



Collaboration for  
Environmental  
Evidence

## 2022 ANNUAL REPORT

[www.environmentalevidence.org](http://www.environmentalevidence.org)





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# A Message from the Board of Trustees

As Chair of the Collaboration for Environmental Evidence (CEE), I am pleased to present our annual report for 2022. It was a year of slow recovery for everyone around the world from the impact of Covid-19 and CEE's commitment to promote the use of evidence-based approaches to address complex environmental challenges has never seemed so necessary. For CEE, 2022 was a year of review, reflection, and development. We extended our debate around governance – we are an international network of a ceaselessly changing research community-, what and who we should focus on over the next decade, and what our main communication and fund raising activity, CEE's journal *Environmental Evidence* should become. I would like to extend my sincere thanks to all our Board members, Team and Project committee members, reviewers, editors, and volunteers for your continuing generosity to CEE. Without your dedication, our collaborative organization would not be able to make the positive impact we do, and will do, on both the research and the evidence user communities.

Our organization has continued to foster collaborations between researchers, practitioners, and policymakers to promote the use of rigorous and transparent evidence in decision-making processes. We have also worked to strengthen the capacity of our members to conduct high-quality environmental research. Our initiatives, led by different centres and individuals, have included the development of new tools and resources to support evidence synthesis and implementation, the delivery of training

workshops and webinars, and the organization of conferences and other events to promote knowledge-sharing and networking. I am proud to report that our communities' efforts continue to result in the publication of high-quality Systematic Reviews and Evidence Syntheses that have informed policy and practice in various environmental domains. Our work has also contributed to advancing the field of environmental evidence synthesis and implementation.

I was delighted to welcome two new members to the CEE Board in 2022, Prof. Gill Shepherd and Dr Matthew Grainger. Gill, a Visiting Professor in Development Practice in the Department for Anthropology, London School of Economics, brings a wealth of experience in global development, especially in local people's forest management and conservation. Matt is an applied ecologist at the Norwegian Institute for Nature Research improving the use of evidence in decision making for threatened species in Norway and globally. We continue to look to increase the Board's balance of evidence providers and users, and its regional diversity.

We also continued to highlight opportunities to contribute to CEE's professional services roles. We are again grateful to Teri Knight for continuing as co-opted Hon. Treasurer and managing our important albeit minimal central funds. In November, we sadly said goodbye to Jess Taylor from the Canadian Centre for Evidence-based Conservation (CEBC), one of our unsung heroes for many years.

Continued...

Jess ran our Secretariat and was Communications Officer, chairing the Communications Team. To replace her, Steve Cooke, Board Member and CEBC Director, became Honorary Secretary to the Board, and brought in Meagan Harper, a Senior Research Assistant in CEBC and a member of the CEEDER Review College, to provide Board Secretariat support, and for the Communications roles, Morgan Piczak, a PhD candidate with Steve, and Dr Andrew Kadykalo, a Postdoctoral Researcher in the Department of Natural Resource Sciences, McGill University, who has been concentrating on the publication of our Plain Language Summaries. This is a great contribution from one of our member Centres to the management of CEE and a model that we are exploring in our strategy discussions.

Within our Centres network, we also said farewell to Dr Sam Cheng, who represented our first affiliated centre in the United States, the Center for Biodiversity and Conservation at the American Museum of Natural History and welcomed Dr Amanda Sigouin as her replacement.

The Board and Centres continued to develop our new Strategy 2023-2033. This has been challenging but emerging is a sense of evolution not revolution in the development and support for evidence synthesis. CEE and its Centres, and innumerable individual volunteers, want to continue to produce innovative and valuable products and systems. The journal, *Environmental Evidence*, is our main source of finance, however, and we must enact significant changes to ensure we have the management resources to oversee and deliver all our current and planned activities. The Board and the Centres are once again therefore extremely grateful to Andrew Pullin, who

continues to function as CEE CEO, main executive office resource, and Editor-in-Chief of CEE's journal. The Journal flourished during 2022, with increasing submissions of Systematic Reviews, Maps, and protocols. The Board welcomed the ever improving metrics of editorial decision speed and downloads and the continuing diversity of the Editorial Board and senior Editors and was pleased to see the Guidance for conduct and reporting of Rapid Reviews developed and published by the Guidance and Standards Team, together with our Journal Editors. The Guidance is consistent with Cochrane and WHO Guidance on Rapid Reviews and is an important step in bringing CEE more in line with policy needs and broadening the appeal of the journal for both authors and evidence users.

More widely, CEE Board, executive, and members continued to promote CEE and more use of rigorous evidence synthesis as the first step in any effective decision-making process. We gained observer status at CoP27, with me, Andrew Pullin, and Barbara Livoreil (Past-CEE Centre Director) as virtual observers. It was a frustrating CoP and whilst the climate science itself was much less contested, the availability and use of the evidence for what practical interventions may be most appropriate is still poor. This is a great challenge and opportunity for CEE.

The Board thanks all the CEE Centres who promoted their collaborative activities with CEE. Dr Joseph Langridge, CEE Centre representative for La Fondation pour la Recherche sur la Biodiversité, in France, for example, initiated a collaborative workshop for EcologyMetz2022, International Conference on Ecological Sciences & Evolution on Comparing non-systematic and systematic review methods for environmental evidence: an introduction to

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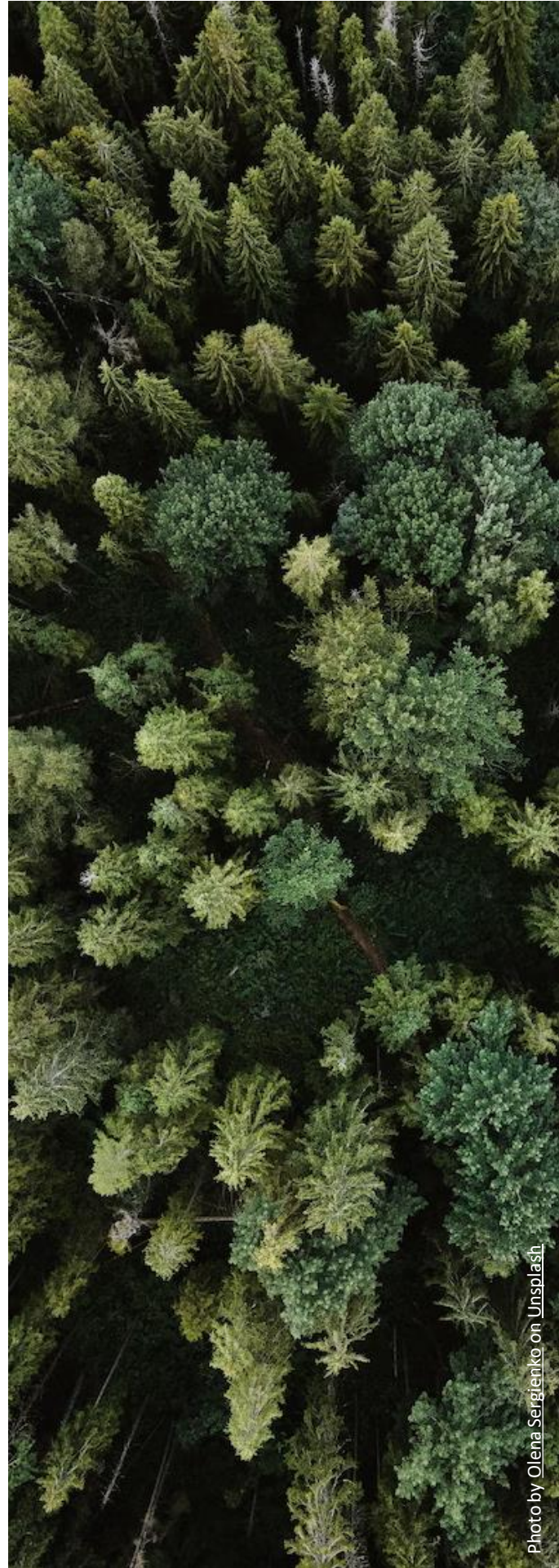
different literature review approaches, their advantages and limitations with UK-CEE Centres collaborators, Dr Nicola Randall, Director of the Centre for Evidence Based Agriculture at Harper Adams University and Mr. Ko Konno at the Centre for Evidence-Based Conservation at Bangor University.

Through collaboration, we have continued to expand our reach and make an even greater impact on the community. In particular, the Board is proud that CEE is the only partner representing environmental perspectives in the Global Commission on Evidence to Address Societal Challenges, or the Evidence Commission, which evolved from the COVID-END initiative. The release of the Evidence Commission report and recommendations in January 2022 was an exciting development in advocating for the domestic evidence infrastructures and global evidence architecture required address the societal challenges we face now and in the future. The Evidence Commission Report A wake-up call and path forward for decision-makers, evidence intermediaries, and impact-oriented evidence producers is available on the Evidence Commission's website.

Looking ahead, we are committed to building on our successes and continuing to promote the use of evidence in environmental decision-making. We will continue to work with our partners and collaborators to develop new initiatives, tools, and resources to support evidence-based approaches to environmental management.

In closing, I would like to thank once again all our members, partners, and collaborators for their contributions to the Collaboration for Environmental Evidence. Your dedication and support have been vital in CEE's success, and we look forward to continuing to work together to address the pressing environmental challenges of our time.

Kathryn Monk (Board Chair)



# A Message from the CEO

If there could possibly be positive outcomes from the COVID pandemic one such might be that the demand for rapid evidence provision to support decisions during the crisis has demonstrated how valuable evidence synthesis can be. During 2022 I was able to observe, as CEE representative of the COVID-END coalition, how quickly the global evidence synthesis community organized itself to meet the demand from decision makers. Although the focus was on the health sector for this particular emergency, it demonstrated what a well-established evidence network, with good capacity for rapid response, can do to inform decision making. Of course, the ongoing crises of climate change and global biodiversity loss have much greater relevance to CEE and the environmental sector and so far we have very low capacity for rapid delivery of rigorous evidence synthesis. This needs to change and there is hope on the horizon with the formation in 2022 of the Global Evidence Commission, a coming together of collaborations across sectors to raise awareness of the need for evidence synthesis. CEE is a partner organization and we will be lobbying hard for the Commission to recognize the need for capacity building in the environmental sector. More optimism comes from strong signals that the IPCC is beginning to recognize the role of evidence synthesis in providing evidence to inform climate change mitigation options. During 2022 CEE became involved in the planning of a 'What Works Climate Solutions Summit', supported by IPCC groups, that is now planned for 2024.

Within CEE, 2022 has been a time of further expansion of our journal, *Environmental Evidence*. New article types have been

introduced alongside our main Evidence Syntheses to reflect our wider interest in the way evidence is generated, translated and used. An updated version of CEE Guidance and Standards was published during 2022 to further help all authors and commissioners achieve the highest standards of rigour and reliability. Beside setting standards for CEE Evidence Syntheses we also have an objective of increasing standards for all evidence reviews. A Report from our CEEDER team, published in *Environmental Evidence* this year, shows the reliability of recently published evidence reviews in all journals and gives clear cause for concern regarding general standards of practice. However, one clear finding is that standards of reliability can be raised by some basic changes in practice, such as registration of a protocol and tools for critical appraisal. To facilitate the former, CEE, in partnership with the Julius Kuhn Institute, has launched a free protocol registration service 'PROCEED'. Regarding critical appraisal, CEE is trialling a tool, available on our website, to help authors standardize this critical stage of Systematic Review.

CEE is nearly at the end of its ten-year strategic plan, and looking back it is remarkable how much of the plan has been achieved with so few resources. This would not have been possible without the support a global network of volunteers and collaborating organization. My thanks go to them all for their commitment to the CEE mission.

Andrew Pullin



Collaboration for  
Environmental  
Evidence



# CEE Officers



**Andrew Pullin**  
Chief Executive Officer  
Professor of Evidence-Based Conservation,  
Bangor University, UK



**Meagan Harper**  
Assistant to the Secretary  
Senior Research Assistant  
Carleton University, Canada



**Morgan Piczak**  
Communications Officer - Website and  
Social Media  
PhD Candidate, Biology  
Carleton University, Canada



**Andrew Kadykalo**  
Communications Officer - Plain Language  
Summaries  
Postdoctoral Researcher,  
McGill University, Canada

# CEE Board of Trustees



**Kathryn Monk**  
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University, UK



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**Neal Haddaway**  
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Senior Research Fellow, Stockholm  
Environment Institute, Sweden



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Trustee  
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**Gill Shepherd**  
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London School of Economics and  
Political Science, UK



**Matthew Grainger**  
Trustee  
Researcher, Norwegian Institute for  
Nature Research, Norway



# The Collaboration

## CEE Mission

To effectively promote an evidence-based approach to environmental management by facilitating the conduct and dissemination of high-quality syntheses of evidence that will inform decision making and better conserve biodiversity and ecosystem services for global benefit.

## CEE Vision

Effective environmental management resulting from policy and management decisions that are informed by the best available evidence on questions of concern.

A culture of scientific evaluation of environmental management through objective assessment and synthesis of available evidence.

A society that appreciates and is supportive of the role of science in informing decisions that affect the environment and human wellbeing.



# CEE Centres in 2022



## **The CEE is a global collaboration that has a network of Centres around the world**

Centres contribute to the work of the CEE by encouraging evidence-based practice and systematic review activity within their geographic region. At present there are seven national CEE Centres based in Canada, Chile, France, South Africa, the United Kingdom, the United States of America, and one international CEE Centre (SEI). Centres obtain their own funds to perform centre functions.

<https://environmentalevidence.org/cee-centres/>

# Centre Snapshots 2022

## Canadian Centre for Evidence-Based Conservation

2022 was a significant year for the CCEBC with several major Evidence Syntheses completed for federal government partners. The Centre hosted several multi-day workshops, including one on critical appraisal training, and have started several new projects with (inter)national teams. Members continue to support CEE on the Board (2 members), in the CEEDER Editorial Board and Review College (4) and as communications officers (2).



## Fondation pour la Recherche sur la Biodiversité (FRB)

FRB ran several successful training courses and workshops, including introductions to meta-analyses and systematic review for 15 young researchers, and a half-day workshop on comparing non-systematic and systematic evidence reviews during the French Ecological Societies International Conference (Fall 2022). Additionally, several Systematic Maps and calls for research projects have been conducted over the past year, with work continuing into 2023.



## CEE Joburg, South Africa

In addition to serving on the Scientific Steering Committee for the “What Works Global Summit on Climate Change”, to be held 2024, members developed a short-learning program on Sustainable Development Goals, with over 500 participants in 2022. Members actively participate on the CEE Board (1 member), the Advisory Board for *Environmental Evidence* (1) and CEE Meetings Committee (1).



## UK CEE Centre

The UK Centre has continued to develop introductory guidance for qualitative synthesis and has promoted CEE Synthesis Assessment Tool (CEESAT) to colleagues for use in Evidence Syntheses on health interventions and has used CEESAT for categorizing reviews in several policy facing Systematic Maps. The Centre has applied to manage the CEE Training team, and members participate as editors for PROCEED and *Environmental Evidence*.



## U.S. Centre based at the Center for Biodiversity and Conservation

The Centre has been involved in numerous evidence-related projects using and promoting CEE principles. Examples include rapid scoping reviews for the United States Agency for International Development, the World Wildlife Fund, and the USA National Estuarine Research Reserve System. Members actively participate in the CEEDER Review College (2 members), contribute PROCEED as handling editor (1), and the Communications team (1).





# Communications Strategy



## CEE Communications and Engagement Strategy

### Aims to:

Ensure effective communication among the CEE Centres and beyond

Provide a strategy to share knowledge and coordinate activity among the CEE Centres

Provide clarity and consistency in the development and delivery of key messages

Provide a framework to build awareness of the CEE and celebrate achievements

Define roles and scope with respect to communications

Define review and evaluation processes.

The priority for the CEE Communication Team in 2022 has been to develop a Communication Plan to ensure that limited efforts are best focused on activities with maximal output. Leveraging journal outputs, including the summaries, and maintaining an active social media presence remain high priority. Revisions to the CEE webpage have also helped to modernize communications.

Under the direction of the CEE Communications Team, the role of Communications Officer was transferred from Jessica Taylor to Morgan Piczak (website and social media) and Andrew Kadykalo (plain language summaries). The joint Communications Officers conduct the communications work set out in the CEE Strategic Plan and oversee activities across various communications channels and functions. Morgan is responsible for maintaining the CEE's website, LinkedIn group, Twitter account (@envidence) while Andrew is responsible for the production and management of plain language summaries for Evidence Syntheses published by *Environmental Evidence*. The Communications Officers are responsible for acting as 'brand guardians', ensuring consistency across all internal and external communications. We thank Jessica for her outstanding role as Communications Officer since 2017 and welcome Morgan and Andrew in their new roles.

# Evidence Services

## Environmental Evidence

### New and upcoming evidence

**17** Systematic Map protocols

**5** Systematic Review protocols

**7** Systematic Maps

**5** Systematic Reviews

## Plain Language Summaries

### Saving evidence users valuable time

**4** Systematic Review summaries

**6** Systematic Map summaries

<https://environmentalevidence.org/policy-briefs/>

## CEEDER

### Assessing quality of syntheses

**308** Evidence overviews

**55** Evidence reviews

*Of the over 1000 syntheses assessed for the years 2018 - 2020, most have low reliability to inform decision-making*

[\*Pullin et al. 2022\*](#)

## PROCEED

### The CEE's New Evidence Service

**7** Systematic Map protocols registered

**5** Systematic Review protocols registered



257 new followers, 635 page views  
272 reactions



105 new followers  
57 889 impressions

# PROCEED

## Editorial Team

Andrew Pullin (Acting EiC)  
Amanda Sigouin  
Biljana Macura  
Ruth Garside  
Jacqualyn Eales  
Tracy Ainsworth  
Christian Kohl  
Stefan Unger

### Additional support from:



In 2022, CEE launched PROCEED, a global database of prospectively registered evidence reviews and syntheses in the environmental sector. This is an open-access free resource provided by the CEE and allows the registration of protocols of upcoming evidence reviews. This encourages protocol development, reducing risk of bias in conduct and findings in reviews, and helps to avoid duplication of research effort. This service also provides free and rapid registration.

Authors can register titles and protocols based on the type of review (e.g., Systematic Reviews, Systematic Maps and Rapid Reviews) and synthesis (e.g., narrative, meta-analysis, qualitative) through a simple, web-based platform using provided templates. Authors retain rights of their protocol and can publish in the journal of their choice.

All submissions are checked by the PROCEED Editorial Team and are searchable and accessible through the online platform <https://www.proceedevidence.info/>

### Examples of Evidence Synthesis protocols registered with PROCEED in 2022

[What is the evidence that reports on the interactions between human resilience, human wellbeing and environmental sustainability in marine and coastal areas around the UK?](#)

[What are the effects of chronic oil exposure on the survival, reproduction, and performance of marine organisms? What evidence exists on the potential of Technosols constructed from mineral wastes to host biodiversity?](#)

[How effective are perches in promoting bird-mediated seed dispersal for natural forest regeneration? A systematic review protocol](#)



# CEE Rapid Review Guidelines

In recognition of the increasing interest of policy-makers and practitioners in Rapid Evidence Syntheses, the CEE has incorporated guidance for the conduct of Rapid Reviews in the newest update of the [Guidelines and Standards for Evidence Synthesis in Environmental Management \(Version 5.1, 2022\)](#). Authors now have the option to conduct and publish Rapid Reviews in environmental management using rigorous, objective and transparent methodologies, with the additional opportunity to publish Rapid Reviews in *Environmental Evidence*.

CEE acknowledges that Systematic Reviews are resource and time intensive and may not provide evidence in a timely manner in some circumstances. These guidelines provide standards for conduct and reporting when more rapid methods are required. The CEE considers Rapid Reviews as Evidence Syntheses that would ideally be conducted as a Systematic Review, but where methodology needs to be accelerated (and potentially compromised) to meet the demand for evidence that precludes full systematic reviewing using CEE or other standards.

The guidance follows the same process-based structure as the CEE Guidance and Standards for Systematic Reviews but provides opportunities for speeding up the process, such as narrow eligibility criteria, limiting search to key databases, the use of machine learning, or limiting the data extracted. Some short-cuts run the risk of increased bias and should be carefully considered during the synthesis process. The guidelines also provide suggestions for allowing a Rapid Review to be

“upgraded” to a Systematic Review in the future, providing a starting point for future Systematic Reviews if more resources become available at a later date.

For publication in *Environmental Evidence*, Rapid Review Protocols must be registered in PROCEED and follow the CEE process. Additionally, Rapid Reviews are only considered for publication with *Environmental Evidence* if they are submitted within 6 months of protocol registration.

## Rapid Review Guidelines

<https://environmentalevidence.org/information-for-authors/10-guidance-on-the-conduct-and-standards-for-rapid-review-of-evidence/>



Photo by [Agê Barros](#) on [Unsplash](#)

# Journal Developments

## Annual Journal Metrics

### Citation Impact\*

3.734 - 2-year Impact Factor (2021)  
5.827 - 5-year Impact Factor (2021)  
1.322 - Source Normalized Impact  
per Paper (SNIP)  
1.339 - SCImago Journal Rank (SJR)

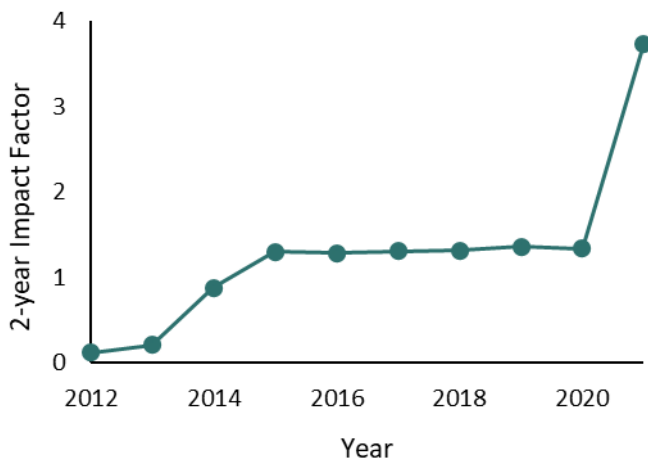
### Speed

15 days to first decision for all  
manuscripts (Median)  
41 days to first decision for  
reviewed manuscripts only (Median)

### Usage

640,380 Downloads (2021)  
727 Altmetric mentions (2021)

*\*Citation impact details are updated in the middle of the calendar year following the release of these metrics by both Clarivate Analytics and Scopus. (2022 metrics will be released in mid-2023)*



 **BMC** Part of Springer Nature

## Environmental Evidence

There have been a number of key advances with respect to the CEE flagship journal – *Environmental Evidence*

We are pleased to announce a new journal article type called “Evidence in Action”. These articles will be handled by Steven Cooke (as section editor) and will involve a discussion on the impact of evidence-based practice on environmental managers, of Evidence Synthesis on policy making, or a discussion of developments at the science-policy interface. These articles will serve as a useful complement to the Evidence Syntheses that *Environmental Evidence* is already known for. Several CEE community members worked collaboratively to write a commentary article that will serve to launch this section. That paper is currently in review.

Efforts are also underway to launch several special issues and to work more closely with the Springer team to coordinate communication activities.

With a respectable Impact Factor and a strong reputation, we are in a good position to further elevate awareness of the journal thus increasing readership and the number and quality of submissions.

# Environmental Evidence Journal

The official journal of the CEE is *Environmental Evidence*, an open-access journal that accepts submission of Systematic Reviews, Systematic Maps, review and map protocols, commentaries and methodological papers related to the conduct of Systematic Reviews.

## Editor-in-Chief

Prof Andrew Pullin, Bangor University, United Kingdom

## Senior Editors

Prof Paul Ferraro, John Hopkins University, United States of America

Prof David B Lindenmayer, Australian National University, Australia

Prof Hugh Possingham, University of Queensland, Australia

## Associate Editors

Steven Cooke, Carleton University, Canada

Ruth Garside, University of Exeter, United Kingdom

Biljana Macura, Stockholm Environment Institute, Sweden

Nicola Randall, Harper Adams University College, United Kingdom

## Editorial Board

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Malgorzata Lagisz, University of New South Wales, Australia

Barbara Livoreil, Fondation pour la Recherche sur la Biodiversité, France

Gabor Lovei, University of Aarhus, Denmark

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Carina van Rooyen, University of Johannesburg, South Africa

Karen E. Smokorowski, Fisheries and Oceans Canada, Canada

Yefeng Yang, City University of Hong Kong, China





# Featured Reviews



Photo by GeoNadir on Unsplash

## The scope and extent of literature that maps threats to species globally: a systematic map

Ridley, F.A., Hickinbotham, E.J., Suggitt, A.J. et al. *The scope and extent of literature that maps threats to species globally: a systematic map. Environ Evid* 11, 26 (2022). <https://doi.org/10.1186/s13750-022-00279-7>

This synthesis systematically mapped the evidence of ‘threats’ to wild species from human activities and direct human-initiated processes that impact their survival. The map describes the distribution of evidence and provides a searchable database to inform future decision-making on the topic. The map identified several subtopics that may be amenable to full syntheses via Systematic Reviews or that can directly support spatial planning including: (1) evidence on the threat of agriculture and aquaculture; (2) evidence on the threat of alien invasive species; (3) evidence on the threat of residential development. Additional areas with high abundance of articles include the threats of road and railways, and biological resource use. Further examination of these clusters will be of direct relevance to the Post-2020 Global Biodiversity Framework. The Systematic Map shows that the most studied threats include alien invasive species, aquatic or terrestrial animal exploitation, roads and railways, residential development, and non-timber crop and livestock agriculture. It also identified stark gaps in research for understudied systems (such as freshwater), and taxonomy (such as plants), despite these species being extremely threatened by resource use. Further research on this topic for understudied ecological realms, taxonomy and geographic regions and for combined or cross-realm impacts is encouraged.

## Effects of sediment exposure on corals: a systematic review of experimental studies

Tuttle, L.J., Donahue, M.J. *Effects of sediment exposure on corals: a systematic review of experimental studies. Environ Evid* 11, 4 (2022).

<https://doi.org/10.1186/s13750-022-00256-0>

In this Systematic Review, authors provides evidence of the effects of sediment on corals for managers requiring thresholds for coastal runoff and dredging. This Systematic Review identified exposure levels that adversely affect corals, accounting for whether sediment was deposited or suspended, coral species and coral life-stages. Adverse effects ranged from tissue mortality to reduced growth rates, and bleaching, among others. By compiling experimental studies on the responses of over 140 species of coral in three oceans, the authors determined that the lowest sediment exposure levels that cause adverse effects in corals are lower than levels previously described as normal for reefs, with deposited sediments impacting corals more immediately than suspended sediments. In addition to sediment concentration and delivery method, exposure duration can also influence adverse responses. The thresholds identified in this study support the implementation of conservative sediment thresholds for coral reefs. Future work on the combined effects of sediment and other common co-stressors is recommended.



Photo by Francesco Ungaro on Unsplash

# Featured Reviews

## Existing evidence on antibiotic resistance exposure and transmission to humans from the environment: a systematic map

Stanton, I.C., Bethel, A., Leonard, A.F.C. et al. *Existing evidence on antibiotic resistance exposure and transmission to humans from the environment: a systematic map. Environ Evid* 11, 8 (2022). <https://doi.org/10.1186/s13750-022-00262-2>

This paired systematic mapping exercise considered the primary question: “what research evidence is there that humans are exposed to and affected by antimicrobial resistance in the environment?” through a pair of Systematic Maps collating the evidence for 1) transmission of antimicrobial resistance from the environment to humans globally, and 2) the state of antibiotic resistance in the environment in the UK. Authors provide a comprehensive, searchable database of the evidence, and determine that there may be sufficient evidence for a review of antimicrobial resistance in water and soil for map 2. Further research should investigate other environmental components such as air or animals. In contrast, there was a clear lack of global evidence for transmission of antibiotic microbial resistance from the natural environment to humans, although it may be possible to review some small knowledge clusters. In both maps, *E. coli* was among the most investigated species, and both maps showed geographical clustering of research, indicating knowledge gaps for some environments. Future work should aim to fill these gaps to support public health policies and environmental management of pollutants.



Photo by CDC on Unsplash



Photo by Jesse Gardner on Unsplash

## Does the growing of Bt maize change abundance or ecological function of non-target animals compared to the growing of non-GM maize? A systematic review

Meissle, M., Naranjo, S.E. & Romeis, J. *Does the growing of Bt maize change abundance or ecological function of non-target animals compared to the growing of non-GM maize? A systematic review. Environ Evid* 11, 21 (2022). <https://doi.org/10.1186/s13750-022-00272-0>

In this Systematic Review, authors compiled and synthesized literature on field trials of genetically modified maize that produces insecticidal proteins of the bacterium *Bacillus thuringiensis* (Bt) for potentially adverse effects on non-target organisms such as spiders or ladybeetles. This Systematic Review confirms that most invertebrate groups were not affected by Bt maize when no insecticides were applied, and that BT maize harboured fewer target parasitoids. In comparison, broad spectrum herbicides caused non-target organism abundance to be reduced. Although some non-target organisms responded positively and others negatively to Bt maize, those effects were not consistent and were often related to individual study conditions. Tests examining authorship and financial support by biotechnology companies indicate that negative effects by Bt maize were found more often in studies with private sector support than in studies where no backing by biotech companies were declared. Limited data was available in forms suitable for meta-analysis. In future, full datasets would facilitate improve meta-analytic results with less uncertainty. This review provides support for the conclusion that Bt maize is a highly selective pest control technology.

# Securing the Future of CEE



The Collaboration for Environmental Evidence was established in 2007 and is registered for charitable purposes within the UK. In line with legal requirements, the endeavors of CEE satisfy three 'charitable purposes' under UK Charity Law:

- the advancement and improvement of environmental protection
  - the advancement of science
  - the advancement of education
- and the two 'public benefit principles': the general public will benefit from more effective environment management and conservation action because those working in the environmental sector will be able to more easily access information to help them improve the effectiveness of their work. The CEE places no restrictions on who can benefit.

The CEE Constitution sets out how the CEE will operate within Charity Law. The CEE operates as a 'not-for-profit' organization and has a Board of Trustees responsible for proper

governance of the CEE, probity, adherence to regulations for 'not for profit' organizations and charity law. The CEE is open to all who wish to contribute to the conduct, or use, of CEE Systematic Reviews and who are committed to the principle of evidence-based practice. As CEE activity increases through greater engagement in evidence synthesis, Thematic and Methods Groups, and the establishment of new CEE Centres, the demands placed the CEE infrastructure are also increasing.

The continued success of CEE's 'open-access' strategy is dependent on adequate and sustainable funding of the core infrastructure. Many funding streams, such as environment research grants, do not fund infrastructure costs and environmental funding tends to support direct action. CEE therefore seeks donations to enable it to continue to support and coordinate environmental evidence synthesis activity worldwide.

Potential donors are encouraged to contact us at:  
[info@environmentalevidence.org](mailto:info@environmentalevidence.org)



# Thank You

The existence and growth of the CEE is due in no small part to a wide range of individuals and organizations who have actively supported its vision and aims, either through funding, giving it visibility in key arenas, through giving their time to key CEE activity, or through active involvement in CEE Evidence Synthesis.

Particular thanks for 2022 are due to:

The Trustees

CEE Guidelines Editorial Board

Leaders and staff of CEE Centres

Leaders and contributors to CEE Groups

Members of the CEEDER Editorial Board

Members of the CEEDER Review College

Members of the PROCEED Editorial Panel

Commissioners/funders of CEE Evidence Syntheses

Review authors, stakeholders, and peer-reviewers

Volunteers and supporters

Spring Nature

EEJ Editorial Board

More information:

[www.environmentalevidence.org](http://www.environmentalevidence.org)

Email:

[info@environmentalevidence.org](mailto:info@environmentalevidence.org)



**Collaboration for  
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