ecosystem Services
- How do we prioritise ES in a planning application? Are areas such as food and disease control appropriate for planning to deal with? Or something on the side? How do we embed ES into an officer's report without imposing extra burdens?
- How can we embed ES in Neighbourhood plans (mentioned in the context of emerging plans in the Black Country)?

Appendix 2: Tool Reviews

ARIES (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	ARIES: ARTificial Intelligence for Ecosystem Services
Type of tool (list all that apply)	Mapping, modelling, decision, ecosystem services
Group members	<ol style="list-style-type: none"> 1. Ron Corstanje 2. Jim Harris 3. Claudia Carter 4. Alister Scott
Please provide a brief synopsis of the tool	<p>ARIES is a web-based technology offered to users worldwide to assist rapid ecosystem service assessment and valuation (ESAV). Its purpose is to make environmental decisions easier and more effective.</p> <p>ARIES has been used for spatial mapping/quantification of services and valuation of services; PES; conservation; spatial planning; future change; land management decisions.</p> <p>ARIES helps discover, understand, and quantify environmental assets and what factors influence their values, in a geographical area and according to needs and priorities set by its users. ARIES is a suite of applications, all delivered to end users through the Web. All applications have been designed with the help of professional usability engineers, and are accessible through a standard web browser. Along with the main toolkit (Ecosystem Services Explorer, Valuation Database, and Biodiversity Explorer), custom ARIES interfaces can be built to simplify use by specific groups of end users.</p> <p>ARIES uses a benefit transfer approach. Under this methodology, each point on the landscape is assigned ecosystem service provision and value largely according to its land use and land use change, where the ecosystem service provision and values are calculated using value transfer methodologies.</p> <p>Ultimately, and in its most fundamental form, ARIES links services to recipients.</p>

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y	Y
	Implement	Y	Y
	Evaluate	Y	Y

Please add any further comments here:

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
	Bagstad <i>et al.</i> (2011) Bagstad, K.J., Villa, F., Johnson, G.W., and Voigt, B. ARIES – Artificial Intelligence for Ecosystem Services: A guide to models and data, version 1.0. ARIES report series n.1. http://www.ariesonline.org/docs/ARIESModelingGuide1.0.pdf		

Please add any further comments here:

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	N/A
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Guidance For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	Ten ecosystem services have been modelled so far: carbon sequestration & storage, open space proximity, aesthetic viewsheds, flood regulation, sediment regulation, water supply, coastal flood regulation, subsistence fisheries, recreation, nutrient regulation. The Appendix, of this review, shows the countries where this has occurred.
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How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	Valuation of ecosystem services within the tool is currently lacking, but planned. A global version is planned which can model major services across the globe using globally available datasets (more distant future). Linkages between terrestrial and aquatic systems are limited at present and need improving.
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Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Yes, through visualization.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	N/A
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Yes, through visualization and scenarios.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Potentially, since ARIES incorporates a conceptual framework for mapping services comprising: source, users, sinks, flows, and includes positive and negative 'carrier' impacts.
	5. Extent to which tool is building on other tools or EA/ES progress	N/A
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	In principle, it can be applied at any scale. The structure allows users to supply data and knowledge at fine-scales to develop locally relevant case studies.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes, through the networks. ARIES provides a modelling framework which can run external models via model-wrapping (choice of models is subjective; interpretation of 'outputs' is subjective).
Developing and selecting tools		
8. Is the tool dependent on a specific funding source? How onerous is the application	No. Some modelling background is needed in its application.	

procedure? What are the chances of success?	ARIES provides a modelling framework which can run external models via model-wrapping in addition to its internal Bayesian probabilistic models. It can be run remotely via web browsers and therefore does not need extensive computing power or data storage capacity to be held by the user.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	There is, the website featured earlier in this review provides more information on this. This is a key area for more effective engagement
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NPPF's duty to cooperate, SUDS, ecol. networks)	There are important statutory hooks and EU directives which may bring this model into policy maker's radar.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / trade-offs?)	The tool supplies ecosystem service flows.
12. How does the tool link into the planning system (applications and processes)? At what cost / extra burden?	This is not applicable at the moment.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	N/A
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	In principle it should be able to visualize the delivery of ecosystem services
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	N/A
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	The tool is very effective with this.
17. Capacity of the tool to reconcile	Not as effective.

	assessments of options and benefits across different scales (and sectors)	
	18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	It is a GIS based tool that can be applied at a variety of scales.
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Very effective through the Bayesian Network Approach; uses benefit transfer approach.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The tool can visualise benefits.
<i>Please add any further comments here:</i>		

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified	Strengths <i>(of the tool in delivering intended outcomes)</i> Can handle soft, uncertain and incomplete data Can show interactions and handle interactions										
	Weaknesses <i>(factors that detract from the tool's ability to deliver intended outcomes)</i> Complex to apply, not freely available to use (must go through the ARIES consortia team) Not good at flows Not good at temporal changes										
	Opportunities <i>(consider opportunities for application of the ecosystem approach and services)</i> A good tool to model trade-offs.										
	Threats <i>(factors which negatively affect the tool and its outcomes)</i>										
	<table border="1"> <thead> <tr> <th>Threat</th> <th>Seriousness (high, medium, low)</th> <th>Probability of occurrence (high, medium, low)</th> </tr> </thead> <tbody> <tr> <td>Availability</td> <td>High</td> <td>High</td> </tr> <tr> <td>Technical competence</td> <td>High</td> <td>High</td> </tr> </tbody> </table>			Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)	Availability	High	High	Technical competence	High
Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)									
Availability	High	High									
Technical competence	High	High									
Guidance	<i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i>										
Further comments											



Figure: Case study applications of the ARIES model. From Bagstad *et al.* (2011)

ECOSYSTEM ASSESSMENT (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by giving the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Ecosystem Assessment (EA)
Type of tool (list all that apply)	Ecosystem services tools, valuation tools
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Oliver Hölzinger 2. Tim Sunderland 3. Claudia Carter
<p>Please provide a brief synopsis of the tool</p> <p><i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i></p> <p><i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i></p>	<p>An Ecosystem Assessment (EA), sometimes referred to as ‘Ecosystem Services Assessment’, may be defined as “an assessment of ‘ecosystem health’” (Graham et al. 2012). This is the definition used within scope of this review. However, a generally accepted definition does not exist yet. EA is a comparatively new tool and framework and methods are varying and developing across EAs.</p> <p>The main aim of an EA is to inform about the state and trend of ecosystems and the links between ecosystems and human wellbeing. The most comprehensive and prominent example for an ecosystem assessment is the Millennium Ecosystem Assessment (MA) published in 2005 (Millennium Ecosystem Assessment 2005). The MA defines EA as "a social process through which the findings of science concerning the causes of ecosystem change, their consequences for human well-being, and management and policy options are brought to bear on the needs of decision-makers".(Millennium Ecosystem Assessment 2005) The framework of the MA often serves as starting point for other EAs. However, it is commonly adjusted and developed when it comes to the operational stage of an ecosystem assessment. Appendix A provides an overview of the key questions addresses in the UK National Ecosystem Assessment. This introduces to the (potential and non-exclusive) elements of an EA.</p> <p>Whilst the MA is a global assessment of ecosystem services, there are several assessments available or in progress at the national level; including the UK National Ecosystem Assessment (UK NEA 2011b). Ecosystem assessments at the sub-national and local level are also evolving. Such local EAs are often conducted in pilot areas. Examples are available e.g. in Germany or Denmark (Graham et al. 2012).</p> <p>An EA usually provides decision-makers, but also other stakeholders and the wider public, with an evidence base about the state and value of ecosystem services at a specific spatial scale. An EA can include qualitative, quantitative, and monetary valuation of ecosystem services to make the benefits people derive from ecosystems explicit. It can evaluate changes (incl. drivers of change) in the past and/or scenario analysis projecting future changes in ecosystem services provision based on different policy options. An analysis of the state of ecosystem services and changes in the past can indicate if the actual</p>

development path is sustainable or not, even if other dimensions (e.g. society and technology) are crucial for a sustainable development as well. The assessment of future scenarios can project how the provision of ecosystem services may change depending on future development strategies and which strategy is most desirable to enhance human wellbeing. Additionally an EA may contain recommendations for feasible responses. But the components included in an ecosystem assessment can vary and depend e.g. on the demands and interests of those who initiate an ecosystem assessment.

According to 'Ecosystems and Human Well-being: A Manual for Assessment Practitioners' an ecosystem assessment has three main stages: (Ash et al. 2010)

- The exploring stage shall determine if an ecosystem assessment is needed and which scope and boundaries shall be defined considering the target audience and budget restrictions.
- The design stage includes (amongst others) the definition of governance and leadership of the project; the conceptual framework of the assessment; identifying and integrating different knowledge systems from published scientific findings to local knowledge; and capacity building amongst scientists and relevant institutions to ensure an effective adoption and use of the findings.
- The implementation stage is the stage where the actual ecosystem assessment will be undertaken.

One main aim of an ecosystem assessment is to generate general awareness of decision-makers about the value of ecosystem services and the trade-offs inherent in decisions affecting ecologies. Therefore it is important to provide the information that is most relevant to inform decision-making at the relevant scale and to ensure that the findings are presented in a format and terminology that can easily be taken up by the target audience. To ensure that it is recommended to allow and enhance stakeholder participation at all stages of the process.

Task 2: Use of the tool

Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Could be used	Please add any further comments here:
	Ideas		
	Survey	Y	
	Assess	Y	
	Policy / decision		
	Implement		
	Evaluate		

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	Author & Date	Title Vol pages	Web link (if available)
	Graham et al. (2012)	Ecosystem Assessments in Europe	http://biodiversity.europa.eu/ecosystem-assessments/events-1/eureca-meetings/workshop-ecosystem-assessments-europe-12-13-october-2010/documents/final-report.doc
	Ash et al. (2010)	Ecosystems and Human Well-being: A Manual for Assessment Practitioners	http://www.unep-wcmc.org/ecosystems-and-human-wellbeing_553.html
	Bateman et al. (2011)	Economic Analysis for Ecosystem Service Assessments. Environmental and Resource Economics, 48(2), pp.177–218.	http://www.lwec.org/sites/default/files/NEA%20published%20paper%20oct2010.pdf
	MA (2005)	Millennium Ecosystem Assessment, Ecosystem and human well-being, Synthesis Report	http://www.maweb.org/documents/document.356.aspx.pdf
	UK NEA (2011)	UK National Ecosystem Assessment: Technical Report, Cambridge: UNEP-WCMC.	http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx
	Carpenter, S.R. et al. (2009)	Science for managing ecosystem services: Beyond the Millennium Ecosystem Assessment. Proceedings of the National Academy of Sciences, 106(5), pp.1305–1312.	

Task 4: Your experience of working on the tool

<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i></p>	<p>Oliver Hölzinger has recently undertaken two ecosystem assessments at the local and sub-regional scale within his role as consultant:</p> <ul style="list-style-type: none"> - The Value of Green Infrastructure in Birmingham and the Black Country (Hölzinger 2011) - Ecosystem Services Evaluation for Birmingham's Green Infrastructure (forthcoming)
<p>Guidance</p>	<p>For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.</p>

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)
Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p>	<p>Ecosystem services and the ecosystem approach are key elements of any ecosystem assessment.</p>
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>The ecosystem approach could be enhanced by incorporating stakeholders at all stages of future EAs.</p>

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews <i>Complete as many boxes as required</i></p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i></p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>Making the value of ecosystem services tangible for a non-specialised audience is a main aim of an ecosystem assessment. Sometimes an EA incorporates components or summaries for specific audiences to match their knowledge level and information demands.</p>
<p>2. Capacity of the tool to develop shared understandings of the many identities and values of</p>	<p>Regional and local ecosystem assessments may be more useful than national and global assessments because the evidence is provided at the scale where it</p>	

places from the perspectives of multiple visitors, residents and businesses	is most useful for many decisions. However, this depends on the quality of the assessment and the available data that is available at that scale.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Especially if stakeholders are involved from the beginning of an EA there is high potential to establish a broader engagement across different publics.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	An EA should cover as many ecosystem services as possible. This includes 'hidden' assets. However, this may be limited by budget restrictions, available expertise, and diverse incentives of those who initiate an EA.
5. Extent to which tool is building on other tools or EA/ES progress	An EA demands other primary valuation tools and methods as for example the revealed preferences method, the stated preferences method, the benefit transfer approach or valuation based on expert judgement.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	To date EAs are applied at the national and global stage. However, in general it can be applied at all spatial scales and some examples are already available.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool is reasonable flexible and allows to integrate different valuation methods and the assessment of cultural differences.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	EAs are not dependent on a specific funding source but their appropriate application requires specific expertise.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Skills may develop during the process of an EA but specific expertise is essential for its appropriate application. Social learning can be achieved through the process of engagement. A peer-review process can ensure the appropriate application of an EA.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Limited.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts /	That depends on the scope of an EA. However, even if 'only' the state and value is assessed it contributes to the knowledge of the decision-maker about inherent trade-offs of decisions affecting ecologies. In general an EA has the potential to cover the full range of impacts and trade-offs (acknowledging general data limitations and caveats).

tradeoffs?)	
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	An EA can only provide basic information but other tools such as Environmental Impact Assessments (EIA) can built upon the outcomes of an EA. Therefore it is important to locate it within the first stages of the decision making process.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	If applied locally or regionally, yes.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	There is a great potential if the scale of the EA matches the scale of the plans. Especially scenario analysis may provide a valuable information source for local and management plans.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	One advance of an EA is to bring together different actors from science and practice. This can engage community governance. However, this is more likely for local and regional ecosystem assessments.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	This has for example been undertaken within scope of the UK NEA.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Depends on the scope of an EA.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	The tool allows many different institutions to participate in the assessment process.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	In general an EA should cover as many ecosystem services as possible. Because an EA is not limited to monetary valuation areas where relevant data is lacking can be covered quantitatively and qualitatively. EA is flexible enough to handle data gaps and shortages. Primary valuation studies can also be conducted within scope of an EA to overcome data gaps.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	One main aim of an EA is raising awareness of the value of ecosystems. Especially when applied at the local and regional level this could put landscape/nature conservation and designated species/sites on the radar (of usually uninterested/uninformed parties).

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Strengths *(of the tool in delivering intended outcomes)*

- The flexible approach allows integrating qualitative, quantitative, and monetary valuation.
- An EA provides a comprehensive assessment of ecosystem services at a specific scale.
- Because relevant information is bundled it is easier for non-specialists to take up such information.
- Especially when scenario analysis is conducted as part of the EA it reveals trade-offs inherent in strategic policy options.
- An EA can bring many relevant actors and scientists together which can enhance interdisciplinary research and collaborations between academia and practitioners.
- EAs often catch the attention of institutions and actors which are usually not involved in relevant research.

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- The ability of an EA to support concrete decisions affecting the environment can be limited.
- There is no agreed framework that determines the elements and methods of an EA. This can make the comparison e.g. between national ecosystem assessments difficult.
- Because ESs are often undertaken by several research teams, different methods are used for different elements of the EA; but also to assess different ecosystem services. This can lead to double-counting and makes the comparison of values as well as adding up values difficult.
- Conducting an EA is usually very resource and time consuming. However, especially at the regional and local scale this is not mandatory.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- EAs are not only relevant at the international and national level. Local and regional ESs are necessary to provide relevant information at a scale where many decisions impacting ecosystem services take place.
- Audience-specific summaries of EAs may enhance a wider understanding of the value of ecosystem services within communities that are usually not engaged with environmental issues.
- National coordination of sub-national, regional, and local EAs as well as international fora may add additional value to such assessments e.g. by transferring knowledge and data. This would also facilitate to upscale local and regional ecosystem assessments.

Threats *(factors which negatively affect the tool and its outcomes)*

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The selection of ecosystem services to assess is often based on expert judgement. There is a danger that not the most important ecosystem services are assessed; but the ones where the institutes, funders, or researchers are most interested in or where relevant data is best available.	Low	Low
National governments and other institutions may want to follow the trend of undertaking EAs	Low	Low

	without providing the necessary resources (time, funding and expertise) to undertake a sufficient robust EA.		
Guidance	<i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i>		
Further comments			

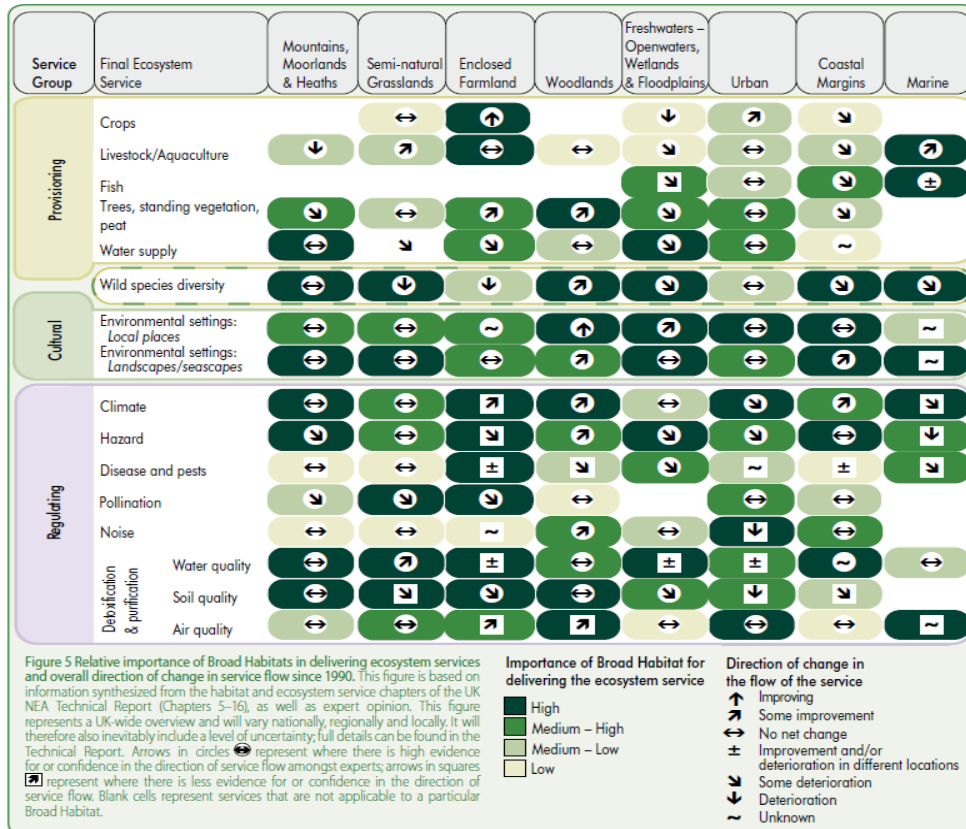
Appendix A

Summary of the contents of the UK NEA (selection)

The table below provides an overview of the key questions addresses in the UK National Ecosystem Assessment (UK NEA 2011a, p.22)

1. What are the status and trends of the UK's ecosystems and the services they provide to society?
2. What are the drivers causing changes in the UK's ecosystems and their services?
3. How do ecosystem services affect human well-being, who and where are the beneficiaries, and how does this affect how they are valued and managed?
4. Which vital UK provisioning services are not provided by UK ecosystems?
5. What is the current public understanding of ecosystem services and the benefits they provide?
6. Why should we incorporate the economic values of ecosystem services into decision making?
7. How might ecosystems and their services change in the UK under plausible future scenarios?
8. What are the economic implications of different plausible futures?
9. How can we secure and improve the continued delivery of ecosystem services?
10. How have we advanced our understanding of the influence of ecosystem services on human well-being and what are the knowledge constraints on more informed decision making?

Below you can find a basic assessment of habitat importance for delivering ecosystem services and changes of such services since 1990.



Source: UK NEA 2011a, p.11

References

Ash, N. et al., 2010. *Ecosystems and Human Well-being: A Manual for Assessment Practitioners*, Washington DC.

Graham, M. et al., 2012. *Ecosystem Assessments in Europe*, SEI, Milieu.

Hölzinger, O., 2011. *The Value of Green Infrastructure in Birmingham and the Black Country - The Total Economic Value of Ecosystem Services provided by the Urban Green Infrastructure*, Birmingham: The Wildlife Trust for Birmingham and the Black Country. Available at: <http://ceep-online.co.uk/joomla/index.php/projects-a-publications/75-the-economic-value-of-green-infrastructure-in-birmingham-and-the-black-country>.

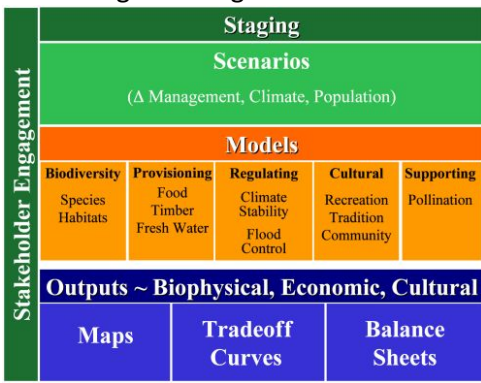
Millennium Ecosystem Assessment, 2005. *Ecosystem and human well-being*, Available at: <http://www.maweb.org/documents/document.356.aspx.pdf>.

UK NEA, 2011a. *UK National Ecosystem Assessment: Synthesis of the Key Findings*, Cambridge: UNEP-WCMC. Available at:

http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf.

UK NEA, 2011b. *UK National Ecosystem Assessment: Technical Report*, Cambridge: UNEP-WCMC.

InVEST (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	InVEST - Integrated Valuation of Ecosystem Services and Trade-offs
Type of tool (list all that apply)	Mapping, modelling, decision, ecosystem services
Group members	<ol style="list-style-type: none"> 1. Ron Corstanje 2. Jim Harris 3. Claudia Carter 4. Alister Scott
Please provide a brief synopsis of the tool	<p>InVEST is a sophisticated GIS-based tool in ongoing development which incorporates models for ecosystem services. The tool allows valuation of those services and also provides some measure of risk assessment or trade-offs. InVEST can handle scenarios and can be applied across a wide range of decision making needs.</p> <p>InVEST is a major decision support tool for biodiversity in the UK which explicitly includes a biodiversity model, based on habitat rarity and quality, linked to distance from potential threats (infrastructure, inappropriate land-uses, etc.). It enables decision-makers to assess the trade-offs associated with alternative choices and to identify areas where investment in natural capital can enhance human development and conservation in terrestrial, freshwater, and marine ecosystems.</p> <p>InVEST is most effectively used within a decision-making process that starts with a series of stakeholder consultations according to the figure below.</p>  <p>InVEST models are spatially-explicit, using maps as information sources and producing maps as outputs. InVEST returns results in either biophysical terms (e.g. tons of carbon sequestered) or economic terms (e.g. net present value of that sequestered carbon).</p>

Task 2: Use of the tool			
Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey		Y

Assess		Y
Policy / decision		Y
Implement		Y
Evaluate		Y
Please add any further comments here:		

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
			http://www.naturalcapitalproject.org/InVEST.html
	Nelson <i>et al.</i> (2009) Erik Nelson, Guillermo Mendoza, James Regetz, Stephen Polasky, Heather Tallis, D Richard Cameron, Kai MA Chan, Gretchen C Daily, Joshua Goldstein, Peter M Kareiva, Eric Lonsdorf, Robin Naidoo, Taylor H Ricketts, and M Rebecca Shaw	Modeling multiple ecosystem services, biodiversity conservation, commodity production, and trade-offs at landscape scales, <i>Frontiers in Ecology and the Environment</i> 7: 4–11.	
	Daily <i>et al.</i> (2009) Gretchen C Daily, Stephen Polasky, Joshua Goldstein, Peter M Kareiva, Harold A Mooney, Liba Pejchar, Taylor H Ricketts, James Salzman, and Robert Shallenberger	Ecosystem services in decision making: time to deliver, <i>Frontiers in Ecology and the Environment</i> 7: 21–28.	
	Tallis <i>et al.</i> (2011) Tallis, H.T., Ricketts, T., Guerry, A.D., Wood, S.A., Sharp, R., Nelson, E., Ennaanay, D., Wolny, S., Olwero, N., Vigerstol, K., Pennington, D., Mendoza, G., Aukema, J., Foster, J., Forrest, J., Cameron, D., Arkema, K., Lonsdorf, E., Kennedy, C., Verutes, G., Kim, C.K., Guannel, G., Papenfus, M., Toft, J., Marsik, M., and Bernhardt, J.	InVEST 2.2.0 User's Guide. The Natural Capital Project, Stanford.	http://ncp-dev.stanford.edu/~dataportal/invest-releases/documentation/current_release/
	BSR (May) 2011	New Business Decision-Making Aids in an Era of Complexity, Scrutiny, and Uncertainty Tools for Identifying, Assessing, and Valuing Ecosystem Services. BSR's Ecosystem Services, Tools & Markets Working Group.	http://www.bsr.org/reports/BSR_ESTM_WG_Comp_ES_Tools_Synthesis.pdf

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms	No. However, were able to draw on emerging work by Smart et al.
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of its development, testing and/or evaluation?		
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.	
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)		
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	<p>InVEST determines ecosystem service provision and value of a specific place/area/ by using ecological and economic production functions, where land use and land use change and related management and biophysical data at the point and elsewhere on the landscape(or seascape) are inputs.</p> <p>ES are currently incorporated in various ways, ranging from simple spatial mapping or quantification of ecosystem services to more complex assessments to inform decision-making such as spatial planning, sustainability impact assessment (SIA) or strategic environmental assessment (SEA), and payment for ecosystem services (PES). InVEST can also be used for designing mitigation and climate adaptation.</p> <p>InVEST contains models to quantify ecosystem services (process-based components, land-use coefficients and spatial calculations), all linked to land-use in a climatic context. Coverage of flows of services in terms of water flows, and the use of viewsheds in calculating landscape aesthetics. The model for biodiversity uses habitat quality and rarity as proxies for biodiversity, with distance from threats dictating habitat quality. Some models are dynamic, capable of running at annual time-steps with annual average data.</p> <p>Crucially, InVEST has models for terrestrial ecosystem services and marine and coastal ecosystem services. There are terrestrial/freshwater models available to quantify biodiversity, e.g. habitat quality and rarity, carbon storage and sequestration, reservoir hydropower production, water purification, nutrient retention, sediment retention, avoided dredging, water quality regulation, managed timber production, crop pollination. Marine models quantify wave energy, coastal vulnerability, coastal protection, marine fish aquaculture, marine aesthetic quality. InVEST also performs some spatial and risk assessment analyses (e.g. marine overlap analysis model for fisheries and recreation, marine habitat risk assessment).</p>	
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	<ul style="list-style-type: none"> • Coverage of flows of services within a landscape, and barriers to those flows is limited (other than water flows, and the use of viewsheds in calculating landscape aesthetics). • Development is aiming to improve dynamic modelling to daily, seasonal time-steps for biodiversity. • Development work is in progress to (better) link the models for terrestrial ecosystem services and marine and coastal ecosystem services. 	
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews		
Explain how the tool can be situated within the	Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared	Yes, through visualisation.

priority questions/ criteria that arose in the scoping interviews	vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	N/A
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Has the potential to do so through visualization and scenarios. Tool has range of functions and potential applications to suit interest and needs of different 'stakeholders' and 'publics'.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Potential to contain detailed biodiversity data, much of which may be 'unknown' or remain little or unrecognised by communities and publics.
	5. Extent to which tool is building on other tools or EA/ES progress	Uses scenarios. Relevant to range of other tools including, SEA, PES, Local Plans.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Yes, in principle it should be able to be adapted: InVEST can be applied at any scale, depending on data availability, although in practice there may be constraints for some of the models.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes, through the networks that feed into and use the models / tool.
	Developing and selecting tools	
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	N/A
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	The user needs to be trained to used the GIS tool: specialist skills are required to make it effective.	
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NPPF's duty to cooperate, SUDS, ecol. networks)	N/A	
Informing resultant policies effectively		

11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	InVEST has been applied in case studies in the Americas and Africa. Examples include policy and conservation planning in the Willamette Basin USA, private landowners in Hawaii USA, multi-stakeholder planning in Tanzania, permitting and licensing in Colombia, and priority setting for international aid in the Amazon Basin.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	This does not apply at the moment.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	The tool can be used to support this, depending on the user's wishes.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	In principle it should be able to visualize the delivery of ecosystem services.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Wide ranging functions and application potential but data hungry at the local scale / the more detailed the scale/focus.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	The tool is very effective with this.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Very effective.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	It is a GIS based tool that can be applied at a variety of scales (see examples of applications listed under point 11).
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	The tool will struggle with gaps and data shortages.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The tool is able to visualise and depict the benefits.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths *(of the tool in delivering intended outcomes)*

Simple, technical not complex

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

Cannot effectively handle complex interactions and trade-offs

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

High and currently will be applied in BESS WESSEX

Threats *(factors which negatively affect the tool and its outcomes)*

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Over simplification	Medium	
GIS expertise	Medium	

Please add further comments here:

Guidance

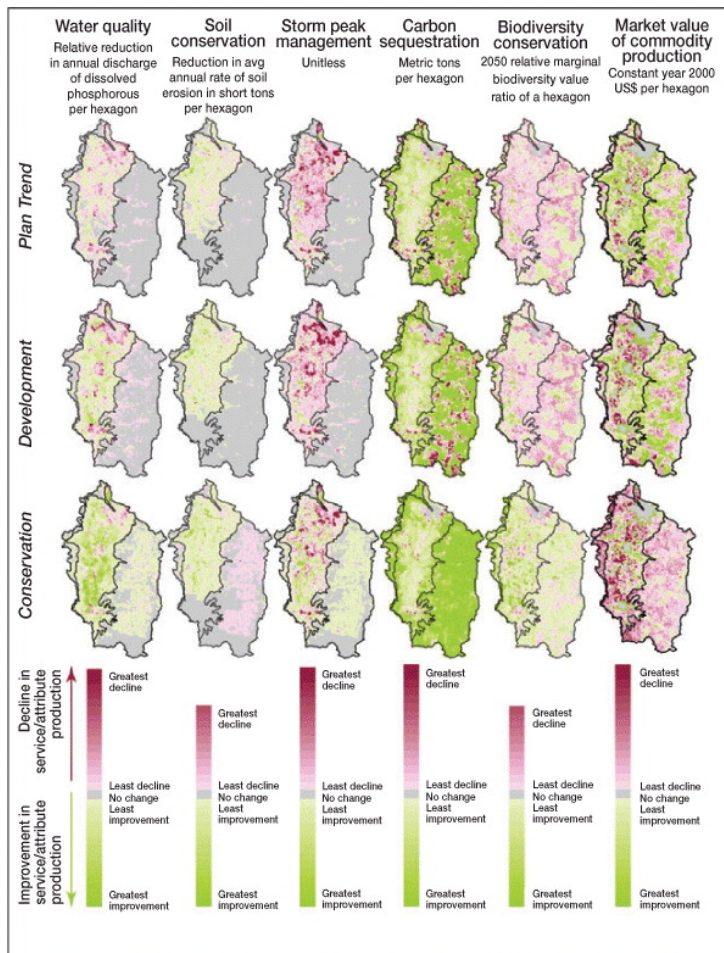
Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

The limitations and assumptions of each model are explained, the methodologies are presented and transparent. Data quality may be used to inform risk assessment – see the chapter on Habitat Risk Assessment in Tallis *et al.* (2011).

Appendix 1

Figure: InVEST output for the Willamette Basin



InVEST - Integrated Valuation of Ecosystem Services and Tradeoffs

<http://www.naturalcapitalproject.org/InVEST.html>

Developed as part of the natural capital project InVEST is a family of tools to map and value the goods and services from nature which are essential for sustaining and fulfilling human life.

InVEST enables decision-makers to assess the tradeoffs associated with alternative choices and to identify areas where investment in natural capital can enhance human development and conservation in terrestrial, freshwater, and marine ecosystems.

InVEST determines ecosystem service provision and value at a point on the landscape by using ecological and economic production functions, where land

use and land use change and related management and biophysical data at the point and elsewhere on the landscape(or seascape) are inputs.

Source: Pagella, T (2011). Review of Spatial Assessment Tools for the Mapping of Ecosystem Services. Report 3/11, Wales Environment Research Hub, Bangor, p38 (Appendix 1).

Appendix 2

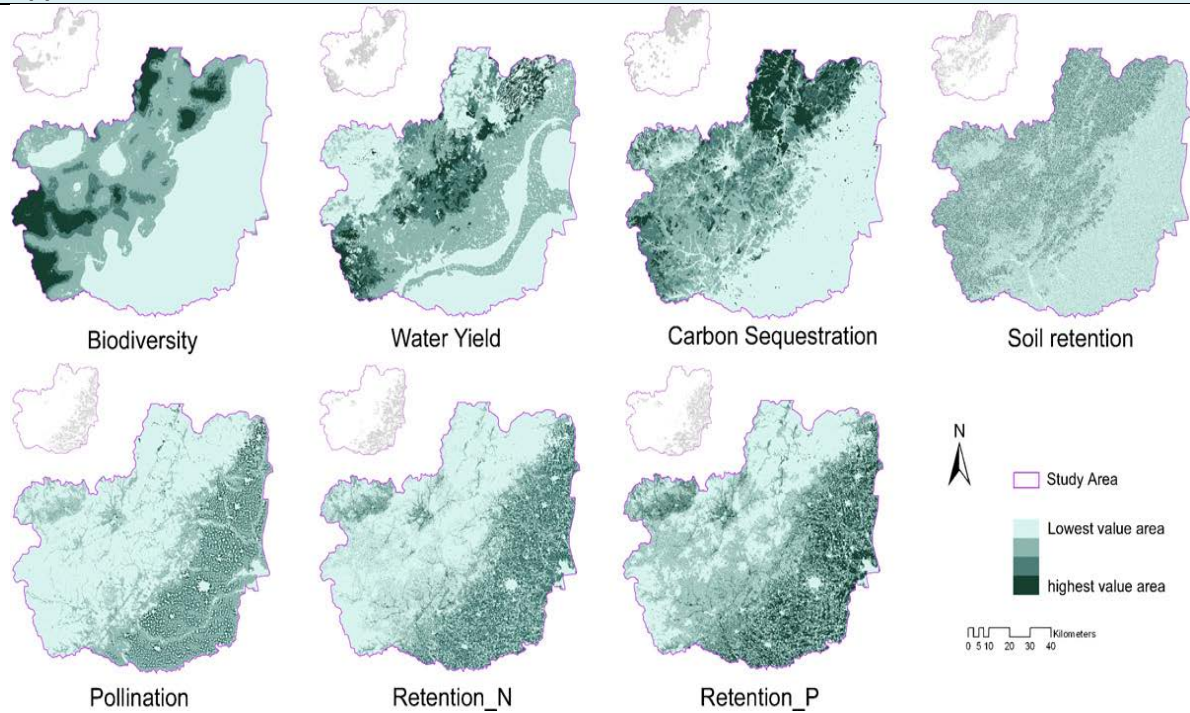


Figure 2: Spatial distributions of biodiversity and the six ecosystem services using the InVEST tool in Baiyangdian watershed (China) (Bai et al., 2011). Only 3 of the ecosystem services illustrated (water yield, soil retention and retention_P) manifest solely within the surface catchment area. The other services clearly leak out the side (or would require mapping of the sub surface catchment (i.e. Retention N) to map properly). Source: Pagella, T (2011). Review of Spatial Assessment Tools for the Mapping of Ecosystem Services. Report 3/11, Wales Environment Research Hub, Bangor, p22.

Appendix 3

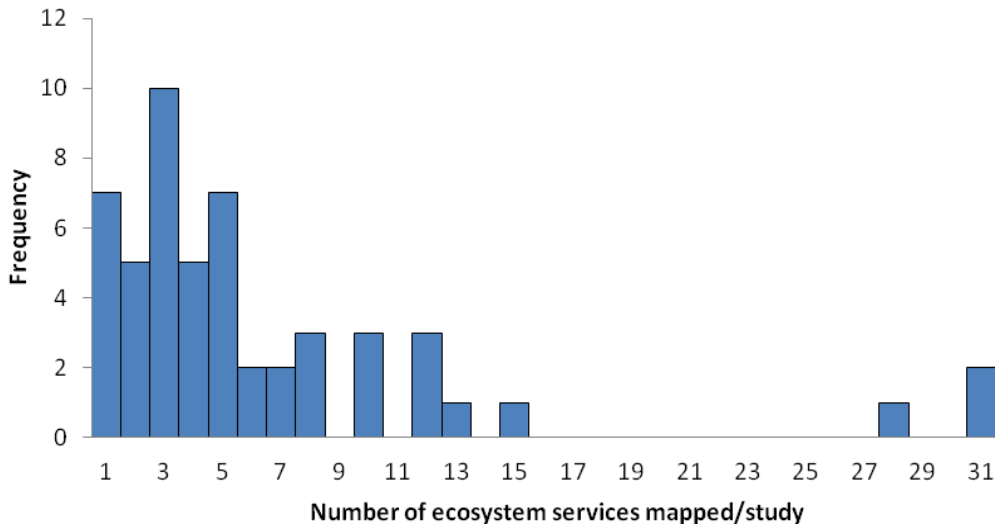


Figure 3: Distribution of number of ecosystem services mapped/study. Note: One study ((He et al., 2011) did not clearly indicate the number of ecosystem services mapped (The proceeding study (in Chinese) suggests three, based on interpretation of presented graphs). Source: Pagella, T (2011). Review of Spatial Assessment Tools for the Mapping of Ecosystem Services. Report 3/11, Wales Environment Research Hub, Bangor, p23.

Note that of the services mapped, the most common were regulating and provisioning services. Supporting services (where they were not part of the stakeholder focused studies considered in this report) were not mapped.

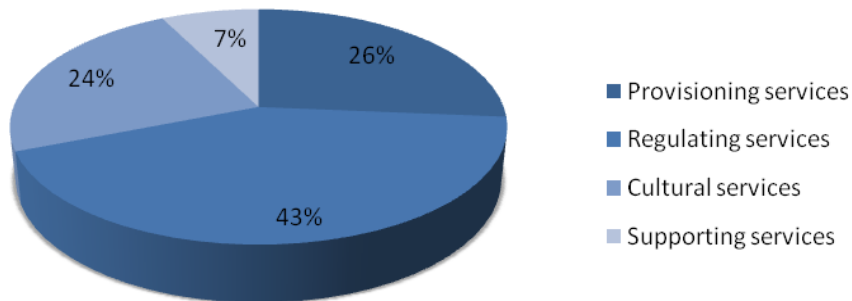


Figure 4.4: Proportion of different ecosystem categories mapped. Source: Pagella, T (2011). Review of Spatial Assessment Tools for the Mapping of Ecosystem Services. Report 3/11, Wales Environment Research Hub, Bangor, p23.

Appendix 4

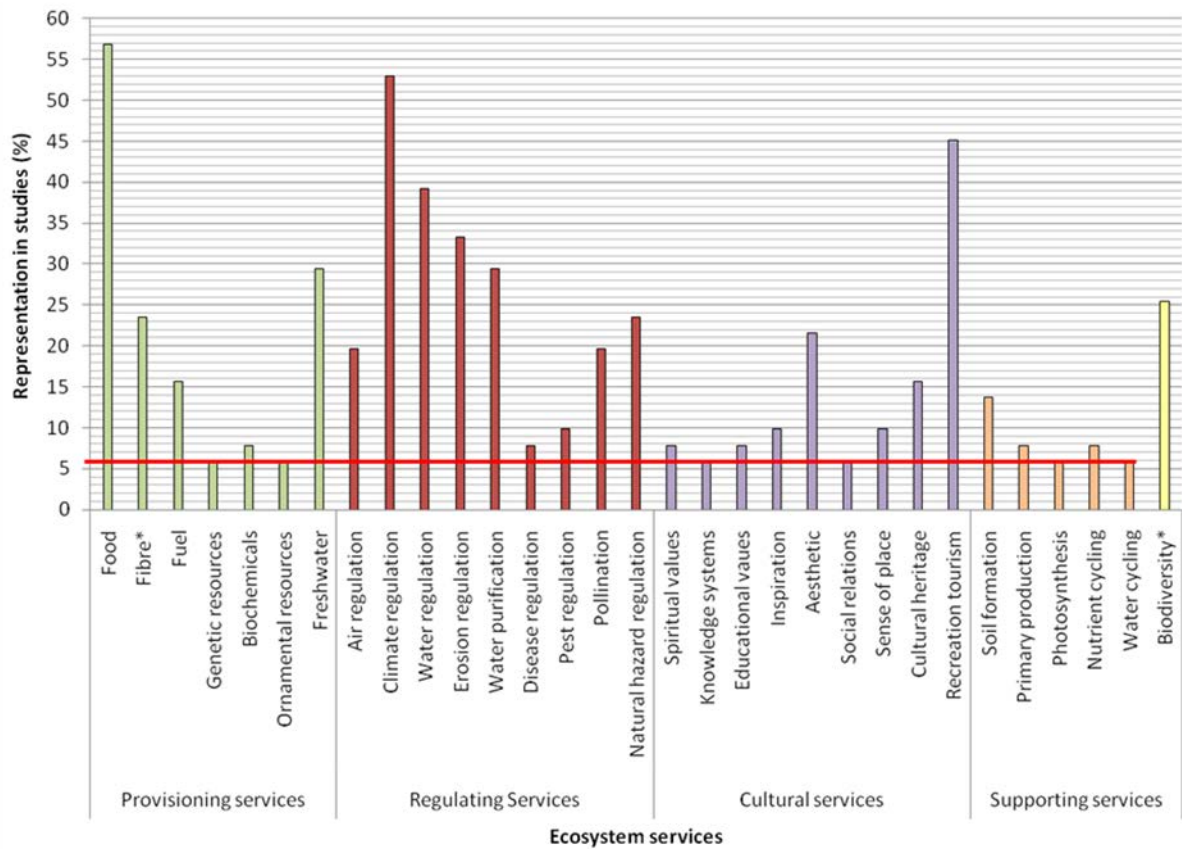
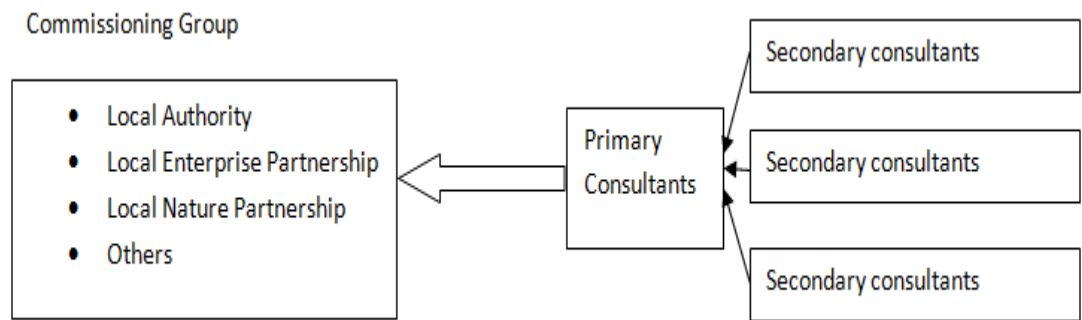


Figure 5: The types and frequency of ecosystem services mapped (based on the MA Ecosystem service typology (MA , 2005)). The studies below the redline addressed all ecosystem services. Source: Pagella, T (2011). Review of Spatial Assessment Tools for the Mapping of Ecosystem Services. Report 3/11, Wales Environment Research Hub, Bangor, p24.

LOCAL ECONOMIC DEVELOPMENT AND ENVIRONMENT (LEDE) TOOLKIT (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Local Economic Development and Environment Toolkit
Type of tool (list all that apply)	Pedagogic; participatory; decision; futures; financial, ecosystem services
Group members	1. Tim Sunderland
Please provide a brief synopsis of the tool	<p>The Local Economic Development and Environment (LEDE) project is designed to support strategic economic planning through effective consideration of the economy’s relationship with the environment. The project was a collaboration between Natural England, the Environment Agency, DEFRA and the Forestry Commission and <i>Staffordshire, Worcestershire and Cornwall and Isles of Scilly</i> Local Enterprise Partnerships (LEPs). The final product has been thoroughly tested by the LEPs and they recommend its use by other LEPs and Local Authorities.</p> <p>The final product is a workbook which systematically considers environment/economy relationships. Positive and negative impacts in both directions will be considered in order to assess opportunities and threats for consideration in strategic planning. Researchers start with standard economic development planning, move on to consider the physical basis of the economy, and then use this to consider the relationship with the environment. This will be done using the Ecosystems Approach. This process will produce a prioritised list of opportunities and threats for consideration in strategic planning. These will be offered in non-specialist language.</p> <pre> graph LR subgraph Stage1 [1. Economic planning] A1[1. Economic planning] --> B1[socio-economic situation] B1 --> C1[goals] end subgraph Stage2 [2. Physical economy] A2[2. Physical economy] --> B2[resource use] B2 --> C2[waste & emissions] end subgraph Stage3 [3. Relationship with the environment] A3[3. Relationship with the environment] --> B3[provisioning services] B3 --> C3[regulating services] C3 --> D3[cultural services] end subgraph Stage4 [4. Opportunities and threats] A4[4. Opportunities and threats] end </pre> <p>The project is an entirely <i>optional</i> research approach. Although the information produced may be relevant, it is not designed to contribute towards statutory environmental impact assessment. The project makes a contribution to planning for Sustainable Development by improving the way in which environmental factors are considered in economic planning. However, Sustainable Development is a much broader concept, and planning for Sustainable Development will require a wider range of tools and indicators.</p> <p>The core audience is LEPs and the economic development department of Local Authorities. Local</p>

Nature Partnerships also have an interest in environment/economy relationships and may wish to be a partner to a consortium using the toolkit. The areas covered are important to business success, health and wellbeing, and environmental goals. It is therefore possible that additional organisations may wish to take part from the governmental, private and third sectors.



The workbook is designed to be used by a group of experts in economy, environment, and the interactions between them. These experts are commissioned by a group of interested organisations in the local area. The process starts with an initial exploratory workshop, facilitated by the consultant group, and including relevant experts and interests in the local area. This is followed by a six-month research period. During this period researchers interview relevant experts, hold workshops on relevant subsections of the toolkit, collate and analyse the data. They then facilitate a final workshop, present findings and agree high-level elements of the final report. The full report then forms a basis for strategic planning and/or further research. This level of consultancy support costs approximately £10 –20K.

The toolkit can also be used in a more exploratory manner by asking the consultants to set up and run the initial workshop only. This will not provide an evidence base, but would start a helpful strategic conversation between relevant parties. This would cost approximately £2-3K, and it would of course be possible to then go on to work through the full process.



Note: the first trial of the project last year used single in-house researchers. They produced credible research results which have helped the LEPs and Local Authorities to consider the environment economy in their area. They also reported that they struggled with the areas of the toolkit which were not their specialist area and that it was a big project to fit around day to day responsibilities. Therefore the new trial this year will experiment with the method described above which uses specialist consultants to support the toolkit. It may be when finally launched that the toolkit leaves it open as to whether consultancy, a team of mixed expertise from within the Local Area Consortium, or some mixture is best.

The guidance document and workbook are not yet publically available.

Task 2: Use of the tool

Position / Use	Stage	Currently used in pilots	Could be used
	Ideas	Y	Y
	Survey	N	N
	Assess	Y	Y
	Policy / decision	Y	Y
	Implement	N	N
	Evaluate	N	With further development
	Please add any further comments here:		

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
	This tool does not have any direct literature attributed with it.		

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	This tool is my [Tim Sunderland] idea. I wrote the first draft and have led the piloting last year, and am currently developing a new stage 2 pilot for this year.
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	<p>The tool explicitly uses the EA and ES to consider the economy's relationship with the environment in order to support strategic economic planning.</p> <p>Piloting so far suggest that this is an effective and systematic method of considering the environment/ economy relationship – relating well to natural science and the economy. However, the distinction between some ecosystem services, i.e. freshwater supply vs quality, is not always intuitive to people. Researchers sometimes object to the ES list if it includes things that they don't see as relevant to their area. More deeply concerning is that people sometimes need help to see the relationship between the ES and the economy – it is not obvious to them.</p> <p>Another issue is that although you can explain the EA and ES to researchers at the beginning of the project, if they don't have any history with it they tend to drift back to their previous understanding of the environment/economy relationship. This creates a risk that it is formally EA/ES research, but that the outputs don't look like it. Along with this risk goes the risk of confirmation bias – people perceive the main threats and opportunities to be the ones the first thought of!</p> <p>Another challenge it that the tool requires explicit consideration of the physical nature of the local economy. Not only is data difficult to find on this, but additionally there is some reluctance (I wonder) to think about the economy in this way.</p>
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How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

The tool is explicitly designed using the ES approach.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	EA/ES language used as part of the technical language of the tool, but not used for communication where we revert to more familiar threats and opportunities language.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Consortium approach should help to develop a shared understanding of evidence base, but the tool is built around GVA (gross value added) targets – market values rule here!
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	It's aimed at strategic economic planning and so will help here only in broadening this from the usual suspects in include perspectives from the environmental and (maybe) health sectors.
Learning from experience/pedagogy	
4. Capacity of the tool to help	High. Not so much hidden assets but hidden economic dependencies.

	reveal and value 'hidden' assets that are not recognised by communities or publics that use them	
	5. Extent to which tool is building on other tools or EA/ES progress	Consciously building on EA/ES theory, also my MEBIE review. See <i>Microeconomic Evidence for the Benefits of Investment in the Environment - review</i> (NERR033) http://publications.naturalengland.org.uk/publication/32031
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Developed by national government in collaboration by local partners – but results highly locally tailored. Currently no public domain, but in principle could go open source at a later stage.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Not really – natural science and GVA are the selected frames.
Developing and selecting tools		
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Funding to support consultants needs to come from somewhere. Application procedure is time and expertise intensive. Chances of useful results very high if worked through properly.
	9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Skills development may not be required depending on researchers involved. No body of literature yet.
	10. Extent to which current statutory hooks can be exploited by the tool or will	Designed to be optional and useful to statutory.

benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)		
Informing resultant policies effectively		
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Focused on improved strategic economic planning.	
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Planning is closely involved and assumed to follow from strategic economic vision. Only strategic level of planning.	
Delivering management objectives		
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Could be considered as part of strategic economic plan.	
Local ownership/new governance		
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Operates at higher strategic level.	
15. To what extent does/could the tool contribute to a new form of community governance in	Not really – see note on collaboration above.	

	management of the environment?	
	Improved tools: understanding flows, interconnections and spatial issues	
	16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Very high – at strategic level.
	17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Works at one scale.
	18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	Designed to work at functional economic area / significant environmental area way.
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Explicit about gaps and uncertainty – treats them as normal – still a problem however.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Not designed to.
<i>Please add any further comments here:</i>		

MIMES (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	MIMES - Multiscale integrated Earth Systems model
Type of tool (list all that apply)	Mapping, modelling, decision, ecosystem services
Group members	<ol style="list-style-type: none"> 1. Ron Corstanje 2. Jim Harris 3. Alister Scott 4. Claudia Carter
Please provide a brief synopsis of the tool	<p>MIMES is a multi-scale, integrated shell of models that determine stock and flows of selected ecosystem service models. These are bespoke models for particular cases. Mimes is a suite of applications, all delivered to end users through the Web. All applications have been designed with the help of professional usability engineers, and are accessible through a standard web browser. Amongst these tools and resources are a set effective tool to present stakeholders with scenarios and a suite of models that assess the true value of ecosystem services in a sophisticated and transferable system to allow ecosystem managers to quickly understand the dynamics of ecosystem services, how their services are linked to human welfare, how their function and value might change under various management scenarios. It will facilitate understanding of the context of spatial patterns of land use, they dynamics of value, and the scale at which information is available for estimating ecosystem services at various scales (e.g. watershed, national and global).</p> <p>MIMES will provide economic arguments for land use managers to approach conservation of ecosystems as a form of economic development. The model facilitates quantitative measures of ecosystem service effects on human well-being.</p>

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey	Y	Y
	Assess		Y
	Policy / decision		Y
	Implement		Y
	Evaluate		Y

Please add any further comments here: Invest could in principal be used throughout the process

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
		Boumans, R. and Costanza, R., 2007.	The multiscale integrated Earth Systems model (MIMES): the dynamics, modeling and valuation of ecosystem services. In C. VAN BERS, D. PETRY and C. PAHL-WOSTL, eds, <i>Global Assessments: Bridging Scales and Linking to Policy. Report on the joint TIAS-GWSP workshop held at the University of Maryland University College, Adelphi, USA, 10 and 11 May 2007.</i> GWSP Issues in Global Water System Research, No.2. edn. Bonn: GWSP IPO, pp. 104-108.

Please add any further comments here:

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	N/A
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Guidance For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy),	There are few examples of this in practice or research as of yet.
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explain how EA and/or ES are currently incorporated in/by the tool

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

The tool offers the potential for managers to view and interact with ecosystem services: enabling them to enact policy or react to changes within a landscape.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? If yes, please explain how.</p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>Yes, through visualisation.</p>
	<p>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses</p>	<p>N/A</p>
	<p>3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem</p>	<p>Yes through visualisation and scenarios.</p>
	<p>Learning from experience/pedagogy</p>	
	<p>4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them</p>	<p>The visual element enables ecosystem services and other assets to be mapped and visualised.</p>
	<p>5. Extent to which tool is building on other tools or EA/ES progress</p>	<p>It enables managers to understand these concepts in reality and on the ground.</p>
	<p>6. Extent to which tool is</p>	<p>Yes, in principle it should be able to be adapted.</p>

<p>locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?</p>	
<p>7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)</p>	<p>Yes, through the networks.</p>
<p>Developing and selecting tools</p>	
<p>8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?</p>	<p>No, some modelling background is needed in its application.</p>
<p>9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?</p>	<p>N/A</p>
<p>10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)</p>	<p>N/A</p>
<p>Informing resultant policies effectively</p>	
<p>11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)</p>	<p>The tool supplies ecosystem service flows.</p>
<p>12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?</p>	<p>None at the moment.</p>
<p>Delivering management objectives</p>	
<p>13. Suitability or capacity of the tool to assist</p>	<p>The tool can help to visualise the landscape and therefore provide managers with necessary</p>

with managing visitor needs and pressures within protected areas / the considered area? How?	information on protected areas etc.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	In principle it should be able to visualize the delivery of ecosystem services.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	N/A
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Very effective.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Very effective.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	It is a GIS based tool that can applied at a variety of scales.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	It will struggle.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Can visualise benefits.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths *(of the tool in delivering intended outcomes)*

- Helps incorporate a wider array of ecosystem and human considerations into decision making.
- Helps build on (rather than repeat) other's work by using parameter databases, algorithms, and analyses built into tools.
- Help as a guide through processes so you can move from data to decision making more quickly.
- Save you time and help you explore a wider range of alternatives by automating analyses or processes that occur repeatedly.
- Helps document what inputs and parameters were used in analyses and reasons that decisions were made.
- Helps build collaboration among diverse project participants by creating a forum where stakeholder groups learn about and need to account for others' goals and concerns.

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- It may not be optimal to use an analytical tool if a project has highly constrained management options or analyses only need to be done a few times.
- There must be sufficient time and resources to gather the necessary data.
- Poor incorporation of tools into an Ecosystem Based Management (EBM) process can actually increase conflict.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

The tool could enable managers to better manage services: providing them with a tool to visualise the environment.

Threats *(factors which negatively affect the tool and its outcomes)*

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Uncertain or bad data	High	
Technical expertise	High	

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

NATIONAL CHARACTER AREAS (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.
Task 1: Basic information	
Name of the tool	National Character areas (NCAs)
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	1. Alister Scott
	2.
	3.
	4.
	5.

Please provide a brief synopsis of the tool

This may include: background context, development (and ownership if appropriate), current use and applications etc.

Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis

This is a decision support tool to help the partners of Natural England think about combining landscape, biodiversity, geodiversity and landscape change within an ecosystem services framework. This tool builds directly from the Landscape Character Areas and Joint Character Areas work that informed landscape policy approaches at the turn of the century.

“NCAs provide information on the natural and cultural features that shape landscapes. They also help to identify opportunities to enhance the distinctive qualities of landscapes, including biodiversity, geodiversity as well as other essential ecosystem services. This will help to equip local communities with the tools they need to understand and shape their surroundings” (Natural England 2012 <http://www.naturalengland.org.uk/publications/nca/default.aspx>).

Using a template it allows evidence to be built up across 159 identified NCAs. For the first time information is being pulled together across environmental disciplines and each profile seeks to condense thousands of pages of data (including ecosystem service data and analysis to identify key environmental opportunities. It is designed to be a strategic high level document for policy making at a landscape scale by a range of key players.

The process is bespoke and undertaken by Natural England staff using available evidence and then making assessments with justifications. This is then quality assured with consultation is undertaken internally across functional teams (land management, access, land use) and also including views from key partners representative of different sectors of society (e.g Local Authorities, FC, NFU, CLA, EA, English Heritage, Wildlife Trusts, AONB’s), before production in public reports.

The following key headings are used :

Description: This is a landscape led description of an area. It identifies links to other NCAs and the distinct qualities that shape this area. It draws heavily on the suite of LCAs produced.

Opportunities : These are statements of environmental opportunity which are derived from an analysis of key facts, landscape change and description together with other relevant documents/strategies

Key Facts and data : Focusses on existing suite of designations (landscape and biodiversity)

Landscape Change: Global summary of landscape changes using Countryside Quality Counts data

Analysis: Shows the projected impact of Statement of Environmental Opportunity on Ecosystem Service Provision. It is noteworthy that attention is given to cultural services here in their distinctive forms



This approach is designed to get Natural England’s partners to think about ecosystem services within their own planning and management approaches. It also involves NE staff within a learning process. It is a voluntary guidance tool with no statutory footing however and is seen as a tool to help and inform. To date it has been used the Forestry Commission to provide information on local landscapes to support their ‘Woodland Potential Calculator’. Pennine Prospects are using the Southern Pennines NCA published in March 2012, to support the development of a woodland creation and management strategy for the South Pennines; a Heritage Lottery funded Watershed Landscape Project; a Local Nature Partnership application on behalf of a wider South Pennines Partnership.

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)	Ideas	Yes	Yes
	Survey	yes	Yes
	Assess	Yes	Yes
	Policy / decision	No	Potential
	Implement	Yes	Yes
	Evaluate	Not yet	Potential

Please add any further comments here:

The tool is very new and evolving and hence had not had any substantive evaluation. Reports produced thus far have had some good reviews but it is not yet clear how they are being used by partners.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool? (e.g. reports, journal articles, books)	Author & Date	Title Vol pages	Web link (if available)
	Please add any further comments here:		
	Natural England National Character Profile Areas http://publications.naturalengland.org.uk/category/587130 Given its relative newness there are no academic or policy evaluations as yet. This review is therefore based on informal discussions and my own work on landscape management and policy.		

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? If so, please provide an outline.	<p>I have been heavily involved in the development of landscape assessment and evaluation that shaped the landscape character approaches in England, Wales and Scotland. I gave used this experience to conduct a simple evaluation of the tool thus far.</p> <p>Natural England senior management have championed the development of National Character areas throughout the work programmes of the organisation. It therefore becomes a tool for helping manage staff and their own work programmes.</p> <p>Mark Phillips appointed to his present position in October 2011 has helped re-design the initial template and NCA process to produce a relatively simple and well signposted set of outputs for partners that explicitly incorporates ecosystem services within it.</p> <p>Evaluation is ongoing but there remains the key issue of data gaps and obsolescence in light of landscape changes.</p>
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

****Please refer to the summary text about ES for concept clarification at the end of this template (appendix)****

Using examples (from practice, research or consultancy), explain how EA and/or ES are	At present the ES is explicitly incorporated into the tool within the analysis phase. In each statement of environmental opportunity prepared in the NCA template the projected impact on ecosystem services is assessed. A symbol based approach is used with assessments drawing on data (where available) but equally on the experience of the
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<p>currently incorporated in/by the tool</p> <p><i>If neither approach is currently incorporated, please move to the next question</i></p>	<p>inputter (Natural England specialist). Given that one overall decision is made on the impact on ecosystem services, the decision is not traceable to data in its present form.</p> <p>There is widespread recognition of the issue of data quality and the problems of making global assessments across what are diverse areas of landscape. However, it does give a clear indication at the NCA scale of the cumulative impact of certain actions on the ecosystem services. It is however only looking at the net effect only.</p>
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<ol style="list-style-type: none"> 1. There could be a more inclusive process allowing other organisations to work collaboratively on filling out templates to help with triangulation particularly given the significant data gaps. 2. There is an opportunity to incorporate local knowledge and expertise more explicitly at the outset which is lost in many of the desk based assessments that are made. Consultation is made late in the process. 3. There is an opportunity to incorporate statements of economic and social (community opportunity) within a more integrated set of impacts on ecosystem service outputs using what if (scenarios). 4. The current unpacking of Strategic Environmental Opportunity has important information that could be subjected to separate ecosystem service assessments which then collectively shape an overall assessment. 5. Many of the assessments are made based on desk based assessments; field based recordings would enhance and help ground truth the process. 6. Need to make explicit the nature of deficiency and level of uncertainty in assessments within the NCA profiles. . 7. Need to look beyond statements of environmental opportunity and look at what if issues to allow a greater input into planning policy issues and address landscape change 8. The process of filling out templates represents a powerful learning opportunity about ecosystem services within NE. This could be captured to improve skills understanding and provide support to staff and partners in NE. 9. There is an opportunity to update the templates to ensure that these do not represent a domes day snapshot. 10. Cross referencing the ES assessments to data and decision making justifications 11. Electronic access and interactions set within a public portal encouraging the use of an open space format. . 12. Ability to drill down across scale to have more complex assessments. This would follow the LCA approach.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Complete as many boxes as required

Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Strong The whole idea of NCAs is that it gets people to think about these issues in a relatively simple and straightforward way.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Partly. The NCA profiles help people understand what makes these areas tick. Unsure how accessible and usable the documents will be for all these different audiences.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Partly. Simplified nature of these is affording them success in many quarters as many community groups are making sense of them and realising the value of certain features and processes in their locality, so something about the format of them is resonating with people. The unique geography and spatial framing limits some uptake.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Good. This is a good tool that will help people understand what is distinctive about a particular character area and the key assets that help to support the ecosystem services.
5. Extent to which tool is building on other tools or EA/ES progress	Partially. The tool builds on LCA but also helps link across landscape, biodiversity and geodiversity, and as such could be beneficial given that landscape and nature /culture conservation remains a significant divide within policy and practice in England.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Partially. The tool can be grounded. Specialist staff are used to support key areas and assets in NCAs to ensure that the correct assessments are made as far as is possible. However the NCA scale varies from small to large.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Strong. The tool is flexible to help people understand ecosystem thinking within particular landscape settings. It therefore seeks to inform and therefore will be open to different interpretations. There is also an issue over the extent to which the data inputted

	and assessments made might vary across staff although there is a system of QA in place.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Yes The tool is funded through NE core budgets. New Defra ministers and also changes in NE senior management might lead to changes in support? However the full buy in from NE Board and the embedding of all staff in this suggests it will become even more important for guiding the work of the organisation.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Yes. The NCA process does require training and support. NE staff are required to use these templates within their work programmes so it is embedded in the organisation. There is support and training given by NE through the NCA National Team (and using experienced authors to share knowledge) dedicated person (Mark Phillips- ES). There is a lot of 'learning by doing' with Mark as facilitator and guide.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Strong but with spatial biases towards existing designations: Synergy between national park plans and the NCAs and AONBS in particular.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Partially. The tool does look at ecosystem services based on the projected impact of environmental opportunities. It does not cover what ifs or particular development proposals.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	No. At present it is too crude as an overall measure which limits its value in planning decisions. The description could be used within a more generic landscape assessment.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Partial. The overall impact on recreation is assessed with regard to environmental opportunities but it misses the impact from economic and social opportunities. There is a marked bias towards landscape designations.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership	Limited. Issues of generality and lack of traceability of decision to evidence. However, they can provide a useful context.

and use by publics?	
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Partially. As a tool it can provide a resource for communities. Recognised need for Natural England to make work visible in the local arena
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Weak: written as separate documents not linking the thinking across scales and boundaries due to different authors. The big picture solutions and interventions are excluded from analysis at scales larger than NCA ie The processes are interrelations which operate between separate NCAs within the same river basin. Wider opportunities from thinking at this scale includes cropping and flood improvement schemes.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Weak because it is expert led to such a degree rather than being able to be deconstructed and rebuilt in different forms in the way which data led models can.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	This is a weak attribute of the tool.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Strong: data is an issue but in the context of the NCAs the outputs have been produced to support policy/decisions. Currently there are no statements that highlight the lack of evidence and data.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The tool has a bias towards designated sites as that is where the best evidence is. There are concerns that wider countryside sites are more susceptible to data shortages. This is potentially a big issue as some priority habitats where local/regional data is lacking is not currently taken into account in these documents although links to local records office are included.

Please add any further comments here:

The tool leads to outputs in the public domains. There is a risk that in order to be a public document some of the tensions and conflicts across the cultural services are neglected and remain hidden.

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool’s past and current application, as well as its effectiveness in policy and decision making processes

Strengths *(of the tool in delivering intended outcomes)*

- Bold focussing and simplifying key outcomes and processes.
- Praise for cutting through academia and giving leadership.
- Pragmatism.
- Willingness to simplify.
- Staff learning tool.
- A set of statements of environmental opportunity which set out possibilities for future enhancement of the area.

Weaknesses *(factors that detract from the tool’s ability to deliver intended outcomes)*

- Natural England designed and developed the tool in isolation.
- No spatial interactive map/tool with the outputs?
- Some data is old/out of date. Needs to be a way of ensuring data is refreshed and kept up to date.
- Using JCAs as a geography that is not understood or used in any substantive way by other organisations; crucially all partners use different spatial geographies.
- Catchments based partnership working/approach is becoming more common and offers an opportunity for this approach to be superimposed within catchment based approach pilots.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

See Task 5

Major opportunity to have local expertise that informs the data through an open source platform.

Threats *(factors which negatively affect the tool and its outcomes)*

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The abandonment of NCAs as they fail to catch on with partners as planning tools	Medium	Medium
Merger with EA and FC creates new body which discontinues NCAs	Medium	Low
Loss of key staff delivering NCA	High	Low
Funding of NE cut	High	Low
Defra change priorities	Medium	Low

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments	<p>This is a tool under development. Its exposure to public and academic scrutiny is limited and hence evaluations are also subject to these weaknesses.</p> <p>Expectations from partners about what they expect to be in the document and the reality of what NE templates and guidance states should be in the document are very different.</p> <p>Academic comment: Given the limited resources in this area it seems important that as many people as possible agree a spatial geography within which decision tools can be embedded. We have too many different spatial frameworks that serve to confuse.</p>
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Supporting document 3: Analysis supporting Statements of Environmental Opportunity

The following analysis shows the projected impact of the Statements of Environmental Opportunity on Ecosystem Service Provision:

Statement of Environmental Opportunity	Ecosystem Service															
	Food provision	Timber provision	Water availability	Genetic diversity	Biomass energy	Regulating climate	Regulating water quality	Regulating soil quality	Regulating water flow	Regulating soil erosion	Pollination	Pest regulation	Regulating coastal erosion	Recreational opportunity	Inspiration/Sense of place	Biodiversity
Safeguard, manage and enhance the large areas of open, expansive moorland, and the Internationally Important habitats and species they support, as well as protecting soils and water resources	↗	↗	↑	•	•	↑	↑	↑	↗	↑	↗	↗	n/a	↗	↑	↑
Manage and enhance the pastoral character of the moorland fringes, lower hills and valleys, with their mosaics of pastures and meadows, and their strong field patterns defined by drystone walls, to improve ecological networks and strengthen landscape character.	↗	↗	↗	↗	•	↗	↗	↗	↗	↗	↗	↗	n/a	↗	↑	↑
Protect the comprehensive range of historic landscape features for their cultural value and the contribution they make to local distinctiveness and sense of identity.	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	n/a	↗	↑	↔
Improve opportunities for the enjoyment and understanding of the landscape, and to experience the sense of escapism and inspiration, whilst also conserving the qualities of the landscape and its valuable historic and wildlife features.	↗	↗	↗	↗	↗	↘	↗	↗	↗	↘	↗	↗	n/a	↑	↑	↗

Note: Arrows shown in the table above indicate anticipated impact on service delivery ↑=Increase ↗=Slight Increase ↔=No change ↘=Slight Decrease ↓=Decrease. Asterisks denote confidence in projection (*low **medium***high) =symbol denotes where insufficient information on the likely impact is available. Dark plum =National Importance; Mid plum =Regional Importance; Light plum =Local Importance

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PAYMENTS FOR ECOSYSTEM SERVICES (PES) (Ecosystem Services)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Payments for Ecosystem Services (PES)
Type of tool (list all that apply)	Financial/economic, valuation, decision, ecosystem services
Group members	<ol style="list-style-type: none"> 1. Mark Everard 2. Mark Reed
Please provide a brief synopsis of the tool	<p>Paying for Ecosystem Services (PES) is a market-based approach based on creation of markets linking the 'suppliers' of ecosystem services with their 'users'/'consumers'. Some services (mainly provisioning services) are already traded, including for example fresh water and food. However, most are external to today's market, yet are crucial for ecosystem resilience and support society now and into the future (e.g. pollination and nutrient cycling). Valuation of these many formerly omitted ecosystem services is essential for their effective incorporation into decision-making, and development of PES markets offers a means to recognise, internalise and protect these valuable services.</p> <p>Some examples are provided below, but a classic example is that of water catchment protection to recognise the value of landscapes for the (provisioning) service of producing fresh water. There are now many PES initiatives worldwide wherein payments from water users (e.g. spring water bottlers or drinks companies) and/or water companies (responsible for providing clean tap water) are made to farming and other land use interests whose actions affect the provision of that service (typically taking the form of land use subsidies, capital grants and/or advisory services).</p> <p>In all cases, for an economic transaction to be considered a Payment for Ecosystem Services, it must consist of a <u>voluntary</u> contract between service providers and service consumers. Payments are <u>conditional</u> on achieving service enhancement of protection (or else actions agreed by all parties as likely to achieve that outcome), <u>additional</u> to basic regulatory requirements and would not have happened anyway, and where activities that are detrimental to the provision of ecosystem services are not simply displaced elsewhere (known as <u>leakage</u>).</p>

Task 2: Use of the tool			
Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey	Y	Y

Assess	Y	Y
Policy / decision	Y	Y
Implement	Y	Y
Evaluate	Y	Y

The OECD estimated that there were 300 PES, or at least ‘PES-like’, schemes in operation globally in 2010¹, and PES development has accelerated since that time. Although many pre-existing PES schemes have advanced on an ad hoc basis, DEFRA will be publishing a Best Practice guide in 2012² that formalises cyclic of stages in the development PES from concept to engagement of interested parties through to underlying research and legal issues and finally market establishment feeding back as an adaptive loop. This Guide provides case studies that show how PES schemes internationally have been used at every stage of the decision/policy-making process, though there are few examples of single PES schemes that have operated at every one of these stages. For example, the Guide starts out by describing how opportunities for PES schemes may be initiated, identifying the prospects for trade and potential buyers and sellers. In this way, PES schemes can play a major role in the ideas phase of decisions within the ecosystem approach, spawning whole decision-making processes that lead to the development and implementation of schemes. Survey and assessment is a key part of developing successful PES schemes, both in terms of assessing the market, and monitoring the benefits of operational PES schemes. PES schemes may contribute towards other decision/policy making processes, for example by providing additional incentives to help achieve policy implementation e.g. helping meet targets under climate legislation, the Habitats Directive or Water Framework Directive, if the scheme leads to carbon sequestration, habitat restoration or improvements in biodiversity, or improvements in water quality respectively. Monitoring data required for PES schemes may also prove useful in evaluating decision/policy making processes.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

Please add any further comments here:

DEFRA (2010) Payments for Ecosystem Services: a short introduction.

<http://archive.Defra.gov.uk/environment/policy/natural-environ/documents/payments-ecosystem.pdf>

Dunn H. (2011) Payments for Ecosystem Services, DEFRA Evidence & Analysis Series Paper 4. <http://www.Defra.gov.uk/publications/files/ecosystem-payment-services-pb13658a.pdf>

Engel, S., Pagiola, S., and Wunder, S. (2008). Designing payments for environmental services in theory and practice: an overview of the issues. *Ecological Economics* 65(4): 663–674. 11

Jack, B.K., Kouskya, C. and Simsa, K.R.E. (2008). Designing payments for ecosystem services: Lessons from previous experience with incentive-based mechanisms. *PNAS* 105(28): 9465-9470.

OECD (2010). *Paying for biodiversity: enhancing the cost-effectiveness of payments for ecosystem services* (Executive Summary) [online] available at: <http://www.oecd.org/dataoecd/25/55/46135424.pdf>

¹ OECD. (2010). *Paying for Biodiversity*. OECD Publishing.

² DEFRA. (in production). *PES Best Practice Guide*. [Final title to be notified on production of final draft late-2012]

	<p>Rowcroft P, Smith S, Clarke L, Thomson K, Reed MS (2011) Barriers and Opportunities to the Use of Payments for Ecosystem Services. Final Report to DEFRA, http://randd.Defra.gov.uk/Document.aspx?Document=PESFinalReport28September2011(FINAL).pdf</p> <p>TEEB (2010). <i>The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB</i> [online] available at: http://www.teebweb.org/LinkClick.aspx?fileticket=bYhDohL_TuM%3d&tabid=924&mid=1813</p> <p>Wunder, S. (2005). <i>Payments for environmental services: Some nuts and bolts</i>. Center for International Forestry Research Occasional Paper No. 42 [online] available at: http://www.cifor.cgiar.org/publications/pdf_files/OccPapers/OP-42.pdf</p>
Task 4: Your experience of working on the tool	
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	<p>See DEFRA PES Best Practice Guide for multiple examples of projects that have developed and tested this approach. Members of the working group for this tool can also provide additional examples:</p> <ul style="list-style-type: none"> • Mark Everard: has implemented PES schemes in South Africa (relating to water supply) and India (around ecotourism) • Mark Reed: is working with colleagues to develop a UK Peatland Carbon Code to support peatland carbon markets in the UK
Guidance	<p>For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.</p>
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)	
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	<p>When those who are responsible for providing ecosystem services are the beneficiaries of those services (e.g. in the case of many ‘provisioning’ services such as food production), private markets are likely to effectively maintain the provision of services. However, when the benefits mainly accrue to others (e.g. downstream flood protection or carbon storage) (i.e. land management is creating “positive externalities”), markets often fail to reward land managers for providing these services. Attempts to maintain or enhance these ecosystem services for the benefit of wider society, may lead to conflict where their provision is at odds with the objectives of land managers (e.g. where the opportunity costs of maintaining biodiversity compromise the economic viability of a sporting estate). On the other hand, some land uses and management activities lead to benefits for landowners and managers at the expense of wider society (in this case land management is creating “negative externalities”). Some of these negative effects may be off-site, for example, when land use exacerbates flooding or sediment loss/accumulation in adjacent areas downstream; or, there may be on-site impacts when a decision in one sector (e.g. conservation) affects another sector (e.g. agriculture).</p> <p>Various policy responses to these market failures that distort land use are possible. These may be characterised broadly as incentivising, obliging or urging peatland managers to alter their activities. Each has advantages and disadvantages, although in practice some combination of individual policy measures is typically used. Payment for Ecosystem Services (PES) offers a way to pay for the societal costs and benefits of land management (effectively “internalising” societal costs and benefits that were previously “externalised” from land managers), incentivising more sustainable management.</p>

The benefit of a PES approach is that it turns non-paying service beneficiaries into buyers (sometimes via intermediaries who act as buyer agents for the ultimate beneficiaries), formalising the transactions that take place between those who provide and those who use ecosystem services. By rewarding land owners and managers on the basis of the services they provide to society, PES provides an explicit financial incentive to provide public goods for which they are not currently paid.

Exemplar catchment management examples are to be found in the UK ‘Thinking Upstream’ (www.upstreamthinking.com) and US ‘New York City Water Supply’ (for example as reviewed in Everard, 2011³) where land users are rewarded for their cost-effective impact on provision of cleaner water, as compared to the costs to water providers of cleaning up dirtier water downstream. Other global PES examples address protection of biodiversity (payments for conservation-relevant measures), carbon sequestration (emerging carbon markets), flood risk by adjustment of land use, access and amenity, etc. The supply and consumption of a service and its economic value is central to these PES schemes, engaging affected stakeholders in voluntary markets.

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

The tool is inherently based on the ecosystem approach, addressing single or multiple ecosystem services. It is important to ensure that all services are considered, even if not part of markets, if we are not to perpetuate the current model of promoting selected services at the expense of others (as in modern agriculture or marine fisheries). As PES schemes proliferate, this may require a degree of central co-ordination and/or regulation, to ensure that markets for certain ecosystem services do not lead to trade-offs with other services that are harder to value financially (e.g. cultural services including biodiversity). An alternative approach is to “layer” schemes for different ecosystem services together, in which a single project delivers multiple services but markets them each to different buyers, or to “bundle” multiple services into a single scheme where buyers interested in a core service pay a premium for the co-benefits. In this way, it may be possible for brokers to co-ordinate markets for multiple services in such a way as to avoid trade-offs.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Best practice (according to DEFRA) is to engage all relevant stakeholders around a common understanding of ecosystem service linkages, as part of the design of new PES schemes. There is however limited evidence that this is routinely done, and feedback from stakeholders during the development of DEFRA’s PES Best Practice Guide repeatedly focussed on problems with jargon/terminology.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of	Few UK-based PES schemes directly target the public, but there is a potential to develop public-facing PES schemes based around carbon offsetting or visitor payback (see separate tool on this). DEFRA are	

³ Everard, M. (2011). *Common Ground: The Sharing of Land and Landscapes for Sustainability*. Zed Books.

multiple visitors, residents and businesses	currently exploring the potential for new digital and mobile technologies to facilitate visitor payback for ecosystem services, and such technologies may offer the potential to share understandings of different values for nature. Most UK-based PES schemes are focussed on business, but there is limited sharing of understandings of values.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	See response to question 2.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Development of PES is by definition addressing ecosystem services currently outside of the market, often targeting services considered 'for free' and hence a 'hidden asset' to resource managers and helping beneficiaries recognise that they are indeed service beneficiaries
5. Extent to which tool is building on other tools or EA/ES progress	PES is built on implementing the ecosystem approach and delivering ecosystem services, and is one of a number of market-based instruments (subsidies, taxes, etc.). Rather than building on these other policy instruments, PES is usually used alongside these other instruments. The proliferation of PES schemes is dependent upon our understanding of the ecological mechanisms that underpin ecosystem service provision, to: i) ensure payments for one service do not inadvertently lead to trade-offs to other linked services; and ii) provide means of monitoring and verifying ecosystem service delivery. For many services, more basic research is required to understand how changes in land management that could be supported by PES schemes might affect multiple services at different spatial and temporal scales. More research is also needed in many cases to provide cost-effective mean of verifying the delivery of services that have been paid for.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	The development cycle shortly to be published in the DEFRA PES Best Practice Guide is of generic applicability across scales
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The development cycle, shortly to be published in the DEFRA PES Best Practice Guide, is of generic applicability across scales.

Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	PES development is explicitly market creation for mutual advantage between beneficiaries and providers of services. However, development costs can be high, as can transaction costs (though these should be minimised in design on a 'principle of parsimony' basis) so additional development support is advantageous. Funding can come from multiple buyers, spreading risks and enhancing the resilience of schemes to future changes in the availability of funding.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	See reference to various guides (task 3). The UK's Ecosystems Knowledge Network ⁴ will host DEFRA's PES Best Practice Guide and other useful materials linked to PES, and will act as a learning and support network for PES in future
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	PES development is part of commitments under the UK White Paper on the Natural Environment, <i>The Natural Choice</i> ⁵ has a strong emphasis on PES, and linked to this DEFRA will be launching a PES Action Plan at the end of 2012. Similarly, the Welsh Government's "A Living Wales" framework and Scottish Government's Land Use Strategy highlight PES, and seek to facilitate the development of new PES schemes to leverage private investment in the natural environment.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	By paying land owners/managers for ecosystem services that society enjoys but did not hitherto pay for, PES can incentivise land management decisions that sustain the provision of the ecosystem services most demanded by society. However, there is a danger that services that are in less demand (or remote locations where there is less demand for ecosystem services) are overlooked by PES schemes.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	PES schemes may form a delivery mechanism for carbon and biodiversity offsetting, which may become mandatory in future as part of the planning system. It may be possible for Section 106 payments or the Community Infrastructure Levy to become a source of funding for PES schemes that offset damage to the natural environment from nearby developments, and enhance benefits to local residents from the local environment. There is a reference to ecosystem

⁴ ekn.defra.gov.uk

⁵ HM Government. (2011). *The Natural Choice: Securing the Value of Nature*. www.defra.gov.uk/environment/natural/whitepaper

	services as a basis for consideration in the NPPF.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Visitor payback schemes and charges for amenity/access can be forms of PES. Controls of visitor numbers to match carrying capacity may be included in design (i.e. through a limited number of permits, etc.). This is being investigated in greater depth via a new DEFRA PES Pilot project.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Uncertain: it is mainly about delivery rather than planning, though underpinning consideration of service provision and requirements informing plans can then be a basis of PES development of critical services.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Common land providing public benefits could readily form the basis for PES schemes (e.g. as water catchment, access and amenity, fisheries, etc.). If DEFRA Best Practice Guidance is followed in the development of new PES schemes, all relevant stakeholders should be consulted during scheme development. The level of engagement is likely to vary between PES schemes, but most of the case studies reviewed by DEFRA for its PES Best Practice Guidance suggest relatively limited engagement from stakeholders in environmental governance related to PES schemes. It is possible that in future, new PES schemes will be proposed by self-organised groups of land owners/managers who wish to market ecosystem services, which would lead to a new form of community-based environmental governance.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	PES links 'providers' with 'consumers' who may be local (a local green space), catchment-scale (flooding or water supply) national or global (support for charismatic biodiversity and also carbon sequestration). Much of the underpinning research required to facilitate PES schemes involves understanding these spatial links between services, so the proliferation of markets for ecosystem services may well improve our capacity to understand these processes.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	PES schemes do not necessarily have to consider benefits and trade-offs at different scales – there are many examples of small-scale PES schemes focussed on single ecosystem services. However, most PES schemes have a series of co-benefits associated with the management of the core service for which there is a market. By bundling these additional services, or

		“layering” multiple PES schemes that can run in parallel, there is the potential to optimise synergies and avoid trade-offs between ecosystem services at multiple scales.
	18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	The development cycle is designed to bring consensus about common opportunities, extending across sectoral and administrative boundaries which are not respected by the flow of services.
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	The development cycle is designed to address consensus views, in which assumptions and agreements about risk and uncertainty can be used cost-effectively to resolve data gaps. It is possible to initiate PES schemes in the absence of full information, making conservative estimates, and for the science and data underpinning transactions to advance in parallel (this happened in the development of the Woodland Carbon Code and associated projects).
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	PES has helped promote the value of landscape/nature conservation/other service provision to wider publics. It has the potential to make land owners/managers who operate within designated sites view these more positively, if PES schemes lead to them being paid for work they must currently undertake at their own expense to comply with the designation.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6),

Strengths (of the tool in delivering intended outcomes)

- Links economic with social (public enjoyment) and environmental (service-producing functions) facets
- Recognises often overlooked values of ecosystems
- Develops by consensus
- Additional to legislative requirements
- Transparent
- Contractual
- Well-established globally addressing a diversity of services

Weaknesses (factors that detract from the tool’s ability to deliver intended outcomes)

- Can have high transaction costs
- Some commentators have philosophical problems with the concept of “putting a price on nature” and object to PES on these terms

please complete a summary SWOT analysis ensuring that each point is well justified

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- Potential for PES development is substantial in terms of the range of services and market potential
- The current coalition Government nationally and devolved administrations in Scotland and Wales are supportive of PES in principle, and are likely to provide the support necessary to facilitate the proliferation of PES schemes in the immediate future

Threats *(factors which negatively affect the tool and its outcomes)*

- Limited knowledge/science base for some services may limit the ability to monitor service provision, which is a key precursor to the development of PES schemes. This may limit the range of new services that can be brought into PES schemes (highly likely, not very serious)
- If unregulated, there is a danger that some PES schemes may lead to trade-offs with biodiversity, which may create “bad press” for other PES schemes (low likelihood, very serious)

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Commoditisation of the natural world is a potential threat if there is not common understanding about the underpinning ecosystem approach	High	Medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

POLYSCAPE (Ecosystem Services)

TABLES Project 2012: Mini reviews			
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>		
Task 1: Basic information			
Name of the tool	POLYSCAPE: Multiple criteria GIS toolbox for negotiating landscape scale ecosystem service provision (renamed LUCI)		
Type of tool (list all that apply)	Mapping, modelling, decision, ecosystem services		
Group members	<ol style="list-style-type: none"> 1. Ron Corstanje 2. Jim Harris 3. Alister Scott/Simon Smart 4. Claudia Carter 		
Please provide a brief synopsis of the tool	<p>Polyscape, now known as LUCI, is a GIS toolbox that uses multiple criteria analysis to explore the impacts of decisions on land use or management changes. It is primarily an effective visualisation tool for determining trade-offs in different ecosystem service provision at the landscape scale, with a strong focus on agricultural landscapes. There are six tools; five consider current and potential impacts of land management change on single service criteria. These are 1) habitat networks; 2) flooding; 3) erosion/sediment delivery; 4) carbon sequestration; 5) agricultural productivity. The sixth tool displays synergies and trade-offs amongst any number of these five ecosystem services. The tool is implemented in ArcGIS.</p> <p>Changes in land management at field level can be inputted to the tool and “traffic light” coded impact maps, produced in seconds to minutes, allowing quick visualisation of the impact of different decisions on ecosystem services manifest at landscape scales. Interactive capabilities to facilitate stakeholder engagement and to allow local requirements and knowledge to be easily incorporated in decision making are included. Polyscapes/LUCI offers a means for prioritising existing features and identification of opportunities for landscape change.</p> <p>Polyscape is a GIS toolbox designed to explore spatially explicit synergies and trade-offs amongst ecosystem services to support landscape management (from individual fields through to catchments up to 10,000 km² scale. It quantifies and maps a variety of ecosystem services. It includes algorithms to calculate where trade-offs and/or synergies between services exist by combining GIS layers using simple rules.</p>		
Task 2: Use of the tool			
Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey	Y	Y
	Assess	N	Y
	Policy / decision	N	Y
	Implement	N	Y
	Evaluate	N	Y
Please add any further comments here:			
Task 3: Existing literature about the tool			
Are you aware of	Web links:		

<p>any KEY policy and / or academic literature evaluating your tool?</p>	<p>http://www.werh.org/documents/healeycardiff.pdf http://www.slideshare.net/CPWF/polyscape-multiple-criteria-gis-toolbox-for-negotiating-landscape-scale-ecosystem-service-provision http://www.cambrianmountains.co.uk/the-region/ecosystems/adaptive-landscapes-project Jackson, B., Pagella, T., Sinclair, F., Orellana, B., Henshaw, A., Reynolds, B., McIntyre, N., Wheater, H. and Eycott, A. (2012) Polyscape: a GIS mapping toolbox providing efficient and spatially explicit landscape-scale valuation of multiple ecosystem services. <i>Urban and Landscape Planning</i>.</p>
<p>Task 4: Your experience of working on the tool</p>	
<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?</p>	<p>No: drawing on recent work by Smart <i>et al.</i> to inform the review.</p>
<p>Guidance</p>	<p>For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.</p>
<p>Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)</p>	
<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p>	<p>It quantifies and maps a variety of ecosystem services, such as agriculture, water regulation, erosion and sediment control, carbon sequestration, habitat connectivity. Polyscape/LUCI includes algorithms to calculate where trade-offs and/or synergies between services exist by combining GIS layers using simple rules to support landscape management. It has been applied at farm-scale up to landscape/catchment scales (up to approximately 10,000 km² and with the capability to handle larger areas). Case studies have been applied within Wales, New Zealand, Ghana, Greece and England (the Bassenthwaite catchment and the Loweswater catchment).</p>
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>Mapping of ecosystem services, decision support at farm and larger scales, identifying areas with maximum potential for change in land use, and also existing features or management regimes in the landscape that are worthy of protection.</p>
<p>Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews</p>	

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>	
	Language and communication		
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Yes, through visualisation.	
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	No.	
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Yes, through visualisation and scenarios.	
	Learning from experience/pedagogy		
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	The Tool reviews the ecosystem services of an area: assets perhaps unknown beforehand.	
	5. Extent to which tool is building on other tools or EA/ES progress	It enables a visualisation of ES.	
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Yes, in principle it should be able to be adapted. Has been applied at farm-scale, for example and for 'detailed' catchment studies (e.g. Bassenthwaite and Loweswater catchments).	
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes, through the networks.	
Developing and selecting tools			
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	No, some modelling background is needed in its application.		
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Some skill and knowledge in use and application required.		
10. Extent to which current statutory hooks can be	N/A		

exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Very strong. The tool supplies ecosystem service flows and is specifically designed to address this requirement.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	None at the moment.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	The tool can provide a visualisation of assets and thus enable managers to review how pressures are impacting on particular areas.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	In principle it should be able to visualize the delivery of ecosystem services.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	N/A
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Very effective.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Very effective.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	It is a GIS based tool that can applied at a variety of scales.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	It will struggle; major limitation.
20. To what extent has/could the tool put landscape/nature	Can visualise benefits.

	conservation and designated species/sites on the radar (positively or resulting in resentment?)	
Please add any further comments here:		

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths (*of the tool in delivering intended outcomes*)
 Novel algorithms to explore synergies and trade-offs amongst these ecosystem service impacts have also been developed and implemented.

Weaknesses (*factors that detract from the tool's ability to deliver intended outcomes*)
 Simple representation of process models, focussed on agricultural systems.
 Data gaps limit overall tool effectiveness.

Opportunities (*consider opportunities for application of the ecosystem approach and services*)
 Could enable managers and other key actors to visualise services more effectively.

Threats (*factors which negatively affect the tool and its outcomes*)

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
GIS technical expertise	Medium	Medium
Data	Medium	Medium

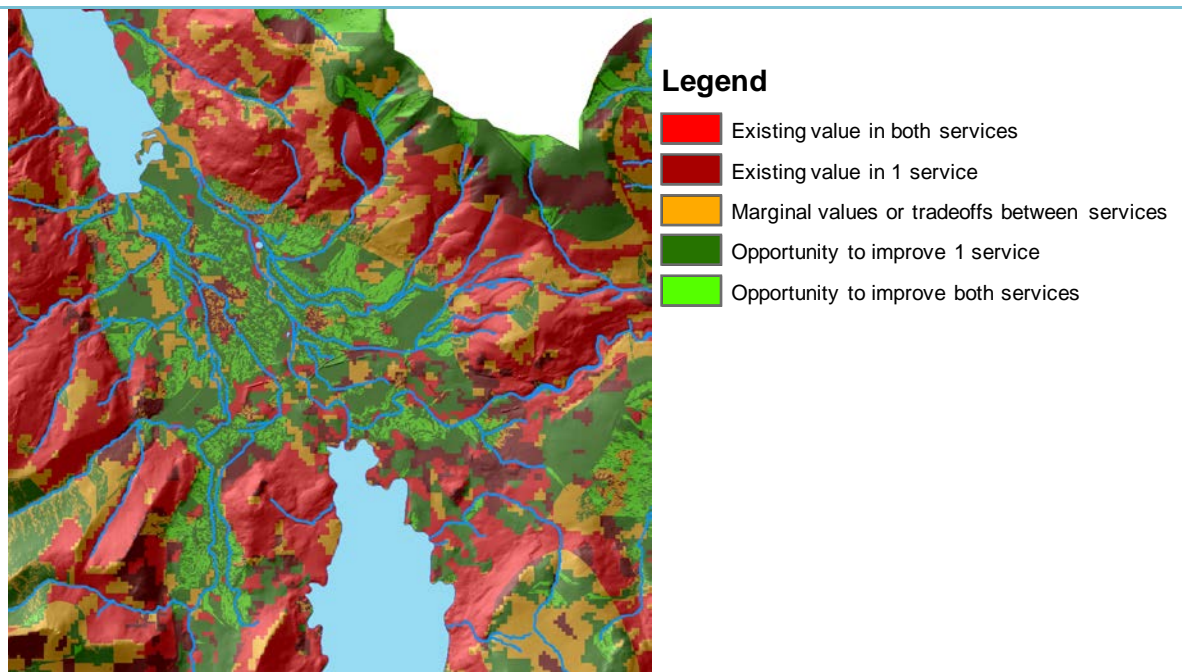
Please add further comments here:

Guidance Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments Several case studies used the older version Polyscape in Wales; LUCI (as it is now known as) is being run as a new case study for the Bassenthwaite catchment. This and other case study work demonstrated how statistical models of ecosystem service indicators could be developed and used for future projection and scenario testing (Smart *et al.* 2011). In addition, the advent of cloud computing provides new online platforms where multiple tools can be accessed and run with varying degrees of dynamic linkage between them. Two such possible platforms are the Environmental Virtual Observatory (EVO)⁶ and the My Environment portal soon to be rolled out for England.

Figure: Example of flood mitigation / carbon trade-off layer in Polyscape application for Bassenthwaite catchment

⁶ <http://www.evo-uk.org/evo-cloud-services-portals/data-analysis-visualisation/>



The water regulation and erosion/sediment delivery models are novel algorithms combining established physical relationships related to water holding capacity, infiltration capacity etc and spatially explicit topographic routing. The agricultural model uses a simple rule set based on slope, aspect, fertility, and hydraulic properties. The carbon layer follows IPCC guidelines, and considers both current carbon stocks and emission/sequestration, while the habitat connectivity is an automation of the Forestry Commission's habitat connectivity model 'BEETLE' (Biological and Environmental Evaluation Tools for Landscape Ecology).

Smart *et al.* (2011) An Integrated Assessment of Countryside Survey to investigate Ecosystem Services in Great Britain. www.countrysidesurvey.org.uk

COMMUNITY ECONOMIC DEVELOPMENT (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Community Economic Development
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Participatory; collaborative; decision.
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Paul Cobbing 2. Karen Leach 3. Michael Hardman
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>The Canadian Community Economic Development Network definition is: “Community Economic Development (CED) is action by people locally to create economic opportunities and better social conditions, particularly for those who are most disadvantaged. CED is an approach that recognizes that economic, environmental and social challenges are interdependent, complex and ever-changing. To be effective, solutions must be rooted in local knowledge and led by community members. CED promotes holistic approaches, addressing individual, community and regional levels, recognizing that these levels are interconnected.”</p> <p>In our recent MCED literature review we defined it as “Community economic development (CED) can be defined as economic development led by people within the community and based on local knowledge and local action, with the aim of creating economic opportunities and better social conditions locally.”</p> <p>IDEA/WBS/LGIU define it (in Smarter CED) as “a broad term that seeks to cover a variety of ‘bottom up’ community enterprise in the not-for-profit sector... It has the advantage of drawing on local assets, intelligence, networks (e.g. ethnic minority community businesses) and knowledge... it reflects a proactive, bottom up approach which is more successful than an approach which merely responds to government initiatives · It creates the conditions for economic development within the community, ensuring the recirculation of money within communities, and the reinvestment of profits for mutual benefit... .”</p> <p>Their publication Smarter CED goes on to describe a range of economic functions of social enterprise, non-profit activity and local finance institutions, rather than the rather more holistic or strategic approaches described in Canadian and US material. Localise West Midlands (LWM) would not agree with IDEA’s definition, firstly in that CED should not be</p>

limited to not-for-profit business, and secondly in that the definition does not reflect the strategic aspects of CED, where a community can together identify holistically how to improve their local economy for social environmental and economic benefit in a way that is more similar to governmental economic development than to micro-scale community initiatives.

This discrepancy in the IDEA definition mirrors a widely held understanding, conforming with our reading, that CED is more advanced in the USA and Canada than it is in the UK.

In the UK, CED is considered to have been commonly used in regional development programmes in the 1990s and early 2000s, following European programmes. But again such CED activity tends to reflect the less holistic, micro, private sector excluding approach that seems more common in the UK – for example “a targeted environmental project, a childcare scheme, a development trust and a credit union” (Armstrong et al, 2000). The one programme that had a more holistic focus was Leader, particularly some of the earlier incarnations.

Desired outcomes of the tool: we would identify these as holistic and strategic economic activity that solves social, environmental and economic challenges; based on local resources and meeting local needs; having a positive impact particularly on the most disadvantaged or excluded and increasing community capacity and social capital.

In both the IDEA and European Commission writing on CED it appears that the strategic aspects are recognised as a goal (European Commission, 1996, pp. 22-23 cited in Armstrong, 2000), but this rarely translates into projects. We suspect that what is missing is: public bodies willing or able to facilitate and respond in an empowering, community focussed way; an inability of many organisations to work across sectors (both internally and externally); the difficulty of delivering outcomes that reflect the needs and aspirations of communities rather than the needs of the programme; and perhaps capacity and knowledge amongst communities to design things in this way.

CED applies Community Development approaches to the development of local economies. Because CED approaches are rare in the UK, we incorporate some Community Development examples within this review where there is an economic element.

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
<p><i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i></p>	Ideas	A few community groups; a few public sector agencies	LNPs, NIA partnerships, AONB partnerships, LA economic development depts (including district level) linking to LEP & CoC activity; local business forums, town centre partnerships; neighbourhood planning processes & neighbourhood forums; more community organisations.
	Survey	As above	As above
	Assess	As above	As above
	Policy / decision	As above	As above
	Implement	As above	As above
	Evaluate	As above	As above

Please add any further comments here: CED is a broad tool with a number of potential components in its operation. Its main process stages would be around sourcing local knowledge, sharing ideas, participatory decision-making, assessing options for socio-economic and environmental outcomes, informing policies and decisions.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

(e.g. reports, journal articles, books)

Please add any further comments here: LWM has just completed a review of evidence around the effectiveness of CED (and localisation) approaches. The lack of formal evaluation of CED has been striking. Much can be gleaned from sources and this is collated in our literature review, but very much treating CED as part of a wider localisation approach and therefore not relevant in its entirety here. Most of the sources listed describe but do not evaluate CED; the Armstrong source does not evaluate CED but does discuss the difficulties of evaluating CED and how this can be addressed.

Author & Date	Title Vol pages	Web link (if available)
See Appendix document for details.		

Task 4: Your experience of working on the tool

Have you done any research/consulta

a) Mainstreaming CED – literature review assessing the potential of CED and economic localisation approaches to address social inclusion, income equality and local diversity and distinctiveness.

ncy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i>	b) Experience of engaging with rural development projects in the UK, some of which take a CED approach c) 2 month visit to the LandCare approach in Victoria, Australia, some of which is very much a CED approach In addition, LWM’s general experience of promoting and facilitating economic localisation has contained elements of CED approaches such as an emphasis on the social economy as deliverers and of communities in participating in economic decision-making.
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool <i>If neither approach is currently incorporated, please move to the next question</i>	Broadly, CED has two ways in which it inherently but implicitly values ecosystem services: firstly in its intention to integrate environmental goals with socio-economic goals; and secondly on its emphasis on using local resources to meet these goals. In terms of the specific incorporation of EA/ES approaches, this is demonstrated in some individual CED examples: Bewdley Development Trust, some projects under the Leader Programme and some work led by AONBs, notable Blue Remembered Hills, Shropshire Hills AONB. For example, community based Bewdley Development Trust started as Opportunity Bewdley in 2002, worked with Grow with Wyre (http://www.growwithwyre.org/) to develop biomass projects, setting up Bewdley Energy Company along the way, and more recently has been involved in the development of Bewdley Transition Town. There has been a very wide range of projects, not all of which have been fully successful, ranging from public realm improvements, refurbishment of community assets and Rediscover Bewdley events to energy audits. More details can be found at: http://www.bewdley.org.uk/bewdley-development-trust/ourWork/ . A key theme has been developing projects that deliver economic, social and environmental benefits, thereby supporting and developing local supply and demand chains, as well as improving the environment and helping communities. <i>Selling the Wyre</i> , for example, has established a local food producer group with 29 members, with a producers’ affiliation and marketing scheme and an outlet established through Bewdley Local Produce Market.
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How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	CED guidance in UK is distinctly lacking; such guidance is needed and this provides a timely opportunity to incorporate EA/ES approaches. CED is very much a process-orientated approach that can incorporate a range of tools, where these are useful. One significant gap is the lack of practical understanding in many sectors of the social and economic values of a high quality ecosystem and the services that it delivers, nor of the need for active social and economic activity to build and maintain high quality natural environments. Some of this is beginning to emerge in health and green infrastructure, but for the most part other sectors are unaware, or do not see it as of relevance to them. CED approaches are a useful way of developing this at a community level, particularly through the use of participatory techniques where people often value their local environment in a way that that is easier to engage with than the environment as a whole. The use of tools such as the Environmental Economy tool may help to bridge the gaps between sectors and result in practical programmes of work.
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Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it
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<p>be situated within the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>		<p>was better integrated with an EA/ES approach?</p> <p><i>Please explain how.</i></p>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	CED has the potential to address this given the range of stakeholders and societal roles likely to participate and given CED's integrated goals, if CED guidance and structures incorporated EA/ES thinking.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	CED approaches are fundamentally about sharing understanding of how participants identify and value places in order to inform place-based, local resource-based economic opportunity.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	CED is likely to bring in 'non-usual-suspects' from a community, perhaps concerned with local business success or with social justice, local jobs and wellbeing. It is therefore likely to bring in people whose first concern is not environmental but who can then potentially engage with EA/ES objectives through the integrated process of CED.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	The integrated approach of CED is already more likely to identify what would otherwise be 'hidden' assets than conventional ED, but would be more so with incorporation of EA/ES.
	5. Extent to which tool is building on other tools or EA/ES progress	CED builds on community participation tools and potentially economic assessment tools... – but not on EA/ES progress.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	CED is very much locally derived and locally grounded, this being the whole point. CED is entirely suitable for an open source approach and indeed this is how it is used at the moment.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool's use in countries across the world and around the UK in different ways demonstrate its applicability in very different circumstances and forms. .. what sorts of examples do you want here?
Developing and selecting tools		
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	CED is not dependent on a specific funding source, but requires the resources of one or more organisation to manage the ongoing processes. Chances of success are most increased by the willingness of resourced organisations – business fora, local authorities, other public bodies – to engage with the CED structure and	

	respond to ongoing outcomes.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	There is little support in the UK for CED skills development or guidance – see attached document for more information.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	There is potential in the Localism Act and in parts of the NPPF.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	<p>This is CED's main strength, as its purpose is to bring a local community together to share ideas and make decisions based on local needs, local resources, socio-economic and environmental goals.</p> <p>There is a potential negative impact on the ecosystem services agenda if a CED approach values immediate local economic need over more global or long term environmental impact. For example if the exploitation of a local ecosystem service has a negative impact globally or if that ecosystem service does not have the capacity needed to sustain the economic needs of the local population. Thus CED approaches that incorporate EA/ES thinking have potential to create balanced decisions.</p>
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	CED could link very effectively into neighbourhood planning process, but should ideally also link well into other LA planning processes.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	If visitor management is a significant issue for community economic development, CED provides a vehicle to progress this.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	<p>CED has considerable potential to assist in developing statutory plans and in improving ownership and use by publics... existing examples?</p> <p>Community development approaches (as opposed to CED) have been extensively used in developing rural plans, typically parish plans, parish maps, AONB management plans.</p>
15. To what extent does/could the tool contribute to a new form of community governance in management of the	One of its primary potential uses. Existing examples?

environment?	
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	CED would have limited ability to do this even if guidance on CED operation incorporated ES and EA approaches. The only small contribution CED might make would be very locally specific knowledge of local ecosystems - depending entirely on participants' interests and understanding.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	N/A
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	CED can work across sectoral and administrative boundaries; community boundaries would be self-defined and engage with public bodies of different areas as required.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	N/A.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Yes, by ensuring the ES that 'makes' the landscape/nature designation feeds into a community-led local economy.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

<p>Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated</p>	<p>Strengths <i>(of the tool in delivering intended outcomes)</i></p> <p>As a reminder: the tool's intended outcomes are: holistic and strategic economic activity that solves social, environmental and economic challenges; based on local resources and meeting local needs; having a positive impact particularly on the most disadvantaged of excluded and increasing community capacity and social capital.</p> <ul style="list-style-type: none"> - it is grounded in a community's knowledge of local resources and needs. - it particularly aims to target the most disadvantaged and to integrate social, environmental and economic goals, which gives it a much higher likelihood of achieving this in comparison with mainstream economic approaches - Its processes in themselves, being participative, have the potential to generate some of the desired outcomes such as increasing social capital.
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within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- There is not necessarily or naturally ecosystems expertise within CED approaches, so even if CED is structured to include ES/EA approaches, expertise may need to be sought to participate in the partnership. This also goes for other types of expertise.
- Lack of guidance and supporting bodies in the UK for CED approaches
- Lack of understanding in the UK, including some use of the term to mean purely the third sector economy, which reduces its apparent significance.
- CED is difficult to evaluate as it often has much complexity of objectives, beneficiary groups and constituent projects. This does not directly detract from its ability to deliver outcomes but presents challenges for learning from and justifying support and funding for CED initiatives.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

There is an opportunity for partnerships with a local nature remit to use CED approaches particularly where communities are or need to be involved.

CED's focus on integrated sustainability outcomes and on local resources give it a good basis for accepting and trialling ecosystems approaches.

The lack of existing CED guidance in the UK means that there is an opportunity to produce such guidance and to incorporate ES/EA into it.

The economic focus on LNPs also presents an opportunity to incorporate CED and ES approaches.

Threats *(factors which negatively affect the tool and its outcomes)*

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Lack of a supportive public policy environment; (general threat to tool effectiveness)	High	High
Lack of engagement with conventional business fora; (general threat to tool effectiveness)	Medium	Medium
Where CED approaches are adopted, potential lack of ES expertise to identify options of lasting economic merit	Low	Low within this project, medium normally

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

**Further
comments**

Appendix

H.W. Armstrong, P. Wells and A.M. Wood August 2000.	THE EVALUATION OF COMMUNITY ECONOMIC DEVELOPMENT INITIATIVES, Department of Geography, Sheffield University	http://ec.europa.eu/regional_policy/sources/docconf/edimbourg/pdf/arms2_en.pdf	This paper discusses how evaluating CED initiatives can be done more effectively. It's a useful paper, but not what you were looking for.
	SMARTER COMMUNITY ECONOMIC DEVELOPMENT - IDEA	http://www.idea.gov.uk/idk/aio/28200484	Not evaluation, but contains recommendations for 'smarter' CED which we refer to in the tool review
Perry, Stewart E. 1987	<i>Communities on the Way: Rebuilding Local Economies in the United States and Canada.</i> Albany: State University of New York Press.		According to our colleague Pat this is the definitive CED piece of literature, but we are unsure as to whether it contains any evaluation and have not yet tracked down a copy.
Schaffer et al	Community Economics: Linking Theory and Practice		Recommended on Canadian CED website
Shragge & Toye	Community Economic Development - Building for Social Change	http://www.ccednet-rcdec.ca/en/node/4537	Recommended on Canadian CED website
Blanchard & Matthews (2006)	<i>The Configuration of Local Economic Power & Civic Participation in the Global Economy.</i> Mississippi State University.		Read as part of the literature review and does contain some evidence around effectiveness of localisation and CED approaches.
Dongier P. et al (2002)	Community-Driven Development. In: <i>Poverty Reduction Strategy Papers (PRSP) Sourcebook</i> , World Bank, Ch. 9		Read as part of the literature review and contains recommendations for CDD (relates to CED) but not evaluation
Chan, R.K.H. (2006)	<i>Community economic development: Applications and limitations in Hong Kong</i> , International Social Work, vol. 49, no. 4, pp. 483–493		Contains limited evaluation of CED in Hong Kong.

DELPHI METHOD (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Delphi method
Type of tool (list all that apply)	Participatory; collaborative; decision; forecasting
Group members	1. Jayne Glass (UHI)

Please provide a brief synopsis of the tool

The Delphi technique is a participatory method that can be used to create a constructed space (Glass et al. 2013; Donohoe, 2011) for reflective research by structuring a group communication process so that it allows “a group of individuals, as a whole, to deal with a complex problem” (Linstone and Turoff, 2002, p.3). By engaging a ‘panel’ of participants (normally experts) in an anonymous survey, the technique is used to generate opinion and/or consensus about a particular topic or policy issue over a series of iterative rounds (for a thorough review of the method and systematic guidelines for its application, see Donohoe and Needham, 2008; Donohoe, 2011).

Participants are asked to complete a series of written questionnaires by the researcher, who collates the responses to the questions posed in each round and feeds these responses back to the participants for their consideration, giving each panel member the opportunity to adjust their responses accordingly, if they so wish (Hasson et al., 2000). This process enables the researcher to identify areas of consensus and conflict, and to feed these back to the panel for further comment: the iterative nature of the process provides a catalyst for reflecting multiple interests, values and expertise (Hung et al., 2008). Such information exchanges allow participants to change their positions in light of new evidence and generate new ideas; a process which arguably works better than individual interviews because the structured feedback process increases creativity by widening knowledge and stimulating ideas (Powell, 2003).

Applications of the technique can be found in a range of research contexts, including: nursing and health (e.g. Hasson et al., 2000; Powell, 2003), tourism and ecotourism (e.g. Miller, 2001; Garrod et al., 2005; Briedenhann and Butts, 2006), sustainable transport and spatial planning (e.g. Tolley et al., 2001; Shiftan et al., 2003), performance evaluation (e.g. Kuo et al., 2005; Hung et al., 2008), forecasting, and climate change adaptation and mitigation (e.g. de Loë, 1995; Angus et al., 2003).

It is the anonymity of panel members that distinguishes the Delphi technique from other participatory methods such as brainstorming, focus groups, and workshops. In contrast to these face-to-face group exercises, anonymity can help to avoid negative factors such as the domination of powerful groups and individuals and the fact that only one person can speak at a time (Landeta, 2006; Scott, 2011).

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y Can be used to gather ideas	
	Survey	Y Can be used as a scoping tool to gauge current knowledge on a topic	
	Assess	Y Can be used to evaluate performance (in the eyes of the group)	
	Policy / decision	Y Has been used as a policy tool to enable a group of experts to reach a decision	
	Implement	Not so common	
	Evaluate	Y Can be used to evaluate performance and reach consensus on experience	

Please add any further comments here: Delphi is a flexible tool that can be used for a range of purposes. Crucially, the question posed needs to be asked over a series of stages to allow deliberation and iteration. This gives participants time to consider their ideas/opinions in the context of others’.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
	Glass et al. 2013	The power of the process: co-producing a sustainability assessment toolkit for upland estate management in Scotland. Land Use Policy, 30(1), 254-265.	
	Donohoe and Needham 2008	Moving Best Practice Forward: Delphi Characteristics, Advantages, Potential Problems, and Solutions. International Journal of Tourism Research, 11 (5), 415-437.	
	Linstone and Turoff 2002	The Delphi Method: Techniques and Applications	http://is.njit.edu/pubs/delphibook/

	Donohoe 2011	A Delphi toolkit for ecotourism research. Journal of Ecotourism, 10 (1), 1-20.	
	Others available on request		

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? I employed a Delphi method to develop the ‘Sustainable Estates’ tool which is described in a separate tool review. I developed the method to some extent, in order to use it to develop a tool, rather than its more traditional uses as a policy discussion or forecasting tool.

Guidance For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool Delphi does not explicitly incorporate EA/ES. However, it could be used to bring stakeholders together to consider aspects/problems related to EA/ES.

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool? I do not think that this tool could explicitly incorporate the EA/ES. However, it could be used to bring stakeholders together to consider aspects/problems related to EA/ES, or develop plans/strategies/solutions encountered in the application of other tools.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? Please explain how.
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questions/criteria that arose in the scoping interviews	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Delphi has the potential to address this as it could be used to bring multiple stakeholders together to develop a shared vocabulary. The anonymous character of the process would likely help to achieve this.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Again, Delphi has the potential to develop shared understandings through its use as a scoping tool. It could be used to gather the multiple perspectives of stakeholders and the data could then be fed back to the group to invite their views on each other's ideas.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Delphi is an excellent tool for bringing together 'non-usual' suspects. This is particularly easy because of the anonymous nature of the tool so, if there are conflicts between subjects, these should be minimised within the process.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Delphi allows participants to anonymously bring all of their ideas to the table so the method could help to reveal 'hidden' assets that might not be considered.
	5. Extent to which tool is building on other tools or EA/ES progress	Not explicitly but it could be used to develop other tools.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Delphi is not explicitly designed for the local context. However, bringing together a group of 'local' stakeholders within a Delphi exercise would help to paint the picture of the local context and enhance mutual understanding.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The method is quite prescriptive but there is scope to tailor the process to suit the question that is being considered.
	Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	The tool is not dependent on a particular funding source. However, it requires skilled facilitation.	
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	No, although academic literature/guidance exists. A process facilitator is required.	
10. Extent to which current statutory hooks can be	None.	

<p>exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)</p>	
<p>Informing resultant policies effectively</p>	
<p>11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)</p>	<p>This is one of Delphi's main strengths as it allows a wide range of knowledge on a topic to be brought together and negotiated. The results of a process could be used to inform/improve policy decisions.</p>
<p>12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?</p>	<p>Not explicitly, but it could be incorporated into participatory planning processes.</p>
<p>Delivering management objectives</p>	
<p>13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?</p>	<p>Not explicit but could be used to develop a plan to manage issues such as this.</p>
<p>Local ownership/new governance</p>	
<p>14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?</p>	<p>Delphi could be used to engage a range of stakeholders in planning processes.</p>
<p>15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?</p>	<p>It does not.</p>
<p>Improved tools: understanding flows, interconnections and spatial issues</p>	
<p>16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales</p>	<p>This could be aided by Delphi but the quality of resulting understanding would be reliant on the involvement of suitable knowledge on the Delphi 'panel'.</p>
<p>17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)</p>	<p>This could be done on an opinion-basis amongst the group.</p>
<p>18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries</p>	<p>Delphi can work across boundaries by ensuring that participants represent different scales/knowledge.</p>
<p>19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)</p>	<p>Not well – the quality of the outputs depends on the knowledge on the 'panel'. However, it could also be used to identify knowledge gaps.</p>
<p>20. To what extent has/could the</p>	<p>Not really.</p>

tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths *(of the tool in delivering intended outcomes)*

As a reminder: Delphi allows a group of people to work together anonymously to reach a decision, develop ideas and/or gather knowledge on a topic.

- It removes power imbalances amongst the group (removes the need for face to face discussion)
- It is an iterative process so allows people to consider their own views in the context of others’ – this can lead to consensus-building/identification of key barrier and stumbling blocks
- It can be applied to most situations/questions as it is quite flexible
- Participants can take part in their own time (completing questionnaires), rather than requiring to attend a meeting at a specific time
- It can be used to work with the ‘non-usual’ suspects and/or geographically disparate groups as its flexibility in taking part removes the need for people to travel

Weaknesses *(factors that detract from the tool’s ability to deliver intended outcomes)*

- Participant drop-out is a problem – requiring people to take part over a series of stages can cause this (as can a poorly-managed process/non-stimulating material)
- It requires skilled facilitation of the process (the facilitator is responsible for collating responses and compiling them for feedback to the group – facilitator bias/misrepresentation can be an issue)

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

There is an opportunity to use this method to enhance other tools reviewed within this project.

Threats *(factors which negatively affect the tool and its outcomes)*

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Participant drop-out due to time commitment/interest	High	High

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

FOCUS GROUPS (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Focus Groups
Type of tool (list all that apply)	Participatory; Collaborative; Decision; Futures.
Group members	1. Alister Scott 2. Michael Hardman
ease provide a brief synopsis of the tool	The use and application of focus groups has a long history, rooted firmly in market research where they were used for a range of consumer-related purposes for marketing (Morgan, 1997). They were first used in World War 2 to test responses to radio programmes aimed at raising domestic morale (Kahan, 2001). More recently, as their multi-disciplinary potential has been recognised and applied, they have expanded into the fields of medicine, psychology and social work (Gibbs, 2002). Simply stated, Powell et al. (1996: 499) define focus groups as: ‘a group of individuals selected and assembled by researchers to discuss and comment on, from personal experience, the topic that is the subject of the research’. Their key defining characteristic is that the selected individuals (normally 6–15) react and interact with each other during a managed or facilitated discussion, workshop or seminar based activity. Focus groups are also flexible and adaptable, performing a variety of methodological roles: for example, being used in an exploratory capacity (particularly for questionnaire design, Hoppe et al., 1995), to evaluate programme of activities and to generate further avenues of research (Powell and Single, 1996) or as complementary activities to improve triangulation (Bullen et al., 1998). They also have the capacity to recognise and target silent and excluded voices such as children (Hoppe et al., 1995) or facilitate deliberation and social learning and deal with more intangible and complex subject matter such as values, emotions and perceptions or inequality and social justice (Burningham and Thrush, 2003). Whilst they can be used as a method in their own right, most researchers advocate their use in conjunction with other survey methods to improve overall verification and triangulation. There is also general agreement over participant selection in that, as far as possible, respondents should be drawn from a homogenous group with respect to the topic of interest. Additionally, other demographic variables might be kept constant according to the issue under study (Kahan, 2001).

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y	Y

	Implement	N	Poss
	Evaluate	Y	Y
Please add any further comments here: The focus group can be tailored for practically any setting; involving evaluation or simply the discussion of ideas.			
Task 3: Existing literature about the tool			
Are you aware of any KEY policy and / or academic literature evaluating your tool?	Please add any further comments here:		

Author & Date	Title Vol pages	Web link (if available)
Bull, R., Petts, J., Evans, J., 2008.	Social learning from public engagement: dreaming the impossible? <i>Journal of Environmental Planning and Management</i> 51 (5), 701–716.	
Burningham, K., Thrush, D., 2003.	Experiencing environmental inequality: the everyday concerns of disadvantaged groups. <i>Housing Studies</i> 18 (4), 517–536.	
Gibbs, A., 2002.	Focus Groups, Social Research Update, University of Surrey, http://www.soc.surrey.ac.uk/sru/SRU19.html (accessed 02.07.09).	
Hoppe, M.J., Wells, E.A., Morrison, D.M., Gilmore, M.R., Wilsdon, A., 1995.	Using focus groups to discuss sensitive topics with children. <i>Evaluation Review</i> 19 (1), 102–114.	http://www.soc.surrey.ac.uk/sru/SRU19.html
Kahan, J., 2001.	Focus groups as a tool for policy analysis. <i>Analyses of Social Issues and Public Policy</i> , 129–146.	
Madsen, L.M., Adriansen, H.K., 2004.	Understanding the use of rural space: the need for multi methods. <i>Journal of Rural Studies</i> 20, 485–497.	
Powell, R.A., Single, H.M., Lloyd, K.R., 1996.	Focus groups in mental health research: enhancing the validity of user and provider questionnaires.	
Scott, A. J. 2010	Focussing in on focus groups: Effective	doi:10.1016/j.landusepol.2010.12.004

		participative tools or cheap fixes for land use policy?	
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Task 4: Your experience of working on the tool									
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	This tool has been used in a variety of research projects, including the champions course (see champion tool) which used focus groups to construct the session: ultimately providing the community with a 'buy in' and ownership of the module. This enabled members to choose speakers and tailor the course to suit their needs.								
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.								
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)									
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	The general nature of this tool results in EA and ES incorporation being relatively easy: an explicit focus on ecosystems can be the main drive of a group for instance. In a similar manner to other public engagement tools, focus groups can be tailored to suit the needs of the topic or individuals. A focus group could be used to better engage the community on information regarding ecosystems and generate feedback on key decisions. The tool can also be used to provide the community with some form of control, thus touching on numerous principles of the wider EA.								
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	The tool could be used in a more explicit fashion to aid with local control and the delegation of appropriate decision-making to this scale.								
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews									
Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	<table border="1"> <thead> <tr> <th>Priority question/criteria</th> <th>Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i></th> </tr> </thead> <tbody> <tr> <td colspan="2">Language and communication</td> </tr> <tr> <td>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</td> <td>The tool's core focus involves bringing together stakeholders: whether communities, organisations or other, there is an opportunity to use focus groups to engage multiple actors regarding EA and ES.</td> </tr> <tr> <td>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and</td> <td>Focus groups enable individuals to present their perspectives and values in a relaxed setting. Furthermore, the tool has often been argued to be more effective than interviews, since actors could feel more comfortable in the informal setting and are willing to divulge more material.</td> </tr> </tbody> </table>	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>	Language and communication		1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	The tool's core focus involves bringing together stakeholders: whether communities, organisations or other, there is an opportunity to use focus groups to engage multiple actors regarding EA and ES.	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and	Focus groups enable individuals to present their perspectives and values in a relaxed setting. Furthermore, the tool has often been argued to be more effective than interviews, since actors could feel more comfortable in the informal setting and are willing to divulge more material.
	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>							
	Language and communication								
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	The tool's core focus involves bringing together stakeholders: whether communities, organisations or other, there is an opportunity to use focus groups to engage multiple actors regarding EA and ES.								
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and	Focus groups enable individuals to present their perspectives and values in a relaxed setting. Furthermore, the tool has often been argued to be more effective than interviews, since actors could feel more comfortable in the informal setting and are willing to divulge more material.								

	businesses	
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	This entirely depends on how the tool is used, but ultimately focus groups allow those who lay outside the 'usual suspects' realm to have a say on matters.
Learning from experience/pedagogy		
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Focus groups needs close coordination and thus the chair is able to steer the discussion depending on the topic in question. Arguably, the tool could be used to raise awareness, and discussion, regarding EA/ES.
	5. Extent to which tool is building on other tools or EA/ES progress	This is not applicable here.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	The tool is solely grounded in local context and can be engineered to rely entirely on community views. This fits well with the EA principles which call for this form of engagement.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool is entirely interpretive, with coordinators able to shape the discussion, or session, around specific topics or events.
Developing and selecting tools		
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	The tool does not require funding specifically; however considerable time will need to be sent arranging a focus group and using the material after the discussions (writing-up stage).
	9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Bodies exist which advise on the use of focus groups, such as the British Sociological Association, who provide guidance on best practice.
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The tool's ability to engage with the local scale could fit well with several 'statutory hooks': the NNPF for instance, promotes more engagement with communities on matters such as ecosystems.
Informing resultant policies effectively		
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social	The open format of the tool allows for policies to be discussed in a format with communities. Furthermore, decisions can be passed through this mechanism, ensuring that certain actors have a say with choices.

	and environment impacts / tradeoffs?)	
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	The tool does not explicitly link in with the planning system, but can be morphed to focus specifically on this element if required.
Delivering management objectives		
	13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	The engaging nature of this tool enables objectives to be discussed in an open format, with solutions perhaps being presented from a variety of actors who may lie outside the usual decision-making structures.
Local ownership/new governance		
	14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	The public element of this tool is perhaps its strongest point in the context of EA/ES. Essentially, focus groups can be designed to give communities direct input into management plans or other strategies: providing a voice to the local scale.
	15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	As stated in previous sections, the tool enables communities to directly influence decision-makers, if used effectively. It is important that any knowledge exchanged in a focus group is recorded and fed back to those with such responsibilities.
Improved tools: understanding flows, interconnections and spatial issues		
	16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	The tool can be used in an educational capacity, getting actors to discuss issues regarding ES if required: helping to breakdown local flows and the importance of natural services.
	17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	The feedback generated from focus groups could allow the assessment of a multitude of options: from large national organisations to local communities. A variety of individuals could be engaged in this manner.
	18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	The tool is entirely flexible and can be manipulated to work across boundaries.
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	This is irrelevant in the context of this tool.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or	This tool has huge potential with engaging the 'unusual suspects' on aspects relating to landscape and nature generally: focus groups can be engineered to inform communities and instigate discussions surrounding these themes.

resulting in resentment?)

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths (*of the tool in delivering intended outcomes*)

- Focus groups are able to engage with a variety of scales, including the local: involving communities in decision-making processes.
- The tool is entirely flexible and can be constructed around themes designated by the coordinator.
- The focus group format allows views to be expressed in an informal environment; perhaps enabling those otherwise without a voice to feed into issues raised.
- The tool can be used in an educational capacity, engaging communities regarding EA/ES.

Weaknesses (*factors that detract from the tool's ability to deliver intended outcomes*)

- Focus groups need a strong chair; otherwise discussion could lapse from the original aims.
- This tool has a tendency to fall into disorder if not correctly coordinated. Discussions can sometimes erupt into feuds.
- This takes a considerable amount of time to set up, run effectively and write up following the group discussions.

Opportunities (*consider opportunities for application of the ecosystem approach and services*)

- EA and ES can become the focal point of this tool, with actors engaging the concepts on an informal level and discussing related issues.
- The tools education angle could inform communities on the concepts and how they play a part in decision-making processes.
- Ultimately, communities can play a part in this decision-making process: providing those without a voice, something to say on EA/ES-related issues.

Threats *(factors which negatively affect the tool and its outcomes)*

- Logistical issues could play a part in affecting this tool: accommodation needs to be sought close to communities or other actors involved in these groups. A mutual, central location tends to make this easier for those taking part.
- On the topic of logistics, it is important to realise that focus groups involve a variety of people, and thus it may be difficult arranging a suitable time for everyone, depending on the context.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Logistics	Medium	High

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

GAMES (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Games (Rufopoly)
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Learning and skills (pedagogic); participatory; collaborative; decision; ecosystem services
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Claudia Carter 2. Alister Scott 3. Rachel Curzon
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>Background context</p> <p>This review is based on direct experience of developing a game tool (RUFopoly), games as outputs from EC research projects (largely within the science in society and the human-environment interaction themes) and academic literature (specifically Devisch, O. 2008. 'Should Planners Start Playing Computer Games? Arguments from SimCity and Second Life', <i>Planning Theory & Practice</i> 9(2): 209-226). The main focus is on RUFopoly simply because the authors of this review have the most experience and information on the design, role and scope of the game, not because it is necessarily the most suitable tool.</p> <p>RUFopoly was developed to help communicate in an accessible and way the complex concepts and relevance of 'spatial planning' and 'ecosystem approach' in relation to dealing with rapid environmental change and development challenges in the rural-urban fringe (RUF). The content of the game used research findings and experience of an interdisciplinary research team including academics, policy-informers and practitioners. As with games generally, the rationale is to be enjoyable and engaging, and with being a board game that can be played as a group, to facilitate some interaction with other players.</p> <p>RUFopoly can be played in different ways but was designed as an interactive game that stimulates reflection. The players choose a counter and use a dice to journey through the fictitious county of RUFshire, which is facing pressures and opportunities for development generated by the region's growing population and range of environmental goods and services (including designated conservation areas and greenbelt). The game has 28 fields the player can land on structured around three themes identified by the research team as core to an ecosystem approach and spatial planning (Values, Connections/Connectivity, and Long-termism). Players are usually supported by a facilitator who notes down answers</p>

and supporting justification given in discussions. This audit trail of decisions is then used to allow each player to devise their own vision set within improved understanding of the impact of their previous decisions. The gist of the game is hence not about winning but about considering the basis, context and impacts of one's own decisions (if played alone) and/or to discuss and negotiate solutions with other players, considering different priorities and perspectives (if played as a group) in the final decision/answer to the questions/challenges posed in the game.

The game's first appearance was at the RELU conference 'Who Should Run the Countryside' in November 2011 as an outcome of the RELU-funded project: 'Managing Environmental Change at the Fringe: Reconnecting Science and Policy with the Rural-Urban Fringe'. It caught the attention of the national press and has been played by a wide range of endusers, including professional bodies, national government officials, local authorities, and community groups.

There is a copyright issue associated with the base map of the game. At present, the game cannot be sold as a commercial product – it is restricted to being used for educational purposes only.

Task 2: Use of the tool

Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	Yes	
	Survey		
	Assess		
	Policy / decision		Yes
	Implement		Yes
	Evaluate		Yes

Please add any further comments here:

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

(e.g. reports, journal articles, books)

Author & Date	Title Vol pages	Web link (if available)
<i>No external evaluation but the tool has been assessed and critically reviewed by the research team and project stakeholders / potential endusers</i>		
Devisch, Oswald (2008)	'Should Planners Start Playing Computer Games? Arguments from SimCity and Second Life', <i>Planning Theory & Practice</i> 9(2): 209-226	
Scott, A. et al. (forthcoming 2013)	'Disintegrated Development at the Rural Urban Fringe: Re-connecting spatial planning theory and practice', <i>Progress in Planning</i>	
Scott, A. et al. (2012)	End of project report submitted to the ESRC/RELU	
	RUFopoly YouTube video – context and description of game. http://www.youtube.com/watch?v=HaWkN2_6WUA	
	The Relu Project website explains the wider context of the game. 'Managing Environmental Change at the Fringe: Reconnecting Science and Policy with the Rural-Urban Fringe'. http://www.bcu.ac.uk/research/-centres-of-excellence/centre-for-environment-and-society/projects/relu/overview	
	Alister Scott, Rachel Curzon, Claudia Carter and Michael Hardman Report for participants of event on 30 th May 2012: "Reflections on game-playing and future applications of RUFopoly" (July 2012)	

Please add any further comments here:

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

If so, please provide an outline.

To date over 500 people have played RUFopoly and the outputs of many games has been compiled and analysed. In addition in May 2012 a workshop was held with potential endusers who critically fed back on the purpose / usefulness of the game and whether it could contribute meaningfully to the organisations/remit of the attending stakeholders. The key points and comments raised are summarised below.

Reflections and feedback on the RUFopoly game (several of these apply to games as a learning/discussion/decision tool generally).

- Research concepts embedded in a learning and concrete context
- Accessible words rather than jargon used
- Facilitates thinking outside the box; allows players to go out of their usual comfort

	<p>zone</p> <ul style="list-style-type: none"> • Playing game is fun/enjoyable and dynamic. Important that a low tech board game seems to generate better interaction • Spatial / visual components can bias the outputs • Opportunity for discussion/debate as well as individual reflection (Since there is a limited amount of information available from the game, players rely on their own knowledge and perspectives; hence playing as a group can be more enriching by drawing on different knowledge bases but also potentially more difficult – e.g. bringing out conflicting values and priorities) <p>See Scott, A. <i>et al.</i> (2012) Report for participants of event on 30th May 2012: “Reflections on game-playing and future applications of RUFopoly” [Internal Report].</p>
<p>Guidance</p>	<p>For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.</p>
<p>Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES) <i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i></p>	
<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p> <p><i>If neither approach is currently incorporated, please move to the next question</i></p>	<p>The RUFopoly game arose from research which specifically explored the synergies of spatial planning and the ecosystem approach, focusing around four themes with seven questions relating to each of these: Values, Long-term, Connectivity, Spatial Planning & Ecosystem Services. Few questions explicitly use the terminology of ‘ecosystem services’ or ‘ecosystem approach’ as they are generally not well understood and even environmental experts often struggle with defining their meaning. Instead the game relies on examples and challenges that relate to making choices between different environmental benefits (goods, functions and services).</p> <p>Therefore in the creation of the game, ecosystem services were incorporated implicitly in the questions. However, how far those playing the game appreciate that they are being asked to consider ‘ecosystem services’ is difficult to gauge. Some questions highlight the synergies between environmental, social and economic challenges whereas others require making some trade-offs between these depending on the player’s overriding principles for development/management.</p> <p>All of the questions relate to a specific square on the board (a piece of land with features and functions) which the player needs to examine in order to be able to answer the question. Thus the game is spatially referenced and considers place-making in a specific (if scantily defined) context. The choice of a ‘real’ (i.e. quite common English mixed lowland/upland landscape) yet fictional (the board is an amalgamation of different areas and characteristics) reference point is seen as advantage as the area depicts typical forms and challenges yet is not tied to the ‘baggage’ of a known place thus enabling the player to think about the principles and values underlying their decision-making in a value-neutral context.</p> <p>With regard to other games, such as simulation games (e.g. SimCity), the concept of ecosystems services has to our knowledge not yet entered explicitly into the game yet would indirectly/implicitly be part of the decision-making. As for RUFopoly, it is up to the player whether to emphasize economic growth, aesthetic aspects or environmental features and benefits (Devisch, 2008 referring to Starr, 1994).</p>

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	<p>The concept of ecosystem services is one of four themes in Rufopoly. It is combined with spatial planning. Perhaps it could be drawn out more strongly within specific questions (possibly under all four themes) or made a theme in its own right. Most easily, through using a facilitator the ecosystem approach and the role of considering ecosystem services as part of the decision-making journey through the RUF can be brought out during the game and/or during the post-game debate.</p> <p>Similarly, other games can introduce specific ecosystem services or conditions to reflect the ecosystem approach. New versions and extension packs can develop particular aspects, such as rapid environmental change and EA/ ES.</p>
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Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	High: The game encourages people to talk about key concepts of the ecosystem approach. The common language of Time, Connections and Values provides a generic framework for discussion across all professions and publics.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	<p>High: The game has been played by many people from different backgrounds; a commonly raised point of feedback is that the discussions and clarifications between players around answers/solutions are a key benefit of the game.</p> <p><i>“Value for me is the debate and discussion around the issues. [...] As an individual you can be convinced you have done the right thing but that could be lack of knowledge, own value systems... having that dialogue and debate with another person is really valuable”.</i></p> <p><i>“I liked the question where it stopped all the players. All players had to answer one question together and discuss options - it was interesting, the negotiation, different thoughts and backgrounds came to the fore there”.</i></p>
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	<p>Varies: A game can encourage people to engage outside normal professional workshop type events.</p> <p><i>“Like it ‘cos it is a game, I mean it’s fun ... original ... we spend our lives going to workshops! The gaming element is excellent. But that brings its own problems, the game to what end. For</i></p>	

	<i>example, how do you win the game? I think it's about the right length, the questions are pitched in relation to the material quite nicely".</i>
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	High: Possibility of encouraging communities to think beyond their usual concerns and perhaps develop a wider perspective. Could also include specific questions/challenges that highlight/probe into significance of some 'hidden' assets. The dice sets an agenda that prevents the same soap box issues being discussed. <i>"It made me think of things I wouldn't normally think of, or have to think about".</i>
5. Extent to which tool is building on other tools or EA/ES progress	High: Games have potential to link into existing tools. RUFopoly could relatively easily be linked to initial stages of neighbourhood and local planning; could also link to green infrastructure planning. Could also draw more specifically on agreed framework / lists of ecosystem services and use these more explicitly in some of the questions/challenges. Its flexibility is high.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Varies: The RUFopoly game board and its questions were developed from actual case study occurrences and the experiences of practitioners and action researchers. Therefore although Ruffshire is fictional, the questions and issues raised are grounded in real experiences and occurrences. It is interesting to bear in mind though that having a neutral base to the game has overall had a positive reception (rather than adapting the base map to an actual location familiar/local to the players). There is considerable scope for local communities to develop their own questions using maps of their own area.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	High: RUFopoly has many questions which have open answers to allow an opportunity for discussion rather than being forced to choose a traditional response. <i>"... if it was online it would be a different sort of experience. There is a lot of value in how it is now".</i>
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	N/A. Relatively cheap to develop/print in its basic form as long as used for educational purposes. The tool can be used to support dedicated funding programmes such as for localism (planning aid).
9. Does skills development	Varies: Many games require a basic level of skill

(essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	awareness. In interactive games like Rufopoly there is a need for a facilitator team to be present to ensure maximum value and information.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NPPF's duty to cooperate, SUDS, ecol. networks)	The rise of localism and associated neighbourhood plans, duty to cooperate and production of new local plans all offer opportunities for more innovative and creative forms of consultation. These hooks have led to BCU being approached for facilitated sessions.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	High potential: The game under its four themes of Values, Connections, Long Termism and Ecosystem Services & Spatial Planning offers an opportunity to discuss environmental, economic, social implications, and probing into synergies as well as potential conflicts. <i>"that it's very concrete, it gives you a concrete way of looking at things which for someone who isn't a planner is really helpful and all the sort of different issues are represented in a concrete way".</i> <i>"I liked the spatial awareness it gives you... that you are looking beyond the site... you are looking from a much higher perspective".</i>
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	High potential: No formal link at present but opportunity to use within consultations and plan development process. See also point 5 above.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Varies: There are dedicated questions which specifically address this theme. The dice will determine whether people answer it.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	High Potential: Clear opportunity here.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Varies: Some potential here in terms of stimulating dialogue and exploring options. However limitations exist.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Unclear: Although RUFopoly includes questions on ecosystem services how far this is understood in terms of 'flows and interactions of various ecosystem services between sectors and at different scales' has

		not been explored. The scale issue is not well covered.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)		Untested: At present the base map of RUFopoly is of a limited scale area encompassing parts of a town, villages, green belt and open land. Opportunity for developing base maps and questions for different scales from city to rural. Potential to explore this more easily through computer based games.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries		Questions in RUFopoly relate to the square the counter lands on (i.e. a specific location / place) but some questions pose cross-sectoral and cross-boundary questions. This aspect could be developed in a further iteration of the game. Games like SimCity have such interlinkages built in.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)		Games such as RUFopoly and SimCity can be played with limited information though a better knowledge base / learning on the game may provide better outcomes / justifications for decisions. <i>"I liked the game element that you had to move around the table, quite dynamic ... requires a little bit of prior knowledge or ability to decode the shapes and the colours [the gameboard map]"</i> .
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)		Elements of this are covered within RUFopoly but it is up to the player to what extent they take conservation status on board. Some players may lack the actual knowledge and awareness of conditions associated with certain designations.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring

Strengths (of the tool in delivering intended outcomes)

- The game provides an opportunity for players, from many different backgrounds, to consider (and discuss) a range of real environmental decision making issues in the safe environment of fictional Rufshire.
- There is flexibility to change the format of the game to include individuals, groups as part of a learning and engagement activity.
- Rufopoly has been able to engage with business, community, and environmental groups of all ages. Decision makers value the reflective experience it necessitates.
- Simplified complex concepts and terms into a fun learning environment.
- Engages publics and decision makers.

that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

The random nature of playing the game (only questions landed on by the throw a dice are answered) means that some themes or issues are not tackled or that some themes may be covered too much.

Games are too abstracted from reality to inform a particular local context.

"The introductory question is the big issue that most Local Authorities face at the moment... which the government hasn't been able to crack... national house building especially in green belt and the urban fringe and most of the questions we got into were the nitty gritty that authorities face everyday... there was a gap between the big issue and the small"

"It is a physical game, the more information you add the more complicated it gets and I think one of the advantages of an online game is you can stage the game, far easier online..."

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

The gaming environment is one which has not been fully exploited in this area of policy and decision making. SimCity provides one example. More interactive games could help improve public engagement and understanding.

New versions (amend/change map and or questions), different media (board, digital, app).
New games being developed as part of other research and knowledge exchange projects.

Various options are considered for further development/application including:

- Development as an adult / higher education / 6th form / school educational tool
- Training tool for planning committees (elected members specifically)
- Build a bank of questions for different situations
- Development of 'extension packs' or multiple versions of the game - urban, coastal, upland, river catchment areas

As part of this, the more explicit application of EA and mention/considerations of a range of ES could be further considered.

Threats (factors which negatively affect the tool and its outcomes)

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Copyright issue – in relation to further development of the game at the right time.	Medium	Medium
It is seen as a game and not used to help with realities of decision making.	Medium	Medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

Experience of other specific games would be useful to add and reflect on.

Appendix

Summary text to provide conceptual clarification on Ecosystem Services



STAKEHOLDER MAPPING (Public Engagement)

TABLES Project 2012: Mini reviews			
Guidance	<p>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</p>		
Task 1: Basic information			
Name of the tool	Stakeholder mapping		
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Financial/economic, valuation, decision, ecosystem services		
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	1. Mark Everard		
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>Policies or practical decisions are only as robust, and serves all of society, as the quality of engagement in its development. Our historic approach to making decisions has been to defer it to 'experts' or political leaders. Breaking with this 'top-down' tradition, and as reflected in the ecosystem approach, as well as inherently more equitable to engage stakeholders early in the process of decision-making; merely announcing predetermined decisions or 'consulting' on a few options with associated sunk political and economic costs and consultant preferences tends to marginalise wider potential benefits.</p> <p>Using an ecosystem services framework to identify these different facets of the ways in which ecosystems function, and their associated beneficiaries or victims, provides a systemic approach to assess potentially affected stakeholders. This includes both the 'usual suspects' but also those historically omitted from consideration of impacts.</p> <p>Bringing that greater breadth of forms of knowledge and value systems into the decision-making process helps ensure that the outcomes of decisions reflect the interests of more in society, and thereby may be more robust and deliver more benefits per unit investment, as well as better-accepted.</p> <p>Stakeholder mapping using the ecosystem services framework is therefore a valuable tool that should ideally be applied right from the problem identification stage through to options identification, options appraisal and selection, and right through implementation and adaptive management throughout the life of the scheme or decision.</p>		
Task 2: Use of the tool			
Position / Use <i>If you can, please indicate which stage(s) of the decision / policy</i>	Stage	Currently used	Could be used
	Ideas	Rarely, and rarely on ES basis	Yes
	Survey	No	Yes: different service users

making process your tool is / could be used in (these stages were identified in the specification document)	Assess	Rarely, and rarely on ES basis	Yes
	Policy / decision	Rarely, and often bluntly consulting with 'usual suspects'	Yes
	Implement	Rarely, and rarely on ES basis	Yes
	Evaluate	Rarely, and rarely on ES basis	Yes, to inform adaptive management
As highlighted in the table above and the introductory description, stakeholder engagement should occur throughout the decision/policy-making process. Mapping of the stakeholders on an inclusive basis, using the framework of ecosystem services, should therefore take place in the first (Idea) stage.			
Task 3: Existing literature about the tool			
Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	There is a lot of literature around stakeholder mapping though there is little evidence on how it engages with the EA/ES at present.		
Task 4: Your experience of working on the tool			
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i>	Stakeholder mapping is widely-practices in South Africa to ensure that all potentially-affected voices are heard: <ul style="list-style-type: none"> • Mark Everard and many others have done stakeholder mapping around various schemes in South Africa (relating to water supply). • Mark has also done stakeholder mapping in relation to PES development in India (around ecotourism). 		
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.		
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES) <i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i>			
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool <i>If neither approach is currently incorporated, please move to the next</i>	At present, stakeholder mapping is too often still based on the 'usual suspects' and also done retrospectively. This entails such shortlisting as 'statutory consultees' assuming that democratically-elected and publicly-funded officials have the vision and interests of all in society in their mind and at heart. A nice ideal, but one often at odds with practical reality! It is the intent of the Convention of Biological Diversity's 'ecosystem approach' (1995) as well as the UNECE Aarhus (1998) that public engagement in environmental decision-making, or indeed decisions as they pertain to the environment and how it affects people (i.e. in theory all decisions), that all potentially affected stakeholders should be engaged in		

<i>question</i>	<p>decision-making.</p> <p>So the gap between legacy practice and current intent/commitments is stark. It may therefore represent a significant democratic gap, an omission of considering optimal value for money, and a fragmented view of how ecosystems function and measures necessary to secure their integrity and resilience.</p> <p>The best examples would appear to be in the developing world at present.</p>
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	As articulated previously, the ecosystem services framework could be invaluable for mapping the breadth of potentially-affected stakeholders (i.e. the beneficiaries of all ecosystem services), many of whom have been historically omitted. It is also essential that this is done at the outset of projects so that those mapped may be engaged strategically throughout.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Mapping and engaging stakeholders is an essential first step towards common agreement, with the ecosystem services framework presenting a common language albeit one needing development for common understanding.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	As noted above, mapping and engaging stakeholders is an essential first step towards common agreement, with the ecosystem services framework presenting a potential common understanding (but needing work with language).
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Again, mapping stakeholders using the ecosystem services framework enables identification of all beneficiaries/victims of decisions, not just the habitual 'usual suspects'.
	Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that	All stakeholders bring different perspectives and value systems to make decisions more robust and deliver better cumulative value per unit investment.	

	use them	
	5. Extent to which tool is building on other tools or EA/ES progress	By bringing the ecosystem services framework into the mapping of stakeholders, this contributes to optimising societal value and greater inclusivity as well as balancing conservation with exploitation incorporating long-term sustainability of the system.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Stakeholder mapping can occur across a range of scales from different nations (for global protocols) to local commons (such as catchments).
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The whole point of the breadth of services reflected by the Millennium Ecosystem Assessment's diverse provisioning, regulatory, cultural and supporting services is to integrate a wide range of culturally-relative value systems.
Developing and selecting tools		
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Stakeholder mapping using ecosystem services as a screening mechanism need not be onerous. Commitment to engaging identified stakeholders throughout the development of policies or decisions is more onerous.
	9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	No specific skills development is necessary, but a corporate commitment to undertake stakeholder mapping and ensuing engagement has to be evident.
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	We are already committed to stakeholder engagement, and therefore mapping, under the CBD 1995, Aarhus Convention 1998, Water Framework Directive 2000, etc., and of course 'cross-Government direction of travel' such as the HM Government Natural Environment White Paper, Welsh Government Green Paper, etc. We really just have to do what we said, including inclusive stakeholder mapping!
Informing resultant policies effectively		
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Stakeholder mapping should inform who to engage in decision-making, contributing to the resilience, cumulative value and equity of decision-making
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Stakeholder mapping is in theory something we should be doing already in the planning process.
Delivering management objectives		
	13. Suitability or capacity of the	Not directly relevant other than sounding out local

tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	people as to protection of biodiversity, geodiversity, landscape and tranquillity and natural character
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Stakeholder mapping should be used for these purposes.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Stakeholder mapping can help identify the broader community with common interests in a landscape unit, and who should be engaged, or may be interested in engagement, in its governance. Not all stakeholders are tweed-wearing retirees!
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	By taking better account of wider stakeholder constituencies, better account can be taken of spatial and temporal understanding of ecosystem service flows.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Stakeholder mapping is a first step towards engaging different constituencies to deliberate about options and benefits across different scales.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	Stakeholder mapping is a first step towards engaging different constituencies to better work across sectoral and administrative boundaries.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Not all decisions are data-driven, particularly where they integrate different, often data-sparse value systems. So stakeholder mapping is a first step towards creating a dialogic space to span data gaps.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Some stakeholders will emphasise these designations, whilst others will question their societal value in relation to competing interests.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4)

Strengths (of the tool in delivering intended outcomes)

- Delivers on what we're meant to be doing anyhow
- Creates greater equity
- Potentially greater public value per unit of investment
- Leads to more resilient and acceptable outcomes

Weaknesses (factors that detract from the tool's ability to deliver intended outcomes)

- Stakeholder engagement triggers greater expectation of engagement though the process (which we're meant to be doing anyhow)

and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- There are already enough hooks, and indeed commitments, to undertake stakeholder mapping as a means to increase engagement

Threats *(factors which negatively affect the tool and its outcomes)*

- Potential capture by strong vested interests, for which management measures will need to be put in place

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Capture by vested interests	High	Medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

PARTICIPATORY MAPPING (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Participatory Mapping
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Participatory; mapping
Group members	1. Mark Everard
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>Participatory mapping is an approach that has wide application in international development and in some other situations wherein consensus-building is sought to inform decisions. Given the spatially-explicit nature of ecosystem service ‘production’ and ‘consumption’, participatory mapping can be a helpful means to tease out relationships across landscapes and between stakeholder groups, and to promote common understanding of different perspectives, interdependencies and of potentially more mutually-beneficial management.</p> <p>In a developed world context, formalised maps may provide a logical baseline upon which different stakeholder groups can express their aspirations for, for example, clean water and air and access to green spaces, etc. However, in a developing world context, starting from a ‘clean sheet of paper’ is generally a more helpful way for stakeholders to articulate what they find important; the mapped output may not be strictly geo-referenced, but is generally a far clearer means to articulate the value systems of that community including, for example, access to safe water, woodland for fuel wood collection, routes to market, etc. This then promotes insight between stakeholder groups into what is important for other constituencies, and may form a basis when differed ‘value maps’ are integrated to reveal key ecosystem-mediated interdependencies between people that may have gone unrecognised.</p> <p>It is important that this process is stakeholder-driven rather than imposed by management, either in terms of asserting a particular form of map or framework for collective thinking. However, effective facilitation, essential to ensure trust-building and successful outcomes from participatory mapping, can also include probing communities about a wider palette of ecosystem services to elicit their views.</p> <p>Participatory mapping can this thus form a basis for shared understanding and collective planning and action to overcome former barriers and work towards a common, mutually-beneficial vision.</p>

Task 2: Use of the tool			
Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	Participatory mapping is generally implemented mainly in a developing world context	Participatory mapping is generally implemented mainly in a developing world context, but has relevance elsewhere
	Survey	-	-
	Assess	Participatory mapping is a useful medium to assess different value systems and uses of ecosystems	Could be used to tease out more uses of ecosystems and interactions between stakeholder group aspirations
	Policy / decision	Real social engagement in policy and policy-related decisions is still largely top-down	However, there is wide recognition of the need to take a more participatory approach for which the mapping approach is helpful
	Implement	Some use in UK, though mainly in developing world	Opportunities to develop more consensual programmes
Evaluate	Uncertain	Could be used as an adaptive management feedback loop	
Task 3: Existing literature about the tool			
Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	Please add any further comments here:		
	Author & Date	Title Vol pages	Web link (if available)
	There is a lot in the developing world context: I have yet to find some key references		
Task 4: Your experience of working on the tool			
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i>	I have used participatory mapping when developing common understanding in catchments, including founding one Water User Association, between formerly racially divided groups in South Africa.		
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.		

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)	
<i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i>	
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	There is usually a central services to participatory approaches, generally good and/or water, though the approach is amenable for inclusion of wider services for example in terms of community planning.
<i>If neither approach is currently incorporated, please move to the next question</i>	
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	Yes it could, but introducing more interdependencies between stakeholder groups and the ecosystems they inhabit or use.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? Please explain how.
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Participatory approaches can bring different groups of people together, and we have explicitly used an ecosystem services language in South Africa to achieve this
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the	Yes, this is the whole point of participatory mapping!
<i>Complete as many boxes as required</i>		

	perspectives of multiple visitors, residents and businesses		
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Yes again, central to the participatory mapping approach	
Learning from experience/pedagogy			
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Participatory mapping can help reveal dependencies and interdependencies on common ecosystem resources	
	5. Extent to which tool is building on other tools or EA/ES progress	This tool could build on other approaches, such as 'Sustainable Livelihoods', 'Natural Capital Accounting', etc.	
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	The tool is entirely amenable to context-specific implementation	
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool is entirely amenable to context-specific implementation	
Developing and selecting tools			
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What	Requires confident facilitation to build trust	

	are the chances of success?		
	9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	There is a body of practice mainly in a developing world context	
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Participatory mapping could be used to implement community-based planning, stakeholder dialogue around Water Framework Directive plans, etc.	
Informing resultant policies effectively			
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Application of the tools is as broad as the frame of reference in which it is applied	
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Not currently, but it is an ideal vehicle for fostering participation	
Delivering management objectives			
	13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	If necessary, this can form part of the terms of reference amongst stakeholders	

Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Participatory mapping is an ideal vehicle for fostering participation and ownership
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Participatory mapping is an ideal vehicle for fostering participation
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	This mapping approach addresses links between stakeholder needs and aspirations and the ecosystems that support them, and also interactions between these ecosystem service dependencies between stakeholder groups
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Exposing interdependencies creates a dialogic space for conflict resolution and optimal planning
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	Participatory mapping facilitates cross-sectoral understanding and co-management

19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	The tool is driven by user perceptions, so data gaps are not a substantive problem
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	If this is a priority for some stakeholder groups, it will be a feature of ensuring dialogue

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Strengths (of the tool in delivering intended outcomes)

- An already established approach, amenable to use in a UK context
- Promotes social inclusion, participation and ownership
- Recognises ecosystem dependencies and stakeholder interdependencies
- Graphic representation overcomes linguistic and related barriers

Weaknesses (factors that detract from the tool's ability to deliver intended outcomes)

- Requires strong facilitation
- Is time-consuming
- Does not automatically produce outputs that inform plans

Opportunities (consider opportunities for application of the ecosystem approach and services)

- Can help implement the ecosystem approach into existing policy and planning mechanisms
- Can increase participation in existing as well as new tools

Threats (factors which negatively affect the tool and its outcomes)

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Risks capture by those with narrow service interests	High	Medium
Poor facilitation can prejudice outcomes	High	Medium

Please add further comments here:

SUSTAINABLE ESTATES (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Sustainable Estates workbook: 'Getting the Best from Scotland's rural estates – twelve actions for sustainability'
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Participatory Learning and skills (reflection on practice) Decision (aid for planning/change decisions)
Group members	1. Jayne Glass
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>This tool responds to the need to understand and monitor how rural estates in Scotland contribute to a range of sustainability goals (a completed copy can be found in Dropbox for reference).</p> <p>It focuses on the public goods and services that estates provide, and 'sustainability' is interpreted as the public and other benefits that estates can deliver in tandem with their own private management goals. This instils a sense of responsibility and recognition of the role of estates in implementing public sustainable development policy in Scotland. Environmental, economic and social aspects of estate management are considered, and the aim is to judge how active any estate is in delivering the twelve actions included in the workbook.</p> <p>Although detailed definitions are given for each of the sustainability actions, there is a degree of flexibility in how an estate delivers each one. This allows the tool to be applied within a range of management contexts. When completing the workbook, users are asked to explain their decisions clearly and make reference to relevant supporting evidence.</p> <p>The workbook was jointly developed by a representative and experienced panel of estate professionals (owners and managers), sustainability specialists, members of representative bodies, researchers, consultants and policy makers. The aim was to join up thinking on estate management and wider environmental, economic and social sustainability debates to develop a user-friendly learning and monitoring tool. The first edition evolved over a series of four reflective stages, allowing thorough exploration of areas of consensus and debate. See Glass et al (2013) for more detail.</p> <p>The workbook can be used by anyone interested in promoting best practice and</p>

disseminating ideas, enabling estates to develop a long-term approach to their activities and measure how well they are integrating sustainability goals with estate management. Specialist skills are not required: it can be used by an external auditor or as a self-assessment tool.

The workbook was piloted in 2010 on two estates owned by conservation charities. In 2011, the workbook was used on four community-owned estates in Scotland. There has been wide interest in using the workbook on a range of estates and ownership models (including privately-owned estates) but this has not happened yet.

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
<p><i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i></p>	Ideas		Yes
	Survey		Yes
	Assess		Yes
	Policy / decision		Yes
	Implement		Yes
	Evaluate		Yes
	<p>Please add any further comments here: This is a little difficult to answer. The tool is designed mainly for land managers/owners to understand the areas in which they are doing well (or not) and how they could change practices in order to deliver the sustainability actions more effectively. This focus on ‘delivering benefits’ or ‘demonstrating responsibility’ mean that it is not explicitly a policy making tool (although the results may affect future policies/decisions).</p>		

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	Author & Date	Title etc.	Web link (if available)
	Glass, J.H., Scott, A.J. and Price, M.F. (2013)	The power of the process: co-producing a sustainability assessment toolkit for upland estate management in Scotland. Land Use Policy, 30(1), 254-265.	http://www.sciencedirect.com/science/article/pii/S0264837712000580

Task 4: Your experience of working on the tool

<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i></p>	<p>I facilitated the development of this tool as the main part of my PhD research. I brought together 19 stakeholders from a range of backgrounds to develop the tool over four stages, using the Delphi method.</p> <p>I piloted the first version of the tool in 2010 (as stated above) and made some improvements to its application in light of operational challenges. I then used the tool to assess the management of four estates owned by communities (North Harris Trust, Knoydart Foundation, Storas Uibhist, Assynt Foundation). This work was funded by the Scottish Funding Council, in collaboration with the four community organisations.</p> <p>The tool would benefit from wider testing and appraisal. To date, it has been used as a means for external assessment (by a researcher) but there is scope to use it as a self-assessment/learning tool.</p>
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

****Please refer to the summary text about ES for concept clarification at the end of this template (appendix)****

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

If neither approach is currently incorporated, please move to the next question

‘Ecosystem thinking’ forms one of the five ‘Sustainable Estate Principles’ that is central to the tool (see Figure 1 below). This principle echoes a need for a joined-up, holistic approach to management, which allows a balance of management objectives in order to deliver public and private goals. Individual ‘sustainability actions’ that require assessment include:

- Maintaining, enhancing and expanding natural and semi-natural habitats and species;
- Maximising carbon storage potential;
- Maintaining and improving catchments;
- Maintaining and conserving the estate’s cultural heritage.

Figure 1: Overview of the tool

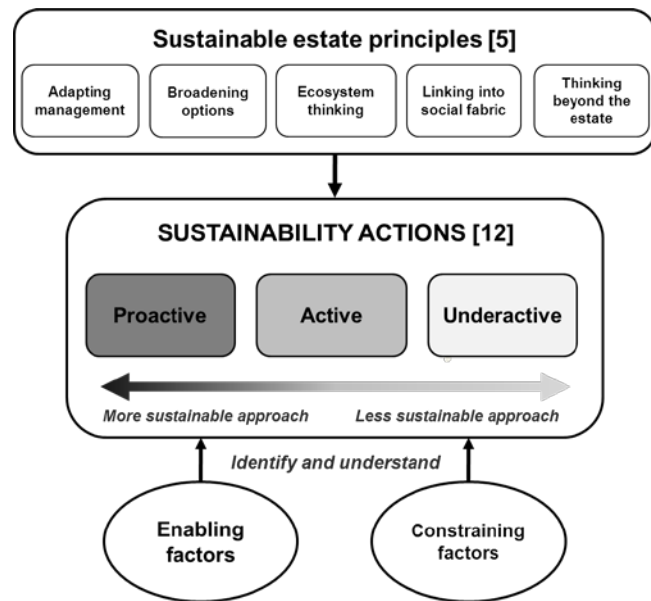


Figure 2: Synergies between the tool and the ecosystem services framework (MEA 2005)

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

The 12 actions incorporated within the tool could be more explicitly linked to elements of the EA/ES framework and gaps could be identified to ascertain whether the tool gives full coverage, for example.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can	Yes. This tool enables stakeholders to implement and assess delivery of agreed actions at the landscape scale. This requires a shared

<i>Complete as many boxes as required</i>	be shared with multiple stakeholders across built and/or natural environment	vocabulary and common goal to deliver the 12 'sustainability actions'.	
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	To a certain extent. The tool requires input from a range of people (e.g. estate staff, local community representatives, partner organisations etc.). This allows a variety of users to give their perspectives on how the estate delivers each of the actions.	
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Yes. This tool could be used to construct wider user/policy discussions about sustainable land use. Although the tool was developed for the Scottish uplands, its content is applicable to other land use scenarios.	
	Learning from experience/pedagogy		
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Yes. The tool encourages the land manager to think about the wide variety of assets that are impacted upon by management decisions and actions. For example, questions about the estate's cultural heritage force the land manager to think about what can be done in that respect.	
	5. Extent to which tool is building on other tools or EA/ES progress	Not explicitly, although there is scope for this as suggested above.	
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Absolutely. The content of the tool was developed by a range of stakeholders. They felt that a tool of this nature should be flexible and malleable to suit a local context. It is suitable for an open source approach.	
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes. Each of the actions could be interpreted/viewed slightly differently by each user. This could be seen as an advantage or perhaps a disadvantage as it may have limitations for replicability and comparison between sites?	
	Developing and selecting tools		
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	No. This tool is not dependent on a particular funding source – it could be used by an individual land unit (in this case an estate) or at a catchment level.	

9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	No explicitly, although it has been designed to be relatively 'user-friendly'. Access to secondary data is required (e.g. natural heritage monitoring data) but no primary scientific data collection is mandatory. Primary data needs to be collected through interviews.	
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Unsure about this.	
Informing resultant policies effectively		
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	The tool should help land managers to identify the extent to which they are delivering a range of sustainability actions. Therefore, it identifies areas of strength of weakness and suggests ways forwards.	
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	It does not explicitly at this stage.	
Delivering management objectives		
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	This is not considered explicitly.	
Local ownership/new governance		
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	The tool could be used to help more engagement by local people and other stakeholders in estate management decision-making and policy development. It provides a framework for structuring discussion and consultation.	
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	It does not do this explicitly, although it advocates more community involvement in the management of the environment.	
Improved tools: understanding flows, interconnections and spatial issues		
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Not sure about this one.	
17. Capacity of the tool to reconcile assessments of options and	Again, not sure how the tool would do this.	

	benefits across different scales (and sectors)		
	18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	It is flexible and could be used by a group of estates to assess their collaborative achievements.	
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	It can handle data gaps as there are not rigid prescriptions about which data should be used to assess each action.	
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The tool requires awareness and evaluation of the state of designated sites/species.	
<i>Please add any further comments here:</i>			

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Strengths *(of the tool in delivering intended outcomes)*

- The tool demonstrates how land owners/managers can integrate sustainability thinking (and therefore ecosystem services/ecosystem approach thinking) into practical management and decision-making, within a bounded framework.
- It promotes learning as the process of completing the workbook raises awareness of each part of the sustainability framework and challenges land managers to consider how they address each one.
- Landowners and land management staff can be seen as 'unusual suspects' as (particularly in Scotland) they may not be very visible and/or active on the policy circuit. The tool enables this user group to become more involved in strategic discussion about sustainability.
- The tool is flexible and can therefore be applied to any local context/management situation.
- It encourages the management of land for multiple benefits (public and private).

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- The tool is quite qualitative in nature and this could be interpreted as a weakness in terms of robustness and comparability of results across land units. However, this could also be perceived as a strength as the tool requires land managers to think reflectively on their management practices.
- No clear 'what's in it for me' benefit for land managers that go through the process – could benefit from linking in with land use policy and/or planning.
- Use of the tool requires on financial input from the estate or an external funder. Uptake is currently low, although attempts to encourage uptake have not been widespread yet.
- The tool would benefit from wider use to iron out any other operational challenges that have not yet been identified.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- The tool could be linked to rural development/agricultural funding grants so that applicants demonstrate that they are achieving 'minimum standards'.
- Could be used as a self-assessment tool for payments for ecosystem services (or for external assessment).
- Could be used beyond the 'estate'/'land' scale as a more generic framework for businesses, communities and organisations seeking to implement an ecosystem approach to sustainable management/decision-making.

Threats (*factors which negatively affect the tool and its outcomes*)

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The tool is not well known, and therefore not used	High	High
The process is currently quite time-consuming (requires analysis of primary and secondary data)	Medium	Medium
Negative perceptions of the qualitative character of the tool (people like hard figures)	Medium	Medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

I have pasted a summary table of all of the 'sustainability actions' overleaf below (Figure 3).

Figure 3: Table of Contents of the tool

Introduction

Structure of the workbook

Sustainable estate principles

Sustainability actions

The activity performance spectrum

Using the workbook

External audit

Self-assessment

Basic estate data

Principle: Adapting management

ACTION 1: Long-term, integrated management planning

ACTION 2: Integrating monitoring into estate planning and management

Principle: Broadening options

ACTION 3: Adding value to estate business(es), services and experiences

Principle: Ecosystem thinking

ACTION 4: Maintaining, enhancing and expanding natural and semi-natural

habitats and species

ACTION 5: Maximising carbon storage potential

ACTION 6: Maintaining and improving catchments

ACTION 7: Maintaining and conserving the estate's cultural heritage

Principle: Linking into social fabric

ACTION 8: Engaging communities in estate decision-making and management

ACTION 9: Playing a role in delivering community needs and projects

ACTION 10: Facilitating employment and people development opportunities

Principle: Thinking beyond the estate

ACTION 11: Reducing carbon-focussed impacts of estate business(es) and other activities

ACTION 12: Engaging in planning and delivery beyond the estate scale

Summary of results

Reflecting on the results

Action planning for the future

TRAINING COURSE (Public Engagement)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Connecting Communities Module (Community Champions Course)
Type of tool (list all that apply)	Learning and skills; Participatory
Group members	<ol style="list-style-type: none"> 1. Michael Hardman 2. Alister Scott
Please provide a brief synopsis of the tool	<p>The Connecting Communities project was commissioned by Cannock Chase District Council in 2010 with the intentions of improving a troublesome ward – Etchinghill and the Heath – which was under their jurisdiction. Birmingham City University approached the task by creating a module in-which participants would be able to air their grievances and pursue projects: gaining knowledge from key players from within the local authority and thus providing the participants with the information to further their projects. The building of capacity and social capital was a key goal of this community driven learning experience. . These participants were to become ‘community champions’: volunteers who give up time to guide their community. The module was developed with the champions, essentially resulting in a course designed by those undertaking it: they were able to choose the guest speakers and recommend other visitors who they would like to visit in future sessions. Visiting speakers ranged from local authority planners, who spoke about their role in enabling projects, to councillors and other organisations who could speak about their own roles within the community. The array of visitors ultimately enabled the participants to realise how the local authority operated, and how they could approach these individuals to propel their projects forward.</p> <p>The module has much wider implications, with the champions acting as a tool in their own right. The champions are individuals who can motivate collective action (Shortall, 2004). The richness of the tool lies here, with the champions able to act as motivation for others to take up a particular cause or initiative (Larkham <i>et al</i>, 2012). The creation of this role enabled community members to have the authority to make things happen and engage with players to push along projects. The role breaks down traditional barriers and creates a sense of greater community engagement in the decision making process.</p> <p>There are various champion roles similar to the one seen in Cannock, these have been used in a variety of other similar initiatives across the West</p>

Midlands, from Birmingham's 'Community Health Champions' (see Fresh Winds, 2012) to student community champions (see BCSU, 2012). The champion is fairly similar in each context: a member of the public who has been trained to motivate and drive community action.

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)	Ideas	Y	Y
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Partly	Y
	Implement	Partly	Y
	Evaluate	N	Y
	Please add any further comments here:		

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
	Larkham <i>et al.</i> , (2011) Building a Bigger Society: Going Beyond the 'Usual Suspects' in a Local Training Programme		
	Larkham <i>et al.</i> , (2012) Building a bigger society? The 'ups and downs' of a capacity-building programme for "community champions" in the English Midlands		
	Larkham <i>et al.</i> , (forthcoming) Building a Bigger Society: Going Beyond the 'Usual Suspects' in a Local Training Programme		
	Alcock, P. (2010) 'Building the big society: a new policy environment for the third sector in England', <i>Voluntary Sector Review</i> vol. 1 no. 3 pp. 379-389		
	Cameron, D. (2010) 'Big society' speech in Liverpool http://www.number10.gov.uk/speeches-and-transcripts/2010/07/big-society-speech-53527		
	Kisby, B. (2010) 'The big society: power to the people?', <i>The Political Quarterly</i> vol. 81 issue 4 pp. 484-491		
Please add any further comments here:			

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms	The BCU team has experience developing this tool and transforming its original focus from that of an unpaid role administered for the local authority, to that of a
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<p>of its development, testing and/or evaluation? <i>If so, please provide an outline.</i></p>	<p>critical friend, which works with, but also critiques the authority. The tool was tested over a 2 year period, with successful outcomes both environmentally, socially and economically. The tool has yet to be tested outside of Cannock.</p>
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<p>Guidance</p>	<p>For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.</p>
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Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p>	<p>In its current form, only certain elements of EA and ES are incorporated: the champions become the tool themselves and thus drive the motivation and need for change. A recent attempt by a champion to raise awareness about a forgotten beauty spot, Etching Hill, holds clear evidence that ES have been improved. This individual attempted to embed the idea of visitor payback into the much-visited space and regenerate the area through awareness. This proved successful with the spot being transformed with new paths and signs to guide visitors on their journey.</p>
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<p>How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>Since this is a learning tool, it would be relatively easy to concentrate efforts on the concepts: putting them across in a meaningful manner to those involved. Participant's projects could focus specifically on this angle for instance. Those involved on the course could practically maintain and enhance local ecosystems through their schemes. Champions could be trained to recognise the need and value of the approaches: acting as a 'vessel' to motivate others and pass on the message. The role of champion becomes particularly important in translating the abstract and alien concepts of the Ecosystem Approach and Ecosystem Services to a particular sector. The champion as a tool is rarely recognised in the literature.</p>
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Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach?</p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>This could prove a strong element of the tool: the learning centric approach offers potential for embedding EA and ES thinking in with the module.</p> <p>The role of the champion, an individual usually at the heart of a community, allows for the transfer of knowledge in a meaningful manner.</p>
<p>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and</p>	<p>If the concepts could be put across in an appropriate manner, this is perhaps the strongest element of this tool. The tool relies on local residents from multiple backgrounds and</p>	

businesses	therefore offers a forum for embedding this thinking in the public domain.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	If an approach was taken to incorporate EA and ES, this tool could be very useful in engaging those usually out of touch. The creation of a champion role will almost certainly enable engagement with those who would not be classed as the usual suspects. However this will depend on the recruitment role and could inadvertently lead to the same usual suspects. In Cannock we specifically recruited outside the usual suspects.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	<p>The education angle of this tool holds huge potential. There is the opportunity to directly influence both key figures and members of the public throughout the module. Course content can be designed for maximum impact. The champion role itself also offers potential, predominantly through getting ideas to audiences in their own field.</p> <p>The Cannock example allowed hidden assets to become incorporated into community led projects.</p>
5. Extent to which tool is building on other tools or EA/ES progress	The tool is effectively putting into practise what has been preached: research transitions to reality through the projects.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	This tool is entirely flexible, with the programme constructed around the locale. For instance, in this context there was a specific focus on the ward: attempted to improve the area through the actions of the participants in partnership with the key service providers where appropriate. .
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Flexibility is the key attribute of this tool: the module can be arranged to reflect a variety of cultures. This module then impacts on the champion's views and how they can better inform their communities.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	This tool was dependant on a government scheme, which was approximately £20,000 - £50,000 worth of funding. Nevertheless, there are many funding pots encouraging this direct engagement with the public. Universities have the potential to develop such modules as part of wider adult education. The role of the Ecosystem

	Knowledge Network is important here.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	The correct use of the tool is monitored by the institute or module leaders. There is no 'official' correct use of this tool: incarnations of this tool will vary significantly from locale to locale.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The Duty to Cooperate; the need to recognise the value of ecosystem services; Localism all provide hooks that a course can use to draw participants from both community and agencies. It is this symbiosis that made the Cannock tool so powerful.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	The capacity building component from the perspective of the community and the decision makers working together is potent. Using selected community priorities improved understandings and conflict management was enhanced in a spirit of cooperation that was markedly absent from the start.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	The module approach allows local communities to engage better with planning processes. For example the champions were used in a focus group to help the local planning authority to test new supplementary planning guidance. They are equally able to build on direct communication lines through key local councillors who helped interface with them as part of the module learning experience. This builds resilience for future public consultation events.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	This is entirely dependent on the project chosen by the participants. Champions can be used in this role depending on the locale and nature of the issues. Participant projects can provide a powerful learning experience and opportunity space. One participant has significantly improved the recreation value of a local beauty spot which was subjected to dumping and drugs.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	The tool can be used as a forum to distribute such information to the champions. Champions can then take an active role in the development of such plans. The participants from the Cannock course have assumed much more confidence and ability to engage with decision makers and help

	bring about some change.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	The tool has huge potential here: there is the opportunity for direct input from public members towards the management of the environment. The champion role is key: it offers the opportunity of a different style of environmental management.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Champions can be told about the value of these concepts; however this would have to be put across in an approachable manner: participants are generally from non-academic backgrounds or those not familiar with such terminology.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	There is potential for this. The module allowed the champions to see the different influences across scales on their community. Understanding this picture was key to them thinking about how to work on their particular project.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	The tool can breakdown boundaries amongst its participants: getting individuals from a variety of cultures and classes to liaise and help one another. Similarly, the champion role eventually adopted could see these individuals working together in a more meaningful manner, across boundaries previously not crossed.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	A strong emphasis is needed on understanding the locale's issues before this tool can be implemented. This will help frame the module and thus the champion roles created.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	This is again entirely project dependent; the tool's flexibility could take this into account. The champion role offers huge potential here: positively impacting on the landscape, such as the situation described earlier with the Etching Hill beauty spot.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths (*of the tool in delivering intended outcomes*)

- Encourages members of the public to communicate with organisations and the local authority.
- A stand alone module designed from the bottom up and using decision makers as part of it can help build capacity, confidence and mutual understanding.
- Explicit involvement of decision makers in a course as experts but also implicit role as learners achieves major benefits.
- Promotes community ownership of issues affecting their locale: including environmental issues and public input into the management of the environment.
- The champion role creates a sense of greater community ownership and engagement.
- Champions are able to communicate meaningfully to community members, which could prove crucial for concepts such as EA and ES.
- This tool, depending on its interpretation, could produce multiple benefits.
- The Cannock model engaged a range of age groups and social backgrounds maximising overall transferability across the community.

Weaknesses (*factors that detract from the tool's ability to deliver intended outcomes*)

- The design of the module is crucial.
- Research required prior to the tools implementation.
- Staff time delivering the module.
- Difficulty recruiting members of the public for a module. Incentives needed (i.e. academic outputs in the form of qualifications).
- Recruiting the correct people for the champion role: there is no use having a reclusive member of a community occupying this position for instance; equally just using the usual suspects will limit applicability to those hard to reach groups.

Opportunities (*consider opportunities for application of the ecosystem approach and services*)

- Huge opportunity to embed the EA and ES concepts within the public domain: the tool could focus specifically on translating these elements into participant led projects. .
- It may be possible to directly involve the champions in assessments, in effect getting them 'hands on' with the concepts.
- Massive potential to improve schemes and start new projects which could directly impact on the locale's environments.

Threats (factors which negatively affect the tool and its outcomes)

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Cost of staff and time, could disrupt programme.	High	High
Public interest diminishing over time	High	Medium
Lack of engagement from local authority	Medium	Medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

Appendix

Summary text to provide conceptual clarification on Ecosystem Services

Etching Hill Project Timetable

Wk No.	Date	Session 1 (19:00 – 20:00)	Session 2 (20:00 – 21:00)
1	06/10/10	<p>Introductions and welcome by the academic team</p> <ul style="list-style-type: none"> • <i>Virtual tour around the ward using a 'Planning for Real' exercise.</i> • <i>Identification of issues through a respondent-led narrative.</i> 	<p>What is a community champion? (Explore the differing interpretations)</p> <ul style="list-style-type: none"> • <i>Identification of individual projects and tutors.</i> • <i>BCU Resource Pack and presentation of documentary research about issues in the ward.</i>
2	13/10/10	<p>Governance of Etching Hill and the Heath</p> <ul style="list-style-type: none"> • <i>Use the concept of a family tree to capture the groups, agencies, meetings and documents that affect the ward.</i> 	<p>Key players/organisations in the community</p> <ul style="list-style-type: none"> • <i>Identify people in the ward that the participants would like to speak to about their roles/responsibilities in the community.</i> • <i>Participants are to present their own experiences with organisations/people.</i>
3	20/10/10	<p>Understanding the principal public authority, institutions and associated meetings that affect the ward and community cohesion</p> <ul style="list-style-type: none"> • <i>Community strategy presentation.</i> • <i>LDF Core Strategy presentation.</i> • <i>Community Forum.</i> 	<p>Understanding document influence and preparation for week 4</p> <ul style="list-style-type: none"> • <i>Review documents with views as to how they can influence communities.</i> • <i>Brief on week 4 question time and preparation of questions.</i>
4	27/10/10	<p>Question time 1</p> <ul style="list-style-type: none"> • Five members on the panel: <ul style="list-style-type: none"> ➤ Local Councillor ➤ AONB Officer ➤ Police Representative ➤ CVS Representative ➤ County Council Principal Economic Research Officer 	
5	03/11/10	<p>Question time 2</p> <ul style="list-style-type: none"> • Three members on the panel: <ul style="list-style-type: none"> ➤ Staffordshire County Council Partnership's Manager ➤ The District's LSP manager ➤ Community Safety Partnership manager 	

6	17/11/10	Developing community projects and application forms <ul style="list-style-type: none"> Partnerships. Changing role of grants: CVS and local authority. Examples forms and experiences from the academic team/ CVS. 	The community toolkit <ul style="list-style-type: none"> General explanation of the toolkit. Work through points 1-5 in groups.
7	24/11/10	Community toolkit continued <ul style="list-style-type: none"> Review points 1-5 from previous session. Talk through point 6-10. County Council Partnerships Manager to explain funding, evidence needed etc. 	
8	01/12/10	What makes an initiative successful? <ul style="list-style-type: none"> The example of Todmorden, visiting speaker to direct group. Visiting speaker from Buriton to talk about their initiative. 	Assessment <ul style="list-style-type: none"> Assessment 1 and 2 to be presented to participants.
9	08/12/10	Snow glorious snow CANCELLED	
10	15/12/10	Learning from experience <ul style="list-style-type: none"> Former Groundwork employee to talk about previous experiences with community champion projects. What went right and what failed. 	Assessment consultation <p>Participants to review assessments and make any suggestions on how it could be altered.</p>
11	22/12/10	Assessment 1 PARTICIPANT LED workshop with remote staff support. <ul style="list-style-type: none"> Participants to liaise with one another and complete the toolkit. 	
12	05/01/11	Presentation preparation <ul style="list-style-type: none"> BCU student support representative to brief participants on good presentation skills. Academic team to give further guidance on presentations. 	Discussion <ul style="list-style-type: none"> BCU team to discuss exit strategy with participants. Questions and answer session in relation to presentations and exit strategy.
13	12/01/11	Presentations to Steering group, academic team and other participants <ul style="list-style-type: none"> Participants have 10 minutes to present their projects. The community toolkit to be handed in. 	

BACKCASTING (Futures)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Backcasting
Type of tool (list all that apply)	Economic: creating markets linking ‘suppliers’ of ecosystem services with their ‘consumers’; also Participatory; Decision support; Futures; Ecosystem Services
Group members	<ol style="list-style-type: none"> 1. Mark Everard 2. Gary Kass
Please provide a brief synopsis of the tool	<p>Backcasting is a valuable tool for strategic planning. It differs from the more widespread application of forecasting techniques which largely extrapolate current trends out into the future, often as a set of scenarios identifying potential future outcomes. Instead, backcasting works ‘backwards’ from a preferred future state, allowing exploration of strategic steps forward to meet it from the current situation. In a sustainable development context, this preferred future state can be built, generally by consensus, as a vision of being fully sustainable. This then supports strategic planning towards that preferred future in ways that help identify ‘breakthrough’ leaps rather than being tied to incremental improvement from the current situation. For example, forecasting may lead an enterprise to identify investment in energy efficiency as a priority, whereas a backcasting approach that recognises that the energy-consuming process (say a metal plating plant) may have no long-term place in a sustainable business will encourage managers to look to alternative solutions, identifying novel products and processes rather than tying investment into non-strategic goals.</p> <p>Backcasting can be applied in a range of circumstances, from business to government activities including policy and regulation and even addressing organisational change. Backcasting has been linked with a suite of related tools to progress sustainable development in The Natural Step (TNS) Framework (see e.g. Robèrt K-H, 2008 and also Everard, M., 2008). The frame of reference for strategic planning in the TNS Framework is the TNS Sustainability Principles. The ecosystem services framework could equally be used as the frame of reference for sustainability visioning, enabling consensus-building (by Executive Board members, local community, product development team or other group) about a</p>

desired sustainable outcome or preferred balance of services.

In summary, backcasting is a tool that may be usefully applied in strategic planning, including in an ecosystem service context, though it has not been done so explicitly to date beyond inclusion in the Integrated Catchment Value Systems model (Everard *et al.*, 2009).

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	N Not currently applied in practice	Y High: Suitable to collect and work with ideas
	Survey	N Not currently applied in practice	Y Marginal: Could stimulate / identify needs rather than help with actual surveys
	Assess	N Not currently applied in practice	Y Marginal: Could help stimulate thinking about potential development paths and assessment gaps
	Policy / decision	N Not currently applied in practice	Y High: Appears well suited for this - use to inform policy and decision making
	Implement	N Not currently applied in practice	Y Marginal: Could be used to sketch out implementation stages
	Evaluate	Y The Integrated Catchment Value Systems model was used to evaluate a PES market developed in the Himalayas (by Everard and Kataria, 2012)	Y High: Evaluate actual against goal and identified milestones.

Task 3: Existing literature about the tool

<p>Are you aware of any KEY policy and / or academic literature evaluating your tool?</p>	<p>Please add any further comments here:</p> <p>There is little evaluation of the tool; key literature is included earlier in this review.</p>
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Author & Date	Title Vol pages	Web link (if available)
Robèrt K.-H. (2008)	'The Natural Step Story: Seeding a Quiet Revolution'	
Everard, M. (2008)	'PVC: Reaching for Sustainability'	
M. EVERARD, J. COLVIN, M. MANDER, C. DICKENS and S. CHIMBUYA (2009)	'Integrated Catchment Value Systems', <i>Journal of Water Resource and Protection</i> , 1(3): 174-187.	doi: 10.4236/jwarp.2009.13022

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

If so, please provide an outline.

I have worked extensively with backcasting as a tool and found it effective with businesses, in research and with municipalities. However, other than in the Integrated Catchment Value Systems model, I have not applied it in practice.

Guidance

For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

As indicated in the preamble, this is more about potential than current practice.

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

In theory, the ecosystem services framework could form the basis for backcasting in a range of settings.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach?
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	High: Getting people together to vision around a preferred balance of ecosystem services would have strong pedagogic value.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Varied: Getting people together to vision around a preferred balance of ecosystem services would have strong pedagogic value, linking up societal sectors.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Varied: Getting people together to vision around a preferred balance of ecosystem services would have strong pedagogic value, linking up different constituencies of people.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Varied: Getting people together to vision around a preferred balance of ecosystem services would help reveal overlooked values and the often overlooked value systems of different people. Unsure how common already but high potential.
5. Extent to which tool is building	Varied: As noted above, this is an established tool into

on other tools or EA/ES progress	which the ecosystem approach could be integrated.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Varied: As noted above, this is an established tool into which the ecosystem approach could be integrated. Works well at range of scales.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	High: This tool can be developed on a context/product-specific basis.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	N/A. Backcasting processes benefit from facilitation, but there is bespoke budget for this. However, it could usefully be built into existing visioning and strategic planning processes.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Varied: Learning is available from both existing successful use of backcasting and other ecosystem services-based tools, though there is no bespoke skills development resource for this combination.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NPPF's duty to cooperate, SUDS, ecol. networks)	High: Sustainable development is inherently about heading towards a preferred (sustainable) future rather than leaving the future to happen by chance, so backcasting is implicit in any policy driver requiring sustainable outcomes.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Varied: Backcasting can help tune to targeting of policies and decisions.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Varied / Not necessarily explicit: Could do so in many circumstances.
Delivering management objectives	

13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Could be adapted for this purpose if so designed.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Partly: Can promote public engagement in visioning desired futures.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Partly: Can promote public engagement in visioning desired futures.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Varied: Can promote public engagement in visioning desired futures, including links between 'producers' and 'consumers'.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	High: As a visioning tool, backcasting can help form preferred outcomes that are not only more sustainable but also where conflicts have been overcome.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	High: Can promote wide sectoral engagement in visioning desired futures.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Varied: As a visioning tool, backcasting is not automatically data-driven, though clearly when it comes to planning future strategy to achieve that vision data will be required.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Not yet explored, but the wider focus on services should facilitate this if desired.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

<p>Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified</p>	<p>Strengths <i>(of the tool in delivering intended outcomes)</i></p> <ul style="list-style-type: none"> • An established tool in sustainable development • Promotes consensual visioning • Helps overcome incrementalism • Helps identify ‘breakthrough’ opportunities 								
	<p>Weaknesses <i>(factors that detract from the tool’s ability to deliver intended outcomes)</i></p> <ul style="list-style-type: none"> • Does not automatically address all services • Benefits from investment in facilitation 								
	<p>Opportunities <i>(consider opportunities for application of the ecosystem approach and services)</i></p> <ul style="list-style-type: none"> • Can be easily linked with the ecosystem services framework 								
	<p>Threats <i>(factors which negatively affect the tool and its outcomes)</i></p> <table border="1"> <thead> <tr> <th>Threat</th> <th>Seriousness (high, medium, low)</th> <th>Probability of occurrence (high, medium, low)</th> </tr> </thead> <tbody> <tr> <td>Risks capture by those with narrow service interests</td> <td>High</td> <td>Medium</td> </tr> </tbody> </table>			Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)	Risks capture by those with narrow service interests	High	Medium
	Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)						
Risks capture by those with narrow service interests	High	Medium							
<p>Please add further comments here:</p>									
<p>Guidance</p>	<p><i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i></p>								
<p>Further comments</p>									

FORESIGHT (Futures)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Foresight
Type of tool (list all that apply)	Futures
Group members	1. Michael Hardman
	2. Gary Kass

Please provide a brief synopsis of the tool

Foresight is a method which aims to predict future trends to better inform policies (EUR-Oceans, 2011). The idea concerns not necessarily *predicting* the future, although this plays a part, but weighing up the pros and cons of reasonable possibilities: selecting the best according to the situation and principles (Caldwell, undated). This idea has been used in a variety of contexts, from management studies (Costanzo and MacKay, 2009) to strategic studies (Kuosa, 2012): foresight is applicable in many areas and can be tailored to suit particular needs. Perhaps unlike other futures tools, the idea of foresight involves constantly reviewing predictions and revising as necessary (Loveridge, 2009). Simply, the idea of foresight involves looking beyond the futures veil and attempt to predict future scenarios; although this often involves not one vision, but a multitude of them acting in parallel (see Forward Engagement, 2009).

Examples of foresight in practice can be found in a variety of areas: from climate change to issues surrounding migration and environmental change (see Foresight.gov.uk, 2012). For instance, the UK's 'Foresight' government department carried out a series of workshop events which aimed to inform future policies surrounding global food security. These workshops involved a variety of stakeholders, and ultimately identified areas which needed more input from businesses and the government itself; it became clear 'that there [was] very considerable scope for the food industry to play a significant role in facilitating greater sustainability' (Foresight, 2011).

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y	Y
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y	Y
	Implement	N	Possibly

Please add any further comments here: Foresight can be interpreted in a variety of ways and is a loose concept: deployed depending on the actors involved.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
	Costanzo, L. A. and MacKay, R. B. (2009).	<i>Handbook of Research on Strategy and Foresight</i> , Cheltenham: Edward Elgar Publishing.	
	Kuosa, T. (2012).	<i>The Evolution of Strategic Foresight: Navigating Public Policy Making</i> , Farnham: Gower Publishing.	
	Loveridge, D. (2009).	<i>Foresight: The Art and Science of Anticipating the Future</i> , Abingdon: Routledge.	
	Wilkinson, A. and Mangalagiu, D. (2011).	Learning with Futures to Realise Progress Towards Sustainability: The WBCSD Vision 2050 Initiative, <i>Futures</i> , 44 (4): 400 – 412.	

Please add any further comments here:

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	
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Guidance For Tasks 5-7, please also try to consider the **future** development and application of this

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

Foresight is currently used in predicting changes to natural landscapes, taking into account a variety of factors. In the context of fisheries management for instance, the FAO (2012) claim that foresight tools, including elements of scenario building, enabled the construction of the Ecosystem Approach for Fisheries (EAF); aiding with clarifying uncertainties with regards to fisheries. The UK government has used foresight in a variety of contexts, from anticipating issues with food supply, to climate change and future landscapes. The former involves predicting the needs of the rising population and the food security which comes along with this.

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

Foresight could be used to predict future trends affecting ecosystems, from an explicit focus on ES, to a more holistic overview of EA: prediction places an important part in both contexts. The approach is already incorporated in some versions of the tool, with foresight being used in a variety of situations to anticipate changes and alterations to ecosystem based on a variety of decisions made.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? Please explain how.
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Foresight relies on multiple views to generate several scenarios surrounding a specific theme. In this case EA/ES-related issues could form the brunt of a prediction. A prediction could centre on how decisions, which follow the EA principles, could affect a specific environment.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Foresight involves a variety of stakeholders to generate predictions and thus eventually influence policy: perspectives are thus an important part of the tool.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	The tool is entirely flexible, and a foresight workshop could enable the unusual suspects to play a part in generating predictions, for instance.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets	Generating predictions involves the reworking of ideas and a detailed understanding of scenarios, thus

that are not recognised by communities or publics that use them	hidden assets and previously unknown (or unappreciated) options could be discovered.
5. Extent to which tool is building on other tools or EA/ES progress	The tool is effectively building on current knowledge regarding EA/ES and using this to generate predictions to ensure they are sustained for the future.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Foresight predictions can be wide or specifically focused on a particular context, therefore there is great potential for the tool to be used in local situations: workshops perhaps focussing on a specific locale and using actors from that area to generate future knowledge.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool can be interpreted in a variety of ways, with coordinators able to shape the discussion, or session, around specific topics or events.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Depending on how predictions are generated, funding may be required. The UK government's foresight department offers opportunities.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Several bodies exist, from organisations to government departments, which aim to advise on foresight (see review of typology).
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The vagueness of this tool results in its application being varied and thus depending on the context it is employed, some hooks can be exploited.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	At the centre of foresight is its aim to influence policy and predict future changes to better prepare such documents. In a similar manner to the previous section, the coverage of the tool depends on the context in which it is employed.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	The tool can be used in conjunction with the planning system to anticipate change, both on the macro and micro levels.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the	Foresight can focus specifically on this issue and create multiple predictions to better manage such areas: choosing the most effective on comparison.

	considered area? How?	
Local ownership/new governance		
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?		The tool can be used implicitly in such plans to demonstrate forward-thinking and anticipation on behalf of the strategy's creators. This can then be communicated across to the public for dissemination.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?		Foresight's often reliance on workshops to create predictions could enable communities to play a part in the future decision-making process; engaging with policy which could be developed from such events.
Improved tools: understanding flows, interconnections and spatial issues		
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales		The predictions generated via foresight could enable decision-makers to better understand future flows with regards to ES and scale: grasping that if certain decisions were made now, this could result in positive, or negative, impacts in years to come.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)		Foresight predictions generate several options, which can be compared and contrasted to establish the best for that particular situation or context.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries		The tool is entirely flexible and can be manipulated to work across boundaries.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)		Whilst foresight generates multiple predictions, gaps will evidently be present and thus this should be taken into consideration when using this tool.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)		The tool's direct link to policy could raise awareness about overlooked areas: putting these on the radar of decision-makers.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria

Strengths (of the tool in delivering intended outcomes)

- Can engage a variety of actors on various scales to produce predictions.
- Has strong support from government and other organisations.
- Is not too narrow, unlike other futures tools, in that it creates multiple predictions.

(listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- Funding may be required to make the tool a viable resource: workshops for instance would need to be organised in a central location to be attractive to attendees.
- There are various incarnations of the tool and thus it can be interpreted in a multitude of ways.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- EA and ES can become the focal point of this tool, with actors engaging the concepts on an informal level and discussing related issues.
- The tools education angle could inform communities on the concepts and how they play a part in decision-making processes.
- Ultimately, communities can play a part in this decision-making process: providing those without a voice, something to say on EA/ES-related issues.

Threats *(factors which negatively affect the tool and its outcomes)*

- Logistical issues could play a part in affecting this tool: accommodation needs to be sought close to communities or other actors involved in these groups. A mutual, central location tends to make this easier for those taking part.
- On the topic of logistics, it is important to realise that focus groups involve a variety of people, and thus it may be difficult arranging a suitable time for everyone, depending on the context.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Logistics	Medium	High

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

VISIONING (Futures)

TABLES Project 2012: Mini reviews	
Task 1: Basic information	
Name of the tool	Visioning
Type of tool (list all that apply)	Futures.
Group members	<ol style="list-style-type: none"> 1. Alister Scott 2. Mark Everard 3. Mark Reed 4. Gary Kass
Please provide a brief synopsis of the tool	<p>Visioning may be defined as a technique or series of techniques involving groups of people coming together to develop ideas about what they would like the future to be like. This can be unconstrained and entirely aspirational, or else framed by addressing a set of desirable principles which, if not limited by current impediments, can provide a basis for backcasting to address strategic challenges and overcome short-term constraints (Everard, 2009). After the vision is agreed, the group will then work on looking at what needs to be done to bring about that vision and put this together in an action plan (Kallis et al., 2007; Shipley 2002). These have been given significant momentum with the localism agenda with neighbourhood planning and newly shaped local plans requiring locally-led visions of the place and spaces.</p> <p>The process of visioning therefore is extremely fluid and flexible and encompasses a diversity of approaches and styles (Scott et al., 2009; Tress and Tress, 2003; Kallis et al, 2009) from 'quick and dirty' approaches such as preselected half-day visits (Scott et al in press) to key locations across an area to 2-3 day exercises involving significant deliberation (Shipley, 2002). This shift towards more deliberative approaches has been recognised with a growth in literature and also most notably agencies 'selling' their particular approach (Kallis et al., 2009). Here terms like 'future search' and 'community visioning' often feature, as indeed does the U-process. Within public policy, the CHOICES method has been most widely used (O'Brien and Meadows, 2001). The work of Tress and Tress (2003) is particularly interesting here in that they derived visions based on stakeholder responses to a series of extreme scenarios which were used as visual prompts to promote discussion about what people would really like. Scott et (in press) have also used an interactive learning game format, Rufopoly, to allow respondents to identify their own visions in response to a journey across a hypothetical fringe space answering questions as they go. These prompts are seen as really important in helping to get people to move outside their own soapbox issues and bring fresh perspectives to the exercise (Scott and Liddon 2012).</p> <p>Whilst visioning has become a universally popular approach in policy and practice for managing the built and natural environment, visioning methods have also sometimes been used uncritically with scant attention paid to theoretical underpinnings. As Van Der Helm (2008:96) notes, "A vision is something that appears, but which often lacks any substantial underpinning, i.e. there is more often than not neither a theory explaining the appropriateness of the vision, nor a clear methodology that has led to the vision. In some way, we could say that having a vision and developing a vision are seen as trivial, though necessary, qualities or exercises". This emphasises the value of framing the vision around</p>

a set of aspirational principles, as applied within The Natural Step framework (Robèrt, 2002).

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y*	
	Survey	Y	
	Assess	Y*	
	Policy / decision		
	Implement	Indirectly	
	Evaluate	Y*	

The stages with an asterisk [*] reflect those stages where the tool is at its most useful. It also critically depends on using effective engagement strategies to ensure different publics are fully involved in the process.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your	<p>There is a significant amount of literature on visioning set within the wider futures literature. The following represent a snapshot.</p> <p>Everard, M. (2009). <i>PVC: Reaching for Sustainability</i>. IOM3/The Natural Step.</p> <p>Kallis, G., Hatzilacou, D., Mexa, A., Coccossis, H. and Svoronou, E (2009).</p>
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<p>tool?</p>	<p>Beyond the manual: Practicing deliberative visioning in a Greek island, <i>Ecological Economics</i>, 68, 979-989.</p> <p>O'Brien, F. and Meadows, M. (2001) How To Develop Visions: A Literature Review, and a Revised CHOICES Approach for an Uncertain World, <i>Systematic Practice and Action Research</i> 14 (4) 495-515.</p> <p>Scott AJ and Liddon A (2012) Playing Around in the rural urban fringe, <i>Government Gazette</i> October 2012 56</p> <p>Robèrt K-H. (2002). The Natural Step story: seeding a quiet revolution. New Society Publishers, Graniola Island, Canada..</p> <p>Scott AJ, Shorten J, Owen, R. and Owen IG (2009) What kind of countryside do we want: perspectives from Wales UK <i>Geojournal</i> DOI 10.1007/s10708-009-9256-y online</p> <p>Scott A.J. and Shorten J. (2004) <i>What Kind of Countryside do we Want</i>, Report to the Welsh Assembly Government, Cardiff HYPERLINK</p> <p>Tress, B. and G. Tress (2003). Scenario visualisation for participatory landscape planning--a study from Denmark. <i>Landscape and Urban Planning</i> 64(3): 161-178.</p> <p>Van Der Helm, R. (2008) The vision phenomenon: Towards a theoretical underpinning of visions of the future and the process of envisioning. <i>Futures</i> 41 96-104</p>
<p>Task 4: Your experience of working on the tool</p>	
<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?</p>	<p>Scott has produced reports and papers involving several visioning exercises for different clients and as part of research processes on managing environmental change. A distinctive aspect here has been the use of visits to the area under question in order to embed field reality into the visioning process. This challenges more traditional approaches which are largely room or map based exercises. The approach has also been used to develop industry-wide consensus about and engagement with strategic sustainability challenges amongst manufacturers, suppliers and processors in the UK PVC industry (Everard, 2009 – see above) and now its extension to the EU-27 PVC industry (www.vinylplus.eu).</p> <p>Specifically</p> <p>Scott, A.J., Carter, C.E., Larkham, P., Reed, M., Morton, N., Waters, R., Adams, D., Collier, D., Crean, C., Curzon, R., Forster, R., Gibbs, P., Grayson, N., Hardman, M., Hearle, A., Jarvis, D., Kennet, M. Leach, K., Middleton, M., Schiessel, N., Stonyer, B., Coles, R. (2013) Disintegrated Development at the Rural Urban Fringe: Re-connecting spatial planning theory and practice, <i>Progress in Planning</i> 83: 1 – 52.</p> <p>Scott AJ, Shorten J, Owen, R. and Owen IG (2009) What kind of countryside do we want: perspectives from Wales UK <i>Geojournal</i> DOI 10.1007/s10708-009-9256-y online</p> <p>Carter, C. and Scott AJ et al (2012) Adapting for the long-term in the rural urban fringe, Managing Change at the Rural Urban Fringe, Relu project, Video Policy Brief, RELU grant award for 'Managing Environmental Change at the Fringe' – ES/H037217/1</p> <p>Scott A.J. and Shorten J. (2004) <i>What Kind of Countryside do we Want</i>, Report to the Welsh Assembly Government, Cardiff HYPERLINK</p>

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

The NEA (2011) made extensive use of scenarios in its ecosystem assessment framework. These provided extreme scenarios which allowed the impact on various ES to be identified and assessed. By extrapolating scenarios, and stretching perception of the ‘possibility space’ of the future, this allowed development of a range of ‘response options’ better to safeguard and promote a range of ecosystem services essential for future wellbeing.

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

- ES/EA is an integrating concept which instead of dealing with discrete environmental or soapbox issues considers bundles of services that flow from the environment. As such it is may allow better consideration of cumulative impacts and hidden assets. Consequences for ecosystem services can be used reactively to appraise the outcomes of visions or scenarios, whereas the ecosystem service framework can be used proactively to frame a vision that best protects the fundamental natural resources underpinning future human wellbeing.
- With ES/EA, the description of the environment moves from the absolute (and largely meaningless) value of ‘things’ in isolation, recognising instead the many benefits that the natural environment and its processes provide. This is a more persuasive way to frame visioning exercises.
- Stakeholders and the public are well placed to engage with this alternative description as they are potentially the ‘users’ of the environment (i.e. ecosystem services describe the ways people connect with and use the services of the natural world) in particular places and areas.
- Visioning informed by the ecosystem approach is therefore a powerful tool to help cut across both built and natural environment settings, as it is currently widely used and understood.
- Incorporating ES/EA into established tools such as SEA, EIA and appraisal of development planning proposals helps practitioners and decision-makers to reflect on the impact of the environment on their vision rather than just vice versa.

The ecosystem service framing makes explicit the value of the environment for participants.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Somewhat – Visioning provides a platform to explore desired futures and incorporating ecosystem services could help people understand its relevance in future policy.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of	High – This is the purpose of a visioning event but equally depends on who you get involved. Here the need for inclusive processes are key. Of greatest importance is viewing these services as systems,

multiple visitors, residents and businesses	which will help people better understand their many often unrecognised interdependencies.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Somewhat - Stakeholder engagement is a core requirement of visioning and as such there is the potential to engage with those groups that are felt to be most appropriate around the development of a shared vision. As noted above, viewing all beneficial services as part of an integrated system within visioning processes will help people better understand their many often unrecognised interdependencies.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Somewhat – This depends on the process of facilitation. Good visioning exercises should provoke or prompt what might be hidden or of potential in an area, also highlighting unintended negative consequences as well as scope for synergies.
5. Extent to which tool is building on other tools or EA/ES progress	Yes – Visioning is part of a suite of futures tools. It sits within scenarios, backcasting and foresight. Visioning is a meta-tool in that a wide range of other tools can operate within, in a nested fashion. As such visioning responds to developments within each of these supporting tools.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Yes – Visioning can be used at any scale and is adaptable. However, its flexibility means that it is sometimes used in an ad hoc way with poor process and outcomes. Stronger theoretical underpinning is recommended, which may include framing the vision within desirable principles.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes – Visioning is used in many ways; it is just a process and there is huge potential to take the basic requirements of visioning and to reconfigure it in relation to the context.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Somewhat – Visioning processes cost money, in particular with the support of experienced facilitators, so they are usually done as part of a consultancy-type approach at different levels for different clients. There is a temptation to use this approach in many deliberative exercises as it can be done relatively quickly. However, that is also its most serious weakness.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Somewhat – The quality of the visioning process does depend on those leading the exercise. There is huge variation.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Yes – There are no statutory hooks but it sits comfortably within particular statutory processes (settings) as a tool that helps think collectively about futures, such as development plans and neighbourhood plans.
Informing resultant policies effectively	

11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / trade-offs?)	Yes – Visioning has the capacity to do this particularly if a more deliberative process is used that enables an action plan to be developed. Visioning is a process tool and therefore is dependent on the parameters within which it is set up and implemented. The conflict within any such exercises is an important aspect of the process. So too is its potential to secure the buy-in of multiple constituencies to a collective desirable vision, and the actions necessary to secure it.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Somewhat - Visioning can be used in the early stages of development and neighbourhood plans. This helps develop a vision of an area upon which future plans and policies can be positioned. Consequently it is very useful in the ideas stage.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Somewhat – Visioning can be applied to any context or situation. However, its success is dependent on participants fully understanding the implications of their ideas, and owning the actions necessary to deliver the collective vision.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Yes – Visioning can be an effective plan support tool which allows for specific public engagement via consultation.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Somewhat - As it is normally practiced, there is increasing scope for community-based visioning. Examples such as Neighbourhood Plans may provide an opportunity for alternative governance of the natural and built environment, which crucially depend on shared visions.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Varies - it varies according to the approach taken. The flows and interactions can be explicit as for example in Scott et al (in press) in a series of linked visits across a transect of an area. This aspect is of direct relevance to spatial planning practice.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Yes – Visions can incorporate a range of alternatives. As such, the opportunity to reconcile across different sectors and scale is limited to the nature of the process. It is, however, acknowledged that to date this is not always done well.
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	Yes - Good visioning should engage with relevant stakeholders, including trans-boundary. Relevant stakeholders are likely to be potentially affected organisations and this is not limited to sectoral or administrative boundaries.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Yes - The quality of vision process is not determined by the quality of the data, but rather by the nature of the process itself and its leadership and structure. Good quality data is important to provide an adequate baseline and understanding of the impacts, based on

		both qualitative and quantitative data sources. There are mechanisms such as stakeholder engagement, using indicators or proxies, etc., which allow practitioners to manage data gaps.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Yes – Flexible.

Visioning is an inherently flexible tool as it consists of a few key stages. It is therefore potentially well able to deal with a wide range of issues. Its exact ability to deal with specific issues is largely dependent upon how it is used.

Task 7: A SWOT analysis of the tool

<p>Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified</p>	<p>Strengths (<i>of the tool in delivering intended outcomes</i>)</p> <ul style="list-style-type: none"> • Visioning practice is relatively well established and used widely in policy and practice • Visioning provides a quick and easily understandable process to think about desirable futures. • Visioning requires engagement with priority stakeholders, including the public. • Visioning seeks to be transparent, evidence based and objective. 							
	<p>Weaknesses (<i>factors that detract from the tool's ability to deliver intended outcomes</i>)</p> <ul style="list-style-type: none"> • Visioning can be delivered uncritically without adequate attention played to context and local power relations. Becoming in effect an academic exercise. • Visioning is a process and as such is only as good as those who design and implement it. • Visioning lacks sufficient theoretical underpinning which makes it subject to abuse and misuse. • There is an inherent danger that it becomes a tick box exercise rather than part of a wider deliberative process of a policy or plan process. 							
	<p>Opportunities (<i>consider opportunities for application of the ecosystem approach and services</i>)</p> <ul style="list-style-type: none"> • ES/EA is an integrating concept which instead of dealing with discrete environmental or soap box issues considers bundles of services that flow from the environment. As such it is may allow better consideration of cumulative impacts and hidden assets. . • With ES/EA the description of the environment moves from things to benefits and may be a more persuasive way of framing visioning exercises • Stakeholders and the public are well placed to engage with this alternative description as they are potentially the 'users' of the environment in particular places and areas. • Powerful tool to help cut across both built and natural environment settings as currently visioning is widely used and understood. • Incorporating ES/EA into visions helps practitioners and decision-makers to reflect on the impact of the environment on their vision rather than just vice versa. • The ecosystem service framing makes explicit the value of the environment for participants. 							
	<p>Threats (<i>factors which negatively affect the tool and its outcomes</i>)</p> <table border="1"> <thead> <tr> <th>Threat of going down ecosystem services route in SEA to validity of the concept</th> <th>Seriousness (high, medium, low)</th> <th>Probability of occurrence (high, medium, low)</th> </tr> </thead> <tbody> <tr> <td>The use of ecosystem services language may not resonate with stakeholders.</td> <td>Medium</td> <td>Medium</td> </tr> </tbody> </table>			Threat of going down ecosystem services route in SEA to validity of the concept	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)	The use of ecosystem services language may not resonate with stakeholders.	Medium
Threat of going down ecosystem services route in SEA to validity of the concept	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)						
The use of ecosystem services language may not resonate with stakeholders.	Medium	Medium						

	The complexity of ecosystem services may serve as a barrier to publics engaging with issue without supplementary briefings.	Medium	High
	Ecosystem services may not be relevant to all visions and may be a distraction to the process .	Low	High
	Valuation of ecosystem services does not necessarily fit with how visions are made which is more about the whole rather than the elements that make them up. This is much more about balancing a wide range of factors and how they may interact than a cost, benefit calculation.	Medium	Low
Further comments			

BIODIVERSITY OFFSETTING (Incentives)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Biodiversity offsetting
Type of tool (list all that apply)	Economic, creating markets linking 'suppliers' of ecosystem services with their 'consumers'
Group members	<ol style="list-style-type: none"> 1. Mark Everard 2. Alister Scott
Please provide a brief synopsis of the tool	<p>The principle of biodiversity offsetting is that inevitable loss of biodiversity in a development context is mitigated by the recreation of appropriate habitat supporting the desired species elsewhere. It is important to note that this should be a last-resort measure if development cannot be relocated to a less sensitive site, or if valued biodiversity cannot be safeguarded on-site.</p> <p>Offsetting may be a statutory requirement, for example under 'no net loss' provisions for priority species and habitats under the EU Habitats Directive, or may be aspirational.</p> <p>Intertidal habitat creation to mitigate for entrapment of fish fry in water intakes, particularly large abstractions such as for power station cooling systems, has been established in the USA since at least the 1990s. This is significant in recognising not merely habitat for a species, but also the functional (i.e. service-related) role of habitats (i.e. fish recruitment).</p> <p>Risks associated with biodiversity offsetting include ensuring genuinely 'like for like' habitat recreation; many poor historic examples illustrate tokenistic implementation that has resulted in no net gain or protection of wildlife. Another key risk is that attention is shifted from prevention to mitigation, implicitly sanctioning development.</p> <p>Biodiversity offsetting is encouraged in the UK White Paper on the Natural Environment, <i>The Natural Choice</i>⁷.</p> <p>The opportunity for linking the biodiversity offsetting with the ecosystem services framework is to design and secure a wide suite of ecological and social benefits into mitigation measures.</p>

⁷ HM Government. (2011). The Natural Choice: Securing the Value of Nature. www.defra.gov.uk/environment/natural/whitepaper



Task 2: Use of the tool

Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	Y Biodiversity offsetting is currently implemented, though has a patchy history	Y There is strong potential for expanding scope of measures to address more ecosystem services
	Survey	Y Biodiversity offsetting is currently implemented, though has a patchy history	Y There is strong potential for expanding scope of measures to address more ecosystem services
	Assess	Y Biodiversity offsetting is currently implemented, though has a patchy history	Y There is strong potential for expanding scope of measures to address more ecosystem services
	Policy / decision	Y Biodiversity offsetting is currently implemented, though has a patchy history	Y There is strong potential for expanding scope of measures to address more ecosystem services
	Implement	Y Biodiversity offsetting is currently implemented, though has a patchy history	Y There is strong potential for expanding scope of measures to address more ecosystem services
	Evaluate	Y Biodiversity offsetting is currently implemented, though has a patchy history	Y There is strong potential for expanding scope of measures to address more ecosystem services

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Please add any further comments here:		
	Author & Date	Title Vol pages	Web link (if available)
	The Environment Bank. (2012)	Biodiversity Offsetting: A general guide.	www.environmentbank.com/docs
The Environment Bank. (2012)	Biodiversity Offsetting: A new income stream for landowners	www.environmentbank.com/docs	

Task 4: Your experience of working on the tool		
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	I have had no direct experience implementing biodiversity offsetting, though have been involved in policy-level discussions prior to publication of the Natural Environment White Paper about opportunities to embed a wider ecosystem services perspective into the approach.	
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.	
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)		
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	As indicated in the preamble, this is more about potential than current practice which is largely focussed just on favoured species and habitats.	
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	In theory, the ecosystem services framework could form a wider basis for biodiversity offsetting.	
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews		
Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach?
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Discussions around what it would take to offset for a wider range ecosystem services would have strong pedagogic value
2. Capacity of the tool to develop shared understandings of the many identities and values of	Getting people together to agree on offsetting for a wider range ecosystem services would have strong pedagogic value, linking up societal sectors	

	places from the perspectives of multiple visitors, residents and businesses	
3.	Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Getting people together to consider offsetting for a wider range ecosystem services would have strong pedagogic value, linking up different constituencies of people
Learning from experience/pedagogy		
4.	Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Getting people together to so consider offsetting for a wider range ecosystem services would help reveal overlooked values and the often overlooked value systems of different people, also adding resilience to habitat mitigated for species loss in development
5.	Extent to which tool is building on other tools or EA/ES progress	Biodiversity offsetting is an established tool not only in the UK but also the US and elsewhere, into which the ecosystem approach could be integrated
6.	Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	As noted above, this is an established tool into which the ecosystem approach could be integrated
7.	Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	This tool can be developed on a context-specific basis, though it is important to ensure 'like for like' mitigation
Developing and selecting tools		
8.	Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Most likely the tool would be applied as mitigation for a planned development, and so funded by development proponents
9.	Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	There is as yet a paucity of knowledge about how to mitigate for a range of ecosystem services
10.	Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	NPPF, Natural Environment White Paper, EU Habitats Directive and UK implementation, etc.
Informing resultant policies effectively		
11.	Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and	Planning for mitigation of a wider range of ecosystem services could be a useful screening mechanism to ensure better targeting of policies and decisions

environment impacts / trade-offs?)	
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Offsetting is inherently linked to the planning system: extending its reach from 'biodiversity' alone to a wider suite of ecosystem services could add to the value of outcomes
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Management of the mitigated site would be important to ensure that desired biodiversity and service outcomes are achieved
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Biodiversity offsetting, expanded to address more desired ecosystem services, could help inform risks and required outcomes of planning and the siting of contentious developments
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Public engagement in planning for offsets, including identification of where habitat should not be surrendered to development, could promote community governance
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	An increased sense of habitats important for supporting species but also for providing desired services could better inform the finite nature of important habitats and the flows between service production and its many societal benefits
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	An ecosystem services perspective of the function of habitats, including supporting desired wildlife, can help better target development sympathetic with habitat functions
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	A cross-sectoral view of what habitat is important for a range of societal values will promote cross-sectoral understanding and working
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	We have an incomplete knowledge of how some services are produced, so this data gap may be critical; a precautionary approach should be taken before deciding that mitigation is feasible
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The functional value of habitat for a range of societal benefits should promote awareness of the value of some landscapes and other natural resources

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified	Strengths <i>(of the tool in delivering intended outcomes)</i> <ul style="list-style-type: none"> An already established approach, though with some difficulties Amenable to expansion to address a wider range of societal benefits from natural systems Can form the basis of consensus-building about optimal siting of development Can form the basis for agreeing on important habitat for a range of societal benefits 											
	Weaknesses <i>(factors that detract from the tool's ability to deliver intended outcomes)</i> <ul style="list-style-type: none"> Can be blinkered to desirable species only It is not always easy to ensure 'like for like' mitigation 											
	Opportunities <i>(consider opportunities for application of the ecosystem approach and services)</i> <ul style="list-style-type: none"> Can be linked with the ecosystem services framework 											
	Threats <i>(factors which negatively affect the tool and its outcomes)</i> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr style="background-color: #e0f2f7;"> <th style="padding: 5px;">Threat</th> <th style="padding: 5px;">Seriousness (high, medium, low)</th> <th style="padding: 5px;">Probability of occurrence (high, medium, low)</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Risks capture by those with narrow service interests</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Medium</td> </tr> <tr> <td style="padding: 5px;">May marginalise non-designated species and historically-overlooked services</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Medium</td> </tr> </tbody> </table>			Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)	Risks capture by those with narrow service interests	High	Medium	May marginalise non-designated species and historically-overlooked services	High	Medium
	Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)									
Risks capture by those with narrow service interests	High	Medium										
May marginalise non-designated species and historically-overlooked services	High	Medium										
Please add further comments here:												
Guidance	<i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i>											
Further comments												

TAX INCREMENTAL FINANCING (Incentives)

TABLES Project 2012: Mini reviews	
Task 1: Basic information	
Name of the tool	Tax Incremental Financing
Type of tool (list all that apply)	Regulatory, Mapping, Valuation, Engagement
Group members	1. Alister Scott
Please provide a brief synopsis of the tool	<p>Tax Incremental Financing (TIF) is a tool for using anticipated future increases in tax revenues to finance current improvements particularly infrastructure. The overarching goal of TIF is to support and guide increasingly limited public finances available for assisting regeneration and helping to lever in additional private sector capital. Whilst they are relatively new and untested in the UK, they have played a significant role in the USA as a key component of the contemporary institutional architecture for regeneration (Squires, 2012).</p> <p>TIF enables a local authority to trade anticipated future tax income for a present benefit. TIF works on the principle that the supply of new or improved infrastructure usually leads both to new development and to an increase in the value of surrounding property, both of which serve to increase the level of property taxation in the area (Brueckner, 2001). Within a designated TIF district, this anticipated increased taxation (tax increment) is captured and used to payback the infrastructure that has been provided for via front-loaded finance. In most cases this takes the form of a bond to the Local Authority.</p> <p>Financing debt issued to pay for a project by utilising increased tax revenues is a long term and speculative venture taking up to 20-25 years, but in some cases the timeframe can be much shorter (BPF, 2008). Adoption of this policy by the UK coalition government has been considered for some time, and it is has been stated that TIF borrowing can fund key infrastructure and other capital projects, which will support locally driven economic development and growth' (HM Treasury, 2011).</p> <p>TIF can offer a potential solution for regeneration projects which depend on the delivery of infrastructure for which funding cannot be found from other, public or private, sources. This becomes particularly important in areas that are suffering blight or deprivation with the concomitant lack of investment (Skidmore and Kashian, 2010; Squires and Lord, 2012).</p> <p>The Scottish Government have announced six TIF pilot projects in Scotland with strict criteria as to their use.</p> <ul style="list-style-type: none"> • the enabling infrastructure will unlock regeneration and sustainable economic growth; • it will generate additional (or incremental) public sector revenues (net of a displacement effect); and • It is capable of repaying, over an agreed timescale, the financing requirements of the enabling infrastructure from the incremental revenues. <p>It is noteworthy that a high profile TIF scheme for a city garden scheme for Aberdeen was</p>

recently defeated by one vote in a planning meeting. This was a regeneration proposal
Five projects as part of a wider City Centre Regeneration Scheme (CCRS);

1. St Nicholas House redevelopment
2. City Circle Pedestrian Route (a pedestrian walking route around the city centre)
3. Upper Denburn redevelopment
4. Art Gallery redevelopment
5. The City Garden project

Investment totalling £182 million comprising;

- £70 million of private sector investment for the City Garden Project
- £20 million of non-council funding for the Art Gallery redevelopment
- £92 million investment from the City Council, using public loan funds

An investment programme that will help; stimulate further city centre regeneration and create a vibrant and modern city centre that will help to attract future new business investment and retain existing businesses

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y*	Y*
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y*	Y*
	Implement	Indirectly	
	Evaluate	Indirectly	Y*

Task 3: Existing literature about the tool

<p>Are you aware of any KEY policy and / or academic literature evaluating your tool?</p>	<p>There is a strong focus on US literature on TIFS but there are increasing papers in the UK context which are examining their transferability to the UK situation. Squires (2012) is a key researcher in this area.</p> <p>Aberdeen City Council Aberdeen garden TIF project presentation. http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?IID=43006&SID=15955 accessed 27 November 2012</p> <p>BPF (British Property Federation) (2008) <i>Tax Increment Financing: A New Tool for Funding Regeneration in the UK?</i> British Property Federation</p> <p>Brueckner, J. (2001), 'Tax increment financing: A theoretical inquiry', <i>Journal of Public Economics</i>, Vol. 81, No. 2, pp. 321–343.</p> <p>Scottish Futures Trust (2011), 'Tax incremental financing in Scotland', SFT, Edinburgh, available at http://www.scottishfuturestust.org.uk/publications/tax_incremental_financing accessed 20th November 2012.</p> <p>Squires, G. and Lord, A. (2012). 'The transfer of Tax Increment Financing (TIF) as an urban policy for spatially targeted economic development initiatives' in <i>Land Use Policy</i>, Vol. 29, No. 4, pp. 817-826</p> <p>Squires, G. (2012). 'A Review of Tax Increment Financing (TIF) for Regeneration and Renewal' in <i>Journal of Urban Regeneration and Renewal</i>, Vol. 5, No. 4, pp. 356-366</p> <p>Weber, R., Bhatta, S. and Merriman, D. (2007), Spillovers from tax increment financing districts: implications for housing price appreciation, <i>Regional Science and Urban Economics</i>, Vol. 37, No. 2, pp. 259–281</p>
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Task 4: Your experience of working on the tool

<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?</p>	<p>None</p> <p>I have read material to support lectures in this area.</p>
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Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p>	<p>This tool is new and ES/EA has not explicitly covered this aspect.</p>
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>This tool has significant potential under the guide of localism and regeneration projects (Squires (2012)). Given that the areas most likely to use TIF are those in deprived areas it offers a tool that deals explicitly with distributional aspects and has potential; to ensure that regeneration also enhances the ecosystem services as part of the necessary wider ingredients for regeneration theory. This forms a key area within the ecosystem approach and wider sustainability discourses and addresses a fundamental weakness of current ecosystem services framework which do not equity.</p> <p>The Aberdeen City project illustrated how significant ecosystem services would have benefited from the investment as part of a wider park development. http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?IID=43006&SID=15955</p>

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i></p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>Somewhat – If the environmental assets can be built into the regeneration scheme then this could be a major consideration. Ideally to be used in conjunction with an asset check tool.</p>
	<p>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses</p>	<p>Somewhat –The tIF is about regeneration and would depend on a shared vision for said regeneration in line with community views and aspirations. There is a key link here in attracting visitors and further investment as a result of intervention.</p>
	<p>3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem</p>	<p>Depends This lies outside the remit of the tool itself and depends on the engagement processes utilised.</p>
	<p>Learning from experience/pedagogy</p>	
	<p>4. Capacity of the tool to help reveal and value ‘hidden’ assets that are not recognised by communities or publics that use them</p>	<p>Yes – The tool addresses areas that are lacking investment and as such allows investment into an area based on realising and enhancing hidden assets or developing new ones.</p>
<p>5. Extent to which tool is building</p>	<p>Somewhat It is new tool but can build on</p>	

	on other tools or EA/ES progress	neighbourhood plans (asset checks) and other aspects of Big Society discourse (Squires, 2012)
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Yes – US evidence shows that TIFS can be locally differentiated. Local variation and distributional effects are a key consideration (Werner et al 2003).
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes – the criteria for TIF selection and defining a district area will vary and have been shown to vary across the US. There is clear evidence of different approaches in England and Scotland.(Scottish Futures Trust, 2011)
Developing and selecting tools		
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Yes –TIFS are dependent on the forecasted increase in business rates following the development and as such are seen by some as inherently risky ventures. This has led to some notable refusals at Committee such as the Aberdeen City Garden project.
	9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Somewhat – TIFS need skills in business and economics to ensure costs and revenues are accurately predicted and that the development is not merely displaced from other areas (as in the case of Enterprise Zones in the 1980s). Danger of poorly designed schemes a major worry (Squires and Lord, 2012). There is also a risk that transplanting the US version into the UK context might be problematic.
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Yes – there is a hook into the localism agenda and DCLG (2013) and Scottish government (2012) are introducing them as innovative market mechanisms to tackle deprivation. . Government buy in at a time of austerity is important in raising the profile of these tools.
Informing resultant policies effectively		
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Yes – TIF does help implement regeneration proposals. There is an issue over the extent to which economic growth predominates here at the expense e of wider environmental and social benefits that are increasingly recognised as vital for successful regeneration.
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Somewhat – It will be part of a wider regeneration plan.
Delivering management objectives		
	13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Limited- TIF may have a role to play in some deprived peri urban environments such as to inject money for mountain bike trail developments for example.

Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Limited although it will have a role to play in identifying major regeneration schemes in areas that would normally not get go ahead. -
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Limited. However there may be scope and value in third parties undertaking their own impact assessments.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Limited - The core analytical stages of the TIF (on costs and benefits and impact of alternatives) could be based on a comprehensive understanding of economic, social and natural environmental processes..
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Yes –The TIF would look across the impacts (costs and benefits) specific TIF area and impacts on surrounding areas.
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	Limited
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Yes - The TIF deals with future uncertainty explicitly in terms of predicting future return on investment. Good quality financial data is important to provide an adequate baseline and understanding of the impacts – based on qualitative and quantitative data sources.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Limited Most TIFs have an urban focus but there is no reason why they can't be developed as part of wider rural development schemes.
Key concerns as expressed by Squires 2012 for developing TIFS	
<ol style="list-style-type: none"> 1. Does the development address 'blight' and deprivation? 2. Would the development not be redeveloped 'but for' the use of TIF? 3. Have all costs and benefits (private and public) been considered? 4. Has TIF designation considered speculation, displacement, stigma or crowding out of private investors? 5. Is the TIF likely to allow a capture of revenues from overlapping taxing jurisdictions? 6. Has the TIF been selected mainly on the grounds of an area having fast-growth? 7. Does the TIF detrimentally cost (or significantly benefit) other areas outside the TIF, or produce a net zero-sum gain for areas inside and outside the TIF district? 8. Have all stakeholders been considered in negotiation of the TIF, such as the interests of developers, local authority officials, and neighbourhood groups? Is there a collective will to make the project work? 9. Have increased service needs not funded by TIF been included (eg schools)? 10. Is there transparency of gains from unelected and thus publicly unaccountable stakeholders gaining from publicly-financed projects (eg commercial developers)? 11. How complex, costly and time-consuming will it be to implement, monitor and control the TIF funded project? 	

12. Is there a need to ring-fence the capture of tax in the TIF agreement to protect the revenue streams of business rates uplift?
13. Is the upfront finance available for a TIF project while keeping national debt at a reasonable level?
14. Is the use of TIF appropriate given the necessary tools and guidance?
15. Has the sector mix and land-use focus been considered in the TIF district; is there opportunity to make other tax gains (eg residential)?
16. Has an appraisal, assessment, and evaluation been considered — particularly to ensure the TIF project is viable? (eg is the future uplift projection accurate)
17. Is the finance prudential given the risks involved in the TIF project?

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths *(of the tool in delivering intended outcomes)*

- Tool works to level investment in deprived districts and therefore adds value to regeneration efforts.
- Tool has had significant success in the US and as such we can learn from that experience.
- TIFs address equity issues
- TIS can help to improve ecosystem services deficits
- TIFS allow front loaded investment

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- TIFs are inherently risky ventures due to future uncertainties
- Translating a US tool to the UK situation is problematic given the different institutional contexts.
- Reliance on future taxable incomes may not fulfil predictions.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- Risk based approach inherent in TIF lends itself to an ecosystem services assessment.
- Role of improving quality of ecosystem services in deprived areas will bring significant benefits in terms of health and quality of life.
- Important opportunities for community identity and agendas being realised.

Threats *(factors which negatively affect the tool and its outcomes)*

	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The use of ecosystem services language may not resonate with stakeholders.	Medium	Medium
The complexity of ecosystem services may add to already complex process	Medium	High
Doing more comprehensive ecosystem services assessment is potentially very resource intensive. Needs to be linked in with asset checks as part of development plan or neighbourhood plan process .	High	High
Ecosystem services may not be relevant to all TIFS or all institutional contexts	Low	High

	Valuation of ecosystem services does not necessarily fit with how decisions are made about spatial planning – which is much more about balancing a wide range of factors, not a cost, benefit calculation.	Medium	Low	
Further comments				

VISITOR PAYBACK (Incentives)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Visitor payback
Type of tool (list all that apply)	Learning, participatory, voluntary, financial
Group members	1. Alister Scott
Please provide a brief synopsis of the tool	<p>Visitor Payback (VP) involves the <i>voluntary</i> process of visitors choosing to give money (or other help) to assist in the conservation or management of places they visit. A variety of techniques can be used in the pursuit of VP (donations, opt out/opt in, merchandising, membership, participation, fundraising, sponsorship and loyalty cards).</p> <p>VP is therefore an entirely voluntary payment that directly connects the visitor to conservation projects in that area, thereby heightening their own tourist experience (Jackson, 2001; Warren, 2001). The package of measures also has an important aspect of social learning through participation of businesses and enterprise in the scheme and allows important messages about the environment, sustainability and environmental benefits to be promoted.</p> <p>VP differs significantly from the compulsory tourist or bed tax practised in other countries. Attention has recently focused on this technique as a means to supplement the limited funds available for conservation work. However, whilst there are several schemes operating in the UK, there is a dearth of published research that has critically reviewed the concept and operationalization of VP. In what research there is (e.g. Scott et al., 2003), the findings reveal that VP is a complex concept to evaluate, both in theory and practice, involving a range of benefits and disbenefits. Financial benefits appear less prevalent than the more esoteric 'feel good' factor, increased awareness about conservation and partnerships that are evident in payback schemes. Support for VP varies considerably with visitors strongly receptive, whilst the tourism business interests are more cautious.</p> <p>It appears that the lack of significant income, together with high administration costs militates against the wider adoption of such schemes across the UK. By a more tangible expression of the environmental, educational and quality of life benefits from such schemes there is considerable potential to increase the spread of these schemes.</p>

Task 2: Use of the tool

Stage	Currently used	Could be used
Ideas		
Survey		
Assess		
Policy / decision	Y	
Implement	Y	
Evaluate	Y	

Please add any further comments here: This is somewhat difficult to answer. VP does not help decisions or policy per se: it helps promote better understanding and raises income for certain conservation projects. Therefore, it tends to be more about delivering environmental benefits and can therefore exist outside the policy decision making model. This flexibility is perhaps important.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

Chapman, C. (2008) visitor payback development and implementing effective schemes, *Tourism Insights*
<http://www.insights.org.uk/articleitem.aspx?title=Visitor%20Payback%20%E2%80%93%20Developing%20and%20Implementing%20Effective%20Schemes> accessed 21/09/12

Denman, R. & Ashcroft, P. (1997) *Visitor Payback; Encouraging Tourists to Give Money Voluntarily to Conserve the Places They Visit* (Ledbury, Tourism Company).

EETB (2000) *Visitor Payback in the East of England*. Summary report (Hadleigh, East England Tourist Board).

Exmoor Paths Partnership (2001) *A Paths Improvement Scheme with Tourism Support* [_http://www.exmoor-nationalpark.gov.uk/Projects/EPP/epp.htm](http://www.exmoor-nationalpark.gov.uk/Projects/EPP/epp.htm)_15 October 2001, accessed 16 December 2001.

Friends of the Ionian (2002) [_http://www.foi.org.uk/](http://www.foi.org.uk/)_accessed 11 July 2002.

Island 2000 Trust (2012) *Gift to Nature*, <http://www.gifttonature.org.uk/>

Lake District Tourism and Conservation Partnership (2000) *Case Studies* (Lake District, Cumbria).

Scott, A.J. & Christie, M. (2002) *Charging for Conservation: Visitor Payback*. Report submitted to the Countryside Council for Wales (Bangor, Countryside Council for Wales).

Tarka Project (2001) *Visitor payback project*. [_http://www.tarka-country.co.uk/tarkaproject/contents.html](http://www.tarka-country.co.uk/tarkaproject/contents.html)_accessed 1 December 2001.

Warren, N. (2001) Visitor payback, looking at the realities behind the success stories, *Countryside Recreation*, 9(2), pp. 4–7.

Visit England (2012) developing a visitor payback scheme
<http://www.visitengland.org/england-tourism-industry/DestinationManagerToolkit/Destinationdevelopment/2ESettingupaVisitorPaybackScheme.aspx?title=2E:%20Setting%20up%20a%20Visitor%20Payback%20Scheme>

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development,

I led a CCW project on developing a VP scheme in 2002. We conducted interviews with a range of existing schemes and focus groups with businesses and visitors to examine the potential and develop a tool kit.

Our results highlighted the need to invest in schemes and build effective partnerships; many were predicated on one of funding sources which threaten long term resilience. It

<p>testing and/or evaluation?</p>	<p>was clear that the feel good issues from participation and education aspects from both visitor and business aspects were consistently underestimated by policy makers where income potential was seen as the be all and end all.</p> <p>Other findings pointed to caution with the over commercialisation of the countryside and to ensure that any VP projects were distinct and secured long term commitment. There was a clear perception that these schemes might be a short cut to address shrinking budgets in conservation which are largely funded by the public purse anyway. Hence there was a need to identify projects that would not necessarily qualify for statutory funding from the organisations.</p>	
<p>Guidance</p>	<p>For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.</p>	
<p>Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES) <i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i></p>		
<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p>	<p>At present the use of ES and EA explicitly in the schemes is limited. Current schemes make reference to environmental benefits etc. but actually fail to accurately assess all the benefits in line with ES thinking.</p>	
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>There is an opportunity to carry out ES assessments of existing VP schemes and quantify and qualify the benefits they currently deliver as a baseline in order to proceed. In some cases a time series might be feasible (e.g. Lake District and Isle of Wight).</p> <p>New schemes could be designed using the ecosystem approach and linked with the notion of Payments for Ecosystem Services. In this way visitors are paying voluntarily for the maintenance and enhancement of particular ecosystem services which are valued by businesses, conservation organisations and visitors. The results of ecosystem assessments could then be used to prioritise the schemes for investment in a way that goes beyond the populist or “furry animal” approach. As such they would need to be highly visible in order not to get lost in the funding schemes that exist. Moreover, they need to present additionality rather than simply subsidise the lack of investment in conservation. BCU have their own funding to develop a VP scheme using Payments for Ecosystem Services.</p> <p>There is potential to use new technology including mobile applications, or ‘apps’, to help improve visitors experience and understanding of the ecosystem services in a particular area. Linked to this a payment can be made to benefit a particular project. This forms part of a current DEFRA pilot.</p>	
<p>Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews</p>		
<p>Explain how the tool can be situated</p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? If yes, please explain how.</p>
<p>Language and communication</p>		

within the priority questions/criteria that arose in the scoping interviews	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Very strong: the philosophy of VP is a perfect match for ecosystem approach. The core components of partnership, inclusion, support and learning provide a fertile agenda for development.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	This is a very strong component. The identification and development of a project in partnership and the involvement of publics helps generate improved understanding about value of environmental assets. Hence it is a perfect tool for promoting EA and ES.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Another main strength of the tool: the engagement via visitors and businesses does offer a new way to engage across unusual suspects.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	This has massive potential as some features that are real value are not always appreciated by wider publics particularly their multiple functions. Black Country Geopark and the Cotswold /High Weald AONBs provide potential examples here.
	5. Extent to which tool is building on other tools or EA/ES progress	The potential for VP incorporating ES/EA links well with progress made from PES.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	VP is suitable for an open source approach. The key phases of selecting the project and providing information beyond the initial experience.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	VP has clear guidelines but its beauty is its ability to be adapted to the particular culture. It is used Europe-wide with much success.
	Developing and selecting tools	
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	It varies: most of the development of VP schemes originates from one off grants. Key issue is lack of funding for continuity. It is no longer innovative so raises real issue of how to secure admin funding. Needs to be embedded in delivery of tourism, conservation and economic policy. Currently only pursued in one silo. LEPs funding recently announced or the regional growth scheme offer good routes for funding.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the	VP is poorly understood in policy and practice. The focus on financial outcomes tend to mask the potential; for strong partnerships that can help deliver joined up conservation and economic development	

	optimal and correct use of it?	programmes. Training is required to see the big opportunities for public buy in here.
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The benefit of VP is that it is voluntary.
Informing resultant policies effectively		
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	The tool helps develop peoples understanding and benefits of a particular environmental project. The tools is flexible and can take many forms.
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	It does not.
Delivering management objectives		
	13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Huge. This is the raison d'être of the tool. It helps visitors appreciate their impact and may well be a behavioural change tool. However this will take time and research has not measured the effectiveness of schemes in any real detail.
Local ownership/new governance		
	14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	The tool helps promote wider public involvement if developed using principles of good practice. Assists both on the point of the businesses who work with the project and also the visitors who participate. It should form an essential component of management plans where possible.
	15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	This may occur if the community actually takes ownership of the VP scheme.
Improved tools: understanding flows, interconnections and spatial issues		
	16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Depending on the project the information associated with the scheme can help to do this. However visitors do not want information overload. Nevertheless, understanding the habitat requirements for red kites or otters (Tarka trail VP) or red squirrels Isle of Wight VP) or erosion on Helvellyn (Lake District VP) helps to illustrate the interrelationships that go beyond the site itself.
	17. Capacity of the tool to reconcile assessments of options and	The VP scheme can do this but it does vary.

	benefits across different scales (and sectors)	
	18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	It is flexible to work across boundaries and this is important when looking at tourism catchments. .
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	This is not a major limitation. However some VP schemes can actually use visitors or locals to collect information and evidence. Not all VP schemes are based on financial aspects.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Very High: the whole purpose of VP is to promote social learning about particular environmental assets. However there is a risk that over commercialisation of a popular tourist area may lead to resentment at the over commercialisation of the countryside.
<i>Please add any further comments here:</i>		

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Strengths (*of the tool in delivering intended outcomes*)

- Promotes partnerships across business, environment and visitors in a way that crosses usual boundaries.
- Promotes wider learning and understanding related to a particular VP project.
- Involves unusual suspects
- Flexibility to select most appropriate combination of tools to suit local opportunities.
- Potential tool that delivers multiple benefits.

Weaknesses (*factors that detract from the tool's ability to deliver intended outcomes*)

- The name or term implies something negative (I personally prefer the term 'visitor investment scheme').
- Seen as a tool to generate extra financial income.
- Development of schemes reliant on one off grant aid with little funding to support long term viability of scheme.
- Public see some VP seen as cheap and tacky.
- High administration costs to deliver good schemes.
- Businesses are sometimes reluctant to get involved.

Opportunities (*consider opportunities for application of the ecosystem approach and services*)

- Promote as visitor investment scheme not VP in order to improve the way the public see the scheme. Payback implies visitors cause damage and tit is compensation when in fact it is far more about people investing in an area perhaps to return.
- Carry out ecosystem service assessments on existing schemes.
- Could carry out ES assessments of potential schemes to identify priority projects
- Use new technology and apps to help improve visitors experience and understanding of the ecosystem services in a particular area
- Promote more interdisciplinary initiatives that develop VP in key areas across

sectors and scales: e.g. Black Country, Cotswolds and High Weald as part of the TABLES projects. Role of LEPS is seen as important here in England.

Threats (*factors which negatively affect the tool and its outcomes*)

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Economic development pursued at any cost	High	High
High costs of administration jeopardise maintenance of schemes	High	High
Statutory functions of businesses means that these more voluntary initiatives fall by the wayside	Medium	Medium
Public resent over commercialisation of countryside projects if VP schemes are over applied in particular areas.		
Lack of buy in from businesses who are under pressure.		
Imposition of tourism tax.		

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

Common factors

- The negative perception of the term “visitor payback” with support for its re-badging as “visitor investment”.
- The importance of the “feel good factor” to encourage visitors to donate.
- The need for clear aims and objectives and effective information in a visitor payback project.
- The need to have a meaningful partnership between the tourism industry, environmentalists and visitors.
- The need to channel visitor donations directly into conservation projects without incurring unnecessary administrative costs.
- The need to develop sustainable payback projects.
- The need for a lead organisation that can command legitimacy and public support.

Distinctive factors

- Clear differences in perception of preferred visitor payback techniques from visitors (donations and opt in /opt out) and businesses (merchandising, membership) focus groups.
- Significant polarisation between the case studies and focus groups in terms of the needs for administration and management costs (case studies: high; focus groups low).
- Reluctance among tourist business interests to support visitor payback concept because of increased price and tax concerns which might limit competitiveness.
- Willingness amongst visitors to participate in visitor payback schemes.

Opportunities for developing visitor investment (payback) schemes

- To replace 'visitor payback' with 'visitor investment'.
- To develop and pilot test schemes that are simple yet attractive to industry and the visitor.
- To increase awareness amongst visitors and businesses of the need for conservation.
- To investigate the potential of opt in/opt out schemes (preferred visitor focus group mechanisms) as a legitimate strategy for businesses.
- To alert businesses to the financial and PR advantages of being associated with environmental initiatives.
- To alert all participating interests of the concept of additionality in visitor payback schemes.

Barriers to developing visitor payback scheme in Wales

- Visitor payback does not provide a means of making income or delivering substantive conservation projects.
- The reluctance of tourists to take up of visitor payback schemes (particularly among small tourist businesses).
- The lack of research on visitor willingness to pay on different visitor payback schemes.
- The potential over commercialisation of the countryside, possibly leading to a public backlash particularly where significant cumulative impact of visitor payback schemes occurs.
- Securing funding to accommodate the administrative requirements to manage a successful scheme.

Table 2. Case study analyses of selected visitor payback schemes

Scheme	Aims	Techniques	Projects	Resources	Lessons learnt
<i>Island 2000 Trust</i> Independent, self-financing, not-for-profit company	<ul style="list-style-type: none"> To act as a catalyst, promoting new ideas and approaches. To document and disseminate the lessons learned. To build partnerships. 	<ul style="list-style-type: none"> Collection envelopes and boxes. Only 4 opt out levies (ferries). 	Lizard Wall Red squirrel hide.	<ul style="list-style-type: none"> 1 project officer half funded by Isle of Wight Tourism. 65 businesses participating. GRANTS Interreg 2000 £10 000 Countryside Agency £7000 	<ul style="list-style-type: none"> Start small. Identify a clear and attractive project. Create the necessary human infrastructure to manage the project and maintain momentum. Make the scheme easy for businesses. Build up tourism contacts. Do not undertake ambitious projects. Do not base success on financial aspects alone.
<i>Lake District Tourism and Conservation Partnership</i> Non-profit distributing company limited by guarantee.	<ul style="list-style-type: none"> Raising Funds. Promoting awareness of sustainable tourism. Maintain an effective non-political forum, between business, conservation and amenity. Secure improvements to the Lake District environment. 	<ul style="list-style-type: none"> Opt in/Opt out (4 businesses attracting 80% all donations). Donation boxes (smaller businesses only). 	<p>Examples include:</p> <ul style="list-style-type: none"> Our man at the top £13 000 p.a. Heart of the Lakes £8000 p.a. 	<ul style="list-style-type: none"> Heritage Lottery £6000 2 full-time project officers. £50 000 core funding. 100 businesses participating. membership fee given by all businesses (size rated). 15% of all visitor donations taken off. 2000 £73 000 raised for projects. 	<ul style="list-style-type: none"> Success is not measured by money raised. Establishing a visitor payback scheme requires significant investment. Scheme needs to be hassle free for business and visitors. Start small and build slowly. Build a successful dialogue with industry. The scheme must be professional.
<i>Kite Country</i> EU funded project as part of the Festival of the Countryside	<ul style="list-style-type: none"> To encourage visitors to come to Mid Wales and discover more about the Red Kite and other wildlife. 	<ul style="list-style-type: none"> Merchandising (video and booklet). 	Kite Country Video (£1 to project) and booklet (50p to project).	<ul style="list-style-type: none"> £235 000 Welsh Office funding to form phase 2, the marketing of Kite Country. Visitor payback used from within this budget. Raised £3000 through sales and increased visitor numbers by 250 000. 	<ul style="list-style-type: none"> Merchandising is straightforward and hassle free. No significant administration or staff needed. Visitors are prepared to donate to conservation causes. Good quality products are vital.
<i>Friends of the Ionian</i> Non-profit organization founded in the UK but operating in Greece	<ul style="list-style-type: none"> Attract visitor donations to fund conservation causes. Make potential donors more sensitive to conservation issues on the island. 	<ul style="list-style-type: none"> Web site. membership + Discount cards. Donations. Merchandising. 	<ul style="list-style-type: none"> Restoration of historic fort Conservation of lagoon. 	<ul style="list-style-type: none"> Uses web membership at £12. Guided walks. Self-guided walks. 7000 written enquiries. 30 self-guided trails. 20 UK tour operators. 	<ul style="list-style-type: none"> Do not evaluate success in financial terms. Importance of participation from all interests. Respect local cultures and traditions. Projects must support valued sites/issues. People are an effective interpretation tool. Operators need simple schemes with returns.

COMMUNITY INFRASTRUCTURE LEVY (Regulatory)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Community Infrastructure Levy (CIL)
Type of tool (list all that apply)	Regulatory, collaborative, decision, financial, valuation.
Group members	<ol style="list-style-type: none"> 1. Michael Brereton 2. Alister Scott
Please provide a brief synopsis of the tool	<p>The Community Infrastructure Levy (CIL) came into force under the Community Infrastructure Levy Regulations 2010 and is an optional mechanism to allow authorities (Charging Authorities) to charge most forms of new development to obtain funds towards infrastructure. The Planning Act 2008 defines 'infrastructure' as schools and other educational facilities, medical facilities, roads and other transport facilities, sporting and recreational facilities, flood defences and open spaces and the National Planning Policy Framework (NPPF) goes further to include water supply, wastewater, coastal change management, security, community and cultural infrastructure and other local facilities, telecommunications, waste management and the provision of minerals and energy. The expansion of areas defined by the NPPF as 'infrastructure' indicates that there is potential to seek funds towards wider environmental infrastructure that fall within ecosystem services, for example water supply and minerals. This wider inclusion of environmental infrastructure supports the government's view that the provision of infrastructure and services for new development is an essential principle of sustainable development and continued provision of water supply is a good example of an ecosystem service that is key to sustainable development.</p> <p>Once an authority has adopted a CIL Charging Schedule, CIL funds that are collected can be used for any project or infrastructure type on an authority's published list (as per Regulation 123 of the CIL Regulations). This provides authorities with flexibility in applying CIL funds towards local infrastructure that the authority deems necessary.</p> <p>However, there are currently only 6 authorities in England with adopted CIL Charging Schedules and a further 15 out of 24 authorities with draft charging schedules have had to reduce initial proposed CIL rates. Recent research that I have undertaken also indicates that CIL will be set at a low rate to begin with and will not be able to fund all forms of infrastructure, particularly in former industrial areas such as the West Midlands due to lower land values and higher than normal remediation costs due to land contamination that affect the viability of development in these areas. Whilst CIL will continue to provide funds towards open space, a form of recreation (Cultural Services category of ecosystem services), competing infrastructure types in areas with low CIL rates is likely to mean there</p>

is little scope to collect CIL income towards other ecosystem services.

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y On working up a CIL Charging Schedule authorities will establish potential infrastructure that will be funded by CIL income.	Y Ecosystems services could be included as types of infrastructure towards which funds are collected, but this is likely to be in areas like the South of England with the ability to collect higher CIL rates.
	Survey	Y Public and stakeholder engagement takes place to ensure CIL rates are set at a level so not to affect viability or deliverability of developments.	Y Engagement could include organisations involved in ecosystem services.
	Assess	Y and N It is for authorities to decide what forms of infrastructure are funded by CIL, but rates proposed in a CIL Charging Schedule have to go through an independent examination.	Y Where evidence can be provided and where it is appropriate to seek funds towards ecosystem services, this could be assessed by a charging authority and considered for inclusion with a CIL Charging Schedule.
	Policy / decision	Y Adopted CIL Charging schedules form part of the decision making process for development proposals.	
	Implement	Y CIL rates are normally payable upon issuing of decision notice. There is no mechanism to return received CIL income and no end date for expenditure.	
	Evaluate	Y Authorities are likely to need to review CIL Charges fairly regularly to ensure that they reflect any changes in land values and economic circumstances.	N In my view, CIL needs to provide some level of flexibility to react quickly to changes in the market. For example, any increase in land values or developers

	However, changes to CIL Charging Schedules can only currently be done through further independent examinations.	profit margins should be reflected in higher CIL rates which could then provide funds towards a wider range of infrastructure such as ecosystems services where necessary.
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Please add any further comments here: It may be appropriate in some cases to seek protection of ecosystem services that could be impacted by new development through the use of Planning Obligations (Section 106) or through related development agreements such as Section 278 (Highways Act) rather than seeking funds through CIL.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

(e.g. reports, journal articles, books)

Author & Date	Title Vol pages	Web link (if available)
UK Parliament	The Community Infrastructure Levy Regulations 2010	http://www.legislation.gov.uk/ukdsi/2010/9780111492390/contents
Heather Campbell, Hugh Ellis, John Henneberry (2002)	Planning obligations, planning practice, and land-use outcomes. Environment and Planning B: Planning and Design 2000, volume 27, pages 759 – 775.	
Lord, Alex (2009)	'The Community Infrastructure Levy: An Information Economics Approach to Understanding Infrastructure Provision under England's Reformed Spatial Planning System', Planning Theory & Practice, 10: 3, 333 – 349.	

Please add any further comments here:

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

The use of CIL in the English planning system was the focus of my research paper for MA Spatial Planning. I am also responsible for CIL in my own authority. This research used a mixed methods approach to provide a rounded conclusion. The research found that some areas of England will benefit from a higher income from CIL such as the South East of England, in contrast to other areas such as Walsall and Dudley in the West Midlands. Income from CIL is unlikely to bridge the gap in funding. A downturn in the economy directly affects viability of residential development and the level of contributions that can be sought and CIL is not currently flexible enough to take account of market changes.

Guidance

For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples

It is difficult to provide examples at such an early stage, with only 5 authorities with

(from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	adopted CIL Charging Schedules. However, in my opinion it is unlikely that CIL will be a widely used tool to collect funds towards most ecosystem services because other existing competing infrastructure types such as education facilities, highways, open space (and potentially affordable housing) will be funded through CIL, leaving little or no spare income for other infrastructure types. This may improve though in areas like the South East of England with the ability to charge higher CIL rates.
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	If infrastructure of national importance such as affordable housing and education facilities were funded by the State this would mean authorities could collect CIL rates towards the local infrastructure that is needed, which could include ecosystem services. There is a significant opportunity if people have a better appreciation of the ecosystem services delivered by certain environmental assets. Equally the planning officers are largely developing schemes in complete ignorance of the Ecosystem Approach which represents a significant knowledge exchange gap.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Where ecosystem services are considered for inclusion in CIL Charging Schedules, evidence would need to be provided to and assessed by the charging authority. This would provide an opportunity to engage with stakeholders and therefore could help to share principles of EA and ES with the multiple stakeholders that would be involved in CIL.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	CIL could help to provide a better understanding of the many aspects of infrastructure that make up an area and how each infrastructure type can add value to an area.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Engagement on draft CIL charging schedules is likely to involve a wide range of stakeholders, but given its technical nature it may be difficult to increase participation from other publics.
	Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that	Income from CIL will be used to improve certain types of infrastructure and this could fund infrastructure that encourages more sustainable methods of transport that could lead to greater use of cycle paths	

	use them	or canals thereby highlighting their value to the communities and publics that use them.
	5. Extent to which tool is building on other tools or EA/ES progress	CIL will largely replace the function of Planning Obligations (Section 106) that has sometimes been used to seek on-going maintenance of important natural features and habitats.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	CIL is intended to provide authorities with the power to determine locally required infrastructure.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Once CIL rates have been clearly set out these are unlikely to be open to interpretation. However, authorities can put any infrastructure type or project on their published list so this could potentially lead to issues of being open to interpretation but it is too early to say at this time.
Developing and selecting tools		
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	The tool is a direct funding source itself. Any authority choosing to develop a CIL charging schedule must undertake an extensive study of infrastructure needs and viability and go through an independent examination. This will place high financial and resource requirements on authorities at a time when they are having to make major cuts. Wolverhampton City Council has already decided to delay CIL and re-consider in 2013 due to the high set up costs involved.
	9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	There are a number of 'frontrunners' that have been leading on implementing CIL for their authorities. The shared experiences of these authorities will shape the way in which other authorities approach CIL.
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The CIL Regulations provide a statutory basis for implementing CIL (where authorities choose to implement). The NPPF repeats the statutory tests in the CIL Regulations (under Regulation 122) that authorities must adhere to when seeking contributions through Planning Obligations.
Informing resultant policies effectively		
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	<p>CIL could provide social benefits such as provision of new or improved community facilities (and potentially affordable housing) and improvements or provision of new areas of open space.</p> <p>Clear CIL rates might actually lower land values and increase land supply, but environmental impacts are more likely to continue to be dealt with via Planning Obligations given the nature of CIL to purely collect</p>

	funds.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Planning Obligations are already a material consideration in the planning decision making process. Where CIL is adopted, this would also form part of the decision making process and CIL rates would normally be paid upon issuing of a decision whereas contributions through Planning Obligations have historically been known to be more flexible and phased throughout developments to aid the delivery and viability of development schemes.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	This would be more appropriate through Planning Obligations as CIL is purely a funding mechanism.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	CIL income could play a vital role in assisting the delivery of targets and aspirations within local plans such as provision of infrastructure needs identified within adopted core strategies.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	A proportion of CIL is likely to be required to be made to the local community (government intends to clarify on October 2012). This could potentially be used towards community owned or community run environmental schemes.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Engagement with a wide range of stakeholders on CIL could help to improve understanding of ecosystem services across multiple stakeholders and publics.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Many forms of infrastructure will be assessed for inclusion within CIL Charging Schedules as determined by each charging authority. This will inevitably mean that competing infrastructure types will need to be assessed and reconciled across different scales and sectors.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	CIL income can be given to organisations outside of the charging area where it would benefit the area i.e. given to the environment agency or can be pooled with other charging authorities to fund sub-regional infrastructure.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Any gaps in an evidence base are likely to put a CIL Charging Schedule at risk of being found to be unsound at an independent examination.
20. To what extent has/could the tool put landscape/nature	It is probably more appropriate that this is dealt with via Planning Obligations, as CIL is purely a funding

conservation and designated species/sites on the radar (positively or resulting in resentment?)

mechanism.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths *(of the tool in delivering intended outcomes)*

CIL is likely to provide a greater level of funds towards some forms of infrastructure such as open space, education and highways.

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

It is not flexible enough to take account of varying issues of viability in some charging areas such as the West Midlands and will not react quickly to changes in the market.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

If major infrastructure such as affordable housing and education facilities were to be funded by the State this would free up CIL income to be used towards other, more local forms of infrastructure and this could include ecosystem services.

Threats *(factors which negatively affect the tool and its outcomes)*

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
CIL income will be lower in areas that are likely to need the income most such as former industrial towns and cities like the West Midlands. Rigid CIL Charging Schedules could deter investment in these areas where flexibility is key.	High	High
CIL is a direct funding source and cannot deal with on-site issues such as environmental matters. Planning Obligations will therefore need to run alongside CIL imposing more costs and potential delays to developers and could lead to matters outside of CIL being negotiated down to take account of CIL rates.	High	High

Please add further comments here:

Guidance	<i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i>
Further comments	None.

ENVIRONMENTAL IMPACT ASSESSMENT (Regulatory)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Environmental Impact Assessment
Type of tool (list all that apply)	Regulatory
Group Members	1. Jonathan Baker
	2. Alister Scott
	3. Natural England
Please provide a brief synopsis of the tool	<p>The Environmental Impact Assessment (EIA) is an assessment of the environmental impacts of certain types of project before they can be given 'development consent'. Its origin is Council Directive 97/11/EC, adopted by the European Council, March 1997. It was incorporated into British law through the Town and Country Planning Regulations 1999. There have been numerous amendments since then and the current version of these Regulations is The Town and Country Planning (Environmental Impact Assessment) Regulations 2011. There are also versions of the Regulations for Infrastructure Planning (2012) and for Agriculture (2006).</p> <p>EIA regulations have two separate types of development. Schedule 1 projects are projects which will always have significant environmental impact and so require an EIA in every case. Examples include oil refineries, thermal power plants and waste water treatment. Schedule 2 projects are screened to see whether they are likely to have <i>significant</i> environmental impact. If they do, then an EIA is required. It is more likely that an EIA will be required if the proposed development is a 'sensitive area'. These include Sites of Special Scientific Interest (SSSIs), National Parks, Areas of Outstanding Natural Beauty (AONB), the Broads, World Heritage Sites and scheduled monuments.</p> <p>There is no hard and fast definition of significant. There are thresholds in terms of scale of development which act as guide points. It is the responsibility of the Local Planning authority to issue screening opinions on whether an EIA is required. This can be overruled by the Secretary of State. The EIAs are prepared by the developer (or by consultants on behalf of the developer).</p> <p>Appendix 5 of the national guidance provides a checklist of guidance for information to include. It separates information about the development of the project, the effects when it is operational and after use has ceased. It asks for basic physical information about land use change, resources consumed, and emissions, and other effects such as noise, vibration, light, heat and radiation.</p> <p>Its aims are:</p>

	<ul style="list-style-type: none"> • to draw together, in a systematic way, an assessment of a project's likely significant environmental effects. • to enable environmental factors to be given due weight, along with economic or social factors, when planning applications are being considered • from the project proponent's point of view, to indicate ways in which the project can be modified to avoid possible adverse effects • for the planning authority and other public bodies with environmental responsibilities, to provides a basis for better decision making
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Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	n/a	n/a
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y	Y
	Implement	Y	Y
	Evaluate	N	N
Please add any further comments here:			

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?	Author & Date	Title Vol pages	Web link (if available)
	DCLG	Environmental Impact Assessment, a guide to procedures	http://www.communities.gov.uk/publications/planningandbuilding/environmentalimpactassessment
	Friends of Earth 2005	Environmental Impact Assessment, a campaigners guide	http://www.foe.co.uk/resource/guides/environmental_impact_asses1.pdf
	IEMA (2011)	The State of EIA Practice in the UK	http://www.iema.net/eiareport
	European Commission (2009)	Conclusion from Conference for the 25th anniversary of the EIA Directive: Successes – Failures – Perspectives	http://ec.europa.eu/environment/eia/conference.htm

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?	
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Guidance For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Using examples (from Examples of the application of Ecosystem Approach / Ecosystem Services in EIA are

<p>practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p>	<p>limited to date. Examples include work commissioned by the Environment Agency on the Wareham Managed Realignment⁸ and Defra’s ex-post study on the application of the ecosystem-based approach (EBA) in the EIA of an important infrastructure development project, the Heysham M6 link road in Lancashire, England⁹. Both these studies found that the Ecosystem Approach / Ecosystem Services had potential to improve EIA type decision making but that the context and nature of the project would determine how this was achieved.</p>
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>Including Ecosystem Services could provide a consistent framework within which environmental impacts could be assessed. The current focus of EIA is on the physical changes and physical inputs/outputs of the development and related impacts on the environment as a group of disparate ‘issues’. Taking an Ecosystem Approach / Ecosystem Services approach could allow for a more explicit consideration of the benefits that ecosystem and related services provide to a project. This flipping of the traditional logic of EIA (from the impact of a project on the environment to what the environment can offer a project) is potentially very powerful and reflects the reality that a development is often reliant on a range of ecosystem services which can be adversely affected by the nature of the development. EIA has the potential to make this relationship clear and in doing so deliver more resilient project and natural environment – this recognition is a core part of the forthcoming guidance on integrating climate change and biodiversity into EIA and SEA due to be published by the European Commission.</p> <p>EIA currently focuses on changes to the environment and it is important that any changes towards using the Ecosystem Approach / Ecosystem Services do not remove the importance of recognising the intrinsic value of the natural environment. EIA also includes a consideration of human health, which would be well supported by using an Ecosystem Approach / Ecosystem Services approach. Furthermore using the Ecosystem Approach would broaden the scope of EIA to include other elements of human wellbeing and also the economic impacts of changes to ecosystem services which are very rarely considered within EIA.</p> <p>As a platform for decision making, EIAs have the potential to be part of an EA type community discussion, but community engagement is an identified shortcoming of current EIA practice so the potential for Ecosystem Approach / Ecosystem Services to improve this must be recognised as limited.</p>

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews		
Explain how the tool can be situated within the priority questions/criteria that arose in the scoping	Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which	An EIA does not currently use EA language, but there is nothing to stop the use of an Ecosystem Services framework. Doing so in different plans and scales

⁸ Eftec (2010) *Economic Evaluation of Environmental Effects* [Online] Available from <http://publications.environment-agency.gov.uk/pdf/GEHO0310BSFH-e-e.pdf>

⁹ DEFRA (2007a) *Case study to develop tools and methodologies to deliver an ecosystems approach – Heysham to M6 link DEFRA research project nr0110*, [Online] Available from: http://randd.defra.gov.uk/Document.aspx?Document=NR0110_7329_FRA.pdf

interviews	principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	would help comparison.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	<ul style="list-style-type: none"> • Almost none. Focussed on quite specific local impacts. Early consultation by businesses could help with this – but this is voluntary and not part of the tool • Using the Ecosystems Approach might help to identify those impacted increasing involvement
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	<ul style="list-style-type: none"> • There is potential, but both the technicality of the assessment and the cost of viewing it are a problem. If summaries were routinely displayed on websites – as for planning permission - engagement could be improved. • Government is going to ask developers to undertake prior consultation before going into planning – this could include environmental factors contributing to this aim.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	<ul style="list-style-type: none"> • Using the Ecosystem Services check list would make explicit what the trade-offs are – to at least the stakeholders involved. • There are overlaps between the Ecosystem Approach and EIA categories, so assets are, in part, identified as a by-product. • Public meetings tend to focus on the effects upon interested parties.
	5. Extent to which tool is building on other tools or EA/ES progress	<ul style="list-style-type: none"> • The guidance currently does not – but if other scales were using it, then it could helpfully connect with this.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	<ul style="list-style-type: none"> • Not locally derived - European directive. • Flexible to deal with local context. • An EIA is scoped by negotiation with the LPA who should emphasise the local context • In its current guise an EIA is open source, but restrained within the Regulations and Scoping.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	<ul style="list-style-type: none"> • It is negatively open to interpretation in that important things may be missed in a selective thematic approach. • It is unclear how cultural differences are relevant. • Mitigation proposals can be written in ways to accommodate flexibility
	Developing and selecting tools	
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	<ul style="list-style-type: none"> • Funding is from businesses undertaking the development – therefore cost to the economy as a whole • A full EIA is onerous and expensive – but in the context of the project is small funding. It is the risk of not being able to proceed that worries business • It is unlikely that the statutory element will be changed, but there is no reason these

	requirements could not be met through an Ecosystem Services assessment.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	<ul style="list-style-type: none"> • The Institute of Environmental Management and Assessment have a Quality Mark for EIA which is well recognised and used widely. • Skills development would be essential • The target would be the consultants who deliver these for large businesses/ and the businesses themselves • Local Planning Authorities finally sign these things off after approval from their consultees, so they are the ultimate arbiters. However, this does not guarantee optimal or correct use. • The Project proponent's team need to develop the skills to put across the EIA in a way that the community can understand • Natural England has a duty to oversee and administer the EIA (Agriculture) Regulations. Other EIA Regulations purely overseen by Dept for Communities and Local Government
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	<ul style="list-style-type: none"> • The terms allows us to use the Ecosystem Approach • Again there are overlaps between the Ecosystem Approach and EIA categories but these could be emphasised in Guidance which would yield benefits in quality
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	<ul style="list-style-type: none"> • The tool is focussed on environmental impacts and human health – social and economic are to be dealt with elsewhere. • It is only likely to lead to a planned project not going ahead and/or improved mitigation – cannot help strategically. • If done well, it makes the environmental loss (trade-off) explicit where it might otherwise have been implicit. • EIS is focussed on mitigation, not environmental gain. • Pointer to the cost of mitigation and therefore economic viability of scheme – may flush out issues not previously considered. • Might find cheaper solutions to problems potentially.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Directly; a core part of the system on qualifying projects.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	N/A – unless it is a scheme directly related to tourism and designated areas.

Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	<p>Not really – development specific tool</p> <ul style="list-style-type: none"> • LPAs use SEA to feed into local plans and, in turn, experience with EIAs informs SEA • Maintaining/enhancing green areas in developments can result in improved use by the public if part of an open space strategy.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	<ul style="list-style-type: none"> • Only if it was made easier to access by communities – greater consultation. Even then the effect would be marginal apart from big or complex projects. • Prior consultation process includes environment here
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	<ul style="list-style-type: none"> • Some – will often be limited to specific local area but can have wider implications • Broader implications at wider scales are not well understood • EA approach would help here
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	<ul style="list-style-type: none"> • EIA does not reconcile across scales – that is more appropriate for an SEA - therefore a danger that this is not identified • Primary purpose of an EIA is to allow development to proceed, but benefits occur incidentally
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	<ul style="list-style-type: none"> • It does so, and national boundaries too, for large significant projects.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	<ul style="list-style-type: none"> • Quality of information will be important. • Not just data shortages and gaps but issue about handling of uncertainty – there is nothing in the guidance about this • Written by well qualified consultants and lack of data is rarely the greatest concern • The process allows LPA and its consultees to identify gaps
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	<ul style="list-style-type: none"> • It is already very strongly built in – due to increased assessment ‘sensitive areas’ • Although the above applies, the motive of the project proponent is to keep landscape to the minimum which will gain approval for the sake of financial viability
<i>Please add any further comments here:</i>	

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within

Strengths *(of the tool in delivering intended outcomes)*

- Legal requirement that EIA gets done for all projects that are identified as having potentially significant environment effects.
- EIA is spatially and materially explicit and deals with avoiding, reducing, mitigating and compensating impacts on the environment via the use of various evidence sources.
- EIAs are required to produce a public statement of the proposed environmental impacts of a development and to allow for community and stakeholder

the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

consultation.

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- EIA is at the end of a chain of decision making meaning that there is limited scope for genuine changes to projects.
- EIA is often perceived as a block/barrier rather than as a helpful process.
- EIA is done by project proponents who have limited options if the EIA finds that significant environmental impacts will occur.
- The burden of proof is often on the side of project proponents and the precautionary principle (which is included in the preamble to the Directive) is rarely applied as intended.
- Consultation is often poorly executed and done too late to really inform the project design.
- EIAs are not able to consider the cumulative effects or numerous projects. Each project is likely be making a marginal change hence not significant in themselves - but lots of projects could lead to significant impact which are not picked up in individual EIAs.
- No monitoring is required as part of EIA.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- A consistent EA framework would allow for a more integrated consideration of the environment.
- EA / ES EIA would recognise that a project is reliant on a range of ecosystem services and that their effective consideration can increase the resilience of a project and the natural environment. This could reaffirm the mitigation hierarchy and reduce negative environmental impacts.
- An EA could be a more effective framework for stakeholder and community consultation.
- A relationship with Strategic Environmental Assessment and Local Plans which was also framed with EA would add traction to effective consideration of environmental limits and thresholds within ES.

Threats *(factors which negatively affect the tool and its outcomes)*

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Ecosystem Approach / Ecosystem Services language may add to existing concerns about the difficulty that communities have with understanding and engaging with EIAs via Environmental Statements	High	Very high –almost certain
That the current concern about intrinsic value in the EIA may be lost	High	Medium
The potentially higher resource costs of EA / ES in EIA may limit its application.		
The newness and complexity of EA / ES in EIA may limit its application.		

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

**Further
comments**

GREEN BELT (Regulatory)

TABLES Project 2012: Mini reviews	
Task 1: Basic information	
Name of the tool	Green Belt
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Regulatory, Mapping, Valuation, Collaborative, Decision, Modelling.
Group members	<ol style="list-style-type: none"> 1. Paul Gibbs 2. Alister Scott 3. Peter Larkham
<p>Please provide a brief synopsis of the tool</p> <p><i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i></p> <p><i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i></p>	<p>The concept of protecting the land around towns and cities has existed for 1000s of years. However, the formal use of Green Belt (GB) as a planning control mechanism is generally taken to flow from The 1947 Town and Country Planning Act in the UK. Its application was given substantial encouragement in 1955 by the Minister of Housing such that numerous schemes evolved. Its roots lie in the government circular 42/55. There are currently (as at 31 March 2010) 1,639,560 hectares of GB in England equivalent to 13% of the land area; the GB in England comprises 14 separate areas around cities, towns and conurbations. There are 30 GB areas in Northern Ireland, 1 in Wales and 10 in Scotland.</p> <p>Many cities and urban areas around the world have GBs (often using different names, such as Greenspace, Greenstructure, Urban Growth Boundaries or city-specific names e.g. Boston Emerald Necklace. They can be found in Australasia (e.g. Adelaide, Dunedin, Islamabad and Seoul), the Americas (e.g. Sao Paulo, Portland, Ottawa and Toronto) and Europe (e.g. Stockholm, Belgrade and Paris).</p> <p>GBs have various functions but these are generally seen to be:</p> <ul style="list-style-type: none"> The prevention of urban sprawl. The definition of the edge of the urban area. The protection of the countryside around cities. The provision of open space/recreation areas for the urban population. The provision of cleaner air for the urban dwellers. The prevention of the coalescence of two cities/towns/conurbations. The protection of the setting or approach to cities (especially historic cities). <p>The Government had set out its GB policies for England and Wales in Planning Policy Guidance Note 2: Green Belts. This has been superseded by the National Planning policy Framework (NPPF) in March 2012. The NPPF defines inappropriate development in the GB where very special circumstances must be shown demonstrating that the benefits would outweigh the harm to the GB. The NPPF</p>

has five stated purposes for including land in the GB:

To check the unrestricted sprawl of large built-up areas.

To prevent neighbouring towns from merging with one another.

To assist in the safeguarding of the countryside from encroachment.

To preserve the setting and special character of historic towns.

To assist in urban regeneration by encouraging the recycling of derelict and other land.

Task 2: Use of the tool

Position / Use

If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)

Stage	Currently used	Could be used
Ideas	Yes	
Survey	Yes	
Assess	Yes	
Policy / decision	Yes	
Implement	Yes	
Evaluate	Indirectly	

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

(e.g. reports, journal articles, books)

There is a huge amount of literature on the GB. Key documents and references include:

1. The Town and Country Planning Act, 1947
2. Planning Policy Guidance Note 2: Green Belts
3. Scottish Planning Policy (SPP) 21, Feb 2010
4. Green Belt policy in Scotland 10/85
5. The National Planning Policy Framework, 2012
6. Local Planning Authority Green Belt Statistics: England 2009/10.
7. Scottish Parliament: Planning Policy 159
8. The Localism Act, 2012
9. The Planning Act, 2008
10. Osborn FJ 1969 *Green belt cities* Evelyn Adams & Mackay
11. Munton RJC 1983 *London's green belt in practice* Allen & Unwin
12. Elson MJ *et al* 1993 *The effectiveness of green belts* CAB
13. Edwards M 2000 'Sacred cow or sacrificial lamb: will London's green belt have to go?', *Cities* 4(1)

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

If so, please provide an outline.

David Jarvis Associates Limited (DJA) was commissioned in 2002 by the Counties of Meath and Kildare to review the extant Dublin GB in Eire. The study was to define a new GB which not only performed the generally stated Planning aims of GBs but also took into account the Landscape Quality of the putative GB; new landscape protection and enhancement policies were to be devised. The GB was specifically NOT to be a set width but to vary according to the landscape (particularly the landform). As an example, the GB would be wider in a flat open landscape than in a wooded undulating landscape where the inner and outer edges could be less likely to be intervisible. Particular care was to be taken when defining the inner GB edge such that it was not simply the existing urban edge. Where the existing urban edge was attractive this could occur but where improvements were needed, the space would be allowed for quality built development that would eventually provide an attractive façade/approach to Dublin. The outer edge of the GB would be chosen to give adequate separation between Dublin and the surrounding towns and villages; however it was to anticipate the leapfrogging that would inevitably occur at some point in the future.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated

DJA is not aware of any use of EA/ES in recent GB designation or refinement of boundaries.
EA/ES are not mentioned with regard to GB in the NPPF 2012, Localism Bill 2012 or Planning Act 2008.

in/by the tool <i>If neither approach is currently incorporated, please move to the next question</i>	
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	<p>One of the major criticisms of current GB policy in the UK centres on the tendency for GBs to become degraded agricultural landscapes with little or no public access or recreation opportunities. The Dublin study referred to above attempted to include the quality of the landscape and its on-going improvement into the designation. In the UK the quality of the GB does not matter only its physical dimensions. It is possible that an examination of the benefits (tangible and intangible) in particular the potential social/environmental/economic benefits and the interaction between them could provide a more comprehensive understanding of the current and potential ecosystem services benefits of a GB.</p> <p>Set within a wider Green Infrastructure approach they could use the pioneering work done by Birmingham City Council which has valued the ecosystem services of green infrastructure</p>

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews <i>Complete as many boxes as required</i>	Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Somewhat – Review of GB designation and their refinement provides a legal and potentially transparent framework within which interactions relevant to the natural and built environment can be consistently presented and consulted upon.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Yes – GB designation should require engagement with the public and other stakeholders to ascertain their views about the status of their local environment and the needs of future generations. There is therefore scope to bring together the perspectives of various groups.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Somewhat - Stakeholder engagement should be a core requirement of GB designation and as such there is the potential to engage with those groups that are felt to be most appropriate around the development of a plan or programme.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value ‘hidden’ assets that are not recognised by communities or publics that use them	Yes - The baseline information acquired at the early stages of GB designation and evaluation stages should provide an opportunity for ‘hidden’ assets to be recognised.
	5. Extent to which tool is building on other tools or EA/ES progress	Yes – GB is a broad policy application to which EA/ES can feed in as a supporting and key theme.
6. Extent to which tool is locally	Yes - GBs are city specific and by definition must	

derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	reflect local social, physical, economic and environmental geography.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Yes – the brief for definition or refinement of a GB allows for the creation of a GB which reflects the brief requirements.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Yes – GBs are public designations by national, regional or local authorities; their establishment is a publicly funded exercise. The definition and establishment of a GB involves the assembly of large quantities of data, consultation, analysis and synthesis. It is a reasonably onerous task.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	No – There is no dedicated body or generally accepted process.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Yes – There is substantial scope for current statutory hooks to inform an updated and refined GB establishment/management process.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Yes – GB policy has to incorporate EU and national regulations and laws. It must consider the full spectrum of social, economic and environmental aspects including trade-offs.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Completely – it is a fundamental plank of UK planning law but its zoning does reduce land prices unless planning permissions can be secured through selective exceptions or national need. . .
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Completely – GB policy can be written to address this. However at present it does appear to have an overly restrictive aspect to recreational activities. The increased use of green belt for active recreation could help mitigate pressures on protected landscapes.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Yes – Current GB policy needs to be updated to allow/encourage greater public access and usage, notwithstanding the majority is in private ownership. This issue poses a conundrum.
15. To what extent does/could the	Somewhat - As it is normally practiced there is limited

	tool contribute to a new form of community governance in management of the environment?	scope as ‘authorities’ are the ones who are defining the areas and the policies. However the localism agenda and neighbourhood plans possibly offer opportunities for more positive use.
	Improved tools: understanding flows, interconnections and spatial issues	
	16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Yes – An updated GB policy could use the ecosystem service approach.
	17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Yes – GB by definition is all encompassing where it applies. However its use as a one size fits all is currently limiting this.
	18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	Yes – no difficulty (see ref to Dublin Counties above) however there is evidence that green belt issues are poorly dealt with. Duty to cooperate may change this.
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Yes – All systems are only as good as the data input. The poorer the data, the potential for the effectiveness of a GB diminishes.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Completely – They are fundamental.

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool’s past and current application, as well as its effectiveness in

Strengths (*of the tool in delivering intended outcomes*)

- Delivering the seven functions listed in the brief synopsis above.

Weaknesses (*factors that detract from the tool’s ability to deliver intended outcomes*)

- Sterilisation of land which could provide valuable functions not in conflict with the core values.
- A tendency to “freeze” the outer façade of a city (whether good or bad).
- The ignoring of the quality of the landscape.
- A tendency to encourage leapfrogging of development.
- A tendency to require lengthy transport networks through the GB to serve development beyond its boundaries.
- A failure to provide adequate public access and recreation.

Opportunities (*consider opportunities for application of the ecosystem approach and services*)

- ES/EA is an integrating concept which instead of dealing with discrete environmental ‘topics’ considers bundles of services that flow from the environment. As such it is more ‘real’ and may allow better consideration of cumulative impacts - an area currently poorly dealt with in GBs.
- With ES/EA the description of the environment moves from things to benefits and may be a more persuasive way of evaluating GBs.
- Stakeholders and the public are well placed to engage with this alternative description as they are potentially the ‘users’ of the environment.
- ES/EA may be of particular value where there are clear conflicts between traditional environmental, social and economic arguments within GBs or their policies/management.

policy and decision making processes

- The ecosystem service framing makes explicit the value of the environment for decision makers.

Threats (*factors which negatively affect the tool and its outcomes*)

Threat of going down ecosystem services route in GB designation and management to validity of the concept	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The use of ecosystem services language may not resonate with stakeholders.	Medium	Medium
The complexity of ecosystem services may add to already complex process	Medium	High
The contested nature of ecosystem service valuation may not be robust enough for GB policy which operates within a legal framework.	Low	Medium
Doing more comprehensive ecosystem services assessment is potentially very resource intensive	High	High
Public perceptions may not be reflected adequately e.g. the effect of GB on house building/house prices	Low	High
Ecosystem services may not address the political dimension.	Low	High
Ecosystem services may not be uniformly relevant to all aspects of GB.	High	High
Valuation of ecosystem services does not necessarily fit with how decisions are made about spatial planning – which is much more about balancing a wide range of factors, not a cost, benefit calculation.	Medium	Low

Further comments

COMMON LAW (Regulation)

TABLES Project 2012: Mini reviews			
Guidance	<p>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</p>		
Task 1: Basic information			
Name of the tool	Common Law		
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Financial/economic, valuation, decision, ecosystem services		
Group members	1. Mark Everard		
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc. Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>The Common Law is consistently omitted from consideration by (most) academics, virtually all regulators and government departments, (most) NGOs and indeed many in society. Yet the Common Law dates back to Roman times as Justinian Law, evolving by case law protective of rights. It has been hugely influential in the shaping of environmental and ethical agenda throughout millennia, reacting quickly to changing knowledge as well as environmental and social consequences. It drives in turn developments in environmental and social valuation methods better to account for damages as a basis for fines, injunctions and judgements of allocation of resources such as water flows and quality. Often, it is the consensus built up as case law that drives new Statute Law (the second formal strand of law that is more generally considered by the stakeholders noted above).</p> <p>So the power of Common Law to test and create precedents contributing to the evolution of public response, including around ecosystem services and the elements of the ecosystem approach, is hugely underappreciated and underused. Both the exercise and extension of case law has been, and remains, a potent tool to debate and institute rights, and the ecosystem services framework reflects the breadth of ways in which management affects the rights of a wide range of beneficiaries or victims of ecosystem change.</p>		
Task 2: Use of the tool			
Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	No	Yes, testing ideas against case law
	Survey	No	No
	Assess	Rarely, and rarely on ES basis	Yes, testing ideas against existing or potential new case law on rights of ecosystem service

			beneficiaries
	Policy / decision	Rarely, and rarely on ES basis	Yes, testing ideas against existing or potential new case law on rights of ecosystem service beneficiaries
	Implement	Rarely, and rarely on ES basis	Yes, testing ideas against existing or potential new case law on rights of ecosystem service beneficiaries
	Evaluate	Rarely, and rarely on ES basis	Yes, testing ideas against existing or potential new case law on rights of ecosystem service beneficiaries

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?
(e.g. reports, journal articles, books)

There are a few, including:

- Everard, M. and Capper.
- Everard, M. and Appleby, T. (2008). Safeguarding the public value of ecosystems. Environmental Law and Management.
- Everard, M. (2011). Common Ground: The Sharing of Land and Landscapes for Sustainability. Zed Books, London.

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?
If so, please provide an outline.

As noted in the literature above, yes I have worked on this a fair bit. More to follow! But the key thing here is that the Common Law is a vast and diverse body of precedent-based case law that cross-cuts all our ecosystem service interests – the rights of all reflected by the multiple benefits that flow from ecosystems – but are as consistently overlooked!

Guidance

For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

As Common Law has evolved, it has done so on the basis of current knowledge and concerns about rights. Generally, this on the basis of ‘property’ of one form or another. But as Everard and Appleby (2008) and Everard (2011) describe, there are ‘public rights’ some of which have been tested (Lyme Bay and the disproportionate costs and benefits of destructive scallop dredging) and modern and emerging understandings of ecosystem services are systematising this. However, a great deal more test cases need to be taken to realise this potential.

If neither approach is

currently incorporated, please move to the next question

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

As noted above, much case law has focused on a private understanding of ‘property’, but there is scope to extend this to more public definitions based on emerging understandings of the ways that different stakeholders groups are affected by ecosystem change (i.e. the beneficiaries of victims of ecosystem services).

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews

Complete as many boxes as required

Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
Language and communication	
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Framing services as (Common Law) rights opens up a different form of societal negotiation that reflects a more connected view of how the socio-ecological system works, and hence greater cross-sectoral understanding.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Framing services as rights also opens up a more inclusive approach to understanding the interests of different constituencies of society (ecosystem service beneficiaries) and their interdependencies.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	As noted in (2) above, framing services as rights opens up a more inclusive approach to understanding the interests of different constituencies of society (ecosystem service beneficiaries) and their interdependencies.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value ‘hidden’ assets that are not recognised by communities or publics that use them	As noted in (2) above, framing services as rights opens up a more inclusive approach to understanding the interests of different constituencies of society, and the ‘hidden assets’ that they use or value.
5. Extent to which tool is building on other tools or EA/ES progress	The common Law can be used, as established case law or in test cases, internalise the implications of all ecosystem services and elements of the ecosystem

	approach, including a means for embedding other tools.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Case law evolves by local context, though precedents then have generic applicability across the jurisdiction, so this is consistent.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	Common Law evolves by judgements on different cultural perspectives.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Taking test cases is onerous, and public cases have often been driven by NGOs. Test cases are risky, and need expert (and therefore expensive) proponents
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Legal expertise is valuable here, but so too is understanding of basic legal rights by non-legal staff. This could constitute a value training module.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	What is 'fair'? What does 'equitable' mean in practice? How are (Principle 4) economic context, (Principle 11) relevant knowledge and (Principle 12) relevant sectors of society determined, if not by the rights the support or compromise?
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Common Law can inform (rights established by case law) or test (new case law) the equity and robustness of policies/decisions.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	It does not at present, but could form a test of likely outcomes (screened across the ecosystem services framework as an exposition of plural rights).
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within	Can help resolve conflict only if it comes to conflict and the need for damages or injunctions, though the precedents in case law can inform guidance to avert

protected areas / the considered area? How?	conflicts arising.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Case law can help elucidate potential rights conflicts that the plans should avoid or mitigate.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	The body of case law can form a basis for negotiation and established practice about how rights are recognised or resolved.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	As case law evolves to address infringement or other forms of interactions vectored by ecosystem services, this can address a range of scale issues.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	As noted in (16), case law can inform or be extended to reconcile potential conflicts between rights-holders.
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	Also as noted in (16), case law can inform or be extended to reconcile potential conflicts between rights-holders, including across sectoral and administrative boundaries. As for (16) and (17), this need not be through confrontational lawsuits, but can be through consideration of precedents and remedies agreed in the large body of case law.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Legal judgements are ideally informed by good evidence, but judgements occur nonetheless in its absence.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	There are good examples of case law relating to conflicts between species and landscape impacts versus development in its various forms.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

<p>Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified</p> <p><i>Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes</i></p>	<p>Strengths <i>(of the tool in delivering intended outcomes)</i></p> <ul style="list-style-type: none"> • Based on rights (i.e. akin to ecosystem service benefits) • Integrates plural values • Evolves rapidly relative to Statute Law • Mechanisms are established for resolution of new disputes • Centuries of case law precedents upon which to draw 											
	<p>Weaknesses <i>(factors that detract from the tool's ability to deliver intended outcomes)</i></p> <ul style="list-style-type: none"> • Taking new cases are expensive and time-consuming • Legal expertise does not come cheap either • The vast bulk of precedents are, obviously, historic! 											
	<p>Opportunities <i>(consider opportunities for application of the ecosystem approach and services)</i></p> <ul style="list-style-type: none"> • Testing of rights based on new understandings (particularly framing ecosystem services are rights... which they are!) 											
	<p>Threats <i>(factors which negatively affect the tool and its outcomes)</i></p> <ul style="list-style-type: none"> • The vested interests that fight cases generally have more resources than those that initiate them on the basis of defending rights <p><i>Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.</i></p> <table border="1"> <thead> <tr> <th>Threat</th> <th>Seriousness (high, medium, low)</th> <th>Probability of occurrence (high, medium, low)</th> </tr> </thead> <tbody> <tr> <td>The economically-powerful can win through investment in 'high power' legal representation</td> <td>High</td> <td>High</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Please add further comments here:</p>	Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)	The economically-powerful can win through investment in 'high power' legal representation	High	High					
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The economically-powerful can win through investment in 'high power' legal representation	High	High										
Guidance	<i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i>											
Further comments												

REGULATORY IMPACT ASSESSMENT (Regulatory)

TABLES Project 2012: Mini reviews	
Task 1: Basic information	
Name of the tool	Regulatory Impact Assessment
Type of tool (list all that apply)	Regulatory, Mapping, Valuation, Engagement
Group members	<ol style="list-style-type: none"> 1. Alister Scott 2. Jonathan Baker
Please provide a brief synopsis of the tool	<p>Regulatory Impact Assessment may be defined as ‘a tool which informs policy decisions. It is an assessment of the impact of policy options in terms of the costs, benefits and risks of a proposal’ (Cabinet Office, 2003).</p> <p>Conceptually, RIA is based on six pillars (EPC, 2001).</p> <ul style="list-style-type: none"> • RIA requires a clear identification of a specific social, economic, or environmental problem and a convincing justification of the value and likely effectiveness of government intervention. • RIA requires an extensive and transparent consultation with all stakeholders to widen public debate about government intervention, to identify the costs and benefits of regulatory proposals and to minimise the risk of “regulatory capture.” • RIA requires a systematic, empirical analysis of costs, benefits, and alternatives that take account of the “real world” impacts of regulatory strategies on stakeholders, public health and safety, and the environment. • RIA requires a focus on achieving regulatory solutions that maximise the overall net welfare of all citizens. • RIA requires common, standard, practical operating procedures that ensure consistency of analysis throughout all parts of government. • RIA requires clear, structured communication and accountability to decision-makers of the consequences of choosing specific regulatory goals or strategies <p>RIA can take different forms and is frequently made up of several procedures (e.g. competitiveness, environmental, health and administrative burden assessments). RIA is a tool that seeks to improve regulatory quality and reduce regulatory burden, but also promotes environmental policy integration and sustainable development. (Hertin, 2009:413).</p> <p>RIA procedures are typically set out as a linear process with a sequence of analytical steps that mirror the phases of problem solving. It normally begins with the identification of a policy problem or objective; it then proceeds to an analysis of options and respective impacts which leads to a weighing up of alternatives with a final selection of the ‘best’ policy choice</p> <p>However RIA practice is an activity where knowledge and politics are inextricably linked, and which combines evidence, logic, norms, judgement and rhetoric in a certain policy space. Therefore, neither policy documents nor those involved in the analysis should expect RIA to produce a single best choice.</p>

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y*	Y*
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y*	Y*
	Implement	Indirectly	
	Evaluate	Indirectly	Y*

The stages with an asterix [*] next to them indicate stages where there are identified failures in application. RIA is involved in both the development of ideas and in shaping the policy and decision and also post impact assessments but it is accepted that there are some limitations in how this is done in practice.

Task 3: Existing literature about the tool

<p>Are you aware of any KEY policy and / or academic literature evaluating your tool?</p>	<p>There is a growing policy and academic literature on RIA.</p> <p>Ballantine, B. and Devonald B. (2006) Modern Regulatory Impact Analysis: The experience of the European Union, <i>Regulatory Toxicology and Pharmacology</i> 44, 57-68</p> <p>Cabinet Office (2003), <i>Better Policy-Making: A Guide to Regulatory Impact Assessment</i> (Regulatory Impact Unit, London).</p> <p>EPC, 2001. Occasional Paper. Regulatory Impact Analysis: Improving the Quality of EU SS Activity. Brussels, Belgium</p> <p>Gibbons., M. and Parker, D. (2012): Impact assessments and better regulation: the role of the UK's Regulatory Policy Committee, <i>Public Money & Management</i>, 32:4, 257-264</p> <p>Hertin, J., Jacob, K., Pesch, U. and Pacch, C. (2009) The production and use of knowledge in regulatory impact assessment – An empirical analysis <i>Forest Policy and Economics</i>, 11, 413-421</p> <p>HM Government (2011a), <i>Impact Assessment Overview</i> (BIS, London).</p> <p>HM Government (2011b), <i>IA Toolkit: How to do an Impact Assessment</i> (BIS, London).</p> <p>HM Government Treasury http://www.hm-treasury.gov.uk/economic_data_and_tools/greenbook/data_greenbook_index.cfm</p> <p>OECD, 1997. <i>Regulatory Impact Analysis: Best Practices in OECD Countries</i>. Organisation for Economic Co-operation and Development, Paris.</p> <p>OECD, 2001. <i>Improving Policy Instruments through Impact Assessment</i>. Sigma Paper 31. OECD, Paris.</p> <p>OECD (2010), <i>Risk and Regulatory Policy: Improving the Governance of Risk</i> (Paris)</p>
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Task 4: Your experience of working on the tool

<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?</p>	<p>I have undertaken and led a consortium of consultants doing the RIA for common land legislation.</p> <p>Scott, AJ; Taylor K., Short, C. Christie, M. (2004) Regulatory Impact Assessment: Common Land Legislation (DEFRA contract) in conjunction with Gloucester University (CCRU) and Asken Ltd. (£58k)</p>
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Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)											
<p>Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool</p> <p><i>If neither approach is currently incorporated, please move to the next question</i></p>	<p>The incorporation of ES/EA into RIA is in its infancy. There is considerable potential for incorporation but as yet no examples are included. There is however a lot of interest in RIA developing in this direction with many practitioners and researchers considering that ES/EA offers significant potential to RIA and vice versa.</p> <p>Examples of ES/EA inclusive RIA and guidance on this topic include:</p> <ul style="list-style-type: none"> • WRI - Ecosystem Services Review for Impact Assessment • Defra (2007) An Introductory guide to valuing ecosystem services. 										
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>RIA through its methodological stance is well suited to integrating an ecosystem services framework. Defra 920070 states that it is important to see this as embedded into policy appraisal rather than as an add-on. Here particular emphasis is put on the Treasury green book. http://www.hm-treasury.gov.uk/economic_data_and_tools/greenbook/data_greenbook_index.cfm</p>										
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews											
<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p>	<table border="1"> <thead> <tr> <th style="background-color: #e0f2f7;">Priority question/criteria</th> <th style="background-color: #e0f2f7;">Does your tool address/implement this question/criteria?</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="background-color: #fff9c4;">Language and communication</td> </tr> <tr> <td>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</td> <td>RIA provides a legal and potentially transparent framework within which interactions and tradeoffs relevant to the natural and built environment can be consistently presented and consulted upon.</td> </tr> <tr> <td>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses</td> <td>RIA requires engagement with the public and other stakeholders and to ascertain their views about the impact of proposed policy changes. There is therefore some limited scope to bring together the perspectives of various groups.</td> </tr> <tr> <td>3. Capacity of the tool to improve or enable</td> <td>Stakeholder engagement is a core requirement of RIA in revised regulations (supported by the Aarhus</td> </tr> </tbody> </table>	Priority question/criteria	Does your tool address/implement this question/criteria?	Language and communication		1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	RIA provides a legal and potentially transparent framework within which interactions and tradeoffs relevant to the natural and built environment can be consistently presented and consulted upon.	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	RIA requires engagement with the public and other stakeholders and to ascertain their views about the impact of proposed policy changes. There is therefore some limited scope to bring together the perspectives of various groups.	3. Capacity of the tool to improve or enable	Stakeholder engagement is a core requirement of RIA in revised regulations (supported by the Aarhus
Priority question/criteria	Does your tool address/implement this question/criteria?										
Language and communication											
1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	RIA provides a legal and potentially transparent framework within which interactions and tradeoffs relevant to the natural and built environment can be consistently presented and consulted upon.										
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	RIA requires engagement with the public and other stakeholders and to ascertain their views about the impact of proposed policy changes. There is therefore some limited scope to bring together the perspectives of various groups.										
3. Capacity of the tool to improve or enable	Stakeholder engagement is a core requirement of RIA in revised regulations (supported by the Aarhus										

engagement across different publics so avoiding the usual suspect problem	Convention) and as such there is the potential to engage with those groups that are felt to be most appropriate around the development of new legislation .
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	The environmental costs and benefits arising from the legislation will be costed and the economic analyses may highlight important assets.
5. Extent to which tool is building on other tools or EA/ES progress	RIA is a meta-tool and sits within the wider impact assessment methods. By its very nature it should be able to embed ES/EA.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	RIAs core process and method is not adaptable but the exact way it is met and what information sources it uses are adapted depending on the legislative context. The baseline stage entails the collection and analysis of a significant amount of local information. Local variation and distributional effects are a key consideration.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The skeleton of RIA is a legal requirement as are certain processes and outputs, but at its simplest RIA is just a process with substantive variation and quality control issues. In the UK context there is an economic fix with less emphasis on qualitative data.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	RIA is a legal requirement and the funding for RIA will be linked to the legislative costs. The application procedure is reasonably onerous and tends to be the preserve of consultants.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	RIA is a firmly established process and many hundred assessments are undertaken in the UK each year. There is therefore an existing skills base. There are also established quality assessment criteria for RIA from OECD and the EU as well as a wide range of guidance and support from various bodies. The separation of RIAs from those actually writing the legislation has significant implications for the timing of RIAs and their ability to influence the legislation in the way intended. .
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	RIA is a legal requirement so there is a very clear hook there.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full	RIA focuses on the positive and negative environment and human health impacts of legislation and should consider the full spectrum of social, economic and environmental aspects including trade-offs from the

range of positive and negative economic, social and environment impacts / tradeoffs?)	legislation as well as considering these in light of alternative options and business as usual. A review of practice suggests that it can be seen as a hurdle to be jumped rather than as valuable support tools. Over 50% of policy makers did not believe it makes a positive difference to policy (National Audit Office 2010).
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	RIA links into the legislative process and is mandatory for ALL legislation and guidance.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	RIA would only deal with this if legislation was in this area or had impacts on recreation and green space. Recent acts in Scotland for the National parks etc.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	It deals primarily with legislation and as such can be an umbrella for forthcoming planning legislation such as the growth and infrastructure bill
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	There may be scope and value in third parties undertaking their own impact assessments.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	The core analytical stages of RIA (on costs and benefits and impact of alternatives) are all based on a comprehensive understanding of natural environmental processes. Ecosystem services are starting to be considered within these stages and has significant potential, but is at a relatively early stage of development and may not be relevant in every RIA.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	RIA is specifically tasked with the assessment of 'reasonable alternatives' as well as the impact of the proposed intervention. There is limited cross scale impacts given that it is operating at the national level As such the opportunity to reconcile across different sectors and scale is limited to the nature of the legislation.
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	RIA is limited to the legislation it is assessing. . There are however requirements to engage with relevant stakeholders, including those who are trans-boundary. Relevant stakeholders are likely to be potentially affected organisations and this is not limited to sectoral or administrative boundaries.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably	The quality of an RIA is not determined by the quality of the data (rather the nature of the process). Good quality data is important to provide an adequate baseline and understanding of the impacts – based on

compromised?)	qualitative and quantitative data sources. There are mechanisms such as stakeholder engagement, using indicators or proxies, etc which allow practitioners to manage data gaps.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	RIA requires the consideration of environmental impacts (costs and benefits) but the interpretation of these can be limited. There is a wider issue of political resentment of RIA as a hurdle or set of boxes to be ticked

RIA is an inherently flexible tool as it consists of a few key stages. It is therefore potentially well able to deal with a wide range of issues. Its exact ability to deal with specific issues is largely dependent upon how it is used.

Task 7: A SWOT analysis of the tool

<p>Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified</p>	<p>Strengths <i>(of the tool in delivering intended outcomes)</i></p> <p>RIA can contribute significantly to the goal of improved regulatory quality by</p> <ul style="list-style-type: none"> • improving the cost effectiveness of decisions, • reducing the number of poor quality and unnecessary decisions, • improving the transparency of decisions, • enhancing consultation with affected groups, and • improving governmental coherence and inter-ministerial communications
	<p>Weaknesses <i>(factors that detract from the tool's ability to deliver intended outcomes)</i></p> <ul style="list-style-type: none"> • RIAs are often written too late in the legislation process, effectively to justify a policy option already chosen by the minister • RIAs seen as box ticking exercise. • Absence of sanctions for non-compliance. • Lack of skills and training and knowledge to understand full impacts of legislation Work by Gibbons and Parker (2012) revealed many RIAs were deficient. • Quality control poor, again reflecting the skills of the overseer. • Politicians do not want extra information and see RIA as a hurdle to jump. • Widespread lack of commitment and resources to RIA. While few have formally expressed the view that RIA is wholly unnecessary, it is often seen as a 'side event' of the political process (Hertin et al 2009) • The focus of RIA methodology on prediction and precision tends to narrow down the scope of the assessment as it carries with it a dominance of economic valuation and other quantitative methods • Qualitative knowledge tends to be undervalued and few attempts are made to capture uncertainties or explore sensitivities in relation to methods and assumptions.

Opportunities (consider opportunities for application of the ecosystem approach and services)

- Risk based approach inherent in RIA lends itself to an ecosystem services assessment.
- ES/EA is an integrating concept which instead of dealing with discrete environmental 'topics' considers bundles of services that flow from the environment. It therefore lends itself to incorporation with RIA methodology.
- With ES/EA the description of the environment moves from things to benefits and may be a more persuasive way of framing the environment in RIA.
- ES/EA may be of particular value where there are clear conflicts between traditional environmental and economic arguments within RIA.
- Incorporating ES/EA into SEA helps practitioners and decision-makers to reflect on the impact of the regulation on a range of economic, social and environmental drivers.

Threats (factors which negatively affect the tool and its outcomes)

Threat of going down ecosystem services route in RIA to validity of the concept	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The use of ecosystem services language may not resonate with stakeholders.	Medium	Medium
The complexity of ecosystem services may add to already complex process	Medium	High
The contested nature of ecosystem service valuation may not be robust enough for RIA which operates within a legal framework.	Low	Medium
Doing more comprehensive ecosystem services assessment is potentially very resource intensive	High	High
Ecosystem services may not be relevant to all RIAs or all institutional contexts	Low	High
Mitigation and offsetting are more complex than previously; there is also a risk that ecosystem service mitigation may not be compliant.	Medium	Low
Ecosystem services is not be uniformly relevant to all the topics that RIA is required to consider – for example 'material assets' and 'air'.	High	High
Valuation of ecosystem services does not necessarily fit with how decisions are made about spatial planning – which is much more about balancing a wide range of factors, not a cost-benefit calculation.	Medium	Low

Further comments

See the following for a model RIA that has been positively assessed.
<http://archive.defra.gov.uk/rural/documents/protected/common-land/bill-ria.pdf>

STRATEGIC ENVIRONMENTAL ASSESSMENT (Regulatory)

TABLES Project 2012: Mini reviews

Task 1: Basic information

Name of the tool	Strategic Environmental Assessment (SEA)
Type of tool (list all that apply)	Regulatory, Mapping, Decision, Collaborative, Decision, Modelling.
Group members	<ol style="list-style-type: none"> Jonathan Baker (with William Sheate and Ric Eales) Alistair Scott
Please provide a brief synopsis of the tool	<p>Strategic Environmental Assessment (SEA) is "the formalised, systematic and comprehensive process of evaluating the environmental effects of a policy, plan or programme and its alternatives, including the preparation of a written report on the findings of that evaluation, and using the findings in publicly accountable decision-making."</p> <p>A distinction should be made between the SEA process and the document produced (the environmental report) which documents the process and findings. SEA should be about helping find sustainable solutions to planning and development challenges and should inform the planning process to avoid, reduce or remedy adverse and to enhance beneficial effects. SEA should also inform subsequent Environmental Impact Assessments (EIA). Many countries have some form of SEA system and regulations requiring SEA, many of which follow the UNECE 'SEA Protocol'. In the EU Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes' (the SEA Directive) which applies to certain plans and programmes requires Member States to following main procedural stages:</p> <ol style="list-style-type: none"> Screening (does the plan or programme require SEA?) Scoping (what issues should the SEA address?) – ideally with public and stakeholder consultation including requirement to consult environmental authorities. Baseline data (establish the current state of the environment) Consideration of alternatives (what alternative options to the plan or programme could be taken?) Mitigation (what can be done to alleviate negative and enhance positive impacts of the chosen options?) Environmental Report (document process and findings in a transparent way, including identification and assessment of significant effects) Public consultation (consult general public, stakeholders and NGOs) Consider SEA findings and decision-making (take SEA findings into account in finalising and adopting/approving the plan/programme) Monitoring (monitor implementation of plan/programme) <p>Other important characteristics of SEA includes its status as: a decision support tool; used to raise the profile of the environment in decision-making; must include early and effective opportunity for engagement; undertaken in parallel with the preparation of the PPP, not afterwards; focus is on significant environmental effects, including both positive and negative effects; and must consider different types of effects including cumulative effects. The main outcome of SEA is set out in the Directive (Article 1) <i>"to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development"</i>.</p>

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
	Ideas	Y*	
	Survey	Y	
	Assess	Y	
	Policy / decision	Y*	
	Implement	Indirectly	
	Evaluate	Indirectly	

The stages with an asterix [*] next to them indicate stages where there are identified failures in application. SEA which includes the legal requirements and the spirit of the Directive is involved in both the development of ideas and in shaping the policy and decision but it is accepted that there are some limitations in how this is done in practice. SEA can inform implementation by providing advice about the specific nature of a plan or programme such as mitigation activities that could be used. Monitoring is a formal requirement of SEA and could form the basis for future evaluation.

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

(e.g. reports, journal articles, books)

There is a huge amount of literature on SEA: see for example International Association of Impact Assessment (<http://www.iaia.org/>), Journal of Environmental Impact Assessment and Review and the Journal of Environmental Assessment Management and Policy. Plus forthcoming EC Practical guidance for integrating climate change and biodiversity into EIA / SEA procedures to which Collingwood Environmental Planning (CEP) was a key contributor. Some key references include:

EC's Guidance on the implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

DCLG - Towards a more efficient and effective use of Strategic Environmental Assessment Sustainability Appraisal in spatial planning (<http://tinyurl.com/9z9pvja>)

Eales, R. and Sheate, W. (2011). Opportunities missed and challenges to come? *Town and Country Planning*, 79 (3) 134-139

Eales, R. Baker, J. and Sheate W. (2011). Integrating a Resilience Approach into Strategic Environmental Assessment, International Association for Impact Assessment, Prague Conference, 2011

Eales, R. P. (2011). Effectiveness of Policy Level Environmental and Sustainability Assessment: Challenges and Lessons from Recent Practice. *Journal of Environmental Assessment and Policy* 12 (1) pages 39-65.

Sadler, B., Aschemann, R., Dusik, J., Fischer, T. Partidario, M. and Verheem, R. (2011) (eds.). *Handbook of Strategic Environmental Assessment*. Earthscan: London

Fischer, T.B. (2010) Reviewing the quality of strategic environmental assessment reports for English spatial plan core strategies, *Environmental Impact Assessment Review*, 30 (1) 62-69

Fischer, T. B.(2012). Identifying shortcoming in SEA practice. *Town and Country Planning*, 81 (6) 281 – 286.

Gibson, R. B. (2006). Beyond the pillars: Sustainability Assessment as a framework for effective integration of economic and ecological consideration in significant decision-making *Environmental Assessment Policy and Management*, 8 (3), 259-280.

Office of the Deputy Prime Minister – Practical Guide to SEA (<http://tinyurl.com/5a7363>)

Phillips, P. and Sheate, W. R. (2010). A new SEA pathway: Reflecting on Strategic

	<p>Environmental Assessment in Scotland, <i>The Environmentalist</i>, Vol. 104, 20 September 2010, 19-22. available at www.iema.net</p> <p>Resource Manual to Support Application of the SEA Protocol (http://tinyurl.com/9o82gtv)</p> <p>Therivel, R. (2009) Appropriate Assessment of Plans in England <i>Environmental Impact Assessment Review</i> 29 261-272</p>
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Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

If so, please provide an outline.

CEP has been involved in numerous aspects of SEA, including:

- Undertaking SEAs of plans and programmes in various sectors.
- Producing SEA guidance, including for the UK government, local authorities and the EC.
- Undertaking training and capacity building on SEA and developing distance learning courses.
- Reviewing completed SEAs and providing expert advice (for Judicial Reviews, for Government bodies, NGOs etc.).
- Undertaking research on SEA including assessment approaches and tools.
- Writing academic journal papers and book chapters.

For specific examples, see: http://www.cep.co.uk/SEA_and_SA.html

Scott has helped review SEA in Scotland particularly the CNPA SEA in 2008. He has attended training courses and delivered lectures.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

If neither approach is currently incorporated, please move to the next question

The incorporation of ES/EA into SEA is at a relatively early stage and there are limited examples where a formal ES/EA framework has been utilised. There is however a lot of interest in SEA developing in this direction with many practitioners and researchers considering that ES/EA offers significant potential to SEA and vice versa.

Examples of ES/EA inclusive SEA and guidance on this topic include:

- SEA of the Portuguese Integrated Coastal Zone Management Plan¹⁰
- South Africa eThekweni Municipality SEA methodology development
- Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) Implementation Plan SEA¹¹
- Wareham Managed Re-alignment (UK) - Green infrastructure in environmental assessment (EIA/SEA)
- OECD's Advisory Note on SEA and Ecosystem Services¹²
- WRI - Ecosystem Services Review for Impact Assessment¹³

More information is provided in our recently submitted paper which is attached.

¹⁰ Partidário, M. R. (2010) TEEB case: SEA for including ecosystem services in coastal management, Portugal [Online] Available from: <http://www.eea.europa.eu/atlas/teeb/sea-for-including-ecosystem-services-1>

¹¹ MGSDP (2011) *The Metropolitan Glasgow Strategic Drainage Partnership* [Online] <http://www.mgsdp.org/>

¹² OECD (2010) Strategic Environmental Assessment Ecosystem Services [Online] available from <http://www.oecd.org/dataoecd/24/54/41882953.pdf>

¹³ WRI (2011) Ecosystem Services Review for Impact Assessment [Online] Available from: <http://www.wri.org/publication/ecosystem-services-review-for-impact-assessment>

<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>There are felt to be two broad approaches to incorporating ES/EA:</p> <ol style="list-style-type: none"> 1) Comprehensive ecosystem services SEA; and, 2) Ecosystem services philosophy SEA. <p>The former is marked by the more quantitative approach to ecosystem services – this may include a systematic identification of ecosystem service supply and demand across an area and may extend to the monetary valuation of ecosystem services as shown in the Wareham Managed Re-alignment and the MGSDP examples given above.</p> <p>The ecosystem services philosophy is more about the use of EA/EA as a heuristic or as a framing for the environment – see for instance the eThekwini and Portuguese SEAs. As such it is a less significant departure from existing practice and relies on a changing of language and emphasis of approach. The relative merits of these approaches are not currently clear as there are limited applied examples – however the work emerging from the case studies suggest that the ecosystem services philosophy framework is applicable to a wider range of sectors and assessment contexts.</p> <p>In effect the SEAs of all plans or programmes that rely, to a greater or lesser degree, on a high quality natural environment could draw on the ‘ecosystem services philosophy’ approach as an initial starting point. For plans or programmes that are identified via scoping as being more reliant or having a greater impact on the natural environment it may be appropriate to promote the integration of ecosystem services to the point of a comprehensive ecosystem services SEA. This can be seen with the MGDSP where scoping led to the realisation that ecosystem services and ecosystem health more widely has a large role to play in delivering the objectives of the plan. However even within comprehensive ecosystem service SEA there is a need to incorporate non ecosystem services aspects as appropriate – for example relating to heritage, deprivation and non-ecosystem services health issues.</p>
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Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria?</p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>SEA provides a legal and potentially transparent framework within which interactions relevant to the natural and built environment can be consistently presented and consulted upon.</p>
	<p>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses</p>	<p>SEA requires engagement with the public and other stakeholders and to ascertain their views about the status of their local environment. There is therefore some limited scope to bring together the perspectives of various groups.</p>
	<p>3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem</p>	<p>Stakeholder engagement is a core requirement of SEA (supported by the Aarhus Convention) and as such there is the potential to engage with those groups that are felt to be most appropriate around the development of a plan or programme.</p>
	<p>Learning from experience/pedagogy</p>	
<p>4. Capacity of the tool to help reveal and value ‘hidden’ assets that are not recognised by communities or publics that use them</p>	<p>The scoping stage of SEA takes the baseline information and identifies the priority issues in an area. Good SEAs should learn from previous assessments and experiences and build on this to identify environmental assets.</p>	

5. Extent to which tool is building on other tools or EA/ES progress	SEA is a meta-tool in that a wide range of other tools can operate within, in a nested fashion. As such SEA responds to developments within each of these supporting tools. One of these developments is EA/ES.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	SEA's core process is not adaptable but the exact way it is met and what information sources it uses are adapted for the local context. The baseline stage entails the collection and analysis of a significant amount of local information. (see next box for reference to open source)
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The skeleton of SEA is a legal requirement as are certain objectives and outputs, but at its simplest SEA is just a process and there is huge potential to take the basic requirements of SEA and to reconfigure how these are met. This can be seen within the different interpretation and transposition of EU Member States. For instance England and Wales' incorporation of economic and social aspects into Sustainability Appraisal (required for land-use plans) is relatively unique in the EU. Scotland, for example, focuses on just environmental topics.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	As SEA is a legal requirement the funding for SEA will be linked to whatever plan or programme it is supporting. A failure to undertake a compliant SEA may result in the plan being rejected. As such the funding source is not specific, but it is required. The application procedure is reasonably onerous.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	SEA is a firmly established process and many hundred assessments are undertaken in the UK each year. There is therefore an existing skills base. There are also established quality assessment criteria for SEA as well as a wide range of guidance and support from various bodies. There are concerns that due to insufficient capacity responsible authorities (those who are required to do SEAs) outsource SEA to consultants. This believed to have contributed towards the separation of SEA from the plan making process.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	SEA is a legal requirement so there is a very clear hook there. SEA's status as a meta-tool means that many hooks are potentially relevant – for example the requirement for consultation ties into the duty to cooperate. SEA also requires consideration of water, landscapes, air and climate.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	SEA focuses on the positive and negative environment and human health impacts of a plan or programme. Sustainability Assessment (SA), which is applied to spatial plans in England and Wales and incorporate SEA, considers the full spectrum of social, economic and environmental aspects including tradeoffs. Both SEA and SA are intended to provide explicit support to decision making, although review of

	practice suggest that is can be seen as a hurdle to be jumped rather than as valuable support tools.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	SEA is formally required on all plans or programmes that meet specific criteria of the Directive. Broadly speaking SEA is required for plans or programmes likely to have a significant environmental impact and that will form the framework for Environmental Impact Assessment – which includes many plans prepared as part of the spatial planning system. The requirement for SEA is determined at the screening stage and the content is determined at the scoping stage. There are significant costs to SEA as it is an expert led process and procedural requirements; it is a legal requirement (where the Directive applies) rather than optional.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	SEA may provide support to plans which seek to manage visitor needs and pressures – for instance SEAs are required for National Park Plans This will be done in part by the assessment of various alternatives to a plan or programme.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	SEA is explicitly a plan support tool which allows for specific public engagement via consultation. SEA provides opportunities for public ownership but this will largely be determined by the nature of the plan or programme.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	As it is normally practiced there is limited scope as ‘authorities’ are the ones who are undertaking the plan. However examples such as Neighbourhood Plans (which are subject to SA) may provide an opportunity for alternative governance of the natural and built environment. SEA can also be used by third parties to seek to hold decision-makers and plan/programme proponents to account.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	The core analytical stages of SEA (scoping, baseline, assessment, alternatives) are all based on a comprehensive understanding of natural environmental processes. Ecosystem services are starting to be considered within these stages and has significant potential, but is at a relatively early stage of development and may not be relevant in every SEA.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	SEA is specifically tasked with the assessment of ‘reasonable alternatives’ as well as the proposed plan/programme. It is, however, limited to the scope of the plan or programme it is supporting. As such the opportunity to reconcile across different sectors and scale is limited to the nature of the plan. SEA has an explicit role in considering impacts at different scales (it considers both biodiversity and landscapes for example, and cumulative effects). It is however acknowledged that to date this is not always done well.

18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	SEA is limited to the scope of the plan or programme it is supporting. There are however requirements to engage with relevant stakeholders, including trans-boundary. Relevant stakeholders are likely to be potentially affected organisations and this is not limited to sectoral or administrative boundaries.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	The quality of an SEA is not determined by the quality of the data (rather the nature of the process and role with the plan or programme). Good quality data is important to provide an adequate baseline and understanding of the impacts – based on qualitative and quantitative data sources. There are mechanisms such as stakeholder engagement, using indicators or proxies etc which allow practitioners to manage data gaps. In addition SEA can use the evidence base on the plan or programme.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	SEA requires the consideration of landscape and biodiversity but the interpretation of these can be limited. SEA also has a role to play alongside assessment required under the Habitats and Birds Directive, and may be triggered by potential effects on designated sites. Despite this the limited use of SEA to date in being used properly as a support tool (rather than a statutory hurdle) will have limited its impact in flagging the importance of landscape/nature conservation and designated species/sites. SEA is also only an advisory tool and needs only to be taken into account.

SEA is an inherently flexible tool as it consists of a few key stages. It is therefore potentially well able to deal with a wide range of issues. Its exact ability to deal with specific issues is largely dependent upon how it is used.

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Strengths *(of the tool in delivering intended outcomes)*

- SEA is a formal, legal process that seeks to be transparent. It therefore creates an effective space within which decision makers can consider the impact of their plan or programme on the environment in advance of its adoption/approval.
- SEA practice is relatively established and there is evidence that the quality of SEAs is improving.
- SEA requires engagement with priority stakeholders, including the public.
- SEA seeks to be evidence based and objective.

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- SEA is not universally viewed as a support tool to decision making and can instead be viewed and practiced as an administrative exercise. This is due in part to outsourcing of SEA to consultants who are not involved with the plan making process in the same way that authorities are. That is, SEA is not yet sufficiently integrated with plan and programme decision making, though this may be a function of its relative lack of maturity (implemented in EU formally only since 2004).
- SEA is an advisory tool and its ability to protect the environment is therefore limited (as opposed to Appropriate Assessment under the Habitats Directive which has greater powers).
- SEA is primarily an environmental tool; the practice of using SA which combines social and economic considerations has arguably led to a reduced focus on environmental protection.

Opportunities (*consider opportunities for application of the ecosystem approach and services*)

- ES/EA is an integrating concept which instead of dealing with discrete environmental ‘topics’ considers bundles of services that flow from the environment. As such it is more ‘real’ and may allow better consideration of cumulative impacts - an area currently poorly dealt with in SEA although required.
- With ES/EA the description of the environment moves from things to benefits and may be a more persuasive way of framing the environment in SEA.
- Stakeholders and the public are well placed to engage with this alternative description as they are potentially the ‘users’ of the environment.
- ES/EA may be of particular value where there are clear conflicts between traditional environmental and economic arguments within SEA and a related plan or programme.
- Incorporating ES/EA into SEA helps practitioners and decision-makers to reflect on the impact of the environment on their plan or programme rather than just vice versa.
- The ecosystem service framing makes explicit the value of the environment for decision makers.

Threats (*factors which negatively affect the tool and its outcomes*)

Threat of going down ecosystem services route in SEA to validity of the concept	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The use of ecosystem services language may not resonate with stakeholders.	Medium	Medium
The complexity of ecosystem services may add to already complex process	Medium	High
The contested nature of ecosystem service valuation may not be robust enough for EA which operates within a legal framework.	Low	Medium
Doing more comprehensive ecosystem services assessment is potentially very resource intensive	High	High
Ecosystem services may not be relevant to all plans or programmes or all institutional contexts	Low	High
Mitigation and offsetting are more complex than previously; there is also a risk that ecosystem service mitigation may not be compliant.	Medium	Low
Ecosystem services is not be uniformly relevant to all the topics that SEA is required to consider – for example ‘material assets’ and ‘air’.	High	High
Valuation of ecosystem services does not necessarily fit with how decisions are made about spatial planning – which is much more about balancing a wide range of factors, not a cost, benefit calculation.	Medium	Low

Further comments


Appendix 1: Visual Representation of Comprehensive Ecosystem Services Assessment and Ecosystem Services Philosophy

The ecosystem-service philosophy

Traditionally SEA focuses on describing the environment as a ‘thing’, something to include as part of the baseline inventory. The ecosystem-service philosophy seeks to develop this description: from things, to benefits and uses.

This is shown in the Figure below which demonstrates these three terminologies and their differences. Using this approach provides a framework that shows how and why the environment matters and has a language which complements traditional terminology. The ‘benefits’ language allows for effective description about the role of the environment in supporting policy when the audience is policy makers. The ‘uses’ language can be used when talking to members of the public and community and is an effective way to promote knowledge exchange between the SEA process and the public, for instance identifying priority services or areas based on how people are using the environment.

Benefits and uses avoids the problem of ‘ecosystem-services’ and related terminology which is quite technical and esoteric.



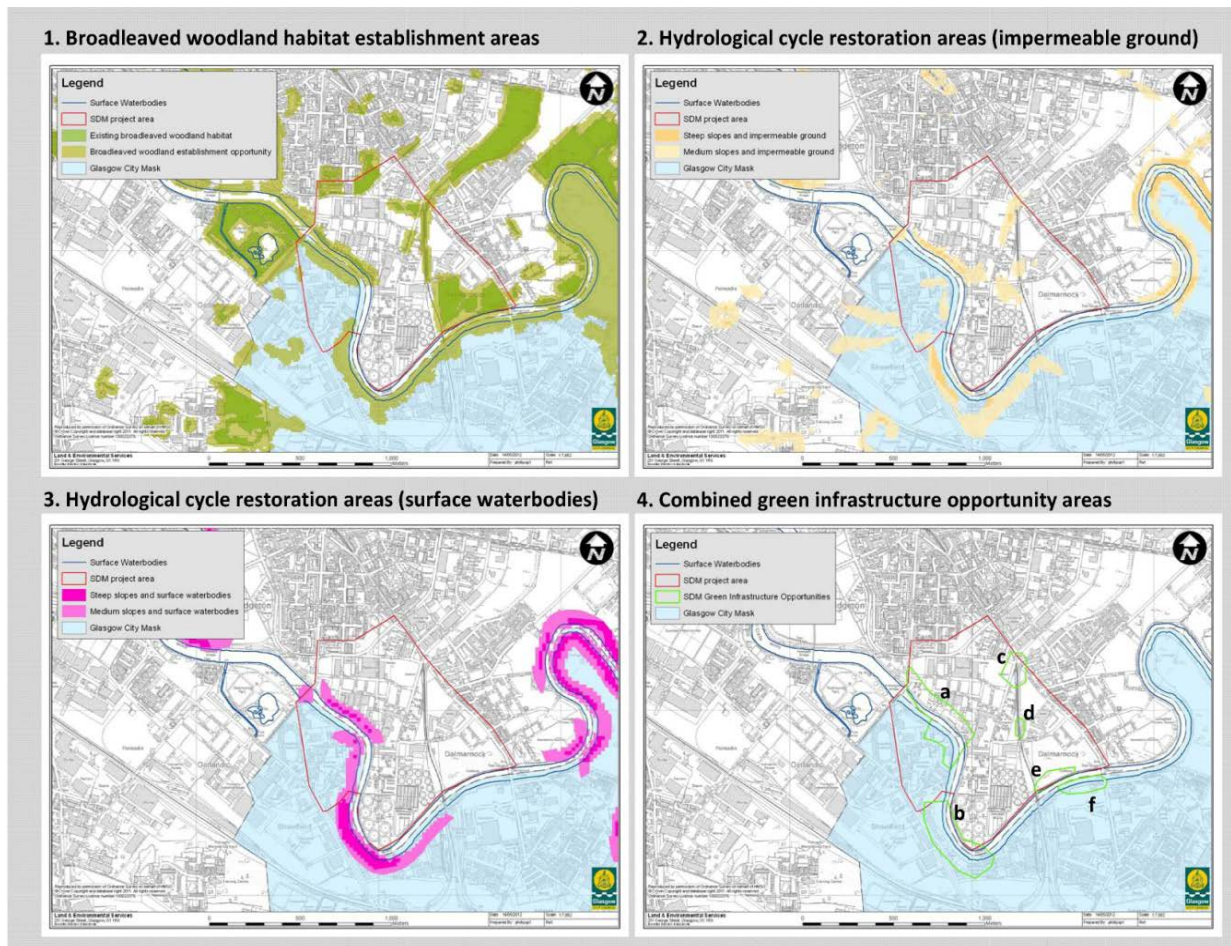
Things	Benefits	Uses
Area of Beech (<i>Fagus sylvatica</i>) dominated wood parkland	Area that provides benefits to society, namely: <ul style="list-style-type: none"> • Food production; • Cultural and spiritual; • Carbon sequestration and storage; • Water and flood regulation; • Soil formation; • Noise reduction; • Ornamental resources; • Biological control; • Pollination. 	Area that can be used in a variety of ways, namely: <ul style="list-style-type: none"> • Walk the dog; • Get ivy for Christmas; • Build a jump for bike; • Go for a stroll; • Gets flooded in the winter; • Get some peace and quiet; • Harvest nuts and mushrooms; • To meet as part of a community group.

Examples of this can be seen in the THESAURUS work - see: <http://www.cep.co.uk/Thesaurus.html> and Sheate, W.R., Eales, R.P., Daly, E., Baker, J., Murdoch, A., Hill, C., Ojike, U., and Karpouzoglou, T., (in press) Spatial Representation and Specification of Ecosystem Services: a Methodology Using Land Use/Land Cover Data and Stakeholder Engagement. Journal of Environmental Policy Assessment and Management Vol:14, Pages:1-36.

Comprehensive Ecosystem Assessment

This use of ecosystem services within SEA may, or may not, include the use of economic valuation of ecosystem services. Regardless it builds on the ecosystem services philosophy and involves a much more detailed analysis of the type and nature of ecosystem services being provided within the scope of a plan or programme and assessing their contribution to supporting the plan or programme. An example, of non monetary valuation, is the Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) Implementation Plan SEA.

The successful delivery of the Implementation Plan was felt to be reliant on healthy, functioning ecosystems as well as the direct provision of water management related ecosystem services. Accordingly, understanding where the natural environment is providing these ecosystem services as well as areas where there might be a shortfall of these services is a key issue for both the SEA and plan-development. As part of the SEA process, a Green Infrastructure Masterplan will be developed for the region using Geographic Information System (GIS) based modelling.¹⁴ This GIS work is based on a network analysis linking land use to ecosystem services and will be used when considering the various ways that the plan or programme may seek to meet its objectives.



¹⁴ Explanation of the Figure - Focusing on the South Dalmarnock area of Glasgow's east end, the figure above shows outputs from several stages of the GIS modelling undertaken to inform the identification of opportunity areas in the MGSDP's Green Infrastructure Masterplan. Map 1 shows patches of existing broadleaved woodland habitat as well as land with high ecological potential to support the further establishment of this habitat. Maps 2 and 3 show areas of 'steeply' sloped and 'medium' sloped ground within the immediate catchment of large areas of impermeable ground and surface waterbodies respectively. Precipitation falling at these locations is likely to drain quickly to the nearby area of impermeable ground or surface waterbody contributing to increased pressure on the underground drainage network or increased streamflow.

SUSTAINABLE URBAN DRAINAGE SYSTEMS (Regulatory)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Sustainable urban Drainage Systems (SuDS) communication and planning tool
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Decision, Collaborative, Valuation, Modelling, Futures, Financial, Ecosystem Services
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	1. Chunglim Mak
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>Sustainable urban Drainage Systems (SuDS) communication and planning tool is a simple system that illustrate SuDS based on the ecosystem services concept. Ecosystem services are provisions from the natural environment that are beneficial to human beings. Therefore, this model highlights the services each SuDS types can generate that are beneficial to us (see appendix 2, fig. 1). Eventually, the ecosystem services can be measured using the indicators illustrated in the model, and the results will highlight values of each ecosystem services SuDS generate.</p> <p>The SuDS communication and planning tool (see appendix 2, fig. 1) has three columns: first, different SuDS types; second, ecosystem services each SuDS type can generate; third, indicators for measuring the ecosystem services. Each SuDS type is shown in different colour, for illustration and clarification, with matching colour lines projecting from each SuDS types to link with the ecosystem services they can generate. The ecosystem services are split into four categories – supporting, provisioning, regulating and cultural. For illustration and clarification, each ecosystem services categories are highlighted in different shades of green. In order to show which indicators can be used to measure which ecosystem services, matching green coloured lines were drawn so that they project from the ecosystem services towards their relevant indicators.</p> <p>Key SuDS literatures, including CIRIA materials, were referred to and the functions of different SuDS types were analysed in order to construct the list of SuDS types in the first column of the SuDS communication and planning tool. In the second column, the categories and services represent the urban “natural” environment, such as urban parks and Green Infrastructures, and what these environments can generate that are beneficial to human beings . Ecosystem processes such as primary productivity and water cycle were</p>

not included because they will exist whether or not they offer any benefits to us. The ecosystem services chosen for the second column were based on key ecosystem services literatures (see Task 3) and the ease of quantification using the cost/benefit approach. The links between SuDS types and ecosystem services were based on empirical and implied evidences gathered through systematic and critical literature reviews (see Task 3 for some key literatures used to justify the links). In the third column, methods and empirical measurement data from a wide range of literatures were analysed in order to, firstly, identify the indicators for measuring ecosystem services, and secondly, link the ecosystems services with their relevant indicators together.

The SuDS communication and planning tool is currently being tested within the River Irwell Catchment Plan. Currently, there is a serious problem with regards to diffuse pollution in urban areas of the river catchment which is preventing many rivers and lakes from achieving the legally required standard of water quality. Urban diffuse pollution mostly contain within storm water runoff. Impervious surfaces from urban areas contribute to large volume of storm water runoff into natural water bodies, causing flooding and distribution of diffuse pollutants. Therefore, reducing and managing storm water runoff is the key to tackle urban diffuse pollution. The planning tool will be used to investigate the multi-functional benefits that SuDS can provide in addition to the control of storm water runoff and tackling urban diffuse pollution by purifying the storm water before they enter the rivers.

Task 2: Use of the tool

Position / Use	Stage	Currently used	Could be used
<i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Ideas	Yes	Yes – developers
	Survey		Yes – engineers, planners
	Assess		Yes – engineers
	Policy / decision		Yes – flooding management policies
	Implement		Yes – engineers
	Evaluate		Yes - engineers

Please add any further comments here:

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?
(e.g. reports, journal articles, books)

Please add any further comments here:

Author & Date	Title Vol pages	Web link (if available)
B. Woods-Ballard; R. Kellagher; P. Martin, C. Jefferies; R. Bray; P. Shaffer, (2007).	C697 The SUDS Manual. CIRIA, 1-607.	www.susdrain.org/resources/ciria-guidance.html#cgsuds
Costanza, Robert; d'Arge, Ralph; de Groot, Rudolf; Farber, Stephen; Grasso, Monica; Hannon, Bruce; Limburg, Karin; Naeen, Shahid; O'Neill, Robert V.; Paruelo, Jose; Raskin, Robert G.; Sutton, Paul; van den Belt, Marjan, (1997).	The value of the world's ecosystem services and natural capital. <i>Nature</i> , 387, 253-260.	
Rudolf S. de Groot; Matthew A. Wilson; Roelof M.J. Boumans, (2002).	A typology for the classification, description and valuation of ecosystem functions, goods and services. <i>Ecological Economics</i> , 41, 393-408.	
TEEB - The Economics of Ecosystems and Biodiversity, (2011).	TEEB Manual for Cities: Ecosystem Services in Urban Management.	www.teebweb.org
Hanson, C.; Ranganathan, J.; Iceland, C.; Finisdore, J., (2012).	The Corporate Ecosystem Services Review: Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change	www.wri.org/publication/corporate-ecosystem-services-review
Gretchen C. Daily, (1997).	Introduction: What are ecosystem services? <i>Nature's Services: Societal Dependence on Natural Ecosystems</i> , Island Press, 1-10.	
Smith, R. M.; Thompson, K.; Hodgson, J. G.; Warren, P. H. & Gaston, K. J., (2006).	Urban domestic gardens (IX): Composition and richness of the vascular plant flora, and implications for native biodiversity. <i>Biological Conservation</i> , 129, 312-322.	
R. Céréghino; A. Ruggiero; P. Marty; S. Angélibert, (2008).	Influence of vegetation cover on the biological traits of pond invertebrate communities. <i>Ann. Limnol.</i>	

		- Int. J. Lim., 44, 267-274.	
	UK National Ecosystem Assessment, (2011).	UK National Ecosystem Assessment: Technical Report, chapter 10 – Urban.	
	Benjamin Burkhard; Franziska Kroll; Stoyan Nedkov; Felix Müller, (2012).	Mapping ecosystem service supply, demand and budgets. Ecological Indicators, 21, 17-29.	
	Trisha L.C. Moore; William F. Hunt, (2012).	Ecosystem service provision by stormwater wetlands and ponds - A means for evaluation? Water Research, 46, 20, 6811-6823.	

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

If so, please provide an outline.

This SuDS communication and planning tool was created and is in the process of being further developed during a PhD research programme.

Guidance

For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

Please refer to the summary text about ES for concept clarification at the end of this template (appendix)

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool

If neither approach is currently incorporated, please move to the next question

The incorporation of EA and ES can be seen through applying the tool in the River Irwell Catchment Plan. Through EA and ES incorporation, the environmental and social benefits SuDS can provide are as follows:

1. Enhance flood protection and alleviate drought, by providing extra water storage capacity, of an area. Therefore, SuDS can be used as an alternative to the culverts, weirs, locks and dams that are currently being used for flood mitigation in the River Irwell¹⁵.
2. Provide wildlife habitats, link different habitats together, and provide refuge for different wildlife species. Therefore, SuDS can be incorporated into the planned River Irwell brownfield sites regeneration¹⁵.
3. Support a variety of wildlife habitats, which enhance biodiversity. Therefore, SuDS can be made accessible to local people in the Irwell Catchment for recreational purposes¹⁵.

¹⁵ JAMES, P., ATKINSON, S., BARLOW, D., BATES, A., COMYN, F., DUDDY, M., DUTTON, D., FRASER, J., HORSFALL, W., HOTHERSALL, A., LOWRY, K., MOORE, A., ROTHWELL, J., SCHOFIELD, M., SMITH, A., SURTEES, A., TAYLOR, D., TOLLITT, B., TOWERS, C., TZOULAS, K., WHITAKER, G. & CAUSER, K. 2012. The Irwell Catchment Pilot: The Rivers Return. *In*: THE ENVIRONMENT AGENCY (ed.). Warrington.

4. Provide multi-functionality of green infrastructure¹⁵.
5. Act as an alternative source of water supply, by turning grey water into usable water.
6. Maximise intervention performance, such as using Green Roofs for temporary water storage, in order to manage storm water.

Aside from the above services, the SuDS communication and planning tool can be used as evidence to encourage utility companies, such as United Utilities, to invest in SuDS, by showing them the possibility of SuDS replacing Combined Sewerage Systems¹⁵. The planning tool can also be used to encourage schools to adopt SuDS, such as the Primrose Primary School in Ordsall, Greater Manchester, and to show the possibility of SuDS in providing job opportunities, such as in designing the scheme, construction, and maintenance.

How could the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?

EA and ES can be further incorporated within the SuDS communication and planning tool through examinations of trade-offs and synergies. The trade-offs between ecosystem services happen when a driver changes an ecosystem service for the better, which in turn worsen another ecosystem service.

Land use alteration is a major driver of changes in ecosystem services¹⁶. Trade-offs of different services can therefore be observed through changes in land use. In urbanization through densification, land use alteration occurred through the increase in impermeable surface coverage, which made flood mitigation worse but did not affect carbon storage¹⁶. In urbanization through urban sprawl, land use alteration occurred through the increase in the size of the urban area, which replaces previous green field areas¹⁶. In this case, changes in land use made carbon storage worse but did not affect flood mitigation¹⁶.

Multiple ecosystem services can be improved or worsen at the same time either due to their interactions with the shared driver, or with each others. This situation is termed synergies. For example, diving to see coral reefs is a human recreational activity. Algae, however, can outcompete and outgrow the reefs, which leads to their deaths. Fish, making coral reefs their habitats, eats algae as part of their diet. This offers protection to the reefs, which in turn secure the recreational activity of diving for human beings¹⁷.

¹⁶ EIGENBROD, F., BELL, V. A., DAVIES, H. N., HEINEMEYER, A., ARMSWORTH, P. R. & GASTON, K. J. 2011. The impact of projected increases in urbanization on ecosystem services. *Proc Biol Sci*, 278, 3201-8.

¹⁷ HUGHES, T. P., RODRIGUES, M. J., BELLWOOD, D. R., CECCARELLI, D., HOEGH-GULDBERG, O., MCCOOK, L., MOLTSCANIWSKYJ, N., PRATCHETT, M. S., STENECK, R. S. & WILLIS, B. 2007. Phase shifts, herbivory, and the resilience of coral reefs to climate change. *Curr Biol*, 17, 360-5.

SuDS produce many different ecosystem services. Each of these ecosystem services are either interlinked with drivers or are directly linked with each others. In a retention pond, Habitat for Species is a key ecosystem service. This service can be improved or worsened via the improvement of water retention volume of the pond. Water retention capacity of the pond affects its flood mitigation capacity, another key ecosystem service, of the retention pond. Therefore, water retention is the driver that links Habitats for Species and Flood Mitigation together when analysing a retention pond’s ecosystem services.

Complex plant structures can also change the flow of storm water from laminar to turbulent¹⁸. Turbulent water flow disrupts processes such as attenuation and infiltration¹⁸, which has a negative effect on Flood Mitigation and Water Purification ecosystem services.

The economic analysis of ecosystem services can also be incorporated into the SuDS communication and planning tool. For example with regards to Fresh Water Provision, the data collected for the generation of clean, usable water per annum can be compared with the cost of using mains water per annum^{19, 20, 21, 22}, in order to get a value for the clean water generation capability of a SuDS site. Overall, SuDS can either be represented as cost saving schemes or systems that can generate actual profits if they produce or support the production of products that have market values.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? Please explain how.
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can	Yes, as through visualization, one can clearly see the links between the different SuDS types and the ecosystem services each one can generate, therefore,

¹⁸ B. WOODS-BALLARD, R. KELLAGHER, P. MARTIN, C. JEFFERIES, R. BRAY & P. SHAFFER 2007. C697 The SUDS Manual. C697. London: CIRIA.

¹⁹ HEIN, L., VAN KOPPEN, K., DE GROOT, R. S. & VAN IERLAND, E. C. 2006. Spatial scales, stakeholders and the valuation of ecosystem services. *Ecological Economics*, 57, 209-228.

²⁰ PASCUAL, U. & MURADIAN, R. 2010. The economics of valuing ecosystem services and biodiversity. The Economics of Ecosystems and Biodiversity (TEEB).

²¹ RUTH ASHTON, RICHARD BAKER, JAMIE DEAN, GILES GOLSHETTI, ANNE JALUZOT, NERYS JONES, MARTIN MOSS, MALCOLM STEELE, WILL WILLIAMS & WILMERS, P. 2010. Building natural value for sustainable economic development: The green infrastructure valuation toolkit user guide. Green Infrastructure North West.

²² MALTE BUSCH, ALESSANDRA LA NOTTE, VALÉRIE LAPORTE & MARKUS ERHARD 2012. Potentials of quantitative and qualitative approaches to assessing ecosystem services. *Ecological Indicators*, 21, 89-103.

<i>Complete as many boxes as required</i>	be shared with multiple stakeholders across built and/or natural environment	encouraging developers, engineers, and planners to incorporate EA and ES into their work.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Yes. The SuDS communication and planning tool has the potential to help residents and businesses to understand the benefits of retrofitting SuDS in their areas.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Yes. Utility companies, environmental organisations, planners, engineers and ecologists can use this tool as a base for engagement and meaningful conversations.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Yes. The tool can reveal ecosystem services SuDS can generate that are previously not thought of such as recreation and education, therefore, encouraging the adoption of SuDS by communities and the general public.
	5. Extent to which tool is building on other tools or EA/ES progress	Yes. The tool uses the ecosystem services identified by MEA, TEED, UK NEA, and other key publications, and link them with different SuDS types.
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	The tool is currently being used in the River Irwell Catchment Plan, but the aim is to make the tool generically applicable.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The aim is to make the tool generically applicable, therefore, the application of it can potentially reflect any cultural differences.
	Developing and selecting tools	
	8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	This tool is being developed during a PhD research programme, which is funded by the UK Engineering Council.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	The aim is to make the tool usable by non-experts, therefore, no special training is required.	
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The Flood and Water Management Act 2010 and the Water Framework Directive can be exploited by the tool.	
Informing resultant policies effectively		

11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	The planning tool can be used as evidence to encourage utility companies, such as United Utilities, to invest in SuDS, by showing them the possibility of SuDS replacing Combined Sewerage Systems. The planning tool can also be used to encourage schools to adopt SuDS, such as the Primrose Primary School in Ordsall, Greater Manchester, and to show the possibility of SuDS in providing job opportunities, such as in designing the scheme, construction, and maintenance.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	The tool can be used to justify decisions with regards to the following: first, the location of a SuDS scheme; second, the type of SuDS to use for either new development or retrofitting. The tool can also be used for scoping and screening to find the most suitable SuDS type for a particular site.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	N/A
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	The tool can assist in developing statutory plans by highlighting the benefits SuDS can provide to the local communities and the environment.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	The tool highlights the services SuDS can provide to the local communities, therefore, they can be encouraged to adopt and manage SuDS sites for the benefits of the local environment.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Potentially.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Potentially.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	The tool is generically applicable.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Few data is required to operate this tool.
20. To what extent has/could the	No.

tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Strengths *(of the tool in delivering intended outcomes)*

- Easy to use
- Simple concept
- Little training is required
- The links between SuDS types and ecosystem services are clearly laid out
- Critically researched and analysed
- Room for further enhancement

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- Little empirical evidence to back up linkages at the moment
- Unable to show potential ecosystem disservices SuDS can generate
- Currently no indications of values of ecosystem services that can be generated by SuDS

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- Urban planning
- Justify decision for retrofitting SuDS
- Assist in developing statutory plans for the use of SuDS
- Encourage SuDS adoption and management by local communities.
- Assist in statutory plans development.
- Encourage the investments of SuDS schemes.

Threats (factors which negatively affect the tool and its outcomes)

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Lack of empirical data to justify the links between SuDS types and ecosystem services they can generate.		low
Unable to show potential ecosystem disservices SuDS can generate.		low
Indicators for determining the values of ecosystem services that can be generated by SuDS are to be confirmed.		low

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

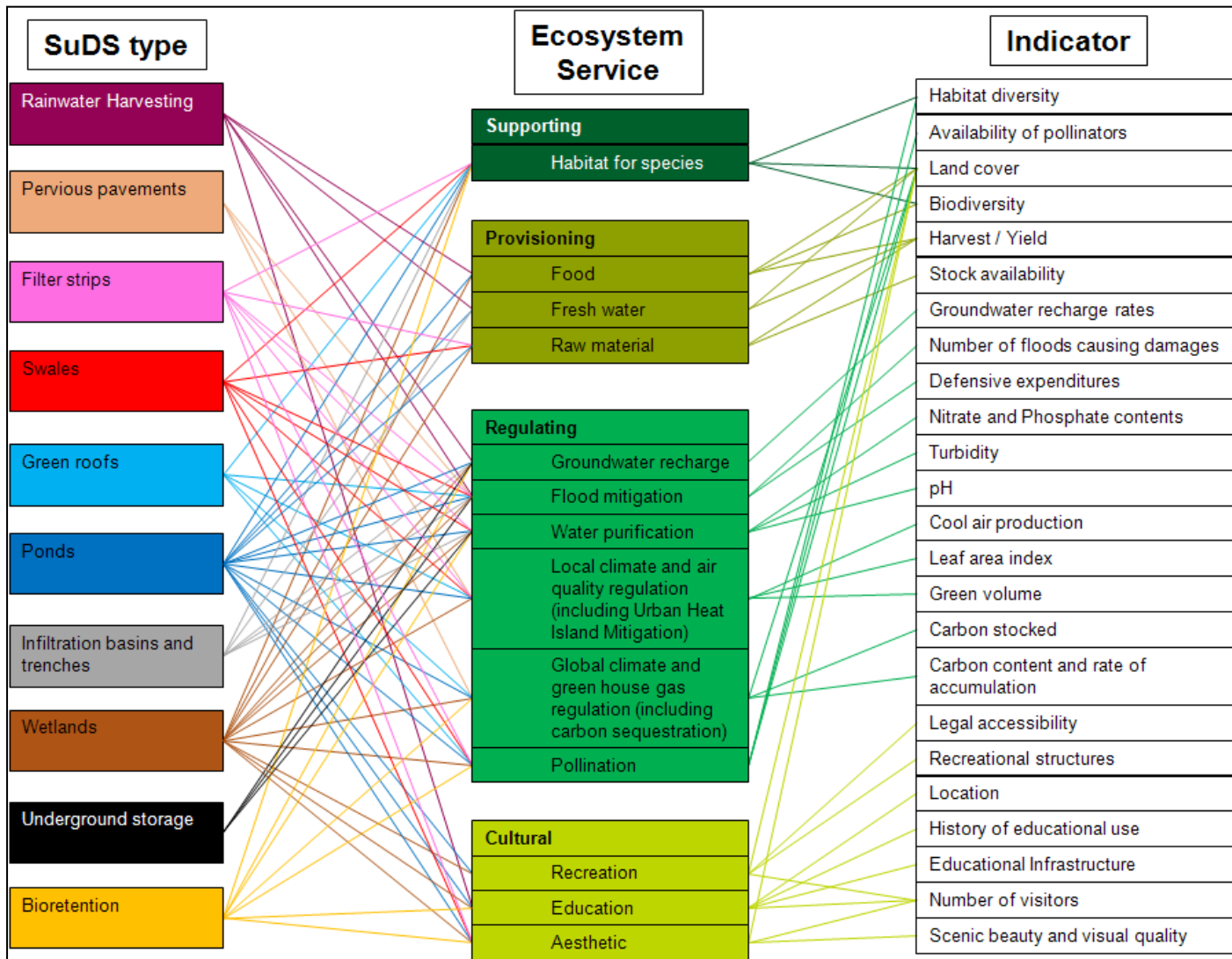


Figure 1 – The SuDS communication and planning tool^{23, 24}

²³ MAK, C., JAMES, P. & SCHOLZ, M. Resilient Ecosystem Service Assessments for Sustainable Drainage Systems (SuDS). College of Science and Technology Research Showcase, 2012a MediaCityUK, University of Salford, Salford, UK.

²⁴ MAK, C., JAMES, P. & SCHOLZ, M. Linking Sustainable urban Drainage Systems (SuDS) and ecosystem services: new connections in urban ecology. British Ecological Society Annual Meeting and AGM, 2012b University of Birmingham, UK.

SUPPLY CHAIN STEWARDSHIP SCHEMES (Regulatory)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Supply chain stewardship schemes
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Financial (although 'economic' may be better in this case), creating markets linking 'suppliers' of ecosystem services with their 'consumers'
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	1. Mark Everard
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>Supply chain stewardship schemes comprise a diverse group of accreditation mechanisms intended to certify that products of services transparently meet published sets of standards. Many established schemes predate contemporary wider acceptance of ecosystem services as a framework. Consequently, most if not all stewardship schemes today address only on or a few services, and may do so only at certain stages in the value chain.</p> <p>The most rigorous examples require independent auditing that standards are met. These include, for example, Forest Stewardship Council (FSC) requiring certification from sustainable and equitable forestry practices rights through to manufacture of finished forest-derived products. The Marine Stewardship Council (MSC) scheme emulates FSC but addresses capture fishery products, whilst the nascent Aquaculture Stewardship Council (ASC) is seeking the same for aquaculture products. In farming, the Organic standard is also well-known and independently verified. Other certification schemes are self-certifying, entailing lower transaction costs but arguably at the expense of rigour.</p> <p>Limitation of certification to only part of the societal life cycle – for example FSC, MSC and Organic products can still bear the logo if flown half-way round the world – and to a less than complete set of ecosystem services is both a current weakness but also an opportunity, though many certification schemes (Red Tractor, Responsible Care, Nordic Swan, Freedom Foods, Rainforest Alliance, Fairtrade, etc.) have served to advance aspects of environmentally and socially responsible production.</p> <p>Nevertheless, extension of the principles of supply chain stewardship schemes to address more elements of the ecosystem services framework, and to do so more comprehensively along value chains, may represent a valuable and established means to 'mainstream' the ecosystem approach into markets.</p>
Task 2: Use of the tool	

Position / Use	Stage	Currently used	Could be used
If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)	Ideas	Not currently applied beyond a few focal services as noted above	In principle, assurance that ecosystem services have been considered, self-certified or independently, could advance the 'mainstreaming' of the ecosystem approach
	Survey	Not currently applied beyond a few focal services as noted above	In principle, assurance that ecosystem services have been considered, self-certified or independently, could advance the 'mainstreaming' of the ecosystem approach
	Assess	Not currently applied beyond a few focal services as noted above	Could be readily applied to 'screen' ecosystem service implications of proposals, products or services
	Policy / decision	Not currently applied beyond a few focal services as noted above	Could be applied as a means to independently certify the sustainability of policies or decisions
	Implement	Not currently applied beyond a few focal services as noted above	Could be applied as a means to guide implementation
	Evaluate	Not currently applied beyond a few focal services as noted above	Could be applied as a means to independently determine the sustainability outcomes of policies or decisions

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?

(e.g. reports, journal articles, books)

Please add any further comments here:

Author & Date	Title Vol pages	Web link (if available)
Forest Stewardship Council	-	www.fsc.org
Marine Stewardship Council	-	www.msc.org
Organic standards	-	www.soilassociation.org

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing

The potential of supply chain certification schemes to internalise the value of biodiversity has featured in my book 'The Business of Biodiversity' (Everard, M. 2009. WIT Press) whilst its wider contribution to mainstreaming the ecosystem approach is considered in my book 'Common Ground' (Everard, M. 2011. Zed Books)

and/or evaluation? <i>If so, please provide an outline.</i>		
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.	
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES) <i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i>		
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	As indicated in the preamble, this is more about potential than current practice, though some stewardship schemes certainly embody certification of some ecosystem services.	
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	In theory, a more complete range of relevant ecosystem services could be integrated into established certification schemes, or else new schemes be developed based on their tested principles, to ensure independent or at least self-certified scoring.	
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews		
Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews <i>Complete as many boxes as required</i>	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	As for the potential to incorporate the ecosystem services framework into EIA, SEA and planning application determination, stewardship schemes provide a relevant and established mechanisms for mainstreaming.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Can help link common thinking and interdependencies along value chains.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Can help link common thinking and interdependencies along value chains.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Can help link common thinking and interdependencies along value chains.
5. Extent to which tool is building	As noted above, this is an established set of tools into	

on other tools or EA/ES progress	which the ecosystem approach could be integrated.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	As noted above, this is an established set of tools into which the ecosystem approach could be integrated.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	This tool can be developed on a context/product-specific basis, in the way that current stewardship schemes have fixed standards yet operate across different cultural contexts.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	The transaction costs of developing a stewardship schemes based on ecosystem services is significant, its ongoing transaction costs depending on self-certification or independent accreditation. Most established schemes have been led with business partners with a vested interest in securing sustainable supplies (FSC and Kingfisher Group, MSC and Unilever, etc.) so this may be a good model.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Learning is available from both existing successful certification schemes and other ecosystem services-based tools, though there is no bespoke skills development resource for this application.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	Various commitments in the UK White Paper on the Natural Environment, <i>The Natural Choice</i> ²⁵ , may be argued to be statutory 'hooks'.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	The tool has potential but this is not yet tested in terms of mainstreaming ecosystem services.
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	The tool could be linked with the planning system if so designed.
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing	The tool could adapted for this purpose if so designed.

²⁵ HM Government. (2011). The Natural Choice: Securing the Value of Nature. www.defra.gov.uk/environment/natural/whitepaper

visitor needs and pressures within protected areas / the considered area? How?	
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Uncertain
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Communities could determine the standards to be met, requiring all plans and suppliers to demonstrate compliance with these ecosystem service outcomes.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Not yet explored
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Not yet explored, but the focus on value chains inherently links spatial scales
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	Not yet explored, but the focus on value chains inherently links sectoral boundaries
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Not yet explored
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Not yet explored, but the wider focus on services rather than narrow certified outcomes would bias it towards systemic outcomes from landscapes

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the	Strengths (<i>of the tool in delivering intended outcomes</i>)
	<ul style="list-style-type: none"> • Based on established tools • Variable levels of self- or independent certification
	Weaknesses (<i>factors that detract from the tool's ability to deliver intended outcomes</i>)
	<ul style="list-style-type: none"> • Potentially high transaction costs • 'Weak' certification processes may erode confidence/delivery
	Opportunities (<i>consider opportunities for application of the ecosystem approach and services</i>)
	<ul style="list-style-type: none"> • Linking stewardship schemes with the ecosystem approach offers great potential

tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Threats (*factors which negatively affect the tool and its outcomes*)

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Commoditisation of the natural world is a potential threat if there is not common understanding about the underpinning ecosystem approach	High	Medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

NATURAL CAPITAL ASSET CHECK (Valuation)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Natural Capital Asset Check (NCAC)
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Participatory, Regulatory, Collaborative, Decision, Futures, Financial, Ecosystem Services
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Philip Cryle 2. Ian Dickie
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>The UK Government is committed to Sustainable Development (SD), understood as inter-generational equity²⁶ but this broad concept provides little practical guidance to decision makers facing difficult trade-offs. Natural capital is the combinations of natural assets that produce values (i.e. ecosystem services) to society. Conventional economic appraisal techniques using market data often fail to reflect how impacts on the underlying natural capital assets will impact t on future human welfare.</p> <p>However, our understanding of the links between natural capital assets and the services they provide has improved through application of ecosystem service concepts. The NCAC approach aims to provide a way of analysing the relationship between current changes to natural capital and its ability to support future human welfare.</p> <p>To understand the impacts of our actions, we want to understand how a natural capital asset producing a 'flow' of ecosystem services will be affected by past, current and future changes (e.g. a policy decision). Currently there is no systematic method to assess the resilience of natural capital and feed it into policy and management decisions. Cost-benefit analysis (CBA) is often inadequate in this respect because it fails to capture some strategic issues (e.g. cumulative effects), and because marginal valuations are not relevant where thresholds effects are (potentially) being approached.</p> <p>In 2010, the Government Economic Service Review of the Economics of SD recommended that a 'natural asset check' should be investigated for use in the appraisal of public policy options (Price et al., 2010). Following publication of the results of the UK National Ecosystem Assessment (UK NEA, 2011), the Natural Environment White Paper (NEWP) (HM Government, 2011) proposed that the case for such an asset check to be considered further, with a view to supporting the work of the Natural Capital Committee (NCC).</p>

²⁶ i.e. the widely recognised Brundtland Commission definition of SD: '*...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*' (1987 Brundtland Report, "Our Common Future")

This support will take the form of providing advice on: when, where and how natural assets are being used unsustainably; where action to protect and improve natural capital should be focussed for greatest impact on well-being; and, the research priorities that follow from these needs.

The emphasis of the work is to develop a practical and applied approach – in both methodological, and resource terms. Methodologically, the approach must be robust but also achievable with the current state of environmental-economic knowledge. It must be deliverable from resources that are realistic in the context of public sector budget constraints and on a timetable that can inform policy and other decisions.

An asset check tool can provide inputs to both cost-benefit analysis and wealth accounting approaches at micro and macro scales.

Task 2: Use of the tool

Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	There is currently no assessment of the condition of natural capital assets in the UK. Environmental accounts provide a snapshot at point in time of the value of natural capital. CBA is undertaken to determine the marginal impact of government policies.	An asset check will link natural capital assets to the current and future provision of ecosystem services, such as how ecological functions may be impacted by cumulative effects. Research on the link to national accounts will also be developed.
	Survey	-	Engagement across economics and ecology from academics, consultancies, government agencies and industry experts.
	Assess	NCAC will build on the UK National Ecosystem Assessment (UKNEA) ²⁷ which provides a snapshot of key ES in the UK.	An asset check will build on UKNEA by combining information on the stock of natural capital, trends in its state and impacts/ thresholds.
	Policy / decision	Current analysis of impacts on natural capital is through CBA. Its main weakness is the inappropriateness of marginal valuations where thresholds effects are (potentially) being approached.	NCAC will account for the concept of ‘critical natural capital’ recognising that substitution between different forms of capital (man-made, human and natural) is not always possible. It can input to both CBA and wealth accounting approaches.
	Implement	-	NCAC could be implemented at both macro level – wealth accounting and the national impact of government policies and

²⁷ <http://uknea.unep-wcmc.org/>

		micro level – local authority and private firm impacts on natural capital.
Evaluate	-	The rates of change in different natural capital assets and/or the services they support will influence the longevity of asset check results, and therefore the frequency with which they will need to be updated.

Please add any further comments here:

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool?
(e.g. reports, journal articles, books)

Tool is not yet in the public domain.

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?
If so, please provide an outline.

The first version of the asset check was tested in two ways. Firstly, a preliminary UK application was undertaken drawing on the UK NEA, in order to consider some of the main ecosystem components and systems that make up the UK's natural capital.

Secondly through three more detailed case studies which were used to test the application of the draft methodology:

1. Fisheries and saltmarsh fish breeding habitat;
2. Using Countryside Survey (CS) data on habitats (e.g. farmland), and
3. Woodland, using CS data and other analysis, such as ONS national accounting data and modelling of ecosystem services from the Public Forest Estate.

The project and drafts of the asset check tool were presented to a meeting of the Government's Natural Capital Committee on the 18th July, 2012. Feedback from this meeting has informed the ongoing work. Following the testing, the natural capital asset check (NCAC) tool was revised again. It is suggested that this version is taken forward for use in the UKNEA follow-on project natural capital asset check work package (WP1).

Guidance

For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

****Please refer to the summary text about ES for concept clarification at the end of this template (appendix)****

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by

The NCAC aims to analyse the impact of a change in a natural capital asset on its sustainability in terms of the total 'stock' and ecosystem services 'flows'.

Natural capital assets provide the 'flow' of ecosystem services that we benefit from. The continued production of these ES is dependent upon the extent and integrity (condition) of these assets. Therefore understanding the state of natural capital, and the possibility of

<p>the tool</p> <p><i>If neither approach is currently incorporated, please move to the next question</i></p>	<p>harming service flow through our actions is important for our future welfare. This thinking has laid the foundations for the NCAC. The asset check potentially informs us about the possibility of ensuring we don't cross thresholds that diminish or destroy the flow of ES</p>													
	<p>Table 4.1. Summary of natural capital asset check result for saltmarsh and fisheries ecological cycle</p> <p>Provisioning ES: Fisheries Productivity</p> <table border="1"> <thead> <tr> <th>Key observations</th> <th>Thresholds</th> <th>Natural asset integrity</th> <th>Tradeoffs</th> <th>Future Sustainability</th> </tr> </thead> <tbody> <tr> <td>Decrease in extent of UK saltmarshes due to historical land claim from sea, ongoing loss from coastal development and relative sea level rise being slowed by managed realignment.</td> <td>Saltmarsh plays key role in development of juvenile fish, insufficient habitat could limit fish stocks, increasing vulnerability to other pressures.</td> <td>Currently supply of saltmarsh habitat is potentially insufficient to support demand for fish stocks (i.e. could be a limiting factor).</td> <td>Managed realignment usually removes land from agricultural use (except extensive grazing). Loss of crops may be of similar value to gains in fisheries productivity.</td> <td>Continued loss from climate change threatens to increase constraint on fish stocks from lack on juvenile feeding habitat.</td> </tr> </tbody> </table> <p>benefits.</p>					Key observations	Thresholds	Natural asset integrity	Tradeoffs	Future Sustainability	Decrease in extent of UK saltmarshes due to historical land claim from sea, ongoing loss from coastal development and relative sea level rise being slowed by managed realignment.	Saltmarsh plays key role in development of juvenile fish, insufficient habitat could limit fish stocks, increasing vulnerability to other pressures.	Currently supply of saltmarsh habitat is potentially insufficient to support demand for fish stocks (i.e. could be a limiting factor).	Managed realignment usually removes land from agricultural use (except extensive grazing). Loss of crops may be of similar value to gains in fisheries productivity.
Key observations	Thresholds	Natural asset integrity	Tradeoffs	Future Sustainability										
Decrease in extent of UK saltmarshes due to historical land claim from sea, ongoing loss from coastal development and relative sea level rise being slowed by managed realignment.	Saltmarsh plays key role in development of juvenile fish, insufficient habitat could limit fish stocks, increasing vulnerability to other pressures.	Currently supply of saltmarsh habitat is potentially insufficient to support demand for fish stocks (i.e. could be a limiting factor).	Managed realignment usually removes land from agricultural use (except extensive grazing). Loss of crops may be of similar value to gains in fisheries productivity.	Continued loss from climate change threatens to increase constraint on fish stocks from lack on juvenile feeding habitat.										

<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>As above.</p>
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Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach?</p> <p><i>Please explain how.</i></p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural</p>	<p>The output will lead to development of a shared discourse of EA/ES through its contribution to a more holistic assessment of ES that could be used by local authorities and private firms in project appraisal. This would provide an opportunity to engage with stakeholders and therefore could help</p>

environment	to share principles of EA and ES.
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	The concept of nature as a capital asset that produces value is consistent with standard accounting terminology. The tool is flexible so as to account for but consolidate different perspectives on what constitutes natural capital.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Engagement on draft NCAC approaches is likely to involve a wide range of stakeholders, but given its technical nature it may be difficult to increase participation from other publics.
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Through highlighting issues around the sustainability of natural resource use, the NCAC should help reveal the impacts of natural capital depletion. Dissemination of the tool beyond use by central government in CBA and wealth accounting could highlight the importance of natural capital assets to local authorities and businesses.
5. Extent to which tool is building on other tools or EA/ES progress	NCAC aims to build on the development of ES thinking exemplified in ecosystem assessments such as MEA, TEEB and UKNEA as well as the WAVES project and the literature on comprehensive national accounting including notions of 'Green Accounts' and 'Genuine Savings'.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	NCAC is intended to work at different scales, and to provide local authorities and private firms with the power to determine impacts on local natural capital assets e.g. at a catchment level.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool as it currently stands is sufficiently flexible to enable application across all forms of natural capital, interpreted in a variety of ways. Much like CBA, the basic concept of the tool exists and its application is open to interpretation within the boundaries set by this concept e.g. how to determine a threshold – in fish stocks use concept such as maximum sustainable yield, for atmospheric GHG composition use the consequential limits to climate change (under 2 degrees global warming)
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Application requires significant analytical effort and combination of environmental-economics and ecological knowledge of the natural capital assets in question and their ecosystem services.
9. Does skills development (essential or optional?) and support exist for the tool or is	We currently envisage one of the outputs of the NCAC approach to be a guide on <i>how</i> to undertake an asset check, with links to supporting information

	there a body to ensure the optimal and correct use of it?	such as technical reports, practical case studies, links to information sources. A web-based guidance tool, similar to the online value transfer guidelines ²⁸ , could be suitable.
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	An overarching message from the Natural Environment White Paper is the need to put natural capital at the centre of economic thinking and at the heart of the way we measure economic progress nationally. A key commitment is to establish a Natural Capital Committee to advise the government on the state of English natural capital. The White Paper also includes a specific commitment to take forward this NCAC.
Informing resultant policies effectively		
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Through identifying criticalities in certain natural capital assets, the NCAC may also form priorities for action at a policy level. The tool is intended to be used in CBA as additional evidence of the impact of decisions on natural capital assets. It considers the impact of changes to natural capital assets/stocks on human welfare through the production of ES flows. It therefore considers the full range of economic, social and environmental impacts.
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Specific links to policy appraisal including planning regulations and subsequently the use in planning applications is to be confirmed.
Delivering management objectives		
	13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	The tool can facilitate the management of areas through contributing evidence about the condition and integrity of natural capital within an area to the decision making process.
Local ownership/new governance		
	14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	NCAC could assist in the appraisal of local authority policies and management plans.
	15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Through highlighting the value of natural capital to human welfare and the impact of human actions on local natural assets, new governance strategies may emerge at local authority level.
Improved tools: understanding flows, interconnections and spatial issues		

²⁸ <http://www.eftec.co.uk/eftec-projects/valuing-environmental-impacts-practical-guidelines-for-the-use-of-value-transfer-in-policy-and-project-appraisal>

16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	The tool will require consideration of the ES ‘flows’ that arise from different natural capital assets or ‘stocks’. Use of the tool by local authorities and private firms as well as central government can improve understandings of these concepts more widely.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	The intention is for the tool to be used in both CBA and wealth accounting and the reconciliation of natural capital assessments across different spatial scales will therefore be required.
18. Extent to which the tool is capable or can be manipulated to work across sectoral and administrative boundaries	The tool should provide sufficient flexibility for assessments of natural capital to be made across different spatial scales and for different sectors.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Assessments of different forms of natural capital will utilise the data that’s available and rely on expert opinion where shortages and gaps in evidence exist.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The intention of the tool is to identify the condition of natural capital assets and therefore it has direct relevance to the increasing the prominence of conservation as an issue.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool’s past and

Strengths (of the tool in delivering intended outcomes)

NCAC is likely to improve the consideration of impacts on the underlying natural capital asset ‘stock’ across government and local authorities. Providing a structured way of analysing criticalities (e.g. thresholds) in natural capital for the first time.

It should also act to improve understanding and alter perceptions around the value of nature, thresholds in nature’s ability to produce ES ‘flows’ and the sustainability of human actions.

Weaknesses (factors that detract from the tool’s ability to deliver intended outcomes)

The outcomes of the tool depend upon the ability of users to identify impacts of policies. Data on impacts may be insufficient or non-existent and thus reliant upon expert opinion which can be subjective. In order for the tool to have traction outside of government and local authority circles it will have to be combined with regulatory requirements e.g. inclusion in CBA of firms.

Opportunities (consider opportunities for application of the ecosystem approach and services)

NCAC provides a means by which nature as an asset is acknowledged by firms and government authorities in order that their actions and policies are more sustainable.

current application, as well as its effectiveness in policy and decision making processes

Threats (factors which negatively affect the tool and its outcomes)

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Complexity vs Usability - The tool must be sufficiently developed so as to have a meaningful impact on the safeguarding of natural capital but not too complex so as to make its use and the outputs ineffective.	High	Low – acknowledgement of the risk at early stage enables the working group to account for it.
Flexibility – the tool must be sufficiently flexible to account for the wide range of natural capital assets that exist, however defined at different scales.	High	Low – as above.

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

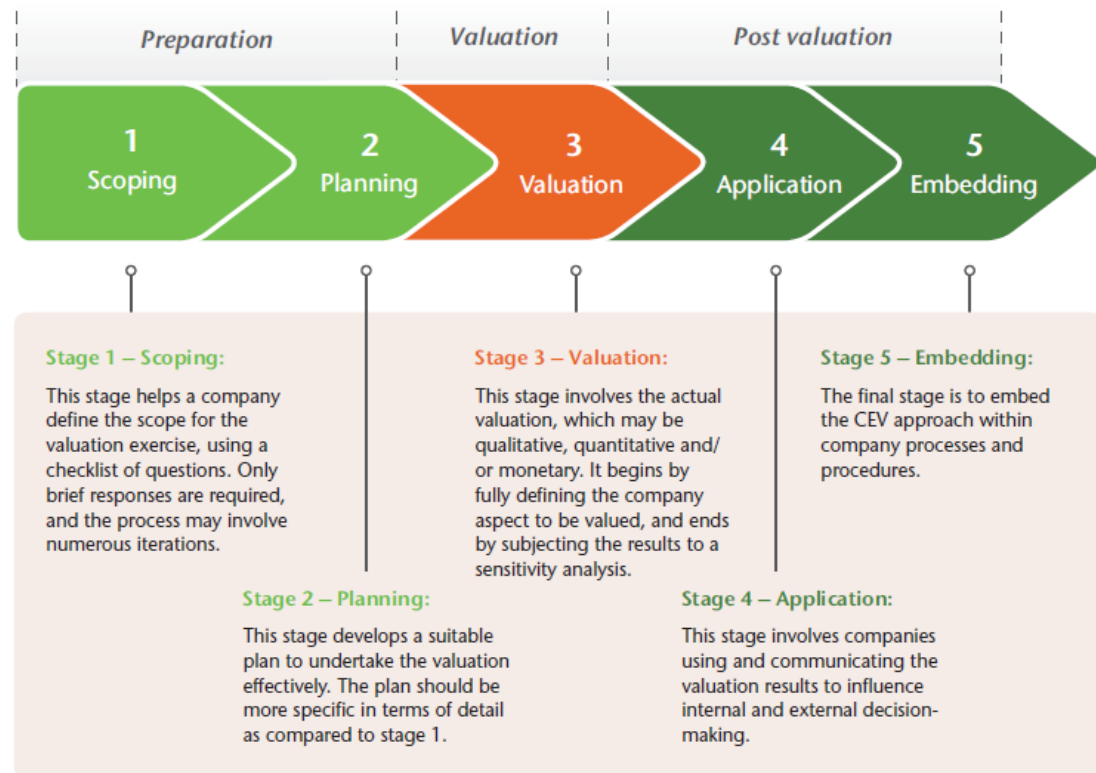
Further comments

CORPORATE ECOSYSTEM VALUATION (Valuation)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by giving the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Corporate Ecosystem Valuation (CEV)
Type of tool (list all that apply)	Valuation tools; futures tools; ecosystem service tools;
Group members	<ol style="list-style-type: none"> 1. Oliver Hölzinger 2. Tim Sunderland 3. Claudia Carter
<p>Please provide a brief synopsis of the tool</p> <p><i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i></p> <p><i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i></p>	<p>Corporate Ecosystem Valuation (CEV) is a new voluntary tool and has been developed and introduced by the World Business Council for Sustainable Development in 2011 (WBCSD 2011). CEV serves corporate decision-making by identifying and valuing ecosystem impacts by businesses; but also risks and opportunities businesses face from changes of ecosystem services. It aims to improve corporate performance including social and environmental goals.</p> <p>This tool has been chosen because there is a high potential to incorporate ecosystem services into corporate decision-making and this can lead a better acknowledgement of (positive and negative) external effects and therefore a more sustainable economy. CEV is closely related to Corporate Ecosystem Services Review (ESR) introduced by the World Resource Institute (Hanson et al. 2012). Incorporating business risks, demands and opportunities related to ecosystem services into corporate decision-making is also highlighted in a recently published report by the Ecosystem Markets Task Force, even if CEV is not explicitly mentioned (EMTF 2012). The Task Force is a UK based business led review of the business opportunities arising from valuing nature correctly.</p> <p>In general CEV can be applied to a business as a whole, but also products, services, projects, assets, or an incident. Usually CEV has two main aims:</p> <ul style="list-style-type: none"> • On the one hand CEV shall provide corporate decision-makers with better information about the risks and opportunities depending on changing ecosystem services. It basically evaluates which ecosystem services are most important for the business performance and how such ecosystem services are projected to change in the future. The main question is how changes in ecosystem services provision will or can affect business success and how the enterprise can react. • On the other hand CEV evaluates how business activities impact ecosystems and ecosystem services. Such an assessment reveals which ecosystem services are affected most (positively or negatively). This can e.g. help to target actions to mitigate negative impacts, to compensate for them, and/or to implement the value of affected ecosystem

services into accounting and reporting.

The guidance on CEV published by the WBCSD is divided into two parts. Part one is a screening process to answer the question if a CEV should be conducted, or not. Part two is a methodical framework to assist the CEV. The actual valuation is only one stage of this progress. Prior to the valuation a preparation stage takes place where the scope of the valuation exercise shall be defined and planned. The actual valuation can be qualitative, quantitative, monetary, or a combination of those techniques and depends on existing valuation techniques. This stage is followed by a post valuation phase where findings are communicated and CEV is embedded within corporate processes and procedures.



Adopted from WBCSD, Guide to Corporate Ecosystem Valuation: A framework for improving corporate decision-making (World Business Council for Sustainable Development, 2011, p. 30)

CEV depends on existing valuation techniques such as the revealed preferences method, the stated preferences method, the benefit transfer approach, or valuations based on expert judgement. It is a generic tool with different applications and much room for variation. The quality of a CEV and its outcomes depends on the appropriate application of such techniques. However, the flexible framework allows to adjust the scope and complexity of a CEV depending on available expertise, time, and budget. This allows for example to start with a 'quick and dirty' assessment with the option to apply more advanced and complex methods, if necessary. Within scope of the test-phase CEV has for example been used to assess the ecosystem impacts of a proposed extensions to a sand and gravel pit or to measure costs and benefits of replacing a storm-water management system with a constructed wetland.²⁹

However, such high flexibility has also a downside. Businesses may try to apply the tool in-house even if the necessary expertise is not available. Furthermore businesses may have

²⁹ Summaries of the CEV 'road tests' can be found here: <http://www.wbcd.org/work-program/ecosystems/cev/roadtesters.aspx>

incentives to avoid independent assessments and try to shape an CEV in a way that findings picture a positive environmental performance of the enterprise, even if that is not the case (green washing). Companies may e.g. only conduct a CEV for projects or processes with a very positive environmental impact rather than critically assessing negative impacts. Such potential misuses and shortcomings may partially be mitigated if a CEV is transparent and matches scientific standards which allows a critical review of the methods and findings.

Another impact of CEV is to raise awareness of the complex and often significant interdependencies between a company and ecosystems. One has to acknowledge that relevant knowledge of corporate decision-makers is often limited. Therefore CEV may cause an adjustment of business strategies and objectives benefiting ecosystems because 'what gets measured, gets managed'. Because the tool is comparatively new case studies are rare. One has to observe future applications to judge if the tool is applied sufficiently and how it impacts corporate decision-making.

Task 2: Use of the tool			
Position / Use	Stage	Currently used	Could be used
<i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Ideas	Y	Y
	Survey	Y	Y
	Assess	Y	Y
	Policy / decision	Y	Y
	Implement	Y	Y
	Evaluate	Y	Y
	Please add any further comments here:		
Task 3: Existing literature about the tool			
Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	Author & Date	Title Vol pages	Web link (if available)
	WBCSD (2011)	Guide to Corporate Ecosystem Valuation: A framework for improving corporate decision-making.	http://www.wbcds.org/pages/edocument/edocumentdetails.aspx?id=104&nosearchcontextkey=true
Task 4: Your experience of working on the tool			
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i>	Oliver Hölzinger in his role as consultant and in collaboration with Birmingham City Council and the Business Council for Sustainable Development (BCSD UK) is undertaking a Birmingham-specific CEV for some major businesses in the UK.		
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.		
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)			
<i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i>			
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	CEV has been tested by major companies worldwide. Further information is available here: http://www.wbcds.org/work-program/ecosystems/cev/roadtesters.aspx		
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	The incorporation of ecosystem services is key for this tool. The flexible approach allows applying CEV for a broad range of businesses, processes, and projects with different scopes.		
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews			
Explain how the tool can be situated within	Priority question/criteria	Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i>	

<p>the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	Yes, applying CEV introduces the environmental-economic and ecosystem service specific terminology to corporate decision-makers.
	2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Yes, the tool can be applied to calculate the TEV of environmental assets and stakeholder-specific distributional assessments.
	3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	High potential, especially within the business community and related institutions/communities.
	Learning from experience/pedagogy	
	4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	This is one main aim of the tool. The valuation makes values related to ecosystem services explicit. Often the value of environmental goods and assets are overlooked within businesses.
	5. Extent to which tool is building on other tools or EA/ES progress	The tool is closely related to Corporate Ecosystem Services Review (ESR) and requires the implementation of other valuation tools and techniques such as the benefit transfer approach. The selection of (primary) valuation tools and methods to inform a CEV or to be conducted within scope of a CEV depends on the exact aim of the CEV (e.g. evaluating an incident or a product).
	6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	The tool is flexible enough to be applied to different contexts. Open source may be suitable for further development and refinement.
	7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	CEV is very flexible. Cultural differences can be captured within the 'primary valuation'. However, especially if the benefit transfer approach is applied one should be careful when transferring benefits across different cultures.
	Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	There is no specific funding source but the tool demands a specific expertise, depending on scope and accuracy of the CEV. Such expertise could be bought in externally, e.g. from a consultancy.	
9. Does skills development (essential or optional?) and support exist for the tool or is	The (World) Business Council for Sustainable Development as well as the World Resource Institute offer support but so far there is no	

	there a body to ensure the optimal and correct use of it?	institution e.g. providing certificates for the correct use. Considering that CEV is a very new tool such institutions might be established in the future.	
	10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	(International) corporate accounting and reporting regulations may be revised to implement CEV; e.g. by defining minimum reporting standards.	
Informing resultant policies effectively			
	11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	If applied sufficiently the tool can cover all impacts and trade-offs (considering general valuation caveats and limitations).	
	12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Depending on its application the tool can for example be integrated in Environmental Impact Assessments.	
Delivering management objectives			
	13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Some potential if environmental assets are managed by the business.	
Local ownership/new governance			
	14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	Some. However, there is a danger that CEV in this context may be misused and shaped to enforce business interests e.g. by providing selective or biased information about environmental impacts. This may be avoided if a CEV is undertaken in collaboration with governmental institutions and e.g. Universities.	
	15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	There is potential. However, it might be feasible to wait for further applications of the tool to allow a judgement.	
Improved tools: understanding flows, interconnections and spatial issues			
	16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	High capacity.	
	17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	High capacity.	
	18. Extent to which the tools is capable or can be manipulated	High capacity.	

	to work across sectoral and administrative boundaries		
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Because CEV is not restricted to one valuation method it can incorporate various valuation techniques and therefore handle data gaps.	
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	High potential to make corporate decision-makers more aware of environmental and social impacts which may cause corporate engagement regarding nature conversation etc.	
<i>Please add any further comments here:</i>			

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

- Strengths** (*of the tool in delivering intended outcomes*)
- The high flexibility of CEV allows its application for many different contexts.
 - The tool can reveal the TEV (including externalities) of business activities which can serve corporate decision-making.
 - The tool can reveal ecosystem services related business risks and opportunities.
 - The tool can improve the recognition of environmental and social impacts of corporate activities and decision-making.
 - The tool covers not only ecosystem valuation, but also its implementation into corporate decision-making.

- Weaknesses** (*factors that detract from the tool's ability to deliver intended outcomes*)
- The appropriate application of CEV demands expertise and a sufficient data basis.
 - General limitations to ecosystem valuation and an insufficient data basis can lead to biased outcomes.
 - The high flexibility and broad range of applications of the tool makes comparison between different CEV's difficult.
 - Especially if primary valuation methods are conducted the costs of CEV can be substantial.
 - At the moment there is no institution evaluating the correct use of the tool, even if support exists.

- Opportunities** (*consider opportunities for application of the ecosystem approach and services*)
- The ecosystem services approach is key when applying CEV.
 - The tool is actually promoted within the business community and gains support from major institutions.
 - Further developments and refinements of this 'young' tool may advance its appropriate application.

Threats (*factors which negatively affect the tool and its outcomes*)

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
The tool may be used for 'green washing'.	Medium	High
There is a danger that CEV may be	High	Medium

	misused and shaped to enforce business interests e.g. by providing selective or biased information about environmental impacts.		
	There is also a danger of 'confirmation bias' where people tend to favour information that confirms their beliefs. This may be reduced if external stakeholders and experts are involved in the CEV.	Medium	Medium
Guidance	<i>Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool</i>		
Further comments			

References

EMTF, 2012. *Ecosystem Markets Task Force Interim Report*, Available at: <http://www.defra.gov.uk/ecosystem-markets/files/Ecosystem-Markets-Task-Force-Interim-Report.pdf>.

Hanson, C. et al., 2012. *The Corporate Ecosystem Services Review: Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change*, Washington DC: World Resource Institute.

WBCSD, 2011. *Guide to Corporate Ecosystem Valuation: A framework for improving corporate decision-making*, World Business Council for Sustainable Development.

COST BENEFIT-ANALYSIS (Valuation)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by giving the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Cost Benefit Analysis (CBA)
Type of tool (list all that apply)	Valuation Tools
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Oliver Hölzinger 2. Tim Sunderland 3. Jasper Kenter
<p>Please provide a brief synopsis of the tool</p> <p><i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i></p> <p><i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i></p>	<p>Cost-Benefit Analysis (CBA), sometimes referred to as Benefit-Cost Analysis (BCA), is a systematic process where expected costs and benefits of a project or policy are compared. It can be used to determine if an investment is efficient or to compare different investments to identify the most efficient application of funds.</p> <p>Because costs and benefits usually occur at different points of time the net present value of future costs and benefits are calculated, applying a discount rate. The discount rate is used to convert future costs and benefits to present values considering that one pound (nominal) in the future is worth less than one pound in the present. The main argument for the 'social time preference rate' is that individuals as well as society as a whole prefer current consumption more than consumption in the future.</p> <p>Environmental CBA is a tool to evaluate the Total Economic Value (TEV) of policies or projects affecting the environment. This tool is used by governmental bodies and agencies to judge investments and funding for environmental projects (value for money). In this case usually not only the benefits or return on investment to the specific organisation; but to society as a whole are evaluated. To compare costs and benefits the calculation of monetary values for (non-marketable) ecosystem services is necessary. The result of a CBA is usually given as Benefit-Cost Ratio (BCR). In theory a BCR of 3 for example means that one gains £3 worth of benefit for every pound invested. A project or policy with a BCR below 1 is not desirable because the costs exceed the benefits.</p> <p>Estimating the benefits of non-market ecosystem services is challenging. Techniques to calculate such values are for example the revealed preferences method, the stated preferences method or the benefit transfer approach. All of them have their own imperfections and caveats which can limit the accuracy of environmental CBA. Furthermore scientific evidence usually only allow the calculation of monetary values for a part or the baseline of non-market ecosystem services which can lead to a general underestimation of environmental and social costs and benefits. But it should also be acknowledged that, especially for major projects, the ex-ante cost evaluation is difficult as well.</p>

Considering such limitations environmental CBA is a decision support tool, not a decision making tool. If a CBA for investments in an environmental project or policy results in a BCR below 1 this is usually not a definite indication that the proposed project or policy won't provide a net return on investment. The low BCR can be a result of the incomplete assessment of benefits and limited data basis rather than the low value of benefits themselves. In this case a combination with tools such as Multi-Criteria Analysis (MCA) might be necessary to allow a final judgement. If a CBA results in a positive BCR this is often a sufficient robust indication that the project or policy provides a positive (social) return on investment. However, this obviously depends on the appropriate application of the tool and the sufficient robust data basis (trash in – trash out).

Especially when non-market ecosystem services are affected a high degree of expertise is necessary to apply the tool and interpret the findings sufficiently. Furthermore the costs of undertaking an environmental CBA can be substantial if extensive research is necessary. When environmental goods and services are affected the degree of uncertainty is usually high. Another controversial debate occurs around the 'right' discount rate to calculate the net present value especially of costs and benefits that occur in the remote future. The discount rate has a great impact on CBA outcomes. For longer term projects, the outcome is extremely sensitive to the discount rate, which is one of the hardest parameters to justify objectively. A sensitivity analysis might be an appropriate instrument to take such factors into account. Furthermore CBA usually doesn't concern issues of equity and distributional allocation of costs and benefits. A stakeholder-specific distributional CBA may overcome some of these limitations.

Task 2: Use of the tool			
Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Could be used	Please add any further comments here:
	Ideas		
	Survey	Y	
	Assess	Y	
	Policy / decision		
	Implement		
	Evaluate	Y	
Task 3: Existing literature about the tool			
Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	Author & Date	Title Vol pages	Web link (if available)
	OECD (2006)	Cost-Benefit Analysis and the Environment: Recent Developments, OECD Publishing.	http://www.oecd.org/env/environmentalpolicytools/andevaluation/cost-benefitanalysisandtheenvironmentrecentdevelopments.htm
	Editor-in-Chief: Farrow, Scott	Journal of Benefit-Cost Analysis	http://www.degruyter.com/view/j/jbca
	Atkinson & Mourato (2008)	Environmental Cost-Benefit Analysis, Annual Review of Environment and Resources, Vol. 33: 317-344	http://webfirstlive.lse.ac.uk/GranthamInstitute/publications/Other/Atkinson_annurev%20energy%2033%20020107.pdf
	Defra (2007)	An introductory guide to valuing ecosystem services	http://archive.defra.gov.uk/environment/policy/natural-environ/documents/eco-valuing.pdf
	HM Treasury (2003)	THE GREEN BOOK: Appraisal and Evaluation in Central Government	http://www.hm-treasury.gov.uk/d/green_book_complete.pdf
Task 4: Your experience of working on the tool			
Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i>	Oliver Hölzinger has recently applied CBA within his role as consultant for the evaluation of three environmental projects: <ul style="list-style-type: none"> - The Economic Evaluation of Moseley Bog & Joy's Wood LNR (Hölzinger 2012) - The Economic Evaluation of Moorcroft Wood LNR and the Influence of the Black Country Living Landscape Community Involvement Programme (Hölzinger & Morris 2011) - The Economic Value of Gwen Finch Wetland Reserve (Hölzinger & Dench 2011) 		
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.		
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)			
<i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i>			
Using examples (from practice, research or consultancy), explain	In environmental CBA the use of the ecosystem services framework is crucial to value ecosystem services, even if relevant literature doesn't always explicitly refer to the framework and applies the corresponding vocabulary. UK examples include e.g. the		

how EA and/or ES are currently incorporated in/by the tool	'Economic Valuation of the Benefits of Ecosystem Services delivered by the UK Biodiversity Action Plan (Defra Project SFFSD 0702)' (Christie et al. 2011).
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	A better acknowledgement of the 'full' ecosystem services framework within CBA may reveal gaps in the scientific evidence and the limitations of its outcomes e.g. when not all significant ecosystem services can sufficiently be valued. That could make the interpretation of CBA easier and more transparent, especially for non-specialists. Furthermore the ecosystem services framework may be used more often for corporate CBA to reveal external effects of business decisions.

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? <i>If yes, please explain how.</i></p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>CBA is comparatively often used to support decisions and a broader implementation of the ecosystem services framework should introduce a broader audience to the concept and its vocabulary.</p>
	<p>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses</p>	<p>To date this is not common but CBA has a potential to develop shared understandings of identities and values if multiple stakeholders participate.</p>
	<p>3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem</p>	<p>The tool allows illustrating 'value for money' of projects/policies affecting ecologies. Monetary calculations are often more tangible for non-environmental specialists and therefore may engage the acceptance of environmental projects, e.g. within the business community, governmental bodies and agencies that are not specialised on environmental issues, and the wider public. However, sometimes there are reservations of especially environmental activists about putting a monetary value on environmental goods and services. A common criticism is that one puts a 'price tag' on the environment which allows selling it.</p>
	<p>Learning from experience/pedagogy</p>	
	<p>4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them</p>	<p>If the 'full' ecosystem services framework is applied this has a great potential to reveal e.g. values that are usually not recognised. This applies especially if CBA is applied for corporate decision-making. However, there is a danger that benefits and costs that can't be valued in monetary terms may remain 'hidden'.</p>
<p>5. Extent to which tool is building</p>	<p>In general the tool can be combined with a range of</p>	

on other tools or EA/ES progress	other tools, especially Multi-Criteria Decision Analysis which might be beneficial for many applications (Barfod et al. 2011). To date it is still common to use CBA alone. CBA is also an integral component of impact assessments.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	CBA can be applied at different scales and for different scopes including decisions within the 'local' context. The basic mechanism of the tool is well developed so that there is no need for an open source approach. However, open source may aid to standardise an ecosystem services framework for CBA purposes.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The tool is reasonably flexible and allows e.g. to implement equity weights etc. Equity weights can be applied to take into account that one pound is worth more to a poor person than to a rich one (Stern 2006). However, such advanced applications of CBA are still rare.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Environmental CBA is not dependent on a specific funding source but its appropriate application requires specific expertise. It often has been successfully applied but the findings are not always uncontroversial one (Stern 2006).
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	CBA is well developed within consultancies which can provide a knowledge exchange. There are also guides available online. However, the collaboration with a specialised consultancy or a University is recommended to undertake an environmental CBA.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	CBA is basically applicable to a wide range of environmental projects and policies and sufficiently flexible to allow a wide range of applications. CBA, in the form of Impact Assessments, is compulsory part of the assessment of any major project or change in regulation in the UK.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	If applied sufficiently, yes (acknowledging caveats and limitations stated in the synopsis).
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	Optional but not mandatory for planning decisions. Could e.g. serve as amendment to Environmental Impact Assessments (EIA).
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Valued ecosystem services reveal, amongst others, visitor needs. CBA can serve to optimise ecosystem management and the application of funds to increase net-benefits to visitors. CBA can also be used to justify protected areas with reference to their environmental

	benefits.
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	CBA can help to identify effective policy options and has a potential to 'test' statutory plans regarding effectiveness. It is also used as part of a Strategic Environmental Assessment (SEA). However, the costs of undertaking a CBA rise with the complexity of a plan. The accuracy of a CBA on the other hand declines with increasing complexity which may limit the applicability in this context.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	As stand-alone tool limited. However, there is potential if combined e.g. with Payments for Ecosystem Services (PES). It can for example serve to distribute the costs across 'buyers' within the PES scheme.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Some potential but CBA might not be the preferred tool for this aim.
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Potentially yes, but very complex in practice.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	The application of CBA is not limited to specific sectors or administrations.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Environmental CBA demands monetary valuation of ecosystem services. Therefore a robust data basis is necessary to generate reliable and unbiased outcomes. However, valuation shortcomings may be less harmful if CBA is combined with MCA and/or includes a good interpretation of the findings.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	Monetary valuation of ecosystem services makes trade-offs and impacts of projects and policies visible and tangible for non-specialists. However, there is some danger that – if not applied appropriately – the tool might be used to put additional pressure on designated species/sites.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria

Strengths (of the tool in delivering intended outcomes)

- Costs and benefits of a project/policy can be compared to judge an efficient application of funds.
- The tool reveals the Total Economic Value (including externalities) if applied sufficiently. This serves more rationale decision-making.
- The outcomes (if interpreted correctly) are tangible for non-specialists because based on monetary values.
- The general mechanism of the tool is well known across institutions and decision-makers.

Weaknesses (factors that detract from the tool's ability to deliver intended outcomes)

(listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

- The appropriate application of environmental CBA demands expertise and sufficient data.
- General limitations to ecosystem valuation and an insufficient data basis can lead to biased outcomes to the disadvantage of non-marketable ecosystem services. There is a general tendency to undervalue non-marketable effects of a policy/project.
- Especially if primary valuation methods are conducted the costs of CBA can be substantial.
- CBA is often applied after the preferred outcome has been decided. If not approached systematically and rigorously there is a danger of confirmation bias.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- The tool is already applied in many decision-contexts affecting ecosystem services.
- The application of the 'full' ecosystem services framework within CBA might reveal data demands and limitations which makes the interpretation of findings easier.
- There is a great potential to combine CBA with MCA.
- Social and environmental costs might be better implemented within corporate CBA and corporate decision-making in general.

Threats *(factors which negatively affect the tool and its outcomes)*

Classify these by their "seriousness" and "probability of occurrence" in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
'Desired' outcomes might be generated. The danger is that environmental costs (and benefits) are not found because people overlook them or want to overlook them. The selection of ecosystem services that are taken into account within a CBA can have a significant impact on the outcomes.	Medium	Medium
If applied insufficiently there is a potential of CBA to justify ecosystem degradation and destruction.	High	Low

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

The HM Treasury Green Book recommends discount rates for policy appraisals (HM Treasury 2003). However, one may take into question if the recommended discount rate is consistent with sustainable development. A critical review and revision might be beneficial.

References

- Atkinson, G. & Mourato, S., 2008. Environmental Cost-Benefit Analysis. *Annual Review of Environment and Resources*, 33(1), S.317–344.
- Barfod, M.B., Salling, K.B. & Leleur, S., 2011. Composite decision support by combining cost-benefit and multi-criteria decision analysis. *Decision Support Systems*, 51(1), S.167–175.
- Christie, M. et al., 2011. *Economic Valuation of the Benefits of Ecosystem Services delivered by the UK Biodiversity Action Plan*, London: Aberystwyth University.
- Defra, 2007. An introductory guide to valuing ecosystem services. Available at: <http://www.defra.gov.uk/environment/policy/natural-enviro/ documents/eco-valuing.pdf>.
- HM Treasury, 2003. *The Green Book: appraisal and evaluation in central government*, TSO, London. Available at: http://www.hm-treasury.gov.uk/d/green_book_complete.pdf.
- Hölzinger, O., 2012. *The Economic Evaluation of Moseley Bog & Joy's Wood LNR*, Birmingham: CEEP. Available at: <http://ceep-online.co.uk/index.php/projects-a-publications/80-the-economic-evaluation-of-moseley-bog-a-joys-wood-lnr>.
- Hölzinger, O. & Dench, D., 2011. *The Economic Value of Gwen Finch Wetland Reserve*, Worcester.
- Hölzinger, O. & Morris, J., 2011. *The Economic Evaluation of Moorcroft Wood LNR and the Influence of the Black Country Living Landscape Community Involvement Programme*, Birmingham.
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- Stern, N., 2006. *Stern Review on The Economics of Climate Change*, London: HM Treasury. Available at: http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/stern_review_report.htm.

DELIBERATIVE MONETARY VALUATION (DMV) (Valuation)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Deliberative Monetary Valuation (DMV)
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Participatory; valuation; decision; learning
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Jasper Kenter 2. 3.
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>Deliberative Monetary Valuation (DMV) of the environment encapsulates a wide range of approaches incorporating participatory, deliberative, political and/or social-learning processes, to establish a monetary value for the benefits of environmental goods. In DMV, small groups of participants explore the values that should guide their group decisions through a process of reasoned discourse (Howarth & Wilson 2006). DMV has developed as a response to critique of more established valuation methods, particularly contingent valuation: that these methods are not able to properly capture assessments of risk and uncertainty in the face of social-ecological complexity, that they are not able to capture the intricacies of human values, that preference utilitarian assumptions are not always empirically or ethically justified, and that values cannot be assumed to be pre-formed (Sagoff 1986; McCauley 2006; Spash 2007; 2008; Norgaard 2010; Kenter <i>et al.</i> 2011). In addition, it has been argued that deliberative approaches to valuation can enhance the effectiveness and perceived legitimacy of policy making, as a result of enhanced public participation (Howarth & Wilson 2006). DMV may refer to either additions to or improvements on contingent valuation or choice experiment approaches, or to more political approaches where an altogether different process is used to establish a shared monetary value, such as a citizen jury or other structured democratic process. A third avenue is where deliberative valuation is implemented as an action-research method, where valuation is used as an instrument for learning and for establishing local stakeholder needs and actions (Kenter <i>et al.</i> 2011). The objective of the deliberation can thus be to share information and knowledge (e.g. Lienhoop & MacMillan 2007), or to bring out deeper held and ethical values and politicise the issue at stake rather than posing it as a problem of preference satisfaction, so called ‘preference moralisation’. While most studies to date focus on one or the other, in practice group deliberation always brings about both of these effects to a greater or lesser extent (Lo & Spash 2012). These authors propose that both these effects can be part of a democratic discourse-based approach</p>

as a means of capturing the plural (hedonic *and* moral) values of participants. The outcomes of DVM depend on whether values are provided by individuals in a group setting, or by the group as shared expressions of value, and whether individual amounts are established that are akin to individual willingness-to-pay, or whether participants establish a pre-aggregated amount, i.e. what they believe is the total value to society (see table).

While DMV shows considerable potential as a ‘hybrid’ valuation method that can incorporate stakeholder perspectives and as a means of delivering shared values of ecosystems, to date there have been only a handful of studies that have applied a DMV approach. Hence considerable methodological development is yet to be expected, for each of its political, more conventional economic, and its action research strands.

Value provider	Terms in which value is specified	
	Individual (Disaggregated value)	Social (Aggregated value)
Individual in a group setting	Informed exchange price or charitable contribution	Expressed social WTP/WTA
Group	Fair price	Arbitrated social WTP/WTA

Adapted from Spash (Spash 2007)

References

Howarth, R.B. & Wilson, M.A. (2006) A theoretical approach to deliberative valuation: Aggregation by mutual consent. *Land Economics*, **82**, 1-16.

Kenter, J.O., Hyde, T., Christie, M. & Fazey, I. (2011) The importance of deliberation in valuing ecosystem services in developing countries—Evidence from the Solomon Islands. *Global Environmental Change*, **21**, 505-521.

Lienhoop, N. & MacMillan, D. (2007) Valuing wilderness in Iceland: Estimation of WTA and WTP using the market stall approach to contingent valuation. *Land Use Policy*, **24**, 289-295.

Lo, A.Y. & Spash, C.L. (2012) Deliberative monetary valuation: in search of a democratic and value plural approach to environmental policy. *Journal of Economic Surveys*.

McCauley, D.J. (2006) Selling out on nature. *Nature*, **443**, 27-28.

Norgaard, R.B. (2010) Ecosystem services: From eye-opening metaphor to complexity blinder. *Ecological Economics*, **69**, 1219-1227.

Sagoff, M. (1986) Values and Preferences. *Ethics*, **96**, 301-316.

Spash, C.L. (2007) Deliberative monetary valuation (DMV): Issues in combining economic and political processes to value environmental change. *Ecological*

Economics, **63**, 690-699.

Spash, C.L. (2008) Deliberative monetary valuation and the evidence for a new value theory. *Land Economics*, **84**, 469-488.

Task 2: Use of the tool

Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	Use as an action learning tool for capacity building	
	Survey		
	Assess	Used to better inform valuation participants as part of contingent valuation assessments to establish non-market benefits of ecosystems for project appraisal.	Could be used to assess shared values in appraisal contexts, and to work with stakeholders to establish values for non-market benefits of ecosystems for project and policy appraisal.
	Policy / decision		DMV could be integrated as part of broader consultation processes
	Implement		DMV could be integrated as part of adaptive management
	Evaluate	Use as an action learning tool for evaluating impacts and trends	Could be used to work with stakeholders to establish ex-post values for non-market benefits of ecosystems.

Please add any further comments here:

Task 3: Existing literature about the tool

Are you aware of any KEY policy and / or academic literature evaluating your tool? <i>(e.g. reports, journal articles, books)</i>	Please add any further comments here:
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Author & Date	Title Vol pages	Web link (if available)
Spash, C.L., 2007	Deliberative monetary valuation (DMV): Issues in combining economic and political processes to value environmental change. <i>Ecological Economics</i> , 63(4), pp.690-699.	
Lo, A.Y. & Spash, C.L., 2012	Deliberative monetary valuation: in search of a democratic and value plural approach to environmental policy. <i>Journal of Economic Surveys</i> 2012.	
Fish, R. et al., 2011.	Participatory and Deliberative Techniques to Embed an Ecosystems Approach into Decision Making: Full Technical Report, London: DEFRA.	http://randd.defra.gov.uk/Document.aspx?Document=NR0124_10262_FRP.pdf
Howarth, R.B. & Wilson, M.A., 2006	. A theoretical approach to deliberative valuation: Aggregation by mutual consent. <i>Land Economics</i> , 82(1), pp.1-16.	

Task 4: Your experience of working on the tool

Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation?

If so, please provide an outline.

The NEA Follow on phase includes two case studies of the use of DMV, where it was used to assess shared values of community councils for a landscape scale conservation and management realignment project appraisal in the Inner Forth, and for a study of the values of divers and sea anglers for UK marine protected areas, to feed into consultation proceedings.

Guidance

For Tasks 5-7, please also try to consider the **future** development and application of this tool in the TABLES project in your answers.

Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)

****Please refer to the summary text about ES for concept clarification at the end of this template (appendix)****

Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by

In the Inner Forth case study, DVM was used to assess a range of ecosystem service benefits of ecosystem services that were expected to improve as a result of the proposed projects, which would enhance and restore both habitats and cultural landscape features. A stakeholder workshop was used to assess which ecosystem services and benefits were most relevant to the project context, after which deliberative choice experiments were

<p>the tool</p> <p><i>If neither approach is currently incorporated, please move to the next question</i></p>	<p>used to assess their value. A key element of the deliberative process was a conceptual systems modelling exercise which allowed participants to discuss the dynamics of the Inner Forth social-ecological system, allowing them to better value its environmental components.</p> <p>In the MPA case study, the ecosystem service framework was used to assess how participants benefited from the areas that would potentially be protected. In accordance with the typology established by the NEA, sites were considered as environmental settings with a range of biophysical features that were thought to influence their value. A range of non-monetary indicators of cultural benefits: reflection, sense of wholeness, identity and continuity with past, health benefits, knowledge, social capital, aesthetics, inspiration, freedom and participation, were used to guide deliberation between participants. In addition, existence and bequest values were considered. By deliberating and sharing experiences in relation to these benefits, participants developed a shared sense of value which was expressed through establishment of a fair price for protection of benefits of marine sites.</p>
<p>How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?</p>	<p>There are assumptions in the ecosystems framework that trade-offs need to be made between different ecosystem services. Ranges of evidence can be presented to and debated by participants, which can help to inform trade-offs and provide material for moral and political debates, e.g. around the distribution of benefits and costs.</p>

Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews

<p>Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews</p> <p><i>Complete as many boxes as required</i></p>	<p>Priority question/criteria</p>	<p>Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach?</p> <p><i>Please explain how.</i></p>
	<p>Language and communication</p>	
	<p>1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment</p>	<p>Deliberation sessions allow for the construction of shared vocabulary and conceptualisations.</p>
<p>2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses</p>	<p>Deliberation sessions allow for the construction of shared vocabulary and conceptualisations.</p>	

3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	N/A
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	There is some evidence that well designed deliberative valuation processes are more able to capture subtle benefits of the environment, such as a sense of identity, than conventional individual survey methods for monetary valuation, and DMV appears to be more suitable for bringing out shared meanings and values of participants.
5. Extent to which tool is building on other tools or EA/ES progress	DMV can build on either existing economic stated preference tools, or on existing political methods for assessing evidence, such as citizens jury.
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Through deliberative and participatory processes, local views can be encapsulated to a greater extent than through individual survey methods.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	As qualitative evidence is gathered on the content of deliberation, a high degree of detail is available to interpret monetary outcomes.
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	No
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	No
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	N/A
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Contingent valuation based DMV can be used to assess non-market benefits of ecosystem services which can be fed into cost-benefit analysis. Political-process based DMV can provide monetary value estimates of benefits that may not be compatible with the preference utilitarian assumptions of CBA.

12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	N/A
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	N/A
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	DMV has the potential to enhance a sense of ownership over valuation results, when these are used to implement an ecosystems approach to determine management. DMV could be integrated in adaptive management to re-evaluate values with groups of stakeholders or members of the public.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	DMV has the potential to enhance a sense of ownership over valuation results, when these are used to implement an ecosystems approach to determine management. DMV could be integrated in adaptive management to re-evaluate values with groups of stakeholders or members of the public.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	N/A
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	Trade-offs at different scales could be taken into account into the deliberative processes as part of DMV assessments.
18. Extent to which the tools is capable or can be manipulated to work across sectoral and administrative boundaries	As with any other form of environmental valuation, who has 'standing' either from an accounting, or ethical stance, may need to be included. GIS approaches to aggregation of monetary valuation can potentially be linked to DMV to more accurately estimate use and non-use values.
19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	Deliberative processes can include considerations of uncertainty and gaps in understanding.
20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	DMV has the potential for social learning around environmental values, although there is no current empirical evidence for this.

Please add any further comments here:

Task 7: A SWOT analysis of the tool

Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified

Where possible, this analysis should reflect the tool's past and current application, as well as its effectiveness in policy and decision making processes

Strengths *(of the tool in delivering intended outcomes)*

- The quality of valuation evidence can be improved through DMV, by:
 - Decisions can become better informed through structured deliberation as a learning process
 - Previously hidden values can be made explicit
 - Participants can consider and debate their deeper held ethical and moral considerations, which allows them to consider their preferences more carefully.
- As qualitative evidence is gathered on the content of deliberation, a high degree of detail is available to interpret outcomes.
- As a result of increased participation, outcomes may be more acceptable in the views of stakeholders, the public and/or decision-makers.

Weaknesses *(factors that detract from the tool's ability to deliver intended outcomes)*

- Yet little empirical evidence on the precise impacts of deliberation on values
- Methods are underdeveloped, and there is a lack of best-practice guidelines
- Complexity and required resources may be increased compared to survey based contingent valuation, particularly for large-scale assessments.
- Outcomes are inevitably influenced by how issues and questions are framed (as is also the case with non-deliberative approaches to valuation).
- Group processes need to be skilfully facilitated to avoid or manage more general issues and risks associated with participatory methods.
- Although DMV has the potential to capture more elements of value than non-deliberative modes of valuation, it may still not be possible to monetise all possible benefits and costs.
- For types of DMV that tread outside of preference utilitarian assumptions, outcomes may not be suitable for cost-benefit analysis.

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- DMV can be integrated as part of broader consultation processes
- DMV can be integrated as part of adaptive management

Threats (factors which negatively affect the tool and its outcomes)

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
Poorly designed deliberative processes	High	medium
Inadequate facilitation	High	medium
Lack of proper stakeholder analysis – sample does not represent all valid interests.	High	medium

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

The added value of a deliberative approach to valuation will depend on required outcomes, but also on the types of ecosystem services and values that need to be assessed. It is likely that added value is greatest when considering cultural services, existence and bequest values, and in situations where values need to be assigned on the basis of limited evidence, or where there is mixed evidence or high uncertainty about benefits.

MULTI-CRITERIA DECISION ANALYSIS (Valuation)

TABLES Project 2012: Mini reviews	
Guidance	<i>Using your experience and expertise, consider the following tasks in relation to the tool. It may not be possible to complete all tasks for each tool due to a lack of available information, the task not applying to the tool, etc. Please note where this is the case by writing in the reason in the space provided. Please use a maximum of 6 pages of A4 (excluding diagrams and appendices). Your responses are required in the white spaces.</i>
Task 1: Basic information	
Name of the tool	Multi-Criteria Decision Analysis
Type of tool (list all that apply) <i>Learning and skills (pedagogic); participatory; regulatory; collaborative; mapping; valuation; modelling; decision; futures; financial; ecosystem services</i>	Participatory; valuation; decision
Group members <i>(minimum size 3 members, must include a BCU rep)</i>	<ol style="list-style-type: none"> 1. Althea Davies 2. Rosalind Bryce 3. Mark Reed 4. Jasper Kenter 5. Charles Cowap
Please provide a brief synopsis of the tool <i>This may include: background context, development (and ownership if appropriate), current use and applications etc.</i> <i>Please also note any desired outcomes of the tool so that you can make reference back to these in Task 7: SWOT analysis</i>	<p>MCDA (also called Multi-Criteria Evaluation/Analysis or Multi-Criteria Decision Modeling) is a decision-support tool for exploring issues and making decisions that involve multiple dimensions or criteria. It allows economic, social and environmental criteria, including competing priorities, to be systematically evaluated by groups of people. Both quantitative and qualitative data can be incorporated to understand the relative value placed on different dimensions of decision options (in an environmental context, often management options). The method was developed in the fields of operations research and decision theory, and this is reflected in the focus on algorithms and software support systems in much of the literature. However, the tool can also be used without software, to generate qualitative data about decision-making criteria, to rank decision options and discuss reasons for rank positions.</p> <p>Broadly, the process involves context or problem definition, representation of evaluation criteria and management options, and evaluation. When applied in a participatory and deliberative manner, this may involve any of a number of discreet stages, for example:</p> <ul style="list-style-type: none"> • Establish context and identify participants: This ensures the early identification of key issues, socio-environmental dynamics and selection of relevant/representative stakeholders for involvement in the multi-criteria decision-making process. Stakeholder mapping/analysis techniques may be used to systematically consider which stakeholders should be involved (Reed et al., 2009), and a combination of interviews, focus groups, workshops and document analysis can indicate perceived differences and views on the conflict, and help structure stakeholder involvement; • Define criteria: Criteria are defined that capture stakeholders' interests via facilitated discussion and literature (e.g. research, policy documentation). Broad

criteria, such as environmental, economic, institutional and social variables, can be broken down into more specific indicators;

- Rank or weight criteria: To reflect differing values and priorities, criteria are ranked to indicate their importance relative to the objective of process – this may be done individually and aggregated or facilitated as a group process;
- Define management options: Alternative management options are defined (e.g. using stakeholder mapping/analysis, literature such as policy documents, and/or 'expert' consultation). Options may for example represent current management types or possible future scenarios;
- Score management options against criteria: The performance of each management option is scored against each criterion. This may be completed by all stakeholders (individually), a subset of participants or by researchers. It may include evidence-gathering and/or deliberation to evaluate relationships between criteria and management options, including empirical data, expert opinion, scenarios and modeling;
- Multi-criteria evaluation: Algorithms are used to combine scores and ranks into a weighted value that describes the overall preference towards each option. Results can be presented per individual or aggregated for different groups. Statistical analyses can be applied to assess the robustness of the results and seek patterns amongst participant choices;
- Discuss options based on MCDA results: MCDA is a decision-support tool so outcomes may be deliberated with participants or amongst decision-makers to assess the degree of consensus, negotiate compromise and manage trade-offs.

MCDA has been applied in a range of natural resource management situations, including management of forest and water resources for multiple benefits, conservation planning, and to evaluate management sustainability. It has often been used to choose a management strategy that is optimal from a single user or single priority perspective. Participatory and deliberative approaches to MCDA, with greater emphasis on practical application and usability, have emerged more recently to deal with multiple stakeholders, ill-defined problems and competing objectives. Applications can include assessing the strengths/weaknesses of existing strategies or proposed strategies according to multiple goals and/or interests.

In development studies, MCDA has been adapted to be conducted with participants who may or may not be literate. Matrix Ranking, as it is called, typically represents options and criteria symbolically (e.g. with objects or images) and participants vote for each option against each criterion by placing counters (e.g. beans or stones) in the cells of a matrix in which each option is represented by a row of cells and each criterion is represented by a column of cells. The relative popularity of options can be assessed by gathering counters from each row (option) and comparing the size of each pile. Criteria may be weighted, though this is harder to visualize for participants.

Task 2: Use of the tool

Position / Use <i>If you can, please indicate which stage(s) of the decision / policy making process your tool is / could be used in (these stages were identified in the specification document)</i>	Stage	Currently used	Could be used
	Ideas	Local stakeholders may identify key factors relevant to the local level effectiveness and/or acceptability of management options.	
	Survey	<p>Problem definition: gathering criteria via stakeholder engagement helps establish the range of interests relevant to a particular issue.</p> <p>Early stage discussions to define the problem context can help identify the 'right' stakeholders, i.e. those with interest and influence</p>	
	Assess	<p>Systematic method for assessing the potential or actual impacts of different management options on a range of interests; these may be multiple interests held by a single stakeholder or organisation, or the range of interests held by different stakeholders or user groups.</p> <p>Key strength is the ability to include qualitative and quantitative data in support of varied stakeholder interests, thereby potentially increasing legitimacy and fairness</p>	
	Policy / decision	<p>This is a decision-support tool; the weighted scoring process indicates the preferences of individuals or groups towards the range of options on the table.</p> <p>These form a systematic and transparent basis for negotiation over decisions/policy</p>	
	Implement	N/A	
	Evaluate	<p>The method can be used to evaluate the performance of existing management or policy strategies according to multiple indicators or stakeholders' interests; this can be used to identify strengths and weaknesses of existing strategies, and bringing in additional stakeholders (e.g. with local knowledge) can indicate locally-relevant gaps or failing that need to be addressed to improve the effectiveness of current strategies.</p>	<p>Adaptive management: The process provides an 'audit trail' so the basis for decisions can be re-examined using the same protocol when new information becomes available</p>

Please add any further comments here:

Task 3: Existing literature about the tool

Are you aware of DCLG (2009) Multi Criteria Analysis: a Manual.

<p>any KEY policy and / or academic literature evaluating your tool? (e.g. reports, journal articles, books)</p>	<p>https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7612/1132618.pdf</p> <p>Proctor W, Drechsler M, 2006, "Deliberative multicriteria evaluation" <i>Environment and Planning C: Government and Policy</i> 24: 169-190</p> <p>Linkov I, Satterstrom F.K., Kiker G., Batchelor C., Bridges T., Ferguson E. (2006) From comparative risk assessment to multi-criteria decision analysis and adaptive management: Recent developments and applications. <i>Environment International</i> 32: 1072–1093 http://www.lisdmmmp.org/MeetingMaterials/Resources/EnvIntl_1485.pdf</p>
<p>Task 4: Your experience of working on the tool</p>	
<p>Have you done any research/consultancy work on this tool in terms of its development, testing and/or evaluation? <i>If so, please provide an outline.</i></p>	<p>Based on our experience and responses from participants during workshops assessing the impacts on upland managers of a policy shift towards managing the land for multiple benefits (Scottish Land Use Strategy), we highlight numerous key considerations for future multi-criteria work in environmental conflict situations:</p> <ul style="list-style-type: none"> ▪ For MCDA outcomes to be useful there should be an appetite for change, a willingness to act on the results and opportunity for constructive dialogue, and stakeholders must be receptive to structured dialogue as part of a decision-making process. ▪ MCDA is best applied as part of a larger conflict resolution or management planning process. This can make policy makers or managers more aware of shortcomings in existing management effectiveness, trade-offs and how conflicts may be avoided. ▪ Sets of criteria that reflect the diversity of views and values amongst stakeholders should be drawn from stakeholders directly as well as from research and policy. Each criterion should be clearly defined to avoid ambiguity in understanding the differing views, including recognition that criteria can be either positive (e.g. maximising game numbers for harvest) or negative (e.g. minimal predator numbers). There should be similar numbers of economic, environmental and social criteria to avoid bias towards one particular dimension. ▪ The alternative management options that are evaluated during the process can represent current management types, possible future scenarios or a gradient of management activity and may be co-developed with stakeholders. ▪ Scoring the performance of management options against criteria requires stakeholders to make trade-offs between multiple values. It is critical that the questions put to stakeholders to derive these scores are clear and unambiguous in terms of context and scale. An iterative process with discussion and opportunities to re-score may improve the search for compromise. ▪ There are several methods of deriving a final 'value' for each management option. Aggregating individual responses may be a useful way of summarising views from groups or regions but no consensus should be inferred without allowing time for further deliberation. Transparency should be maintained and all conclusions and interpretation should draw on discursive interpretation in addition to appropriate statistical analysis to avoid generating a false or unstable consensus. ▪ Visual methods are useful for representing uncertainty and communicating differences of opinion and can form the basis for negotiating compromise and

	managing trade-offs in policy-making and environmental planning	
Guidance	For Tasks 5-7, please also try to consider the future development and application of this tool in the TABLES project in your answers.	
Task 5: Incorporating the ecosystem approach (EA) and ecosystem services (ES)		
<i>**Please refer to the summary text about ES for concept clarification at the end of this template (appendix)**</i>		
Using examples (from practice, research or consultancy), explain how EA and/or ES are currently incorporated in/by the tool	<p>There is increasing interest in the use of MCA for ecosystem services management and decision-making, although many examples in the literature are theoretical or focus on a restricted set of services (e.g. Lester et al. 2012), often with limited or no participation. Therefore theoretical or conceptual recommendations of MCDA for ecosystem services management (e.g. Fish et al. 2011, Carpenter et al. 2009) generally lack practical testing. Similarly, the application of MCDA to more intangible non-market values (e.g. cultural or social values) is currently limited and refers mainly to practical aspects of cultural uses (e.g. recreation access).</p> <p><i>If neither approach is currently incorporated, please move to the next question</i></p>	
How <u>could</u> the ecosystem approach and/or ecosystem services be (further) incorporated within the existing tool?	<p>The main difficulty lies in reducing the many interrelated aspects of ecosystem approach/services to a realistic but workable number of criteria or characteristics of options, since MCDA usually involves scoring the impacts of each option for each criterion. A list should provide a balance between completeness, with a risk of overwhelming detail, and conciseness, where oversimplification could increase uncertainty and mistrust. Highly complex settings, which seek to consider multiple ecosystem services or attributes may not be suited to MCDA. Threshold effects, high variability or multiple feedback loops between biological and management systems at local and wider (e.g. global market) scales may not be adequately managed using MCDA, unless the issue can be broken down into more manageable facets (potentially both to MCDA and to participants) without losing fundamental detail and connectivity.</p>	
Task 6: Situating the tool within priority questions/criteria arising from the scoping interviews		
Explain how the tool can be situated within the priority questions/criteria that arose in the scoping interviews	Priority question/criteria	Does your tool address/implement this question/criteria? Or does it have the potential if it was better integrated with an EA/ES approach? <i>Please explain how.</i>
	Language and communication	
	1. Contribution to aiding the development of shared vocabulary within which principles of EA and ES can be shared with multiple stakeholders across built and/or natural environment	By breaking down key themes or complex issues into simpler, often measurable entities (sometimes called criteria and indicators), the process can help reduce linguistic uncertainty and therefore help develop shared vocabulary. It can be an effective way of making the assumptions of different decision-makers explicit, thereby identifying common ground as a basis for developing a shared vocabulary to describe similar
<i>Complete as many boxes as required</i>		

	evaluation criteria
2. Capacity of the tool to develop shared understandings of the many identities and values of places from the perspectives of multiple visitors, residents and businesses	Useful as structured, systematic and transparent tool for breaking down complex issues into component parts which can be more readily defined. This is useful for making explicit and recognising values held by different stakeholders, as well as the relative importance of these values in a particular context. See Task 5, however, for limitations in complex contexts, which applies when evaluating how stakeholder identities or values are affected by particular management options. Modelling may be useful for estimating interactions but uncertainties and 'black box' effects on transparency must be acknowledged.
3. Capacity of the tool to improve or enable engagement across different publics so avoiding the usual suspect problem	Visual methods of representing the range of views are useful for communicating responses and soliciting input from different audiences. By enabling diverse publics to take complex decisions together, this tool has the capacity to enable diverse participants to engage effectively together around environmental decisions
Learning from experience/pedagogy	
4. Capacity of the tool to help reveal and value 'hidden' assets that are not recognised by communities or publics that use them	Not known
5. Extent to which tool is building on other tools or EA/ES progress	Assessing impacts of options on criteria can draw on a wide range of existing tools since the method can incorporate qualitative and quantitative data, e.g. cost-benefit analysis, choice experiment, other (e.g. ecological) modelling. Deliberative approaches to MCDA typically build on a range of existing participatory approaches e.g. citizen's jury
6. Extent to which tool is locally derived or grounded or can be adjusted to closely reflect 'local' context. Is the tool suitable for an open source approach?	Highly suited to incorporating local values – adapting criteria and options to local conditions is a strength of participatory application. The method can be/has been applied to cross-scale analysis, e.g. international, national and local perspectives can be assessed using similar framework. A range of open source software is available for conducting MCDA.
7. Extent to which the tool is open to interpretation and application in a variety of forms (that reflect 'cultural' differences)	The general structure of MCDA (7 stages outlined above) can be conducted in a number of ways to reflect cultural needs/differences, e.g. accommodate non-literate participants (e.g. using Matrix Ranking). The final ranking or preferences towards management options could be misinterpreted as indicating consensus, which may be a false premise. Therefore, mathematical treatment and representation of

	responses require careful consideration. For this reason, many users emphasise the use of MCDA as a qualitative tool for structuring discussion around decision options (e.g. Reed et al., 2008).
Developing and selecting tools	
8. Is the tool dependent on a specific funding source? How onerous is the application procedure? What are the chances of success?	Software applications are available to support implementation of MCDA, but it is not dependent on these, and there are open source options available. However, careful method selection and process design are critical as these influence outcomes. 'Success' depends on definitions – whose perspective, whose goals. It is also a decision-support tool, so 'success' resides in the quality of the process rather than negotiated decisions that may result from use of MCDA outputs.
9. Does skills development (essential or optional?) and support exist for the tool or is there a body to ensure the optimal and correct use of it?	Skills development is essential to ensure correct/optimal use of this tool, especially if software is going to be used as part of the process. There is no obvious support system. Although much literature exists on the different methods and how to apply them, there is far less on the applicability of particular methods to specific contexts (i.e. which methods are likely to be most effective when). Therefore careful prior literature reading or training is critical to ensure effective process design and application.
10. Extent to which current statutory hooks can be exploited by the tool or will benefit the quality or application of the tool (e.g. NNPF's duty to cooperate, SUDS, ecol. networks)	The need to take into account multiple values provides a strong hook for use of MCDA although the absence of evaluation literature for MCDA means that there is limited guidance to draw on to ensure the quality of the application. This includes lack of existing applications and potential difficulties of applying MCDA to complex ES contexts.
Informing resultant policies effectively	
11. Extent to which the tool informs or improves policies/decisions. What does the tool cover? (full range of positive and negative economic, social and environment impacts / tradeoffs?)	Tool informs policies/decisions by representing a range of perspectives, including positive and negative environmental, social and economic impacts. This provides a basis for negotiated or deliberated compromise and potentially provides a transparent 'audit trail' for the decision-making process. Having said this, the tool can only be used with relatively limited group sizes, meaning that to inform policy decisions it is essential to ensure effective representation of stakeholder interests in the MCDA workshop
12. How does the tool link into the planning system (applications and processes). At what cost / extra burden?	MCDA is likely to be most effective when applied as part of a wider planning process. It can incorporate various evaluation tools (e.g. cost-benefit analysis, choice experiments, risk assessment) to assist

	<p>evaluation of how different options are likely to affect criteria of importance to participating stakeholders. Length of process and levels of participation can be varied to suit planning context, although implications for fair representation must be considered. The additional skills required to design/run MCDA within a broader planning process will incur costs in terms of skills and transaction costs (liaison with planners), but many parts of MCDA and traditional planning process may overlap/have mutual relevance, e.g. stakeholder identification and engagement. Therefore, MCDA can provide a structured process for undertaking various aspects of the planning process.</p>
Delivering management objectives	
13. Suitability or capacity of the tool to assist with managing visitor needs and pressures within protected areas / the considered area? How?	Can be applied as a means of assessing possible impacts of different visitor needs and pressures on conservation goals, e.g. developing visitor facilities, impacts of permit/visitor quota management strategies
Local ownership/new governance	
14. To what extent can the tool assist in developing statutory plans (local and management plans) and improve ownership and use by publics?	The method is most effective when conducted as part of wider planning process, particularly by involving planning authorities and public to ensure that differing interests are transparently and systematically considered. This can allow consideration of trade-offs required to negotiate acceptable compromise between different interests.
15. To what extent does/could the tool contribute to a new form of community governance in management of the environment?	Useful as a tool to support decision-making processes, provided structured process is acceptable, relevant information and necessary skills are available, and methodological issues are considered, i.e. skilled facilitation is important.
Improved tools: understanding flows, interconnections and spatial issues	
16. Capacity to improve spatial understandings of the flows and interactions of various ecosystem services between sectors and at different scales	Consistent framework can be used to assess differences between sectors and scales, but the method is not ideally suited to highly complex situations, unless modelling (with appropriate acknowledgement of uncertainty) is acceptable to represent and assess feedbacks between highly interconnected aspects of ecosystems, e.g. ecological interactions, cultural/management-ecological interactions, systems with high variability or uncertainty (see response to Task 5 above).
17. Capacity of the tool to reconcile assessments of options and benefits across different scales (and sectors)	See response to no. 6 above.
18. Extent to which the tools is	Well-suited to incorporating views and resource issues

	capable or can be manipulated to work across sectoral and administrative boundaries	across boundaries, although see caveat re complexity in Task 5 and no. 16 above. Information needs must also be considered, e.g. spatial concentrations/gaps in information may prevent uniform assessment across scales/sectors.
	19. Extent to which the tool can handle data shortages and gaps (or is effectiveness considerably compromised?)	A strength of the method is that uncertainties and gaps in knowledge can be explicitly identified. Expert opinion or modelling can be used to address these, but wider acceptability of these approaches/inputs must be considered. Fuzzy MCDA approaches have been developed to accommodate uncertainty and knowledge gaps. Scoring can use a scale that explicitly requests participants to indicate how confident they are that particular options may have desired outcomes.
	20. To what extent has/could the tool put landscape/nature conservation and designated species/sites on the radar (positively or resulting in resentment?)	The method has been used in conservation planning and to manage conflicts between conservation and cultural interests. Conservation applications can be applied purely to design of management options that address conservation goals, or design that takes into account multiple environmental/social/economic interests.
<i>Please add any further comments here:</i>		

Task 7: A SWOT analysis of the tool

<p>Referring back to the relevant policy and academic literature (listed in Task 3), plus your own expertise (listed in Task 4) and the way in which the tool is situated within the priority questions/criteria (listed in Task 6), please complete a summary SWOT analysis ensuring that each point is well justified</p> <p><i>Where possible, this analysis should reflect the tool's past and</i></p>	<p>Strengths <i>(of the tool in delivering intended outcomes)</i></p> <ul style="list-style-type: none"> • Supports complex decision-making processes with diverse groups of decision-makers • Able to cope with incomplete or “fuzzy” data and make uncertainty explicit • Makes the assumptions and decision criteria of different participants explicit and can facilitate an explicit discussion of individual/group priorities around the reasons for taking a particular decision • Easily integrates into existing decision-making processes e.g. planning system and provides quantitative outputs that are attractive to policy-makers
	<p>Weaknesses <i>(factors that detract from the tool's ability to deliver intended outcomes)</i></p> <ul style="list-style-type: none"> • Struggles to cope with decisions that involve a large number of options or criteria – when considering the impact of a decision on a range of different ecosystem services, this may require more criteria than can effectively be managed as part of a workshop process • Struggles to cope with complex decisions in which different options or criteria are likely to interact with one another (e.g. trade-offs between ecosystem services) or where there are feedbacks in the system • The tool is often used in a highly quantitative manner to arrive at a false consensus that does not satisfy participants • MCDA has been criticised for failing to capture qualitative and subjective elements of decisions, and focussing too much on elements that can be easily made explicit and quantified

current application, as well as its effectiveness in policy and decision making processes

Opportunities *(consider opportunities for application of the ecosystem approach and services)*

- MCDA may be combined with computational modelling of ecosystem services to capture feedbacks and prioritise ecosystem services to include as decision criteria
- MCDA may be used in a more qualitative way to structure discussion around decisions and decision criteria and ranked outputs from MCDA software may be used as the basis for group discussion rather than feeding directly into decisions

Threats *(factors which negatively affect the tool and its outcomes)*

Classify these by their “seriousness” and “probability of occurrence” in the table below, and pay particular attention to the threats associated with potential use of ecosystem approach/ecosystem services.

Threat	Seriousness (high, medium, low)	Probability of occurrence (high, medium, low)
False consensus reached	High	Medium
Decision over-simplified in relation to ecosystem services	Medium	Medium
Qualitative and subjective elements of a decision may be overlooked	Medium	High

Please add further comments here:

Guidance

Please now use the remainder of the document (box below) to make any general comments, observations or analyses of the tool

Further comments

Appendix 3: Evaluation Workshops, Milestone Meetings and Key Conference Presentations

EATME Evaluation Workshops³⁰

Business Council for Sustainable Development – 8th July 2013 (Oliver Holzinger with 8 participants)

Collingwood SEA Workshop – 21st May 2013 (Jonathan Baker and Collingwood Consultants with 15 participants)

Cotswolds AONB – 27th June 2013 (Alister Scott Richard Wakeford) with 12 participants

Defra – 17th July 2013 (Alister Scott and Charles Cowap with 12 participants)

Greater Birmingham and Solihull LEP – 18th July 2013 (Alister Scott with 15 participants)

BCU Higher Education Staff – 19th July 2013 (Antony Taft with 4 participants)

Isle of Wight AONB – 21st August 2013 (Ruth Waters with 12 participants),

Landbridge – 18th June 2013 (Alister Scott, Claudia Carter Mark Reed with 40 participants)

Much Wenlock Workshop – 17th June 2013 (Mike Grace with 8 participants)

Natural England Workshop with South Downs NIA – 22nd July 2013 (Ruth Waters Claudia Carter with 10 participants)

PES Workshop – 22nd May 2013 (Mark Everard with 30 participants)

Welsh Government Workshop – 17 May 2013 (Alister Scott)

Milestone Meetings

Case study meetings (~20 in total) – from May 2012 – September 2012

Initial team meeting – 31st July 2012

Stakeholder meeting – 11th October 2012

Follow-up stakeholder meeting – 17th December 2012

Core group meeting – 8th February 2013

Work Package transition meeting – 15th July 2013

³⁰ Evaluation was also carried out by the TABLES case studies, outlined in the main body of text.

Key Conference Presentations

Scott AJ (2013) The National Ecosystem Assessment follow on: Making tools; key note to Living with Environmental Change Conference, University of Aston November 2013.

Scott AJ (2013) Embedding the Ecosystem Approach in Policy and Decision-Making ; Personal reflections. presentation to Cultural Ecosystem Services University of Exeter 2 July 2013.

Scott AJ (2013) Making a Tool of Yourself , Presentation to the Central Rivers Initiative 8th March 2013.

Scott AJ (2013) The National Ecosystem Assessment Follow on Project and the River Irwell, Invited presentation to River Irwell Catchment Management Group The River Returns, February 27th Salford.

Scott AJ (2013) Making a Tool of Yourself presentation to Local Nature Partnerships Conference London. 13th February 2013

Scott AJ (2013) Illuminating the ecosystem approach and ecosystem services: From ivory towers to built environment trenches, Keynote talk to International Association of Impact Assessment, University of Cambridge 23 January 2013.

Scott AJ (2013) National Ecosystem Follow On EATME ; workshop presentation to Natural; England staff 28th February Birmingham.

Scott AJ., Carter C., Everard, M. and Hardman, M. (2013) Applying the ecosystem approach to improve policy and decision making processes: Making a tool of yourself, RGS-IBG Annual Conference, August 2013, London.

Scott AJ (2012) Invited workshop event at Living with Environmental Change Annual meeting November 12/13 2012, Aston University.