



APPLYING THE NATURAL CAPITAL APPROACH TO SUSTAINABILITY APPRAISAL

WORKSHOP REPORT

02 October 2019

Castle Centre, Castle St, Barnstaple

Report prepared by: Tara Hooper¹, Chrissie Ingle² and Rose Stainthorp²

¹. Plymouth Marine Laboratory; ².North Devon UNESCO Biosphere Reserve



Summary

The aim of this workshop was to develop further a draft methodology for applying the natural capital approach to sustainability appraisal, building upon the outcomes of a previous workshop in November 2017, which explored options for incorporating natural capital approaches into local decision making. The workshop was convened to support the objectives of North Devon Marine Pioneer and Marine Natural Capital Plan, and was delivered as part of the NERC-funded South West Partnership for Environment and Economic Prosperity (SWEEP). The workshop was intended to have a highly technical focus with the particular involvement of planning practitioners and so brought together representatives from North Devon, Torridge District and Devon County Councils, the Marine Management Organisation, Natural England, and the North Devon Biosphere.

The draft method was presented, initially through an overview of the conceptual framework, which places natural capital in the context of the wider five capitals model, and describes a holistic system integrating assets, ecosystem services, goods and benefits as well as impacts, external factors and governance. The main steps in the proposed process included typologies for assets and ecosystem services, as well as an outline format for integrated database sheets including an asset register, ecosystem service inventory, asset-service matrix and a risk register.

Discussions highlighted that sustainability appraisal does not lend itself to prompt policy responses; the messages and methods of the natural capital approach should have a role earlier in the policy process. We need to reverse and reframe the current approach of deciding what we want to achieve and then assessing the resulting environmental impact. Participants noted certain risks around how information should be communicated. In particular, where assets are not delivering ecosystems services to their full potential or where there is low confidence in the connection between assets and particular services, it is important that this does not lead to assets with the potential for restoration and improvement being overlooked. Cross boundary issues were also raised. While these are beyond the scope of the sustainability appraisal, the wider Marine Pioneer recommendations of partnership working and integrated governance are appropriate here.

The use of a systematic database was welcomed, particularly as it offers greater opportunity for objective assessment of the information, but concerns were raised about the level of work required to complete it. There is a trade-off between the level of detail required and the resource available. The method should be sufficiently flexible to accommodate the available resource in different contexts. Where data is aggregated, the precautionary principle should apply. Gathering data remains a challenge, but there is no expectation for monetised or quantified data, as qualitative information on the extent, importance and non-monetary value is useful. Much of the fundamental data (in particular in the asset register) is not new; the innovation is in the method of compiling and presenting information that is collected routinely. Sustainability appraisal goes through a number of iterations; it is important to avoid restarting the entire process for every change, and to be able to follow the story from the original wording through the different amendments.

The proposed method is intended to provide comprehensive, systematic information about the natural capital system, but it does not provide the 'right answer'. An inclusive, deliberative process involving people is still required for effective and informed decision making. Additional tools such as multicriteria analysis can help to assign weights to the different factors that must be assessed and compared as part of the decision making process. Widespread uptake of the proposed approach will require guidance documents to be supported by tools that facilitate completion of the process, champions within local councils, and engagement with other local authorities and with the Ministry of Housing, Communities and Local Government.

Purpose and structure of the workshop

The workshop was convened to support the activities of North Devon Marine Pioneer, which (in support of DEFRA's 25 Year Environment Plan) is tasked with testing new tools and methods as part of applying a natural capital approach in practice; and demonstrating a joined-up, integrated approach to planning and delivery. The workshop further linked to the developing North Devon Marine Natural Capital Plan, funded by the European Maritime and Fisheries Fund. The workshop was delivered as part of the South West Partnership for Environment and Economic Prosperity (SWEET), which is funded by Natural Environment Research Council's Regional Impact from Science of the Environment programme to help deliver economic and community benefits to the South West, whilst also protecting and enhancing the area's natural resources.

The aim of the workshop was to develop further a draft methodology for applying the natural capital approach to sustainability appraisal, building upon the outcomes of a previous workshop in November 2017¹ at which options for incorporating natural capital approaches into local decision making were first explored. Details of the developing methodology were made available to participants in advance of the workshop, in the form of a draft discussion document².

The specific objectives of the workshop were:

- i) to improve understanding amongst local authority planning practitioners of the natural capital approach;
- ii) to present, discuss and refine a draft methodology for a sustainability appraisal process using the natural capital approach;
- iii) to discuss possible pathways for securing impact of the work.

The workshop was intended to have a highly technical focus with the particular involvement of planning practitioners and so brought together representatives from North Devon Council, Torridge District Council, Devon County Council, the Marine Management Organisation, Natural England, and the North Devon Biosphere. The discussions were structured around five main sessions (which, with the exception of that for the marine geonode, were led by Dr Tara Hooper):

1. *Introduction to natural capital*
The policy drivers, main concepts and definitions, techniques and challenges for the natural capital approach.
2. *A natural capital framework for sustainability appraisal*
The conceptual approach and overarching framework for the proposed sustainability appraisal method.
3. *Individual elements of the natural capital framework*
A more detailed focus on key components of the proposed method, particularly classification frameworks and asset and risk registers.
4. *The marine geonode*
A new online tool for mapping marine data for the North Devon Biosphere
5. *Next steps*
Plans for further refinement and testing of the method, and how to increase the likelihood of its uptake in local and marine planning.

¹ Hooper, T. (2017). *Natural Capital and Local Decision Making*. Workshop Report. 20 November 2017.

² Hooper, T., and Austen, M. (2019). *Application of the natural capital approach to Sustainability Appraisal*. Second Draft Discussion Document. September 2019.

Progress since the first workshop

At the previous workshop for practitioners and decision makers (November 2017), several key requirements for the incorporation of the natural capital approach into decision making were identified. These requirements, and the progress towards their delivery, are summarised below.

1. High level statement of aspirations

Requirement: A high-level document should be created stating aspirations for a shift towards policies requiring a net gain in natural capital, and suggesting how this could be integrated into decision making.

Progress: This is a key element of the outputs being developed within the wider Marine Pioneer.

2. Guidance notes

Requirement: Guidance on natural capital and ecosystem services is required, particularly for planning/license applicants, elected council members and planning officers, which should be supported by training.

Progress: A non-technical primer³ to introduce the natural capital approach has been published. Two iterations of draft guidance on incorporating natural capital into sustainability appraisal have been drafted, and the document continues to evolve as the methodology develops.

3. Natural Capital Character Assessments and Risk Register

Requirement: Natural capital character assessments need to be developed that identify factors such as any thresholds, sensitivity and the key types of environmental improvements.

Progress: Natural capital asset and risk registers have been completed for the North Devon Marine Pioneer area⁴, and concepts such as thresholds and sensitivity are considered further in the draft sustainability appraisal methodology.

4. 'Cost benefit analysis' for natural capital

Requirement: This referred to any means (not just monetary) for assessing the scale of the losses and benefits and considering trade-offs, for which tools are required to allow the full range of benefits to be considered alongside the costs and to provide a fair, consistent and transparent means of illustrating the relative merits of different options.

Progress: Tools to support assessment of costs and benefits (in metrics other than just monetary) are integral to the proposed methodology for sustainability appraisal.

5. Sustainability appraisal and local marine plan

Requirement: The sustainability appraisal and local marine plan should consider key blue economy sectors and explore more pioneering concepts (e.g. carbon sequestration as an economic activity). The process should assess how activities affect natural capital and generate clear statements on acceptable limits for impact, as well as suggesting mitigation measures. A policy interaction map is required, and spatial guidance should be provided on where particular activities are likely to be more, or less, acceptable through the provision of a local marine plan. Clear definition of the indicators against which options would be appraised is essential, as is understanding the ecosystem services, benefits and beneficiaries at different scales.

Progress: The development of the draft sustainability appraisal methodology has focused on providing a framework that allows these factors to be addressed. Specifics such as indicators and the impacts of specific activities will be considered in the next phase, following approval of the broad structure of the process. Additional elements (e.g. policy mapping, spatial guidance) are being addressed within the wider Marine Natural Capital Plan for North Devon.

³ http://randd.defra.gov.uk/Document.aspx?Document=14441_Non-technicalsummary.pdf

⁴ https://www.northdevonbiosphere.org.uk/uploads/1/5/4/4/15448192/7_north_devon_marine_pioneer_report_2_march_2019.pdf

Introduction to natural capital

The first session began with a short history of the development of the natural capital approach and the UK policy drivers that have provided momentum for its adoption. Broad concepts were explained and key terms defined. Economic valuation and methods for it were discussed, but the emphasis was very much that a 'whole systems' approach is fundamental; monitoring and maintaining the status of natural capital assets is as important as determining the value of services and benefits that arise from them. Examples of how elements of the natural capital approach have been applied in practice (such as risk and asset registers and accounts) were given, and the key challenges of applying the approach to the marine environment were highlighted. The information provided drew upon a review conducted for Defra, and published as a SWEEP report⁵.

Discussions focussed initially on how the natural capital approach is reconciled with the wider international policy agenda. Efforts to develop the approach are being made at the international level (e.g. the System of Environmental Economic Accounting and the World Bank-led Wealth Accounting and Valuation of Ecosystem Services) and also regionally, including in the European Union and in South East Asia. A second issue on this theme was that the UK footprint is larger than the geographical boundaries of the country, and even local decisions can impact at different scales. The natural capital approach allows for this international dimension as explicit reference can be made to services that provide global benefits (such as carbon sequestration and its role in climate change mitigation). How this is taken up and prioritised depends on the management context.

A further topic of discussion concerned the treatment of biodiversity within the natural capital approach and the danger that it will be missed because of the difficulty of linking biodiversity (as opposed to specific habitats or species) to particular services. It was noted that this is a key conceptual issue, as current frameworks do not accommodate biodiversity directly as it is not classified as either an asset or a service. However, biodiversity is likely to be accommodated indirectly if natural capital is used within a whole systems approach (rather than just via economic accounts) under the assumption that if the quantity, quality and spatial configuration of assets is improved, nature and biodiversity more widely will benefit.

Developing the natural capital methodology for Sustainability Appraisal

The proposed method for a natural capital approach to sustainability appraisal was presented, initially through an overview of the conceptual framework, which places natural capital in the context of the wider five capitals model, and describes a holistic system integrating assets, ecosystem services, goods and benefits, as well as impacts, external factors and governance. Further details of the main steps in the proposed process were also given, which included proposing typologies for assets and ecosystem services as well as outlining a format for integrated database sheets for an asset register, ecosystem service inventory, asset-service matrix and a risk register. The content of the presentations was derived from the draft discussion document², and so will not be reproduced here. This report will instead focus on the content of the subsequent discussions amongst workshop participants.

⁵ Hooper, T., Ashley, M., Börger, T., Langmead, O., Marccone, O., Rees, S., Rendon, O., Beaumont, N., Attrill, M. and Austen, M. (2019). *Application of the natural capital approach to the marine environment to aid decision-making. Phase 1 Final Report*. Report prepared for the Department for Environment Food and Rural Affairs (project code ME5115).

Integrating natural capital into the wider policy making process

Within the planning process, sustainability appraisal is used to assess the implications of policies that have already been drafted. It is also used to assess the relative sustainability of distinct policy options or sites. It can lead to a degree of policy change if a possible harm is identified (such as the addition of criteria to, for example, protect a heritage asset) or sustainability can be enhanced. However, sustainability appraisal is a lengthy process and does not lend itself to prompt policy responses and the messages and methods of the natural capital approach should have a role earlier in the policy process. To achieve step change, it is necessary to embed sustainability and environmental issues from the start and at a higher level in policy making. We need to reverse and reframe the current approach where the environment is considered at the end of the process i.e. we decide what we want to achieve and then assess what environmental impact there would be. We should be considering the environment much earlier in the process and in the same frame as, for example, looking at population trends and economic growth, albeit as part of an ongoing iterative process through plan preparation.

Frameworks and matrices

The National Ecosystem Assessment (NEA) habitat classification has been used by Natural England, and while not perfect it is fit for purpose. Under the Landscape Pioneer, Natural England has also developed natural capital indicators for habitats within this classification. The NEA framework covers urban as well as countryside areas, which is important for local planning. As this habitat classification is already widely used on land, it also makes sense to use an equivalent updated version for marine areas. Local Authorities are already well engaged with heritage assets: they are required to carry out heritage assessments, and hold Historic Environment Records.

It is difficult to provide generic lists of key species assets, as these will be context specific. There will tend to be a focus on protected species where there is little other information available. To explore the kind of species that should be included in an asset register, it would be helpful to provide a list for North Devon, with a justification of why each species has been chosen. The Local Nature Partnership has launched 'one hundred species for Devon' which has clear criteria for the selection of the species. Information for a smaller geographic area could be extracted from this.

The reference asset-service matrices used, for example, in the Scottish Natural Capital Asset Index show the potential for service delivery. At a local level this could be used as a benchmark to flag up areas that are not achieving this potential and to consider why this is and how their status could be improved. This would really inform policy. However, there may be a risk that a lesser value might be put on an asset that is not providing the services it should; i.e. it is ignored rather than becoming the focus of improvement efforts (much like the risk of areas with consistently poor water quality having their bathing water status removed rather than being cleaned up).

It is important that this is addressed in the way that 'significance' is recorded in the asset register through a metric that takes account of multiple factors including both how prevalent an asset is and whether it is fulfilling its potential. The holistic approach is important here; a focus on monetary values will highlight habitats such as improved pasture because of the income generated, but it may not be support a wide range of other services that are delivered by other habitats.

A similar issue was discussed around whether the presence of low confidence ratings for a large number of asset-service relationships would undermine the sustainability appraisal or allow people to discredit the approach. This risk was acknowledged but it was hoped that providing confidence scales encouraged transparency, and it was further noted that decisions are made under

uncertainty all the time, particularly in the marine environment. As part of the North Devon Landscape Pioneer programme, Natural England undertook an exercise for strategic landscape natural capital, producing a database that included the quantity trend. Often data was not available, so expert opinion was used instead and a confidence rating (on a scale of 1-3) was given to the trend assessment. It was agreed that the sustainability appraisal framework should similarly enable experts to populate matrices, and that the confidence assessment should not be based on the assumption that peer reviewed papers should always be given the highest rating; information from local experts is as valuable. However, the ongoing future resource implications for the experts in providing and maintaining technical data for any new database needs to be recognised.

Scale, resolution and indicators

There is a trade-off between the level of detail required to make the decision and the amount of resources available to gather that information. Aggregation results in a loss of granular detail, which is a problem not just for environmental issues; in public service improvements the assumption that there are fixed types of people with fixed problems is not useful. Local plans are quite high level, but individual projects need a higher resolution. The intention with this sustainability appraisal method is to create a framework that can accommodate the different resolutions required depending on scope (for example through the hierarchical classification frameworks suggested for habitats (e.g. the NEA) and ecosystem services (e.g. the Common International Classification of Ecosystem Services, CICES).

Planners need guidance to know which level within a hierarchical framework is appropriate. Lessons can be learned from Scotland's Natural Capital Asset Index and also from the work of statutory nature conservation bodies. Reporting needs to make clear where resource restrictions prevent the gathering of more detailed information. The precautionary principle should also apply to aggregated data; for example different types of saltmarsh provide different services, but it would be reasonable to group these together at the level of 'saltmarsh' and assume the full range of services is provided. Different indicators are required at different scales, defining these is often easier at site specific level than for district-wide plans. Indicators and objectives also need to take account of the need to include visitors as well as local residents within local planning.

Cross boundary issues (such as downstream impacts from waterways) remain a challenge. This is not solved by the sustainability appraisal method (the context of which will be defined by the management boundaries and objectives), but the wider Marine Pioneer recommendations of partnership working and integrated governance may help to address them. Not all impacts can be addressed within the plan area although there are opportunities for issues to be addressed through cross boundary working under the existing duty to cooperate.

Gathering data and using an integrated database

Gathering baseline data could be a challenge, especially if this is not information that would typically be gathered for a sustainability appraisal. Capturing values might be a new concept in sustainability appraisal, but there is no expectation within the proposed methods that all goods and benefits will be monetised or even quantified, as qualitative information on extent, importance and non-monetary value is also useful. It is also hoped that the consistent, systematic framework as proposed allows for data to be extracted and compared more easily than is possible where the main means by which information is presented is in large narrative reports.

The use of a systematic database was welcomed, particularly as it offers greater opportunity for objective assessment of the information, but concerns were raised about the level of work required for its completion. It was anticipated that the proposed method would be sufficiently flexible to accommodate the available resource in different contexts. Also, much of the fundamental data (in particular in the asset register) is not new; the innovation is in the method of compiling and presenting information that is collected routinely. In local planning, the sustainability appraisal goes through a number of iterations. It is important to avoid having to restart the entire process each time, and to be able to follow the story from the original wording through the different amendments.

The database must also contain an appropriate level of information (a tick/cross system for impacts on ecosystem services has been tried by local authorities but is too simplistic) and allow both positive and negative effects and their relative significance to be identified easily. Local authorities do not currently maintain their own databases of environmental information. External agencies (such as the Biodiversity Records Centre) do so, but access to the data may require payment and many agencies are not renewing service agreements. Data being held where it cannot easily be accessed is an ongoing issue. Enquiries will be made into the possibilities for local authority IT systems to develop an in-house database for natural capital information in the format proposed.

Additional tools to support decision making

Local authorities currently encounter difficulties around how to prioritise ecosystem services, for example a heritage site versus a renewable energy opportunity. The intention is that the proposed framework and method will generate a comprehensive, systematic assessment that provides the necessary information to support consultations and decision making, including identifying interactions and potential conflicts, but it does not provide the 'right answer'. An inclusive, deliberative process involving people is still required for effective decision making. Additional approaches such as multicriteria analysis can help to assign weights to the different factors that must be assessed and compared as part of the decision making process.

Securing impact

The purpose of developing the sustainability appraisal methodology is to support the adoption, in practice, of the natural capital approach in local decision making. Therefore, it is important that it is presented in such a way as to secure its uptake by local authorities. For this to happen, any guidance documents need to be in plain English and supported by tools that facilitate completion of the process (e.g. blank database sheets, worked examples, and a specification for a local authority database). The approach also needs champions within local councils, who could be councillors already engaged with the idea of holistic environmental approaches. Best practice will be identified and shared, including lessons learned and assumptions made. The work is timely, as the environment is currently high on the agenda, and so recruiting champions is a realistic possibility. Training for councillors in the approach will need to be provided. Widespread uptake by local authorities will require the approach to be incorporated into national planning guidance, requiring engagement with other local authorities and with the Ministry of Housing, Communities and Local Government.

The Marine Geonode

An overview of the Marine Pioneer GeoNode was presented by Tom Mullier from the University of Plymouth. The GeoNode, which will form part of the North Devon Marine Natural Capital Plan, is an online resource within which spatial data (compiled as part of the development of the North Devon marine natural capital asset and risk registers) can be viewed by users and downloaded in various formats. Users have options to create bespoke maps using data layers of their choice, and metadata detailing the provenance of the information is supported. The data can be imported into Geographical Information Systems packages such as Arc and QGIS, and is therefore expected to be of use in support of planning and for wider marine stakeholders. Guidance on using the GeoNode, particularly around establishing user groups, permissions and metadata, is being developed. The GeoNode is available at <https://pioneer-geonode.plymouth.ac.uk> and enquiries can be addressed to pioneer-geonode@plymouth.ac.uk. The GeoNode software documentation can be found at <http://docs.geonode.org/en/2.10.x/index.html>

The GeoNode was well received by workshop participants, and discussions focused primarily around data layers to which the owner may have attached use restrictions. Access to the underlying data will require completion of a registration process, and there is the facility to restrict access to certain users or groups of users. For example, where access to data on the GeoNode would otherwise require payment of a subscription, permission to view that data can be restricted only to those who hold the appropriate licence. It was noted that this would be a limiting factor for some users, which led to a broader conversation around difficulties in accessing data, even that which is publicly funded or provided by members of the public.

The degree to which the GeoNode would be updated was also discussed. Many of the datasets are static snapshots, but where external Web Map Service (WMS) data are included, the maps will track updates by the data owners. The European Marine Observation and Data Network (EMODNet) WMS layers are one example of this. Presently, the GeoNode is hosted by the University of Plymouth, but the possibility of its long term integration into the Marine Management Organisation's Marine Information System was also raised.

Next steps

- Complete writing up the North Devon case study, covering lessons from consideration of the North Devon and Torridge Local Plan and the Landscape Pioneer.
- Develop the next iteration of the guidance document, covering in particular:
 - The potential for baseline asset and risk registers to be developed in advance of the sustainability appraisal process, to inform the early stages of policy development;
 - Defining appropriate levels within hierarchical frameworks for specific decision contexts (taking advice from Scotland's Natural Capital Asset Index team and statutory nature conservation bodies);
 - Justifications for the selection of particular species (with reference to the 'one hundred species for Devon');
 - Criteria for confidence ratings and the 'significance' rating;
 - Options for including a 'benchmark' asset-service matrix (i.e. the potential of the asset to provide the service) and an 'actual' matrix (what is really delivered in the context of the plan);
 - Schematics/clear steps/specifications for what is required in the evidence database;
 - How to deal with policy changes and new iterations of the sustainability appraisal, without having to repeat significant elements of data collection.

- Develop supporting tools:
 - Database sheets;
 - Potential asset-service relationships;
 - Worked examples.
- Further test the proposed approach within the Marine Natural Capital Plan, and perhaps also during the forthcoming refresh of the North Devon and Torridge Local Plan.
- Organise a larger workshop for planners also from Cornwall and Somerset in a central location (e.g. Exeter/Plymouth) for January/February 2020.
- Approach the Ministry of Housing, Communities and Local Government (via both MMO and Local Authority avenues), potentially with an invitation to the south west planners workshop.
- Consider providing a training session for local councillors – this will help facilitate the necessary cultural shift and is timely with the environment being a high priority.

Participants

Name	Role	Organisation
Andrew Austen	Lead Officer Planning Policy	North Devon Council
Alex Curd	Marine Planning Officer	Marine Management Organisation
Mike Deaton	Chief Planner	Devon County Council
Tara Hooper	Senior Scientist	Plymouth Marine Laboratory
Chrissie Ingle	Marine Natural Capital Plan project officer	North Devon Biosphere
Aisling Lannin	Marine Pioneer Lead	Marine Management Organisation
Angelo Massos	Planning Officer	Torridge District Council
Tom Mullier	GIS Specialist	University of Plymouth
Mel Parker	Devon Marine Team	Natural England
Ian Rowland	Senior Planning Policy Officer	Torridge District Council
Jo Traill Thomson	Landscape Pioneer Lead	Natural England
Michael Tichford	Head of Place	North Devon Council
Rose Stainthorp	Marine Pioneer Coordinator	North Devon Biosphere