

For peat's sake: gathering the evidence on what works in peatland conservation

Nigel Taylor & Patrick Grillas (Tour du Valat)

Claire Wordley (Conservation Evidence)

We searched the global literature for evidence on the effectiveness of conservation interventions in peatlands: bogs, fens and peat swamp forests. Here we report the first results from global studies, showing which conservation interventions have worked, and which haven't.

The full methods and results will be available soon on www.conservationevidence.com

Checking the evidence before undertaking conservation work can make conservation **more effective**, by using strategies likely to succeed.

We gathered the evidence for **120 different interventions** you might take to conserve or restore peatland – for **over half**, we found **no evidence** at all!

We gathered evidence from the existing Conservation Evidence database of **> 210 journals**, plus **10 specialist wetland/peatland journals**, and are now adding in unpublished reports.

What seems to work?

Rewetting peatlands:

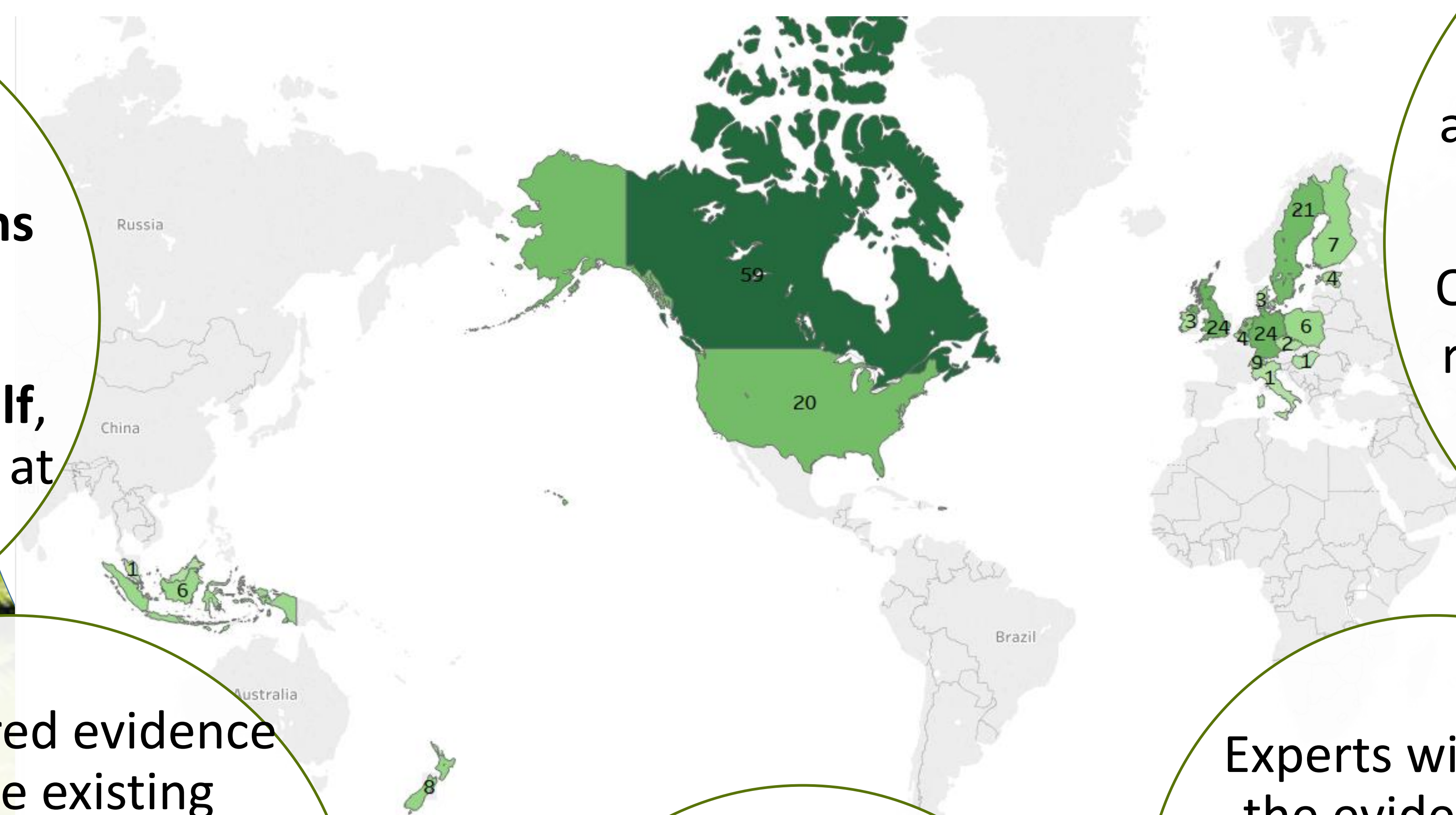
- Increases plant species richness/diversity (5 of 8 studies).
- Increases *Sphagnum* moss cover (8 of 8 studies).
- Increases cover of wetland herbs, especially sedges (11 of 13 studies), cottongrass (6 of 6 studies), and reeds/rushes (6 of 7 studies).
- Reduces cover of purple moor grass (3 of 3 studies).

Spreading vegetation fragments:

- Moss established in 23 of 24 studies (but cover varied: <0.5% to >90%).
 - Vascular plants established in 11 of 11 studies.

Where are the data?

The country generating the greatest number of studies was Canada. There were only seven studies from Asia, and none from Latin America or Africa – meaning we know little about peatland conservation in the tropics.



Add **your own studies** by publishing in our practitioner journal.

Before-and-after studies were popular: around 2 in 3 studies contained before-and-after elements. Only about **10%** of studies were replicated, randomized, paired, controlled, before-and-after (i.e. the gold standard)

Experts will **review** the evidence and score each intervention for how beneficial – or otherwise – it appears to be.

To be included, papers had **to test an intervention** that you might undertake to protect or restore a peatland.

What doesn't seem to work?

Roughening peat (to create microclimates) before spreading vegetation:

2 of 2 studies found no effect on introduced *Sphagnum* moss cover after 1-3 growing seasons.

Adding helpful fungi to tree seedlings before planting:

2 of 2 studies found no effect on survival of planted seedlings in most or all cases. Only 1 of 2 studies reported increased growth of treated seedlings.

Directly planting herbs into peatland:

for 6 of 9 planted species, only a minority (<50%) of individuals survived.