



Methods used to generate the NBSI bibliography

Review process

We undertook a scoping exercise of the literature on Nature-based Solutions (NBS) using a set of 3 search strings in Web of Science, and crawling reference lists of key review and seminal articles on NBS. We selected articles focusing on the role or use of nature (biodiversity, ecosystems, and ecological processes) to address social issues, including climate change adaptation, mitigation, and food and water security (see below). This produced a set of 419 citations (Jan 2018). This was subsequently subjected to a second round of screening, applying a set of selection criteria defined below. Selection criteria were applied in a stepwise manner (first title then abstract). At the title screening stage, articles were either specified as relevant, not relevant, unsure. Articles were then assessed at the abstract level and full texts were checked when a reference could not be assessed based on the abstract. This produced a set of 323 articles. We are building on this set by progressively adding additional articles we become aware of, and identified through a systematic-mapping exercise. This exercise is on-going and will collate the evidence base on the effectiveness of NBS for addressing the impacts stemming from climate-hazards or helping humans or economic sectors adapt to the adverse, long-term impacts of climate change.

Article meta-data (Author, Title, Source name, Publication Year) were compiled. Articles were then categorized with respect to region, habitat, the solution a nature-based intervention was aimed at providing (NBS Target) and the broad type of nature-based solution under study (NBS Approach).

Scope and selection criteria

General scope

Peer-reviewed published articles on the role or use of nature (biodiversity, ecosystems, and associated processes) to:

- 1) *Reduce or address impacts* from climate-hazards or help humans or economic sectors adapt to the adverse impacts of climate change
- 2) *Help store carbon or reduce carbon emissions* (e.g. the carbon capture or storage potential of natural systems, conservation agriculture practices, agroforestry)
- 3) *Promote ecosystem-health* in the context of climate change (e.g. promoting ecological resilience/adaptive capacity of natural systems). While the NBS concept makes explicit human or societal benefit outcomes, it implicitly acknowledges the link between ecosystem health and ecosystem services. Interventions promoting ecological resilience can provide important guidance for ecosystem-based intervention seeking to restore, increase, or maintain climate change mitigation, and adaptation services.

The context is either unmanaged systems or ecosystem-based interventions, where an intervention is defined as any specific and discrete action or set of actions to sustainably manage, restore or protect biodiversity, ecosystems, or ecosystem services.

Scope of interventions

Interventions sustainably managing, restoring or protecting biodiversity, ecosystems, or ecosystem services, including agriculture, pastoral, and aquaculture practices based on the conservation, restoration, sustainable management of biodiversity or ecological functions and processes.

Scope of habitats

Habitats spanning terrestrial, freshwater, and coastal marine landscapes outside of urban spaces.

Article subject focus

Our bibliography includes:

- studies investigating the effectiveness of NBS from an economic, social, or environmental perspective
- studies on the carbon capture/storage potential of natural systems across terrestrial and marine landscapes (green and blue carbon)
- policy-oriented articles – policy-relevant research including on the assessment of NBS implementation policies and their effectiveness, policy recommendations (improving or establishing effective policies on NBS), or the incorporation of NBS in existing policy frameworks.
- studies on increasing implementation effectiveness or mainstreaming of NBS across landscapes.
- methods on applications of NBS and perspective articles, such as those highlighting research gaps and future applications of NBS.