Knowledge Synthesis Methods

3. Subject-wide Evidence Syntheses (previously 'Summaries and synopses')[1]

Summary of method

A large-scale approach to collate and summarise existing research evidence over a broad topic in a standard format. Interventions, actions, or impacts are first listed (can use a process of 'Solution scanning'). The main method to find relevant literature is discipline-wide, systematic, manual literature searching. This means identifying literature sources (e.g. academic journals, report series, organizational websites) likely to contain relevant information, then manually scanning the title and abstract (or summary) of every document in those sources. All documents meeting general inclusion criteria are added to a discipline-wide repository, tagged and later summarised by subject areas. Supplementary search methods are added and transparently reported for specific subject areas, with a focus on existing systematic reviews and systematic maps where possible.

The resources and costs reported below are to use this method for the first time in a new subject area. However, many areas of biodiversity conservation and sustainable agriculture are already synthesized and the evidence evaluated using 'Multiple expert consultation + Delphi', allowing users to access evidence synthesis rapidly and at very low cost.

Subject-wide evidence synthesis includes areas of practice where there is little research evidence, and therefore reveals knowledge gaps.

Key references

Sutherland WJ, Taylor NG, MacFarlane D, Amano T, Christie AP, Dicks LV, … Wordley CFR (2019) *Building a tool to overcome barriers in research-implementation spaces: The Conservation Evidence database.* Biological Conservation, 238, 108199. doi:https://doi.org/10.1016/j.biocon.2019.108199

Sutherland et al (2019) *What Works in Conservation?* OpenBook Publishers. Available from www.conservationevidence.com

[1] A guidance note from Dicks LV, Haddaway N, Hernández-Morcillo M, Mattsson B, Randall N, Failler P, Ferretti J, Livoreil B, Saarikoski H, Santamaria L, Rodela R, Velizarova E, and Wittmer H. (2018). *Knowledge synthesis for environmental decisions: an evaluation of existing methods, and guidance for their selection, use and development – a report from the EKLIPSE project.*

Detailed guidance on how to conduct this method is held by the Conservation Evidence project at the University of Cambridge (www.conservationevidence.com).

Examples of application

Natural England (an English government agency) used a pre-existing 'Subject-wide evidence synthesis' on bee conservation to help select actions to include in Wild Pollinator and Farm Wildlife package of agri-environment scheme options, in the English Countryside Stewardship Scheme, introduced in 2015 (Dicks *et al.* 2015).

Dicks, L.V., Baude, M., Roberts, S.P.M., Phillips, J., Green, M., C., C. (2015). *How much flower-rich habitat is enough for wild pollinators? Answering a key policy question with incomplete knowledge.* Ecological Entomology 40 (S1), 22-35.

Subject-wide Evidence Syntheses	
Cost	Staff (12-120 months FTE), subscriptions (article access), expertise (web platform manager), web design
Time required	12-120 months
Repeatability	High (if conducted, recorded and archived properly)
Transparency	High (if conducted well, i.e. endorsing organisations)
Risk of bias	Moderate-low (due to the methodology, which may not be as comprehensive as systematic reviews)
Scale (or level of detail)	Independent of scale (any)
Capacity for participation	Potential consultation throughout (using an expert advisory board, not public consultation)
Data demand	High (no reanalysis of existing data)
Types of knowledge	Scientific/technical; explicit
Types of output	Interactive website of narrative evidence, user-friendly written report plus other communication materials (e.g. policy brief), identification of knowledge gap/knowledge cluster
Specific expertise required	Training, good writing skills, topic expert, web management specialist

Strengths	Weaknesses
Easy to read/user-friendly Updatable Includes expert engagement Open access Appropriate for very broad topic areas Searches literature in multiple languages; summaries available in multiple languages Reveals knowledge gaps	High time/resource (staff and expertise/training/access to research papers) requirement Some outputs may facilitate vote-counting by end users