Evidence in Conservation Teaching Initiative

Using the Conservation Evidence website

By Harriet Downey, 2020

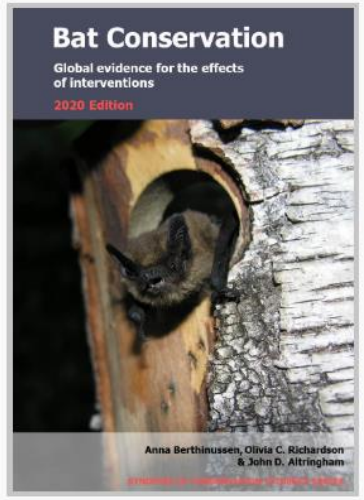
https://www.britishecologicalsociety.org/applied-ecology-resources/about-aer/additional-resources/evidence-in-conservation-teaching/

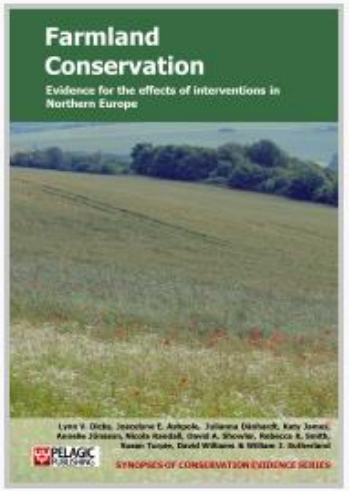
What is Conservation Evidence?

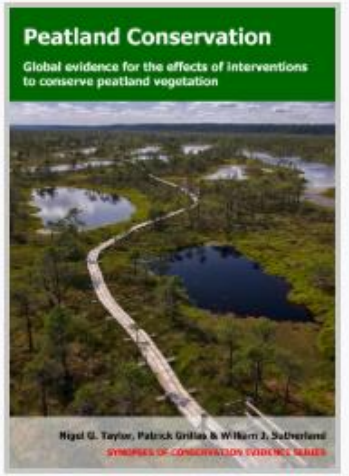
- Conservation Evidence is a free resource summarising the evidence for conservation interventions.

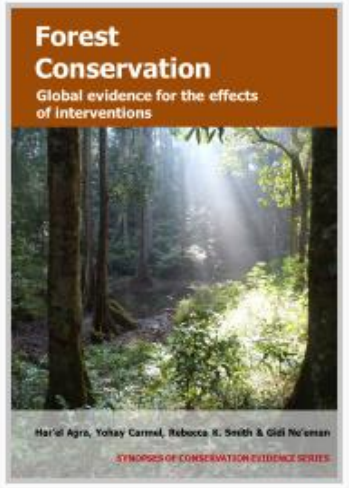
- It gathers evidence using subject-wide evidence syntheses; journals are systematically searched issue by issue for papers that directly test conservation interventions and report the results.

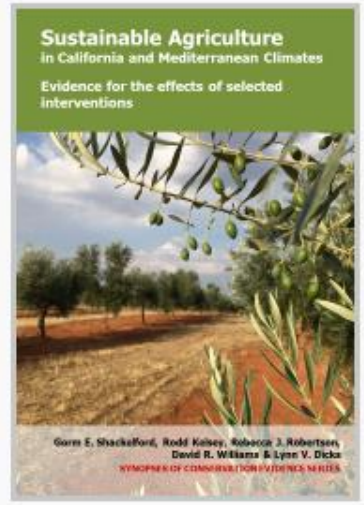
It groups interventions by species group (such as bats or birds) or habitat (such as forest), in synopses.

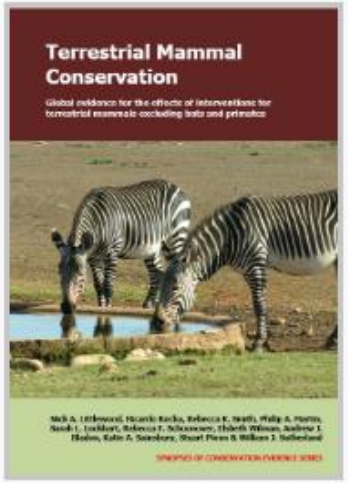












Papers are then summarised in plain English in a single paragraph, enabling readers to see what was done and what the results were at a glance.

Action: Add mosses to peatland surface

Supporting evidence from individual studies

1

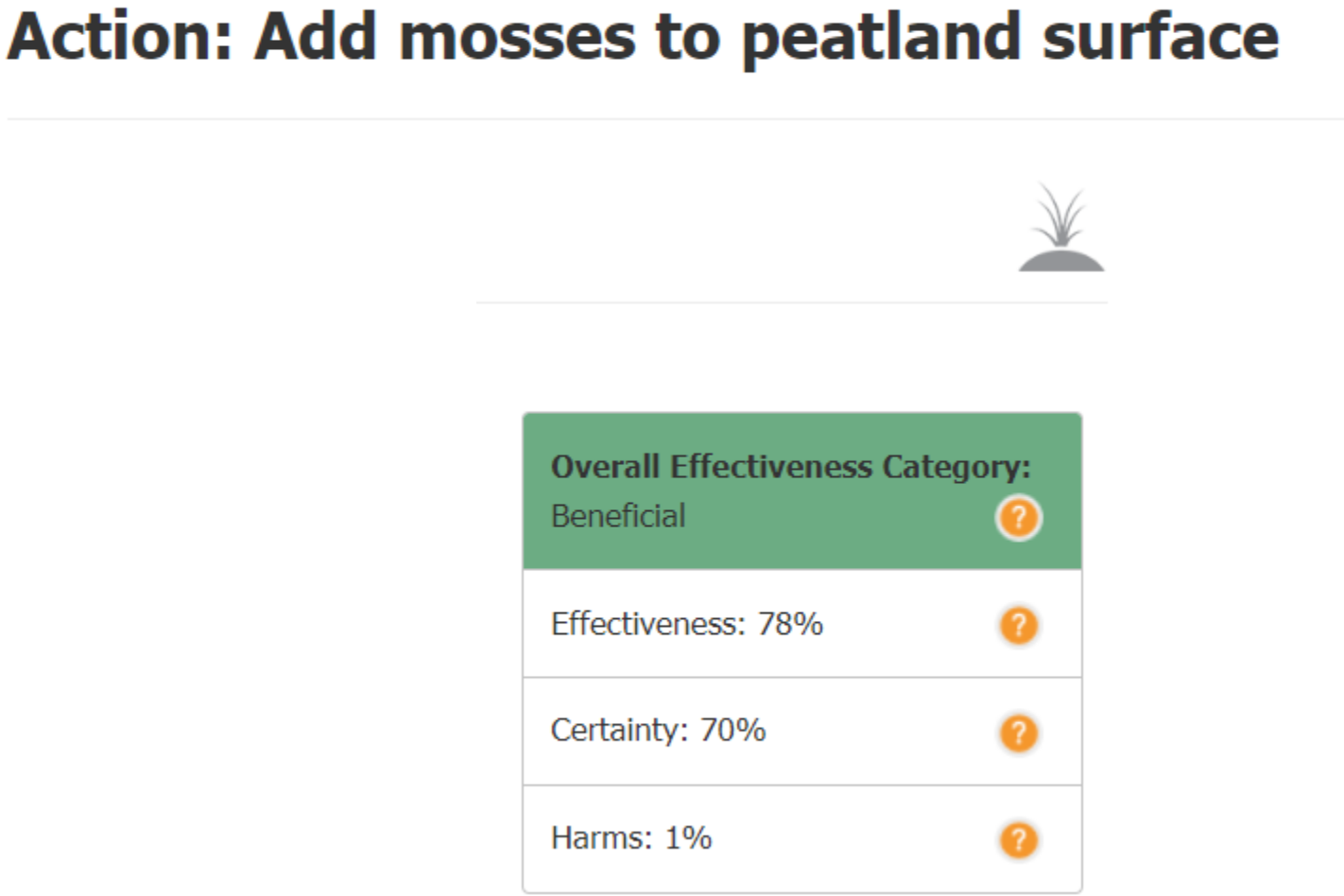
A before-and-after study in 1991–1993 in a historically mined raised bog in England, UK (Money 1995) reported that most *Sphagnum* moss species did not survive when sown onto peat or into pools, but that the surviving species typically spread. Of eight *Sphagnum* species spread onto bare peat, only one survived after 30 months: feathery bog moss *Sphagnum cuspidatum*. There were 20 plants/100 cm^2. Of eight *Sphagnum* species spread onto floating rafts, three survived: feathery bog moss, recurved bog moss *Sphagnum recurvum* and lobed bog moss *Sphagnum auriculatum*. There were 25–40 plants/100 cm^2. Two species had spread beyond the initial planted area. In May 1991, pairs of pools (4 m^3) and bare peat plots (4 m^2) were excavated (number of pools/plots not reported). Individual *Sphagnum* plants (5 cm long) were placed on the bare peat and on a floating mesh raft (50 plants in a 0.5 m^2 area for each species). In November 1993, survival and density of each *Sphagnum* species were recorded.

2

A replicated, randomized, paired, controlled, before-and-after study in 1993 in a historically mined raised bog in Quebec, Canada (Campeau & Rochefort 1996; part of 3) reported that plots sown with *Sphagnum* moss fragments developed some *Sphagnum* cover. Before sowing, plots were bare peat. After one growing season, sown plots had 1–7% *Sphagnum* cover. There were also more *Sphagnum* shoots after one growing season (180–860/m^2) than the number introduced (150–450/m^2). Additionally, cover was significantly higher in plots sown at higher densities (low initial density: 1–2%; medium: 2–4%; high: 3–7% final cover) and differed between species (see original paper). The size of introduced fragments had no effect on cover (data not reported). In June 1993, twenty 10 m^2 plots were established on bare rewetted peat. Sixteen plots were sown with a single *Sphagnum* species (four plots x four species) and four plots sown with a mixture of all four species. Within each plot, three fragment densities (low: 150; medium: 300; high: 450/m^2) and two fragment sizes (1 or 2 cm) were applied to six subplots. Additional subplots were left unsown as controls, but data were not reported. All plots were shaded with a plastic cloth. In October 1993, *Sphagnum* cover was visually estimated and live shoots counted in four 25 x 25 cm quadrats/subplot.

All the papers found for an intervention are collected together on one webpage. Experts review these papers and then score the action based on its effectiveness, the certainty of the evidence and any harms to the target species or habitats.

This scoring leads to an overall score such as ‘Beneficial’ or ‘Unlikely to be Beneficial’.



Using Conservation Evidence

You will need to explore the website features with your class– go through this live.

- Homepage – scroll down to see the different synopses covered – click on them to see the actions.
- Clicking on the CE logo takes you back to the homepage at any time.
- Google Translate
- Use the search bar to search for evidence using key words (not phrases!)
- Actions tab (browse by actions) and Studies tab (browse by studies)
- You can sort pages by relevance, number of studies or alphabetically.
- You can limit search by synopsis, threat, topic, country etc.
- Click on an action. Look at Effectiveness and Source Countries
- Click on a hyperlink in the key messages to go to that paper.
- Click on the number to the top left of the paragraph to find the reference for that paragraph.
- Control F to find things on a page.
- Quickly – Journal, Synopses, About (FAQ)

Task

1: What is the one paper on Conservation Evidence on parrots in the Dominican Republic?

2: What is the Slovenian for heron?

3: How many individual studies are there on great crested newts?

4: How many individual studies are there in the amphibian synopsis on education and awareness?

5: Which of the actions in the farmland synopsis has the most studies?

6: Which continent has the most papers on using artificial roost structures in development for bats?

7: What might you try to do with hot foam, and how effective is it?

8: What are the percentages for effectiveness, certainty and harms for preventing livestock grazing in forests?

9: Who was first author on a study on bats and banana agroforestry plantations in Costa Rica?

10: In which airport was there a study on laughing gulls?

Main ways to use Conservation Evidence

- To find novel interventions
- To compare interventions for a specific context
- To quickly get an overview of the evidence
- Find gaps in the evidence base

Novel interventions:

Find three ways of reducing nest predation on birds that you had not thought of before.

Compare the evidence for two options for a specific context:

What would be a better action to reduce bycatch of white-chinned petrels?

* Use streamer lines to reduce seabird bycatch on longlines

* Weight baits or lines to reduce longline bycatch of seabirds

Quick response:

What are the three best ways to get rid of floating pennywort?

Team exercise: Make a plan to conserve the white-bellied heron (30 mins)