

# Does woodland ecosystem health matter for cultural benefits?

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## Introduction

Commonly held assumptions about the relationship between people and nature include the idea that healthier ecosystems mean healthier people. Yet is this true?

We explored this question by examining evidence in relation to management of UK and Irish woodland ecosystems, an agenda of importance for both biodiversity and people. This is of relevance because forestry policy increasingly aims to deliver multiple benefits through an ecosystem services approach. Native woodland restoration and other management interventions that seek to enhance the ecosystem health of existing - and create new - woodlands are priorities for addressing biodiversity loss (Figure 1). We considered the effect of such management interventions on human health and wellbeing through four cultural ecosystem services (CES): recreation, aesthetics, sense of place and spiritual aspects.

## Key points

There is a lack of empirical studies that simultaneously investigate both the ecological and social outcomes of biodiversity conservation in woodlands using pre-post or comparative study designs.

The literature provides little detail as to whether and how native biodiverse woodlands enable CES differently than those that predominantly contain non-native species.

Decades of research using hypothetical preference scenarios highlight a public preference for woodlands that are light and airy, structurally heterogeneous and / or comprise diverse/iconic species (e.g. oak or Scots pine woodlands). But there is no evidence that these features in themselves enable specific CES, whereas we do find that the meanings given to woodlands, borne out of past experiences and childhood visits, are highly significant for recreational use and emotional attachment to urban/peri urban woodlands.

The spiritual dimension of woodlands has been conceptually characterised in terms of inherent sacredness of a woodland ecosystem or as settings for spiritual practices or experiences. Few studies have examined this dimension of woodlands in the UK and Ireland.

Various studies from across Scotland show that CES are linked with native (e.g. Scots pine) as well as with non-native (e.g. spruce, larch, beech) woodlands. Recreation and aesthetics associated with both types can generate a strong sense of identity and deep attachments to place.

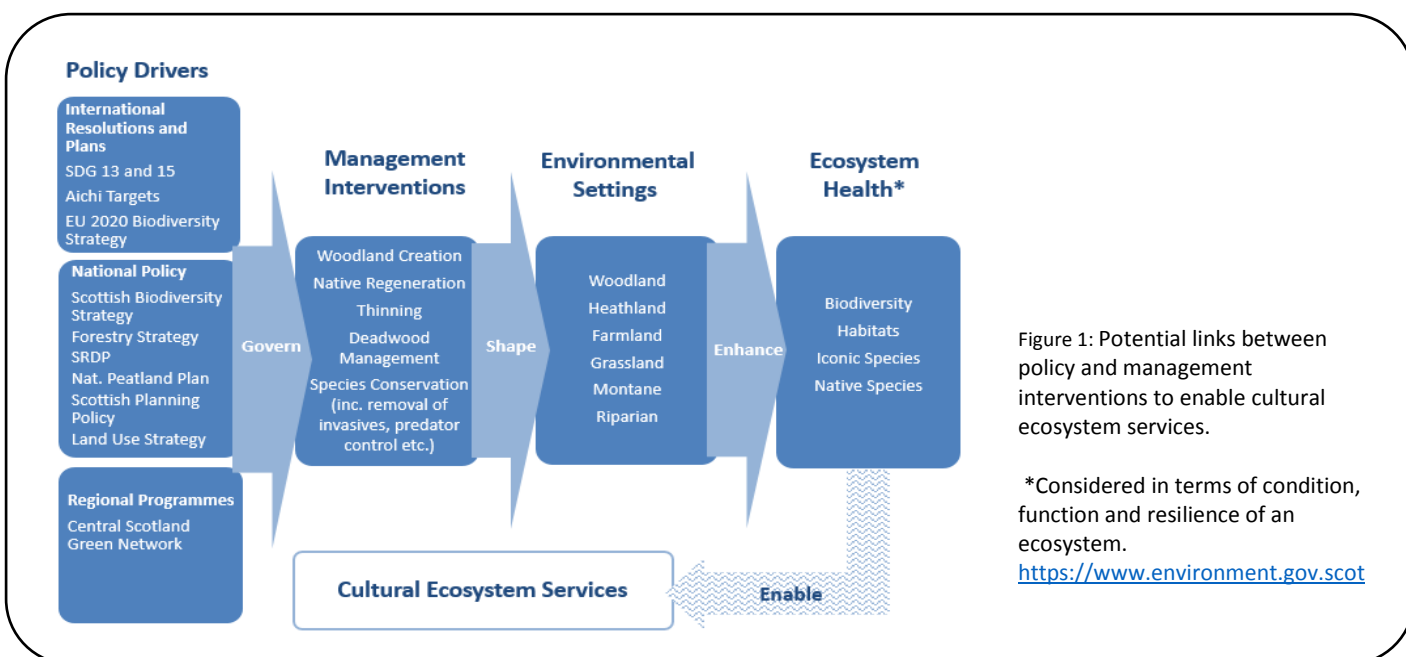


Figure 1: Potential links between policy and management interventions to enable cultural ecosystem services.

\*Considered in terms of condition, function and resilience of an ecosystem.

<https://www.environment.gov.scot>

## What we did

We conducted a structured search to identify empirical studies (both peer-reviewed and grey literature). We sought to include material that examined effects of ecologically-focused interventions for aboveground conservation of biodiversity (e.g. enhancement, restoration) on four CES (recreation, aesthetics, sense of place, spiritual), ideally with a comparison site (woodland without intervention).

The search strategy (Figure 2) was developed iteratively with input from researchers and key government, industry and environmental organisation contacts whose work relates to forestry and woodland management in Scotland. The search (of online databases, internet search engines) was restricted by language (English), publication year (1945-2016) and geography (UK, Ireland due to shared cultural values and similar woodland habitat characteristics). We identified themes within the literature and undertook a narrative synthesis.

## Implications of research

The lack of robust studies highlights an opportunity and need to embed monitoring of social dimensions into the implementation of management interventions that aim to deliver multiple benefits.

People derive place attachments and a sense of identify from woodlands regardless of whether the ecosystem is healthy according to ecological principles. This finding points to a lack of evidence for the existence of a universal linear relationship between ecosystem health and CES (especially in urban woodlands). This complexity suggests that biodiversity may not be a robust proxy indicator for the existence of CES. This also poses a significant challenge for natural capital accounting exercises at both local and national scales.

The experience of woodlands often results in diverging perceptions towards native/non-native species (or 'what is natural') between woodland users and conservation managers. High quality public engagement or co-management of woodlands with local people can mediate and address conflicts that might arise from such differing perceptions.

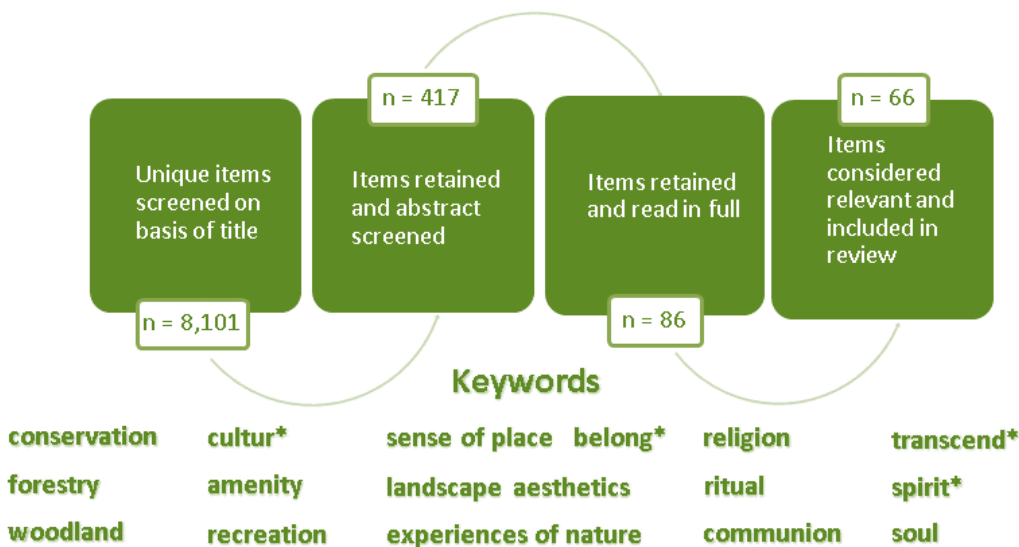


Figure 2. Keywords and process for identification of material for review.

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### Further information:

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