

## Summary of UKEOF Partners' Natural Capital aims, objectives and monitoring activities (June 2016)



Partners were asked to provide details of their Natural Capital activities:

- i. Aims and Objectives
- ii. Monitoring already being delivered and used by the organisation, or others, for Natural Capital reporting
- iii. Known gaps in monitoring or information required for the organisation's Natural Capital strategy/activities

UKEOF Partner	Aims and Objectives	Monitoring already being delivered / used	Known gaps
CEH	<p>Interpretation of our UK-wide surveys and monitoring datasets, including soil, water, air, plants and animals, in terms of stocks and change in natural capital.</p> <p>Identification of key indicators for natural capital that inform stocks and change.</p> <p>Production of tools for measurement, assessment, mapping and accounting of natural capital.</p> <p>Detection of past and projection of likely future changes in natural capital under external drivers and pressures.</p> <p>Definition of levels of sustainable utilisation of natural capital and identification of irreversible thresholds.</p> <p>Identification of natural capital at risk.</p> <p>Natural Capital Initiative, a partnership with Roy Soc Biology, BES, James Hutton Institute to allow dialogue between people from academia, policy, business and civil society.</p>	<p>CEH currently operates a range of schemes that either collect or collate data relevant to natural capital; these include land cover mapping, countryside survey, biological recording with citizen scientists (e.g. BRC, invasive species monitoring with apps), butterfly monitoring, soil moisture monitoring, river flows, atmospheric pollutant monitoring, ). In addition, it supports a variety of site based observation programmes where the co-location of measurements enables us to understand and quantify the effects of environmental change on ecosystem functions and, ultimately, the benefits derived from ecosystem services. A full list can be found by searching the EoF catalogue.</p>	<p>CEH is currently reviewing its monitoring portfolio in line with its strategy. As part of this process, it needs to take into account where its activities can best complement those of other monitoring or data providing organisations. The development of slick mechanisms for sharing data will be an essential part of this process.</p> <p>The biggest data need is for social and economic data that enables relationships between potential ecosystem services to be translated into measures of realised benefits.</p>

<p><b>Defra</b></p>	<p>Defra is producing a 25 Year Plan for the Natural Environment, which aims to: Place us a world leader in using data, tools and techniques to understand, map and monitor the condition and value of our land, water, air, sea and wildlife, the benefits they give us and how they are changing. Give people more opportunity to use, enjoy and engage with the natural environment. Help individuals and organisations at local, regional, national and international levels to understand the economic, social and cultural value of nature, the impact that their actions have on it, and to use this knowledge to make better decisions and facilitate the design of sustainable financing models. Identify our most important and threatened environmental assets, prioritising where investment in them will deliver the greatest benefits and identifying how that investment can best be secured. Focus policies on delivering better environmental outcomes. Deliver on the range of natural capital related commitments that government has made, including: putting in place a new 'Blue Belt' to protect precious marine habitats; spending £3 billion from the Common Agricultural Policy to enhance England's countryside over the next five years; planting an additional 11 million trees; launch an ambitious programme of pocket parks; tackling air and water pollution; and ensuring the value of Green Belts and AONB's, National Parks, SSSI's and other environmental designations are appropriately protected. Address outstanding monitoring and data issues, so we can make better informed decisions about where strategic investments in natural capital are needed, what form these should take. Defra is also supporting the National Capital Committee, an independent advisory body which will provide advice to the government on the state of England's natural capital. Defra is working on a new evidence action plan for the Natural Environment area, which will set out further details of our monitoring, data and research objectives. This plan will support the work across the Defra Group. We envisage that the plan will include objectives to: Enable external decision makers to access data, tools and information to make decisions about the environment. Working in partnership with the research sector, to develop metrics that describe natural capital in a way that allows us to infer changes in the benefits provided to society; and to better measure and map these metrics. External consultation on the evidence plans will be undertaken later in 2016, subject to the plans for the 25 year plan itself. Other areas of Defra (Marine, Animal and Plant Health) are also drawing up cross-Group evidence plans, and these will also support the 25 year plan ambitions for monitoring and data.</p>	<p>Within the Natural Environment area, monitoring of natural capital (biodiversity and ecosystems) is undertaken by Natural England, Environment Agency and Forestry Commission. In addition to monitoring undertaken by our arm's length bodies, we use a range of data collected independently, or in partnership with external research and volunteer bodies. Reporting is through the UK and England Biodiversity Indicators and through the England Natural Environment Indicators. Monitoring undertaken or used in the Marine areas is set out in our Marine strategy part two: UK marine monitoring programmes, published in 2014, which sets out our monitoring programmes for measuring progress towards Good Ecological Condition in UK seas by 2020. Monitoring for Floods and Water is undertaken by Environment Agency. Monitoring of Air Quality and other components of the physical environment are undertaken by Defra bodies, although we also make use of additional external information. Further integration of these reporting mechanisms for natural capital is envisaged to support the 25 Year Plan. No details are available at this time.</p>	<p>Measurement – a robust and consistent framework for measuring and monitoring changes in Natural Capital. Accounting – comprehensive natural capital accounts at national and corporate levels. Valuation – better economic valuation and decision making.</p>
---------------------	---	--	--

<b>UKEOF Partner</b>	<b>Aims and Objectives</b>	<b>Monitoring already being delivered / used</b>	<b>Known gaps</b>
<b>EA</b>	Key interest particularly in water quality planning and developing our own natural capital accounts for our owned/managed natural flood related assets.	Likely to be a range of data covering water quality (both chemical and biological) and water quantity linked to water quality planning activities.	
<b>ESRC</b>	Supported the National Ecosystems Assessment (NEA), Social and Environmental Economic Research (SEER) into Multi-Objective Land Use Decision Making, The Rural Economy and Land Use Programme (RELU) and the Centre for Climate Change Economics and Policy (CCCEP). SEER's Professor Ian Bateman became a founder member of the Natural Capital Committee (NCC) in 2012. Fund research in link between Natural Capital and well-being.		
<b>FC</b>	FC are the main provider of data on woodlands to enable formulation of Natural Capital Accounts and in assessing Natural Capital. Forestry Policy is devolved and each country is evolving its own policy to the approach taken, but all share the same direction of travel in wanting to establish effective measures for the woodland resource, both for the public and private estates and all aim to use the NFI and SCDB as key data resources.	National Forest Inventory and Public forest estate inventory or subcompartment database (SCDB). Both enable assessment of biomass, carbon and timber stocks, alongside assessments of habitat condition. We have some data relevant to water quality, social usage of woodlands, landscape and clean air.	We are still developing approaches to assessing natural capital arising from woodlands in terms of water, air and how the public interact with the environment. We expect we will not have the full suite of information to report on these for woodlands. We also have limited data on trees outside of a woodland setting.

UKEOF Partner	Aims and Objectives	Monitoring already being delivered / used	Known gaps
<p><b>JNCC</b></p>	<p>JNCC's collection and access of data on biodiversity across the UK is being used to determine and assess natural capital stocks, flows, and the provision of ecosystem services, and to facilitate integrated approaches to the management of biodiversity e.g. through development and improvement of models and other tools.</p> <p>JNCC is developing innovative approaches to support integrated management of natural resources (including trade-offs and optimisation of land use) through e.g. the development of frameworks.</p> <p>Providing advice to and collecting information from European partners through the European Commission's MAES project.</p> <p>Natural capital concept beyond nature conservation – working on integrated reporting by businesses and in particular considering their data and analytical needs.</p> <p>Application of ecosystem services and natural capital concepts is in its infancy in the marine environment efforts are underway to rectify this by assessing what information is already collected and how it can be analysed to provide information on status and trends in marine ecosystem services.</p> <p>Work with conservation bodies on agendas around Nat Cap and Ecosystem Services eg SNH's Natural Capital Asset Index and NRW's SoNaRR projects.</p> <p>Support countries to develop metrics for assessing habitat and species condition related to biodiversity and natural capital.</p> <p>Work with Defra to promote application of ecosystem services / natural capital approach internationally eg through IPBES and the assessments it undertakes.</p>	<p>Efficient collection of biodiversity evidence through structured surveillance schemes, which can contribute to understanding status and trends in natural capital (reported as official statistics for most schemes). Supporting research – particularly using evidence collected through structured surveillance schemes- into drivers of change of natural capital.</p> <p>JNCC's spatial framework developed with Environmental Systems and other consultants has been used by several local authorities to plan land use.</p> <p>Contributing to the FP7 Esmeralda project and working with them to develop mechanisms which allow the flow of information between European colleagues and organisations working across the UK.</p> <p>JNCC is working to use data collected across the marine environment to assess ecosystem service provision and develop methods which allow its application to marine policy and practice.</p>	<p>Key areas to develop include information on</p> <ul style="list-style-type: none"> <li>-Current stock of natural capital</li> <li>-Trends in natural capital</li> <li>-Pressures, drivers and flows on natural capital</li> <li>-Understanding of the trade-offs in natural capital and links to other forms of capital.</li> </ul> <p>Further work required on how current surveys and monitoring can be used to meet NC needs.</p> <p>Work underway to represent biodiversity and associated ecosystem services more effectively in existing and novel models and tools for guiding land management.</p> <p>Work on metrics, standards, accreditation and development of a risk register.</p> <p>Working beyond the nature conservation sector to promote application of natural capital approaches eg through business integrated reporting, application during environmental assessments and application of natural resource protocols.</p>

<b>UKEOF Partner</b>	<b>Aims and Objectives</b>	<b>Monitoring already being delivered / used</b>	<b>Known gaps</b>
<b>Met Office</b>		There is a possibility that some of our climate scientists may feed in to a piece of work on behalf of DEFRA later this year (2016).	
<b>NE</b>	Evidence to advice for practitioners, including tool development. Mapping of natural capital in England - making maps of natural capital publically available and accessible. Synthesising evidence and making accessible through literature reviews and tools. Practical application on the ground through pilots and focus areas. Embedding ecosystem approach and natural capital concept, including through development of Natural England's Conservation Strategy.	2016/17 Piloting corporate natural capital accounts for National Nature Reserves.	Systematic review of natural capital indicators for England
<b>NERC</b>	£2m programme Valuing Natural Capital to look at how a low-carbon energy future would affect Natural Capital and Ecosystem Services in the UK. The Valuing Nature Programme also covers some natural capital in relation to health (with ESRC).		

UKEOF Partner	Aims and Objectives	Monitoring already being delivered / used	Known gaps
<p><b>NRW</b></p>	<p>Under the Environment (Wales) Act 2016, NRW is required to produce a State of Natural Resources Report (SoNaRR) every five years, with the first report to be published in September 2016.</p> <p>For SoNaRR, NRW is developing an approach to assessing the extent to which sustainable management is being achieved. This involves:</p> <ol style="list-style-type: none"> <li>1. Assessing the ecosystem service benefits to well-being – specifically focusing on the seven well-being goals (from the Well-being of Future Generations (Wales) Act 2015).</li> <li>2. Assessing the risks to the continuation of those benefits now and in the future – drawing on our assessment of the state of natural resources and the resilience of ecosystems.</li> <li>3. Assessing the key risks for well-being and in particular where there are deficits in ecosystem services – and which of these may suggest priorities for action. This will be the start of a natural resources “risk register” for Wales, and will help Welsh Ministers to inform the National Natural Resources policy</li> </ol> <p>We want to be able to:</p> <ul style="list-style-type: none"> <li>• identify now where we think there is a potential risk to particularly benefits, because of the state and resilience of ecosystems</li> <li>• understand where the most relevant relationships could be, using known evidence, supplemented by expert judgement.</li> <li>• build on this initial assessment in the future development of SoNaRR – and building on the work of the Natural Capital Committee – to fill gaps in our knowledge.</li> </ul> <p>In addition to SoNaRR, the Environment (Wales) Act 2016 also requires NRW to produce Area Statements that will identify areas where priorities in National Natural resources Policy can be delivered.</p>	<p>SoNaRR is drawing on a wide array of monitoring and other evidence, collected both by NRW and others. Evidence from NRW’s own monitoring activities includes (but is not limited to) that on the ecological status of water (from WFD monitoring), status of habitats and species on protected sites, and of our forest estate.</p> <p>A fuller listing should be available following publication of SoNaRR later this year (2016).</p>	<p>Our assessment approach is still developing, and will be further refined in the next phase of SoNaRR development, following publication of the first report. In particular we need to work out the information we need on the quality, quantity and spatial distribution of the benefits, and the significance of the relationship to particular ecosystems.</p> <p>We are committed to working with others in the future development of SoNaRR.</p> <p>A fuller analysis of gaps should be available following publication of SoNaRR later this year.</p> <p>The process of developing Area Statements will also help us to better understand the types of information and evidence we will need at a local level.</p>
<p><b>SEPA</b></p>	<p>SEPA's Biodiversity Delivery Agreement with SG for 2020 Challenge for Scotland's Biodiversity:</p> <p>Developing framework based on ecosystem services to enable account to be taken of the benefits of nature in decision-making</p> <p>Ensure biodiversity is accounted for as a key building block of ecosystems</p> <p>Contribute to Natural Capital Group (Chair) and the Scottish Forum on Natural Capital</p>		

<b>UKEOF Partner</b>	<b>Aims and Objectives</b>	<b>Monitoring already being delivered / used</b>	<b>Known gaps</b>
<b>SG</b>	<p>2020 Challenge for Scotland's Biodiversity.</p> <p>Encourage wide acceptance and use of the Natural Capital Asset Index (see SNH). The Natural Capital Group's main tasks for 2014-15:</p> <p>Further development of indicators including the Natural Capital Asset index, and promotion of knowledge sharing.</p> <p>Provide advice to Land use Strategy regional framework pilot projects to aid maximising the benefits for natural capital and ecosystem services.</p> <p>Examine the role of catchment management in Natural Capital, and how ecosystem services analysis informs delivery of multiple benefits through River Basin and Flood Risk Management Plans, Payments for Ecosystem Services, and other mechanisms.</p>		
<b>SNH</b>	<p>Scotland published its first Natural Capital Assets Index in 2011.</p> <p>The most recent report is that natural assets deteriorated through the 1990s but have since stabilised.</p> <p>In 2015 the Natural Capital Index used revised methodology. It now uses the EUNIS land cover classifications. The method evaluates the condition of habitats and their ability to deliver ecosystem services, with an estimate of the relative contribution to human well-being.</p> <p>A range of indicators are also used to monitor change in habitat quality.</p>		