

Peatland restoration: challenges to valuation

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Context:

Peatland restoration can, under certain conditions, act as a greenhouse gas (GHG) sink, thus generating benefits in terms of GHG emission reductions. Restoration has also been found to enhance the delivery of other ecosystem services (ES) such as erosion control, and ES related to water quality, recreation and biodiversity. Recently, peatlands have received much policy attention for their contribution to climate change mitigation and the potential of peatland restoration to achieve national emission reduction targets cost-effectively. Peatland restoration has been globally recognised for its potential role in contributing to international climate change mitigation (Kyoto Protocol) and biodiversity conservation (Ramsar Convention on Wetlands; Nagoya Protocol of the UN Convention on Biological Diversity) commitments.

Aims and 'uses':

The main aims of this research are

- to derive values that justifiably represent a wide range of (non-)market benefits of peatland restoration beyond GHG emission reductions, ideally related to an **ecosystem services approach**;
- to derive values for peatland restoration that take into account **spatial preferences**;
- to derive benefit estimates that are **transferrable** across peatland sites.

We will use choice experiments to directly derive values for peatland restoration from a survey administered to sample of the Scottish population. Respondents will evaluate changes in peatland status relative to a situation with no additional restoration efforts. Understanding whether respondents have preferences for restoration in specific locations (because of use and non-use motives) is an important factor in deriving transferrable benefit estimates that accurately reflect how value changes with location of the restored peatland. Ultimately, the findings can be used in cost-benefit assessments of peatland restoration.

Since not much is known about the provision of cultural ecosystem services (CES; including but beyond recreation) specifically in relation to peatlands and their ecological status, and many CES cannot be expressed in monetary terms, we will use qualitative research and a series of questions in the valuation survey to explore, amongst others, which CES are linked to particular ecosystems such as peatlands and to the state of that ecosystem, and which CES are important to whom and how this is related to the kinds of CES which are recognised in policy and decision making.

Challenges:

There is no precedence of similar primary valuation studies of peatland restoration. This presents a challenge in itself, but also an opportunity to explore new territory. For example, we aim to develop a relatively simple classification for peatland status which may be useful beyond this valuation study. Another question is how to best provide supporting information to enable informed decisions by survey respondents.

The ambition of deriving benefit estimates that can be used for peatlands across Scotland requires assumptions and simplification for example with respect to peatland status classification cannot fully capture variability across all peatland sites, and how to consider scientific uncertainty on ecosystem service provision, current status and future change in status is still an open question.

Finally, there is no guarantee that theoretical concepts e.g. related to spatial preferences actually apply in the context of peatland restoration.