

Valuing natural capital: A study of natural capital tools and their application to natural flood management



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The UK Government's recent 25 Year Environment Plan sets out the need to have more consideration for natural capital, which is the overarching concept relating to the elements of nature we take value from. Interlinked with ecosystem services, this idea of placing a value, and in some instances a monetary value, on nature and the benefits we derive from it is an increasing area of interest. This study set out to explore how this concept can apply to natural flood management (NFM). The key focus was to look at how existing natural capital tools work for NFM, and if there is a gap to be filled here.



Photographs show different NFM interventions (Source: Environment agency, 2018)

Aim of project

To determine if there is a need for a new tool or framework to quantify natural capital values for NFM, and if so, recommend how this might be developed.

Methodology

The approach for this project comprised of 3 stages:

Literature review: This involved identifying key concepts already established within this area of work, and identifying any gaps in existing literature. At this stage a review of some existing natural capital tools (29 were identified) also took place, to identify what is already out in the market and how these worked for NFM.

Data collection: To find out about the existing tools already in the market, 13 semi-structured interviews were undertaken with a selection of tool users and tool developers. Following this a survey was carried out with potential end-users of a new tool for NFM, which gained 61 responses from people in a variety of industries.

Data analysis: A thematic analysis was carried out to assess all qualitative data, and statistics were extracted from the survey.

The following criteria were used to decide which tools to assess further:

- Does the tool calculate monetary valuation?
- Does the tool map ecosystem services?
- Is the tool accessible and free to use?
- Is there at least some documented use of the tool?
- Can the user input data to the tool to calculate values? (i.e. not a database)
- Is the tool applicable to rural/upland landscape?

Tools that fit all or most of these criteria were then assessed in more depth through interviews.

Results

The results of this study suggest there is a gap for a new tool to be developed, as one does not currently exist specifically for NFM (however one was found to be in development). 75% of survey respondents indicated that they could see the value in a new tool for NFM, and they would use it in their work (Figure 1.)

One issue that was identified with current natural capital tools is that too many exist, and people have raised concerns about not knowing which tool to choose for their work.

This, coupled with the finding that generally people are quite sceptical of economic valuation of the environment due to a lack of understanding, makes it increasingly important that any new tools developed consider this and avoid filling the market with overly complicated tools.

The results indicate that there is a need for a tool that uses multiple approaches, not just monetary valuation, that can produce several different outputs. The reasons behind this lie in the users wanting to be able to present results to different stakeholders, and as different groups respond better to different types of outputs, it was suggested this would be a useful approach.

The tool should value multiple ecosystem services, and there was also some suggestion to link this to already existing work, such as the Environment Agencies benefits wheel in the Working With Natural Processes evidence directory.

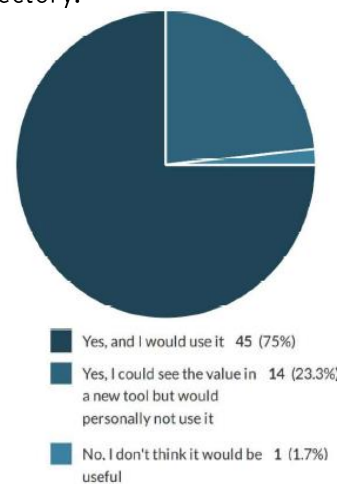


Figure 1. Response to the question 'do you believe it would be useful to have a natural capital valuation tool to value the benefits of NFM?'



Figure 2. The multiple benefits of NFM (adapted from the benefits wheel, Environment Agency, 2018)

The study showed that there is a lack of understanding and knowledge of natural capital. Therefore, another recommendation is that a new tool should be supported by good documentation and user guides that are easy to understand, and explain exactly how values are calculated. If this is the case, people are more likely to see the benefits of economic valuation of the environment. It may also support development of a standard methodology and help mitigate the problem of there being too many tools in the market.

The importance of considering natural capital and ecosystem services in decision making is becoming increasingly apparent. The results of this study suggest that there is a gap for a new natural capital tool specifically for NFM, and it would be welcomed by potential end-users.

Despite this, development of a new tool should be approached with caution. The recommendations presented in this study indicate areas to focus on to avoid a new tool becoming lost in the many tools that exist, and support development of a standardised tool for industry-wide use.