

UK National Ecosystem Assessment Follow-on: Synthesis of the Key Findings, by UK National Ecosystem Assessment, UNEP-WCMC, LWEC, UK, 98pp, ISBN: 978-92-807-3394-5, download from <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>

The UK National Ecosystem Assessment's first synthesis report, published in 2011, highlighted that the natural world and ecosystem services are important to well-being and economic prosperity. While this report was generally well received by the scientific and policy community, some have questioned whether it provided an operational and usable evidence-base to inform decisions [1]. The 'UK National Ecosystem Assessment Follow-on: Synthesis of Key Findings' (NEAFO) sought to build on the previous report, but focused more closely on developing an improved evidence-base for decisions about ecosystem services. It was conducted and peer reviewed by more than 150 experts from a range of disciplinary backgrounds, who were split into distinct working groups. In this follow-on report, new information and tools are provided, extending the scope of the initial assessment, by making advances in several areas; for example, in valuing cultural ecosystem services that are frequently overlooked in decision-making.

The NEAFO is arranged in three sections; the first offers a general view and executive summary, the second presents specific outcomes from each working group, and the third seeks to target advice at specific groups such as policy-makers, scientists and the general public. All sections contain useful information, but the first and third are presented in a more engaging fashion with clear accompanying figures and tables, while the findings of section two are exclusively text-based and require much more effort to digest.

Before addressing the assessment's specific strengths, the importance of its overall message should be acknowledged. Although mainly referring to the UK, its messages hold much wider appeal. It persuasively argues the case for integrating an ecosystem services mind-set in all aspects of political decision-making. Box three (p. 24) offers striking examples of the 'environmental economy' and its contribution to the UK's regional and national economic indicators; for example, the report writes that pollination services provided by functioning ecosystems are worth £400 million per year. Although claims about the economic value of nature are not new, it is always essential to stress these remarkable figures, and the NEAFO presents them in a clear and accessible manner. The assessment reminds us of the great value of ecosystem services, which is especially useful in a time of economic uncertainty in the UK (and globally) in order to ensure that the environment cannot be considered a luxury issue by policy-makers. The NEAFO also usefully identifies areas in need of refinement, particularly calling for more research on understanding the interrelationships between ecosystem services and major sectors of the economy, such as agriculture, energy, and water management.

The great strength of the NEAFO lies in its ability to develop an evidence-base for linking science, policy, and practice. To summarise this ambition, Table 1 (p. 9) is especially clear, and should guide researchers, policy-makers, and the public alike, to consider their place in the governance structure of the environment. Many articles, for example, argue that more evidence-informed policy is required to combat environmental threats [2], but this can only be achieved if research leads to significant policy, and subsequently is effectively implemented on the ground. The NEAFO skilfully maintains this message throughout, and it offers a useful framework for other scholars to follow.

Adding to the clarity of its powerful argument, section three targets advice at the different groups identified in Table 1. These include the general public, environmental NGOs, Government agencies, the Government themselves, Local Authorities, businesses, and researchers. Arranging the report in such a manner makes it accessible and personal to a large swathe of readers, which should be the aim of inter-disciplinary research designed at making a difference. Further strengthening its main messages, the NEAFO astutely includes 'good news stories', case studies of where successful links have been created between ecosystem services and decision-making (e.g., p. 65). Not only, therefore, does the assessment develop tools to embed the value of nature into decision-making, but it also highlights practical examples of success, which could galvanise action on the part of researchers, policy-makers and the public. All too often environmental reports offer a pessimistic view of the future, but including examples of success offers a much more appealing proposition to different groups. It shows business and policy-makers, for example, that integrating ecosystem services into decision-making *does* provide benefits, joining other contributions which stress the need to tell 'good news stories' [3].

Perhaps one area that the assessment does not adequately deal with is the quantification of ecosystem services at micro-scales. Can we, for example, ever get to a stage where we can tell a farmer the value of one hedgerow, or a flock of breeding birds, in his/her field? Now, one should not necessarily criticise the report for not focusing on this, as it remains notoriously difficult, indeed practically impossible, to quantify ecosystem services on such a fine scale. Yet this idea is vital for successful communication with landowners about why they should protect ecosystem services; simply presenting macro-scale GDP figures is unlikely to be convincing.

Overall, however, the NEAFO is a clearly written, persuasive piece of work, which all environmental researchers would be well advised to read. The importance of linking scales, and partaking in inter-disciplinary research, are key messages for academia, and journals such as this are well-placed to encourage and disseminate such work.

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Department of Zoology, University of Cambridge, dcr31@hermes.cam.ac.uk

[1] Waylen, K. A., and Young, J., 2014. 'Expectations and experiences of diverse forms of knowledge use: the case of the UK National Ecosystem Assessment', *Environment and Planning C: Government and Policy* **32** (2): 229-246

[2] Rose, D. C., 2014. 'Five ways to enhance the impact of climate science', *Nature Climate Change* **4**: 522-524

[3] Balmford, A. 2012. *Wild Hope: On the Front Lines of Conservation Success*, University of Chicago Press, Chicago, USA