sweep Manual

January 2023

The SWEEP Manual is presented as a legacy resource for projects aiming to deliver maximum impact, both within and outside academia, and also for those working specifically on environmental or Natural Capital related projects. The following sections are designed to provide a clear set of practical 'how to' guidelines on SWEEP approaches adopted and the lessons learned, useful to academics, professional service teams, impact practitioners and funders.

Annexes are available upon request from sweep@exeter.ac.uk

C.1 Introduction to Natural Capital Approach

C.1.1 What is Natural Capital?

Natural capital is a term used increasingly by government, businesses and community organisations when talking about the environment. The Natural Capital Coalition [1] defines it as 'The stock of renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people.' This is essentially means that any part of the natural world that benefits people, or that underpins the provision of benefits to people, is a form of natural capital.

Natural capital is a way of talking about any element of the environment that shows we understand that it has a benefit, and often multiple benefits, to us. This might be a financial benefit (a value), or it might be a benefit to society or health and wellbeing or conservation. A big challenge for people who make decisions about our environment is knowing which benefit is most important. If decision-makers valued our environment in a purely financial way, many important benefits are overlooked. For example, a forest would be worth the value of the timber it provided, or the value of the land. Other benefits such as carbon sequestration, habitat provision, spaces for people to enjoy fresh air and recreation – and many more – would not be taken into account. This is where natural capital approaches can be used. This term describes a way of thinking that shows an understanding of the many and varied benefits the natural world brings and making decisions based on a more holistic view of its 'value'.

[1] https://naturalcapitalcoalition.org/wp-content/uploads/2019/06/NCC-WhatIs-NaturalCapitalApproach-FINAL.pdf

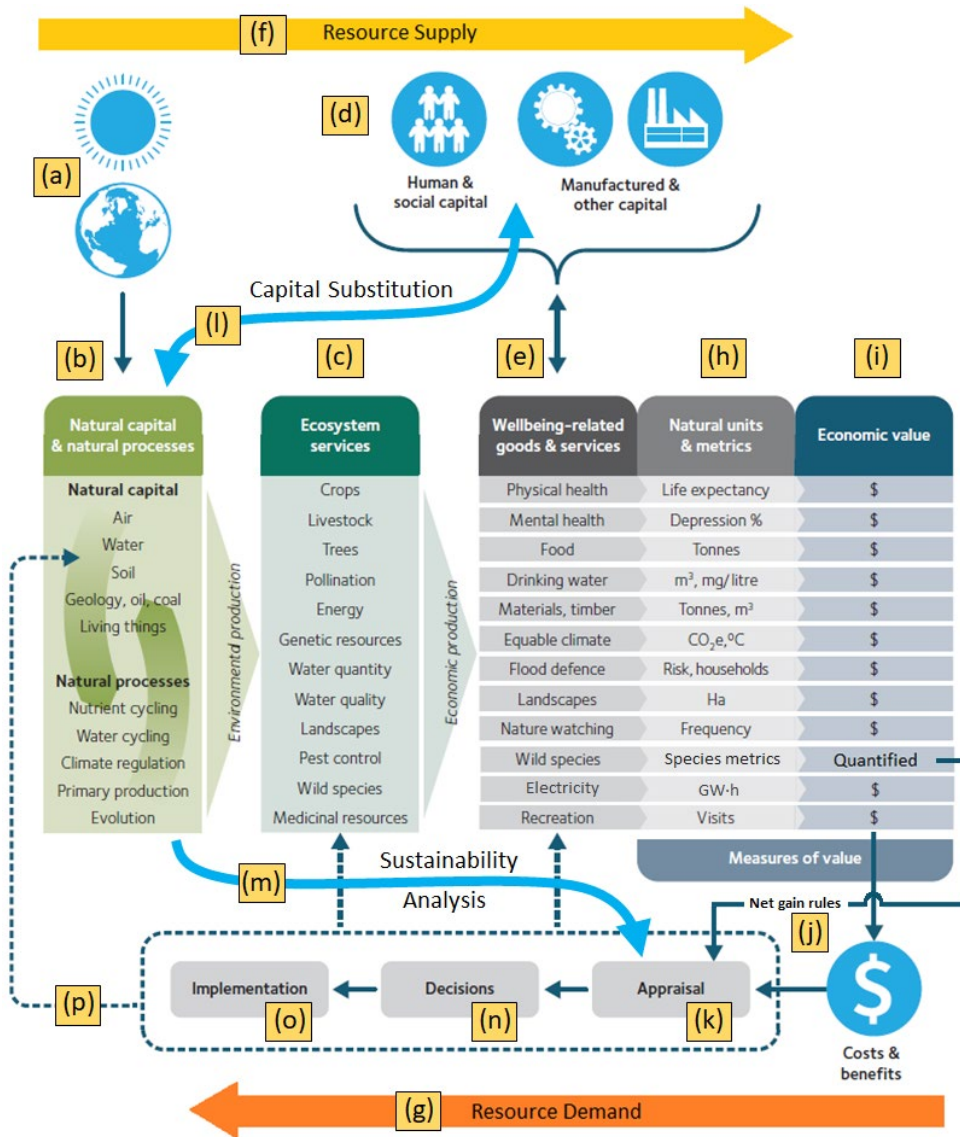## C1.2 What is the Natural Capital Approach?

The natural environment and the economy are two complex systems which are inextricably bound together and whose fate, whether destructive or regenerative, is now mutually assured.

The economy is a subset of the environment, wholly dependent upon its inputs and massively affecting the quality of the latter. Recognising this symbiosis is essential to a transition to a form of decision-making rooted in the real world of this inter-dependence, rejecting historic abstractions where the economy was depicted as somehow operating devoid of connection to the wider world.

The Natural Capital Approach to decision-making captures the real world environmental-economic relationship. It is now widely appreciated as being an approach that captures the various elements of that relationship and, as detailed in Figure 1. below, provides an ideal basis for introducing three essential requirements for good decision-making: **sustainability, efficiency and equity**. For a presentation of these concepts see https://youtu.be/uFUcudo5g6k

Figure 1: The Natural Capital Approach to bringing the environment in to economic decision making


The various elements of the Natural Capital Approach, as illustrated in Figure 1, are as follows:

(a) Energy and material inputs ultimately originate from the sun and earth systems which underpin
(b) stocks of natural capital assets (such as air, water and soils) and processes which can deliver
(c) flows of ecosystem services such as water flows, plant growth, fibre production and natural resources.
(d) Stocks of human, manufactured and related capital assets yield flows of labour, technology and other inputs which combine with ecosystem services flows to produce
(e) the welfare-bearing goods and services which underpin human wellbeing.
(f) While resource supply (moving from left to right) describes what is feasible, it is the interaction of this supply with
(g) human demand (moving from right to left) which determines production and resource use.
(h) The use of any good or service can be quantified using a range of physical metrics, but these are not comparable with each other and do not convey the magnitude of benefit delivered.

(i) Using economic value expressed in common monetary units is certainly imperfect but has many practical advantages in allowing us to view trade-offs in common units. Valuation should be applied in those cases where it improves decision making.

(j) However, where robust monetary values are not available alternative approaches are required to ensure that impacts are not overlooked. Wild species are a case in point. For example, we do not have a detailed scientific understanding of the ways in which biodiversity underpins ecosystem functioning and natural processes, we only know that the latter are of major value. We advocate [2] that the effects of potential decisions on biodiversity should be quantified and straightforward rules, such as requiring no loss or net gain, applied to ensure that these are not omitted from decisions.

(k) The various benefits and costs of a particular investment option can then be appraised but this process also needs to consider the sustainability of each alternative option.

(l) The past century has seen radical conversion of natural capital into other forms of capital to the extent that stocks of the former are now depleted.

(m) Sustainability analysis should be considered in terms of ensuring non-declining opportunities for wellbeing across generations. At the very least, this means that the aggregate value of all capital stocks (natural, human, manufactured, etc.) should not decline over time, but where crucial services of an asset are not replaceable this will be an inadequate definition of sustainability (see text for discussion).

(n) Decisions should therefore consider the costs, benefits and inter-generational sustainability of alternative resource uses. This process should also consider behavioural responses and human adaptation to decisions as well as wider objectives such as the intra-generational distribution of costs and benefits across society.

(o) Once a decision is made its implementation can also significantly affect outcomes

(p) These outcomes in turn feed-back into natural capital assets and processes, the expected consequences of which should be incorporated within the decision-making process.

[2] Bateman, I.J. and Mace, G.M. (2020) The natural capital framework for sustainably efficient and equitable decision making, *Nature Sustainability*, https://doi.org/10.1038/s41893-020-0552-3

Figure 2: Applying the Natural Capital Approach to deliver the Sustainability, Efficiency and Equity (SEE) principles for decision making
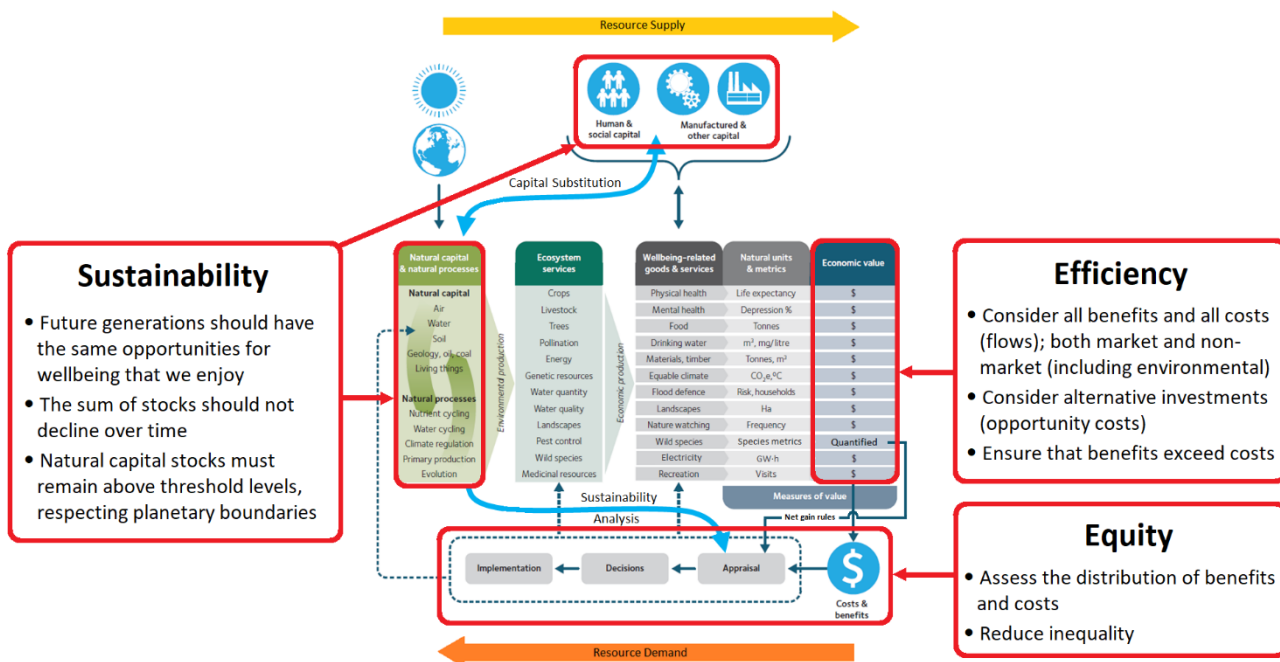
The crucial rationale for the Natural Capital Approach to decision-making, and its main contribution to policy, is the clear framework it supplies for articulating the Sustainability, Efficiency and Equity (SEE) principles for decision-making and converting these concepts from often vaguely described aspirations terms into measurable objectives. Figure 2 extends the previous figure to illustrate the SEE principles which are summarised as follows:

- **Sustainability** is directly measured in terms of capital stocks of desired quality. In the case of natural capital examples include the area of pristine forest or size of healthy fish stocks. Sustainability is only met when we attain stock levels commensurate with delivering the objective of ensuring that future generations have the same opportunities that previous generations were able to enjoy. This in turn implies two requirements. First, the real value of the sum of all capital stocks (natural, manufactured, human, etc) should not decline over time. Second, natural capital stock levels must always be maintained above the threshold levels necessary for their long-term maintenance and self-renewal [3]. These threshold levels, often referred to as Planetary Boundaries [4], reflect the unique attributes of natural capital stocks many of which can self-renew provided they are not pushed below these thresholds. As an example, it is clear that greenhouse gas emissions have pushed atmospheric natural capital well beyond the threshold where harmful climate change is triggered. This threat to future (and indeed present) wellbeing falls foul of the sustainability test.

- **Efficiency** examines the relationship between the use of resources and the outputs they generate. Resource waste is inherently inefficient, however merely noting that the value of output benefits exceeds input costs is not sufficient to ensure that a decision is efficient. Private businesses may only consider the market priced inputs and outputs of a project or investment but a social assessment, such as that mandated in guidelines for public spending [5], should also consider the non-market, unpriced benefits and costs generated by that spending. These non-market values include many of those concerning the environment. A further vital requirement for efficiency is the need to examine alternative uses of those resources, looking at the opportunities which will be forgone if a given project is undertaken (the 'opportunity costs' of that project).

- **Equity** concerns, more accurately the distribution of benefits and costs across society, are sometimes portrayed as separate to the main thrust of decision-making. Certainly, there will be a relationship and in many cases a trade-off between efficiency and equity. However, ignoring the distributional consequences of public spending can often undermine the long-term viability of a project, whereas a policy which delivers both improved resource efficiency and reductions in inequality is likely to be more robust over the longer term and potentially deliver greater benefits than spending dictated by efficiency concerns alone.

This combination of a framework for bringing the environment into economic decision making and a way of articulating the key decision principles of Sustainability, Efficiency and Equity (SEE) and converting them into tractable measures, makes the Natural Capital Approach a significant benefit for decision and policy analysis. Ongoing research is making significant advances in terms of the various decision support tools [6] necessary to apply the Natural Capital Approach in practice, including the Natural Environment Valuation Online decision support tool (NEVO) and the marine asset and risk registers which have been developed and extended under SWEEP.

[3] Some natural resources (e.g., fossil fuels) are not self-renewing within relevant time horizons. Here it is the services provided by those resources (e.g., energy supplies) which should be maintained.
[4] Rockström, J et al. 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society* 14(2): 32. [online] URL: http://www.ecologyandsociety.org/vol14/iss2/art32/
[5] H.M. Government (2018) *The Green Book: Central Government Guidance on Appraisal & Evaluation*, OGL Press, London.
[6] See, for example, the Natural Environment Valuation Online decision support tool available as part of the SWEEP work at https://sweep.ac.uk/portfolios/natural-environment-valuation-online-tool-nevo/ and https://www.leep.exeter.ac.uk/nevo

C.1.3 SWEEP's Natural Capital Approach

SWEEP supported the region's decision-makers adoption of a Natural Capital Approach through the development of bespoke guidance, modelling, and mapping tools. SWEEP facilitated change to partners' decision-making culture and capabilities, contributing to the improvement of policies and management plans, and influencing significant regional investments for the good of both the environment and the economy. SWEEP helped the South West to become a national exemplar for Natural Capital-led economic growth, social gains and environmental improvements. Overall, SWEEP has contributed to the wider understanding and embedding of the Natural Capital Approach at a regional, national and international level. Examples of this include:

- SWEEP has pioneered marine Natural Capital Approaches, particularly methodology to compile asset and risk registers and sustainability appraisal, to enable a new way of considering, valuing and managing the marine environment in the South West and beyond. This has engendered a new, whole-system marine Natural Capital approach; embedded within 6 collaborative partner organisations and 3 European Marine Sites (see Annex 1 for the Impact Summary or here).
- Tools NEVO [7] and ORVal [8] being recommended in Defra's Enabling a Natural Capital Approach (ENCA [9]) guidance, a comprehensive document providing information and resources. A Natural Capital Accounting briefing document produced by SWEEP for Dartmoor National Park was included (see Annex 2 or here).
- Engagement with an extensive range of govt departments and agencies, for example SWEEP hosted an event in London in 2019, '*How to make decisions in policy and practice: Applying natural capital the Green Book way*' which included representation from 12 govt. departments, and 7 government agencies (see Annex 3). SWEEP has also hosted a senior delegation from Defra's Environmental Analysis Unit in 2018 (see Annex 4).
- SWEEP has worked closely with the Defra Land and Marine Pioneers in North Devon, and Test and Trials in Cornwall, North Devon and Dartmoor.
- SWEEP work leveraged funding for a Centre for Doctoral Training in Sustainable Management of UK Marine Resources in 2022, influencing the next generation of scientists and practitioners [10].
- SWEEP's 3-day virtual Expo in 2020, showcased the results and successes achieved by the SWEEP team and partners, focussing on placing Natural Capital at the heart of decision making, and co-delivering the information and tools needed by partners to enable this. Including keynote presentations from Tony Juniper, Sir Dieter Helm and Luke Pollard MP, as well as a presentation from Steve Double MP. 758 individuals registered, 41% were from the public sector, 19% from private sector, 12% from charities and 25% academic (report in Annex 5).

Figure 3: HotSW LEP annual conference stand

- SWEEP has driven the advocacy of the Natural Capital Approach with the Local Enterprise Partnerships (LEPS), including providing a case study for Defra in their guidance to LEPS on '*Local Industrial Strategies and Natural Capital*' (see Annex 6). SWEEP also co-authored '*Investing in Natural Capital for the Heart of the South West (HotSW)*' (see Annex 7), and co-hosted a stand on Natural Capital at the HotSW annual conference in 2019 (see Figure 3). SWEEP also presented work as part of the Civil Service Live in 2019, in partnership with Defra's '*Network for Nature*'.
- SWEEP's film '*Natural Capital Approach Exemplar*' was shown at COP26 in Glasgow in 2021.

[7] https://www.leep.exeter.ac.uk/; [8] https://leep.exeter.ac.uk/orval/; [9] https://www.gov.uk/government/publications/enabling-a-natural-capital-approach-enca-guidance; [10] https://www.plymouth.ac.uk/student-life/your-studies/research-degrees/centre-for-doctoral-training-in-sustainable-management-of-uk-marine-resources;

C.2   Generating and delivering impact in environment projects

C.2.1   Why is this important?

The environmental and climate crises, the need for post-pandemic green and clean economic recovery, and current opportunities for Levelling Up mean we have to grasp and embrace new ways of working that enable a more resilient and enhanced natural environment, producing gains for business, government and society. SWEEP provides a proven approach, with a successful track record, of unlocking the value of research to society, at scale.

C.2.2   SWEEP approach

SWEEP's success at delivering impact has been enabled because of the way we worked. A suite of mechanisms, or 'SWEEP services', were developed, that were carefully designed to nurture relationships, and wider stakeholder networks, that deliver maximum impact. Embedded within the delivery process, they created firm and durable foundations underpinning all projects and workstreams. The 'SWEEP services' were vital to the successful delivery of impact achieved to date, as well as ensuring a strong legacy of anticipated impact into the future.

Innovative Knowledge Exchange	Natural Capital Accounting	Collaboration & co-creation	Tailored decision support	Capacity Building
Generating new opportunities through the two-way sharing of state-of-the-art academic research findings and techniques, and industry working practices.	Bringing the value of environmental goods and services into the heart of organisational decision making.	Creating firm foundations for real change through joint decision-making with external practitioners.	Investing in time to develop bespoke tools and services that respond to need and enhance decision-support capabilities.	Boosting organisational capacity through training, upskilling and consensus building.

There were four key elements to the SWEEP team that worked seamlessly together to deliver the above services:

- **Impact Fellows,** hybrid roles focused on conducting applied research to translate science into environmental, economic and social benefits. With varied backgrounds, relevant subject matter and technical expertise, as well as the 'softer' skills to work collaboratively with external non-academic partners, embedding new capability and delivering real world benefits (see UoE Impact Fellow Job Description in Annex 8).

- *Impact Facilitation Team* with extensive knowledge and skills in project management, strategic impact delivery, evaluation, monitoring and evidencing, relationship building, knowledge transfer and impactful comms.
- *Academic experts* with diverse and interdisciplinary backgrounds (integrating the natural and physical sciences, economics and social sciences) providing academic leadership and ensuring research excellence is embedded throughout SWEEP's activities.
- *Partners* were also embedded in the team, forming a key component, enabling effective planning, delivery and evaluation and also ensuring a successful two-way exchange of knowledge and impact generation.

The Impact Facilitation Team had ongoing and regular dialogue with project teams to help drive impact forwards, and developed several mechanisms and systems to support the delivery of impact, including:
- Early training for Impact Fellows in for example, how to write a policy briefing, how to develop a logic chain.
- An Impact Store for each project to record, monitor and report all activities and impact evidence consistently (see Section C4).
- Extensive logic chains for each project, which were monitored and reviewed regularly (see SWEEP Logic Chain template in Annex 9).
- Partner interviews, to help further understand SWEEP's impact, and get feedback on partner interactions with SWEEP (see Section C5).
- An impact working group, drawn from experts outside of SWEEP, to advise on impact methods and approaches.
- The SWEEP Impact Advisory Panel (IAP) advises on new opportunities for delivering impact (see Section C7).
- The criteria associated with allocation of funding in SWEEP ensured maximum impact delivery (see Section C7).
- Partner surveys (see guidance in Annex 10).

C.2.3   SWEEP experience

There has been a great evolution and learning on what it really means to work in an impactful way, and to ensure impact is at the heart of everything in SWEEP. This learning occurred across the team but was especially evident amongst the group of impact fellows. This learning has also been transferred into SWEEP partners and stakeholders.

A particular aspect of SWEEP outputs that proved impactful are the decision-support tools that were developed, and particularly those that are able to be made publicly available online, see www.sweep.ac.uk/resources/tools (and see Annex 11 for SWEEP online tool guidance).

C.2.4   Key factors for success

- Taking time to develop ways of working and approaches that maximise the skills of your team, your objectives and the needs of your stakeholders, and not being afraid to revisit these over time.
- Invovlement in impact work can have enormous benefits for professional development and career progression, however thought needs to be given to how Impact Fellow roles are appropriately recognised and rewarded within current traditional academic job families.
- Consider the qualities of a team to successfully deliver impact, this is summarised very well in the paper by Reed et al (2014) Five principles for the practice of knowledge exchange in environmental management, Journal of Environmental Management, Volume 146, 2014, Pages 337-345

C.3 Stakeholder engagement and management

C.3.1   Why is this important?

Partnership working, co-creation and co-delivery is absolutely critical to deliver real world change.

The opposite image in Figure 4, courtesy of the Wellcome Trust, is the 'Public Engagement Onion' showing engagement methods and activities as a series of layers, like an onion. With each layer the focus moves from two-way dialogue and decision-making to information-giving. Hence the impact on research or on influencing policy decreases as you move towards the outer layers of the onion. This model provides a useful guide on how to maximise the meaningful engagement for researchers and partners.

Figure 4: The 'Public Engagement Onion' courtesy of the Wellcome Trust

Public impact on research/policy

Dialogue   Information
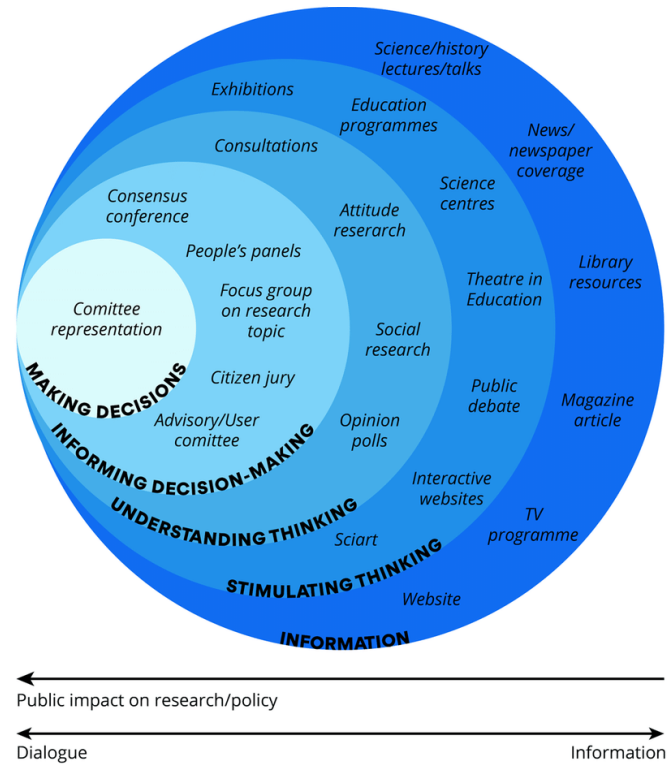
C.3.2   SWEEP approach

SWEEP had very strong partnerships, with 34 partners at the outset providing letters of support in the proposal for funding, and now with over 300 in total (see Annex 12 for the full list of SWEEP partners). The SWEEP team have always sought to engage meaningfully with partners; this has evolved over the lifetime of SWEEP as new opportunities or challenges have arisen. Through this approach SWEEP maintained a group of around 30 core partners who were very closely invovled, and also supported the governance structures (see Section C7).

Relationship management - a range of approaches were adopted to manage SWEEP partners. Relationships with strategic or core partners, such as those who sat on the Impact Advisory Panel or those that were invovled in multiple SWEEP projects, were managed by the Programme Manager and SWEEP Director. SWEEP relationships with most partners were best managed at the project level, where they were often founded on existing personal relationships. In some cases, there was a project steering group, which met regularly to review progress. In others, the relationship was more informal. The impact store was used to record partner match funding contributions, which may be in the form of staff time, provision of data sets or cash funding. This enabled the team to further monitor and management engagement with partners.

C.3.3   SWEEP experience

The success of SWEEP was achieved by building long-term, trusting relationships that enabled academics to learn about partner's needs, partners to understand academic's research and science, and then to co-design ways to exchange this knowledge in a bespoke and timely manner that delivers real-world solutions 7– in SWEEP's case for tackling environmental and economic issues of concern in the south west. It is also essential to

develop key personal qualities, such as listening, humility, curiosity, patience, diplomacy, an ability to understand what motivates a partner, willingness to learn, team work and efficient collective decision making.

Communication of unfamiliar terms, such as natural capital, and the natural capital approach need to be carefully considered. The team made sure to engender an understanding of these terms with partners, or if needed used alternative terms that were more widely recognised by a particular group of stakeholders.

Managing expectations

- It was very important to make sure that expectations, roles and responsibilities were clearly agreed between all parties when projects were initiated and managed during projects. How the collaboration is going to operate, and in particular what the SWEEP team was expected to deliver were particularly important. Potential commercial interests in the work were also considered and managed appropriately.
- On occasion partners requested significant additional activities that went beyond the original project scope agreed. Here a balance needs to be struck between the desire to make it easy for partners to work with SWEEP, deliver what the partner needs, and to consider the likely impact of the work versus the time commitment.
- SWEEP experienced significant demand from new partners interested in working with us, which has gone beyond the resources available (most notably impact fellow time). The team had to be very careful at communicating with these stakeholders to manage their expectations, and have also sought additional funding from outside of SWEEP where possible. Alternatively, new partners have been invovled in existing SWEEP projects where appropriate, or provided advice or signposting to other potential avenues for support.

C.3.4 Key factors for success

- It is better to be approached by partners with a need, rather than go 'selling your wares'.
- Identify all key partners and wider stakeholders, and undertake a stakeholder analysis before the project starts or is fully underway – including those that are key to the project success, but also those interested and willing to actively engage.
- Focus on bringing together the right people at the right time rather than engaging as many potential stakeholders as possible.
- Undertake initial workshops/ meeting to start to create team bonding/ trust and understand/agree each others perspectives and positions.
- Understand and focus on how to tailor project outputs and services to meet partners needs.
- Understand partners' levels of commitment and key roles, who are the influencers, gate-keepers etc
- Manage Project timings to ensure deliverables coincide with key opportunities for impact.
- Regularly review and be prepared to revise the project as it evolves (frequency and format varies to suit each team), so that it can quickly respond to new risks & opportunities, internal or external (e.g. change of key partner contact or commitment/Covid).
- Frequent personal and informal communication between key project team members is essential to maintain trusting and fruitful relationships, adapting the project to changing external factors and ensuring project success maximises chances to leverage further support/ funding to sustain the work post-project.

C.4 Impact & information management – the SWEEP Impact Store

The SWEEP Impact Store is a series of shared folders, linked through a master Excel file, with access controlled via a consenting process. The content of and structure of the Impact Store is summarised below in Figure 5.

Figure 5: Contents page from SWEEP Impact Store

CONTENTS		
SECTION 1: LOGIC CHAIN & IMPACT EVIDENCE	Details	Completion Responsibility
1A Logic Chain	Completed **Logic Chain** including information about activity progress	Project Team
1B Impacts & Evidence	Log and record of **evidence and information** relating to impacts and impact pathways	Project Team / Impact Team
SECTION 2: DATA STORAGE	Details	Completion Responsibility
2 Activity Log / Delivery Group Reporting	**Activity diary** - including **outreach and engagement** with academic & non-academic audiences	Impact Team / Project Team
3 Stakeholders	Record of relevant **information**	Project Team
4 Stakeholder Engagement (A) Time (B) Other	Record of **engagement time** Record of **other forms of match funding**	Project Team Project Team
5 Cross-Project Activities	Capturing **interconnectivity between SWEEP projects**	Project Team
6 Key Project Outputs	Log and storage of **key project outputs**	Project Team
7 Linked Activities	Record of *projects SWEEP input has helped leverage or with defined links*	Impact Team
8 Research Underpinning Project	List of **NERC-funded research underpinning** project	Impact Team
SECTION 3: OTHER	Details	Completion Responsibility
9 Match Funding	Calculation of stakeholder engagement **Match Funding values**	Finance Officer
10 Reporting	**Summary** of key information for cross-project reporting	Impact Team

C.4.1 Why is this important?

Effective impact and information management is essential for project planning, management, tracking and reporting. It also aids team communication and project delivery and ensures transparency and credibility.

C.4.2 SWEEP approach

The SWEEP Impact Store **embeds *'theory of change'*** practices across SWEEP's diverse portfolio of activities. **maximises impacts** at the programme-level and **systematically captures** impact evidence & other key info in a **centralised location**.

It acts as:
- An impact development and project management tool - 'Live' Logic Chains and Impact Evidence Planners track project progress and focus activities towards impactful outcomes.
- A data management and knowledge system – used by project management, impact and finance teams and academics.
- A record of activities, outcomes and impacts, and guide for tracking future impacts – used to store key activity information, impact evidence, project outputs, KSM and KPI, match funding records, etc.
- A knowledge, sharing and project team communication tool - across SWEEP.

It exists as:

- Sets of SharePoint Folders – one set for each key strand of activity store files, images, etc. (see below).
- A series of key MS Excel S/sheets – one for each set of folders, which contains a Logic Chain, Impact Evidence Planner and other key information relating to each strand of activity. Hyperlinks are used to stored content or that available elsewhere.

Figure 6. Impact Store filing structure

📁 01_Impact Store Spreadsheet & original proposal

📁 02_Presentations, project management flowcharts, etc

📁 03_Project reports and outputs (eg written reports, publications, etc.)

📁 04_Questionnaires & surveys

📁 05_Record of engagement (eg workshops, meetings, events, etc)

📁 06_Contact databases

📁 07_Data sets

📁 08_Important correspondence (eg showing impact pathways)

📁 09_Press releases, web, blogs, tweets, social media, photos

📁 10_Other useful documents (eg useful external reports for impact values)

📁 11_Impacts & Pathway Evidence

C.4.3   SWEEP experience

The Impact Store was developed as SWEEP evolved, over the first couple of years of activity. It was a significant undertaking but has proved invaluable for the purposes mentioned above. As users of the Impact Store were from across UoE, UoP and PML, a consent process (see Annex 13) was agreed prior to access being given. A guide for updating the Impact Store was provided (Annex 14), and it was ensured that all relevant terminology, such as definitions of leveraged funding (where working with SWEEP has helped your organisation or others secure new or additional funding) and affiliated funding (existing or new projects or funding which has clearly defined links to SWEEP or where there is collaboration) were clearly set out.

The Impact Store was of great interest to colleagues within the SWEEP core institutions, and outside of SWEEP, and the approaches have been shared widely. Two of the other NERC RISE Programmes (led by Birmingham and Imperial) have adopted SWEEP systems and approaches. SWEEP has also informed the impact planning, monitoring and evaluation approaches and skills of many UoE projects and teams (e.g. ACCESS, CE-HUB, RENEW, CREWW, OPALS, Net Zero+, SeaCURE). PML contributed to the development of the SWEEP impact approaches throughout the programme, and at the same time developed their own ways of working and in-house impact facilitation capabilities.

C.4.4   Key factors for success

- It is important to take time to develop project impact and information management systems, making sure it is fit for purpose as the project/programme evolves, bearing in mind how it will be used by the project teams, and what reporting is required.
- Detailed reporting can meet with resistance from research teams, as it has resource implications; it is important to gain buy-in and ensure joint ownership, and to fully share and understand the benefits.
- Systems need to be used flexibility, and in different ways to suit each project team.

C.5 Evidencing and evaluating impact

C.5.1 Why is this important?

Evidencing and evaluating SWEEP's impact was essential to demonstrate success, especially in activities, projects and programmes that are focused on delivering real world benefits. For the NERC programme that funded SWEEP, the 'Regional Impact from Science of the Environment (RISE)', its aim was to bring research organisations together with businesses, policy bodies and other organisations to deliver high impact and focused research translation and innovation in environmental science.

C.5.2 SWEEP approach

SWEEP used the following definition of impact: 'an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia'.

SWEEP impact included, but is not limited to: The activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding of an audience, beneficiary, community, constituency, organisation or individuals in any geographic location whether locally, regionally, nationally or internationally. Impact also includes the mitigation, reduction or prevention of harm, risk, cost or other negative effects.

The main SWEEP impact categories are summarised below, which were developed over time to reflect the nature of impact arising:

Attitudinal
Changes to attitudes, thinking, perceptions and understanding

Organisational function
Capacity improvements and training/skills

Policy & legislation
Legal processes as well as others, like local plan, planning advice etc,

Natural Capital
Areas of land/sea protected/enhanced

Economic
Investments, costs avoided/saved, new income, jobs created/safeguarded

Health & wellbeing
Safeguarding and informing future welfare benefits

Key mechanisms used for gathering impact evidence included:

- partner interviews, with pro-formas developed for long, short, mid- or end of project evaluations (see Annexes 15-18), which were informed by other relevant literature and guidance (e.g. [11], [12]).
- letters of testimony (see guidance in Annex 19)
- case studies, available here: www.sweep.ac.uk/resources/case-studies-and-other-reports/
- documents e.g. publications, reports, policies that reference SWEEP

Key aspects of impact evaluation that were considered:

- the credibility of evidence, accuracy, reliability etc.
- the baseline/benchmark for change i.e. the original status quo.
- how the project has caused things to change, what can be attributed to the project.
- the merit or worth of the changes brought about (evaluation).

[11] M.S. Reed, M. Ferré, J. Martin-Ortega, R. Blanche, R. Lawford-Rolfe, M. Dallimer, J. Holden, Evaluating impact from research: A methodological framework, Research Policy, Volume 50, Issue 4, 2021, 104147, https://doi.org/10.1016/j.respol.2020.104147

[12] https://www.csiro.au/en/about/corporate-governance/ensuring-our-impact/evaluating-our-impact

C.5.3   SWEEP experience

Evidencing and evaluating impact in the environmental sector is notoriously difficult, due to the complexity of natural systems, which are hard to quantify, and take long periods of time for change to occur. There is usually pressure to deliver quantitative evidence, especially financial, when often qualitative evidence was more readily available (see guidance note on capturing qualitative impacts in Annex 20).

SWEEP worked with an external economist to develop its approach for economic valuation. SWEEP's economic footprint was analysed in various ways, including regional economic accounts modelling to support SWEEP's evaluation of impact delivered. This indicates the level of Gross Value Added and employment supported by SWEEP's leveraged funding (more information available on SWEEP's economic modelling on request via sweep@exeter.ac.uk).

Whilst SWEEP was inherently focused on the South West of the UK, it was also important to capture (and generate) any wider national or international activities and impact that flowed from the work in the South West. The geographic reach of SWEEP's impact can be explored further on the impact map here: www.sweep.ac.uk.

"Evaluation is the missing piece of the puzzle in conservation. Without impact evaluation how do we know whether we have achieved what we set out to achieve? Often evaluation focuses on 'hectares under protection' or 'number of jobs' – these crude metrics underrepresent how powerful good partnership can be.

The SWEEP impact development and evaluation approaches have been exemplary and have helped to raise the bar in terms of reporting. I've recommended the method to our design and impact team, particularly in relation to accounting for policy advocacy impact."

Sarah Young, World Wildlife Fund

C.5.4   Key factors for success

- Impact categories used to monitor and evaluate should be bespoke to the project, and appropriate to the array of different impacts developing from the project.
- Being realistic about the timeline for delivering impact, especially in the environmental and health/wellbeing sectors, it is important to consider intermediate outputs and outcomes that can be reported in the short-term.
- Partner interviews, with a credible and authoritative source, are one of the strongest and richest sources of impact evidence, however this needs to be balanced against the time and resources needed to undertake and transcribe these.
- Consider the audience for the impact information to ensure information is captured according to their needs (e.g. funders, REF, ResearchFish).
- Take care that evidence of activity is not confused with or categorised as impact.
- Ensure co-creation of impact process and metrics with end-users where possible.

C.6   Impactful communications

C.6.1 Why is this important?

Impactful communications are not just about dissemination but can be a crucial vehicle to create or maximise engagement, and facilitate impact and change. Much of the success of a project will come down to the quality and efficacy of communication and engagement, often with many and varied stakeholders, enabling collaboration, co-design and co-delivery.

C.6.2   SWEEP approach

Impactful communications with project teams & partners – informal and formal (regular emails and online meetings & workshops, wider meetings to keep the project on course, continuing to ensure outputs map to needs & align with impact opportunities). It is also important to regularly communicate successes.

Impactful communication of success to increase engagement with, and wider benefit of SWEEP impact - various channels were employed to improve the visibility and drive engagement with the SWEEP stakeholder community, these included:

- regular newsletters (see here: www.sweep.ac.uk/resources/newsletter-archive)
- social media (@SW_EEP)
- public-facing website to connect SWEEP with its wide stakeholder group
- an active schedule of events, workshops, webinars and other outreach activities (see Annex 21 for full list)
- SWEEP Expo – a 3-day virtual event to showcase the results and successes achieved by the SWEEP team and partners (see Annex 5 for Expo report)
- dedicated resource hubs for particular topics/sectors (e.g. aquaculture and water quality, health and wellbeing, environmental net gain)
- members-only project area/extranet for SWEEP teams and stakeholders to share information and collaborate
- SWEEP cinema on YouTube, a collection of creative films to showcase the work of SWEEP (https://youtube.com/playlist?list=PLhZkiyMMLZJXbZ6CyPr2YyMDeHDYQwocC, and see Annex 22 for a full list of SWEEP-related films).
- A range of reports and publications (see Annex 23 for a full list)

SWEEP also developed a number of impactful written documents for specialist audiences/purposes, including. :

- Policy and briefing notes (see Annex 24 for an example)
- Case studies (see Annex 25 for an example)
- Impact Summaries (see Annex 26 for the template, and Annex 27 for an example)

A full list of examples of the above can be found in the resources section of the SWEEP Legacy website here: www.sweep.ac.uk

C.6.3   SWEEP experience

Towards the end of the SWEEP programme the existing website started to become technically redundant. This provided a good opportunity to develop a new SWEEP Legacy Website. The purpose of this legacy website is to

support deliver of ongoing impact, to provide a repository of outputs, tools and information, and to support the final reporting and evaluation of SWEEP to its funders, and future funders.

C.6.4 Key factors for success

- Do not underestimate the importance of skilled communications specialists who are also comfortable with the field of work, and prioritise investment in dedicated comms resources and support
- Understand the audience and target communications appropriately
- Connect with partner's communications or public relations teams wherever possible to ensure approval, buy-in and wider impact of communications outputs. Identifying and gaining support from key people in partner organisations can make a significant difference to delivering high level impact.
- If a key contact in partner organisations moves on, quickly agree and gain support from another. Change in personnel is a common factor for limited project success.

C.7 Governance and management for impact

C.7.1 Why is this important?

Different organisations and individuals have preferred methods of managing and governing their projects and programmes. In SWEEP, the following approaches were particularly successful at embedding impact at the heart of governance processes and ensuring a coherent and effective programme of activities.

C.7.2 SWEEP approach

SWEEP was delivered through a clear governance structure with well-defined responsibilities and explicit linkage to partners (see Figure 7 below):

➢ Delivery Group (DG – see Terms of Reference in Annex 28) the entire academic team was regularly brought together to share updates on progress, to maximise linkages and shared learning. These meetings provided a regular opportunity to present results and ideas, share successes and work on common challenges.

Figure 7: SWEEP Governance structures
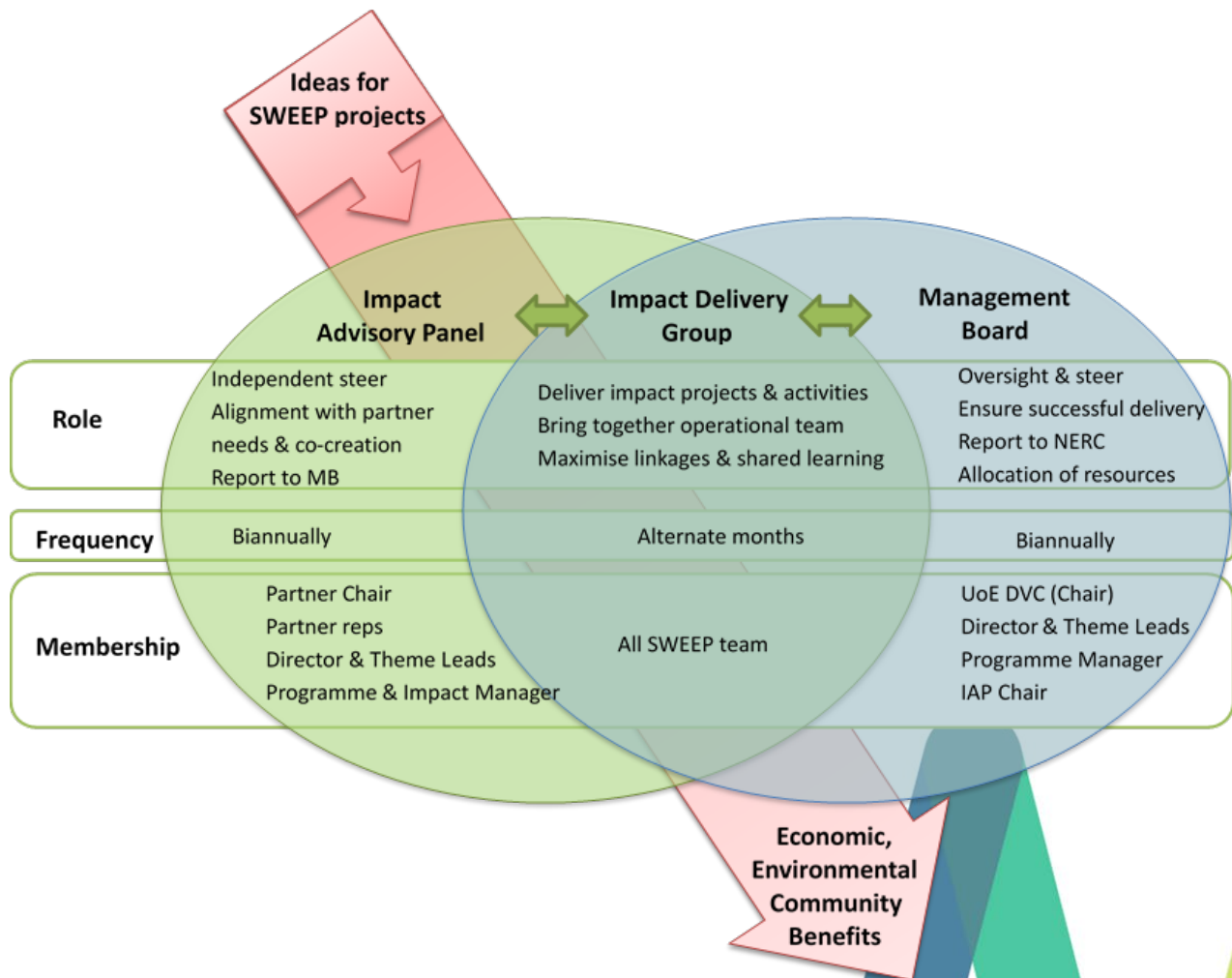
- Impact Advisory Panel (IAP – see Terms of Reference in Annex 29) was a group of key stakeholders across SWEEP who played a critical role in setting the strategic direction and providing oversight of activities. It ensured stakeholders were involved in the ongoing co-creation of the programme, and that activities were aligned to stakeholder needs and regional strategic priorities, and integrated with other parts of SWEEP. This group also advised on investments for new projects.
- Management Board (MB – see Terms of Reference in Annex 30) was responsible for ensuring successful delivery of the programme against stated objectives within time and budget. It had strategic oversight of activities: monitoring progress against the work plan, ensuring effective and transparent allocation of the budget, identifying and mitigating risks and ensuring complementarity with other high-level strategic activities. It took the final decisions on approving investments.

C.7.3 SWEEP experience

As set out below, SWEEP's governance and management practices enabled activities that helped ensure project success.

- *Strong programme integration* – SWEEP had a very diverse portfolio of projects, activities, partners and academic expertise. It was therefore crucial that there were mechanisms in place to encourage integration, synergy and to maximise overall impact. These mechanisms included:
  - Collaboration across project teams was encouraged, developed and planned at Delivery Group meetings, team away days and impact fellow meetings.
  - A dedicated SWEEP hot-desking office and meeting space, for impact fellows and project teams to use to spend time together.
  - Recording of cross-project collaborations on the SWEEP Impact Store, to demonstrate and keep track of the integration occurring across SWEEP.
  - An explicit remit for IAP to identify and suggest opportunities for collaboration and integration across projects.
  - A dedicated online SWEEP Members Area on the website to allow project teams to easily share information and collate common documents, data etc.
  - A dedicated impact fellow coordinator leading on team building and development activities for the impact fellows, to enhance cross-project collaboration and sharing of knowledge and expertise.

- *Partner involvement in decision making* - The IAP consisted of partners representing all the main sectors and groups that were important to SWEEP, it was also chaired by a partner. The IAP provided links to regional strategic activities, and helped steer SWEEP investments to maximise impact and meet the objectives of RISE. The partner chair of the IAP was also a member of the MB.

- *Maximum impact delivery* – The IAP was tasked with reviewing proposals for new activities and projects, grading them according the following key factors:
  - scale of the impact that would be delivered for South West business, policy and/or social wellbeing
  - the positive effect it would have on the natural environment
  - significant involvement of partners
  - value for money, was the investment requested commensurate with the impact it would deliver, and were sources of match funding being maximized

  (see Annex 31 for the SWEEP internal proposal process; Annex 32 for the internal proposal template, and Annex 33 for guidance on its completion; see Annex 34 for proposal review guidance)

➢ **Strong financial management** – A dedicated Finance Officer was essential to ensure the effective financial administration of SWEEP. Due to the complexity of the budget, it was important to have someone to take responsibility for key financial tasks including sub-award set-up, overall project financial management, support for financial budget planning, forecasting and in-year monitoring of the project. The Finance Officer and PM worked closely to monitor SWEEP budgets and spend, and provide reports to the SWEEP Director, MB and NERC PEG as required.

➢ **Professional services support –** For the scale of SWEEP (£5m over 6 years), the combination of a Programme Manager and 0.5 FTE Finance Officer were essential to the effective management of SWEEP. The Impact Evaluation Manager (0.8 FTE) and Impact Evaluation Officer (0.6 FTE) roles were also critical.

C.7.4 Key factors for success

- Ensure partners/end-users are embedded in governance structures, and are informing strategic direction and key decisions on activities.
- When making internal investment decisions, consider the scale of the potential impact it will deliver first and foremost.
- Consider a variety of mechanisms to enable delivery teams to effectively communication and collaborate with each other.
- Carefully consider the level of professional services support required, this can easily be underestimated.

Annexes

For further information, including access to information within the Annexes referenced in the SWEEP Manual please contact **sweep@exeter.ac.uk**.