



Collaboration for  
Environmental  
Evidence

# 2020 ANNUAL REPORT

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# A Message from the Board of Trustees

The Board is proud to share the Collaboration for Environmental Evidence (CEE) 2020 Annual Report detailing the charity's strong performance in a year that has, as we all know only too well, presented extraordinary challenges for individuals, organisations, and nations. For many, including CEE, 2020 has focussed us more than ever on our purpose, how we communicate that purpose, and how we organise ourselves in our global network.

Since 2013, when we launched our 10-year Strategic Plan, CEE's mission as a UK-based charity and a global network has been 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. During 2020, the challenges of decision making in the face of complex influences and being able to rely on available evidence, more than ever focussed the attention of governments and the public on rigorous evidence synthesis.

This focus brought CEE into increasing prominence as we serve these two key communities, evidence providers and evidence users. We continued to promote the most rigorous evidence synthesis methodologies, provided guidance and training for new researchers to this field, and brought together those established and emerging communities around the world through our scientific journal and meetings. Whilst many organisations faced obstacles to virtual working, CEE by its very nature was already well placed for continued smooth running. We recognise of course, that each of our Centres and Affiliated Groups have faced their own local challenges and congratulate everyone for continuing top-class research and publications. In particular, the Board would like to thank our Canadian Centre (Canadian Centre for Evidence-Based Conservation), which was set to host our third international CEE conference in Ottawa in June 2020. This was postponed and then cancelled, and subsequently CEE's Communications Officer Jessica Taylor and Meetings Committee worked tremendously hard with the Centre's Director Steve Cooke to convert the programme into monthly webinars. The latter were hugely successful, capturing a much wider audience, especially from evidence user communities, than would have been possible at the conference itself. Of note also is that CEE colleagues from around the world have played a role in the [COVID-END Evidence Network](#) to support decision-making related to the pandemic. Learning from all of this, we look forward to supporting a wider range of engagement activities in the coming year.

As with many organisations adopting more extensive remote working during the pandemic, the Board revisited the effectiveness of our organization design, ensuring we had at our core good governance systems and robust risk management approaches. Board members are located globally, and in 2020 we welcomed new independent and centre-associated members. This strengthened the recognition of the interests of the Centres and enabled more effective strategic discussions. Whilst existing Board members worked effectively together to cover Board responsibilities, the rapid expansion of CEE and associated complexity of managing activities through a small CEE Office and expanding numbers of volunteers means we must address these challenges in the coming year.

Continued...



The success of CEE in 2020 was reflected not only in the explosion of webinars but also in the addition of another new Affiliate, the Center for Biodiversity and Conservation at the American Museum of Natural History in New York, USA.

Alongside the Centres and Affiliates, CEE could not have achieved so much in 2020 without the vast number of volunteers from across our wider academic community. They pressed ahead with many projects to deliver on-schedule tangible benefits under CEE's still highly relevant and valued 2013-2023 Strategic Plan.

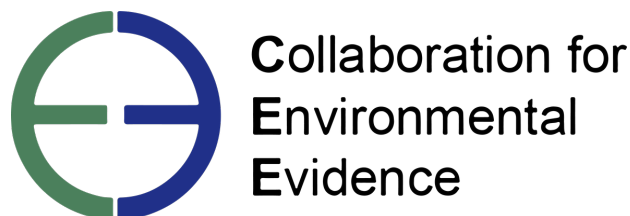
Our financial accounts are small but nevertheless rigorously managed and we are in a good place with some reserves to consider investment in further new projects in 2021.

Our income comes mainly from CEE's Journal, Environmental Evidence, and the Board was delighted when the journal received its first Clarivate Impact Factor in 2020. We were equally pleased to see publication numbers holding up and thank the Editorial Board, peer reviewers, and the authors themselves. The journal has a critical role to play in upholding CEE's mission and encouraging increasing numbers of rigorously produced systematic reviews and maps.

Among the many other highlights in 2020, the Board recognises the impressive development of the CEE Database of Evidence Reviews (CEEDER). CEEDER provides an assessment of the reliability of reviews in environmental management so users can easily find trustworthy evidence syntheses to inform decision making and is being developed in partnership with those users. Again, this milestone would not have been possible without the dedicated members of our growing Review College who independently assess every article in the database using the CEESAT criteria.

Finally, the Board would like to recognise the continuing vision, inspiration and hard work that Andrew Pullin is now putting into the voluntary executive management of CEE. The founding Chair in 2011, and its first CEO since 2018, Andrew still leads from the front an increasingly successful, expanding and demanding CEE, and has the Board's full support.

The importance of evidence-based or -informed decision-making in the environmental field is increasingly realised, and even more so as the complexity of the environment-society-economics nexus is realised within our own governance systems, locally, nationally and globally. COVID-19-induced radical change in societal behaviour has underlined the fact that CEE has an increasingly important role to play globally in supporting the most effective decision making possible that affect our lives and those of the next generations.





# A Message from the CEO



Along with many other organisations, CEE has experienced an exceptional year of challenges. Fortunately, due to our structure as a global collaborative network, CEE has been extremely resilient to the restrictions enforced by the pandemic and I would like to congratulate all of our Centres, Affiliated Groups and volunteers for the way in which they have continued to contribute to CEE 's mission despite the difficulties imposed upon us all. Most importantly, CEE has managed to adapt quickly to the lockdowns, no more evident than when we needed switch our global conference to a series of online webinars that have been well attended and received thanks to the efforts of Jessica Taylor and Steven Cooke in our Canadian Centre. Our major projects (our journal, training, CEEDER and PROCEED) were all able to continue running and developing through online collaboration of working groups and, thanks to the continued support of our volunteers, we have been able to launch new tools and services for both out authors and evidence users. Our global network has also continued to expand with the addition of the US Centre based at the American Museum of Natural History, and a number of Affiliated Groups. In order to adapt to the pandemic, new ways of remote working and collaboration have emerged and this will benefit us into the future as virtual meetings become the norm. CEE has an increasingly important and influential role to play as an open-access platform to support both evidence synthesis and evidence-informed decision making in the environmental sector and this presents many opportunities for those who wish to contribute to our work going forward.



# CEE Officers and Board of Trustees



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



**Jessica Taylor**  
Secretary & Communications Officer  
Research Biologist,  
Carleton University, Canada



**Simon Gardner**  
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# 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.

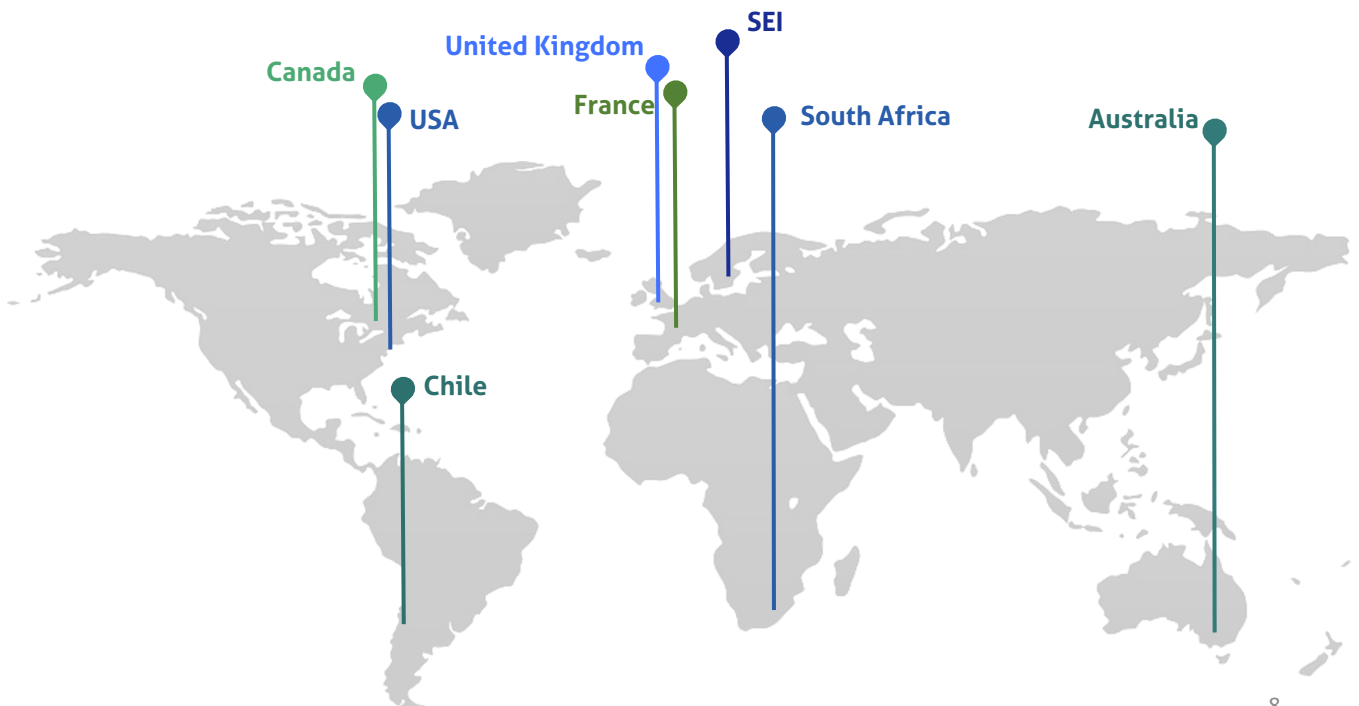
## CEE Vision

- 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 2020



# Communications Strategy

The CEE Communications and Engagement Strategy aims to:

- ensure effective communication among the CEE Centres;
- 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; and
- define review and evaluation processes.



In 2020, under the direction of the CEE Communications Team, Jessica Taylor continued as Communications Officer to conduct the communications work set out in the CEE Strategic Plan and oversee activities across various communications channels and functions. Jessica is a research biologist at the Canadian CEE Centre and is responsible for maintaining the CEE's website, LinkedIn group, Twitter account (@envevidence), the production of the Annual Report, and overall, acting as a 'brand guardian' ensuring consistency across all internal and external communications.

While the global pandemic prohibited travel for much of the year, CEE was represented as a virtual exhibitor at Africa Evidence Network's Evidence 2020 online conference. As our own CEE conference, the Environmental Evidence Summit, was postponed indefinitely, the content was transferred to a free, monthly webinar series. This new communication output for CEE was very successful in 2020 and led to the creation of our new YouTube channel that will host ongoing CEE content in the future.



# New CEE Centre

In the spring of 2020, the Center for Biodiversity and Conservation (CBC) at the American Museum of Natural History in New York joined CEE as an affiliated centre, the first in the United States. The CBC will serve as an organizing hub for evidence synthesis efforts in the United States, linking together scientists, practitioners, policymakers, local community leaders, and educators across sectors. Their mission is to help organizations assess their needs for evidence, assess existing knowledge, and apply evidence to inform environmental, conservation, and development decisions. Dr. Samantha Cheng is the coordinator for the U.S. Centre.

In the past year, members have been primarily involved in building capacity around evidence synthesis approaches and getting involved in the CEE network. Centre members also have recently joined forces with the UK, Canada, and SEI Centers to identify and scope opportunities for applying evidence mapping approaches to understanding environmental factors linked to zoonotic virus emergence, as part of the COVID-END initiative.

This year, the group began a 5-year collaboration with the United States Agency for International Development (USAID), to advise Missions around the world and strengthen their capacity to better gather and use evidence as part of their integrated natural resource management programming, which connects biodiversity, sustainable development, and human health. As part of this work, CBC has been leading evidence synthesis and biodiversity research work on a number of topics, including the intersection of land and resource governance, natural resource management, democracy, and climate change - as well as mining and the environment.

Members of the Centre have also been raising awareness around evidence synthesis methodologies and generating evidence products with regional organizations aimed at bridging the knowledge-action gap for conservation and environmental and natural resource management - including the National Ocean Protection Council, the Environmental Protection Agency, Our Shared Seas, and the Cana Foundation.

To learn more, contact Samantha Cheng, [scheng@amnh.org](mailto:scheng@amnh.org)

*Greetings from the CBC!*

150 YEARS | AMERICAN MUSEUM  
OF NATURAL HISTORY

**Center for Biodiversity  
and Conservation**



# Environmental Evidence Summit Webinar Series

Given the circumstances surrounding the COVID-19 global pandemic, the Meetings Committee and the Canadian Centre for Evidence-Based Conservation, with the support of the CEE Board of Trustees, made the decision to postpone the Environmental Evidence Summit in Ottawa. The sessions planned for the in-person event that was to be held in June 2020 were converted into a monthly webinar series that was accessible to our global community. This [11-part series](#) began in August 2020 and will continue through June 2021 via GoToWebinar.

This series also facilitated the launch of CEE's new [YouTube channel](#) where recordings of all sessions are held. From August to December 2020, there were an average of 50 attendees per live session and close to 600 total views of the recordings.

We are very grateful to the session chairs, CEE community, and attendees for quickly adapting to the new format and making the webinar series a huge success. Discussions are ongoing for the continuation of CEE webinars beyond the Environmental Evidence Summit Series.



**Environmental Evidence Summit**  
ENVIRONMENTAL EVIDENCE SYNTHESIS AND DECISIONS FOR THE ANTHROPOCENE

Environmental Evidence Summit Series Program
Evidence-based decision making and the use of evidence syntheses by the Canadian Federal government
Evidence Synthesis Technology
Developing generic theories of change for key conservation strategies as a basis for generating, accessing, and using evidence.
Mobilizing knowledge for evidence-based approaches in the anthropocene - Plotting a course for strengthening the conservation evidence base: integrating multi-actor perspectives
Evidence syntheses in "Eco-health": exploring interactions between the environment and human health and well-being
Evidence co-production and use in environmental policy processes in Africa
Comparing rapid and systematic review methods for environmental evidence: benefits and limitations of different approaches
Advances in agricultural evidence
Qualitative evidence synthesis: using qualitative evidence to inform decision making
Learning with each other: promoting cross sectoral collaboration for evidence synthesis



# 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

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Dr Karen E. Smokorowski, Fisheries and Oceans Canada, Canada

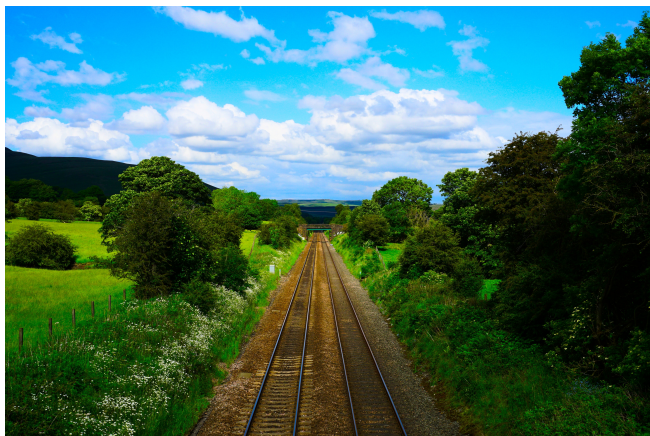


# Featured Reviews

## What evidence exists on the impact of agricultural practices in fruit orchards on biodiversity? A systematic map

Markus van der Meer, Sonja Kay, Gisela Lüscher & Philippe Jeanneret . *Environmental Evidence* Volume 9, Article number: 2 (2020)

This systematic map compiled and structured the available evidence to (1) assess the state of research on discrete biodiversity indicators and agricultural practices, (2) identify the literature relevant for assessing production impact and habitat suitability for supporting biodiversity and (3) provide a wide-ranging overview of existing evidence of the impact of agricultural practices in fruit orchards on biodiversity. The systematic map revealed that rigorous and comprehensive investigations on the suitability of orchards as perennial habitats for wildlife, run on the long-term and following a holistic approach, are still basically lacking. Although evidence base on orchard management effects on particular organisms has grown over the past two decades, information to develop reliable close-to-nature management tools and strategies is insufficient. The implications for policy and research suggest that—in view of worldwide biodiversity loss, which may cause a major threat for food production—a better understanding of the role played by orchards and their management in agricultural landscapes for biodiversity is required.



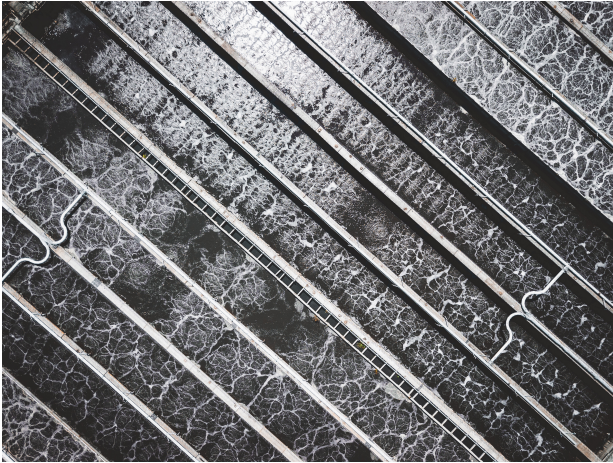
## Can linear transportation infrastructure verges constitute a habitat and/or a corridor for vertebrates in temperate ecosystems? A systematic review

Dakis-Yaoba Ouédraogo, Anne Villemey, Sylvie Vanpeene, Aurélie Coulon, Vital Azambourg, Marine Hulard, Eric Guinard, Yves Bertheau, Frédérique Flamerie De Lachapelle, Vanessa Rael, Eric Le Mitouard, Arzhvaël Jeusset, Marianne Vargac, Isabelle Witté, Hervé Jactel, Julien Touroult, Yorick Reyjol & Romain Sordello *Environmental Evidence* volume 9, Article number: 13 (2020)

This systematic review is the first synthesis of evidence addressing this topic for vertebrates (mammals, birds, amphibians and reptiles) in temperate ecosystems. The synthesis identified a major knowledge gap regarding the potential of linear transportation infrastructure verges as corridors for vertebrates, and when they exist studies rarely directly measured movements on verges. The authors thus encourage more research on this topic and the development of protocols that enable direct measures of vertebrate movements. The effect of management practices on the role of habitat of verges also deserves further investigations, and research efforts should be coordinated to focus on one specific practice (e.g. vegetation management).



# Featured Reviews



## What evidence exists on ecotechnologies for recycling carbon and nutrients from domestic wastewater? A systematic map

*Solveig L. Johannesdottir, Biljana Macura, Jennifer McConville, Dag Lorick, Neal R. Haddaway, Agnieszka Karczmarczyk, Filippa Ek, Mikołaj Piniewski, Marta Księżniak & Paweł Osuch Environmental Evidence volume 9, Article number: 24 (2020)*

The aim of this paper was to collate evidence on ecotechnologies intended for use in the

wastewater sector globally to facilitate the recovery or reuse of carbon and/or nutrients. This systematic map found substantial evidence for the recovery and reuse of nutrients and carbon from wastewater sources. The relative abundance of studies where substances are recovered compared to studies where they are reused, suggests a knowledge gap on reuse of recovered nutrients and carbon. The majority of studies on reuse were on irrigation with treated wastewater or reuse of biosolids, and not on reuse of extracted nutrients such as struvite.

## What are the relative risks of mortality and injury for fish during downstream passage at hydroelectric dams in temperate regions? A systematic review

*Dirk A. Algera, Trina Rytwinski, Jessica J. Taylor, Joseph R. Bennett, Karen E. Smokorowski, Philip M. Harrison, Keith D. Clarke, Eva C. Enders, Michael Power, Mark S. Bevelhimer & Steven J. Cooke . Environmental Evidence volume 9, Article number: 3 (2019)*

The primary goal of this systematic review was to address two research questions: (1) What are the

consequences of hydroelectric dam fish entrainment and impingement on freshwater fish productivity in temperate regions?; (2) To what extent do various factors like site type, intervention type, and life history characteristics influence the consequences of fish entrainment and impingement?

This synthesis suggests that hydropower infrastructure in temperate regions increased the overall risk of freshwater fish injury and immediate mortality relative to controls. The evidence base confirmed that turbines and spillways increase the risk of injury and/or mortality for downstream passing fish compared to controls. Differences in lab- and field-based studies were evident, highlighting the need for further studies to understand the sources of variation among lab- and field-based studies. Authors were unable to examine delayed mortality, likely due to the lack of consistency in monitoring for post-passage delayed injury and mortality. This synthesis suggests that bypasses are the most “fish friendly” passage option in terms of reducing fish injury and mortality. To address knowledge gaps, studies are needed that focus on systems outside of North America, on non-salmonid or non-sportfish target species, and on population-level consequences of fish entrainment/impingement.



# 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 systematic reviews, 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 management systematic review 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 Systematic Reviews. Particular thanks for 2020 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 and Review College
- Commissioners and funders of CEE Systematic Reviews
- Review authors, stakeholders, and peer-reviewers
- Volunteers and supporters
- BioMed Central and the EEJ Editorial Board

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

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