Collaboration for Environmental Evidence

2019 ANNUAL REPORT

www.environmentalevidence.org

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A Message from the Chief Executive Officer

This past year has seen significant progress in the transition CEE into a service for a global community of environmental evidence synthesists and evidence users. For evidence users we have developed a completely new service in CEEDER (see below) to enable quick access to existing evidence syntheses together with an indication of the rigour and reliability. The previous foci of CEE as an advocate and developer of rigorous evidence synthesis methods remain as strong as ever, but alongside these we have developed a support network and platform to enable a much larger community to conduct high quality syntheses. Whilst in the past we have relied on the CEE Guidelines and our Journal as pathways for review teams to follow, these have sometimes seemed to set too high a bar for many to achieve, particularly for first time authors. Recent collaborative developments of review software (e.g. CADIMA) and reporting checklists (e.g. ROSES) have facilitated the process of rigorous evidence synthesis and hopefully removed some of the barriers to achieving high standards. Work is in progress on other support mechanisms for editors and peer reviewers to help other journals raise their standards.

From the perspective of evidence synthesis as a service, the CEE Database of Evidence Reviews (CEEDER) is now operational having completed the listing of all relevant reviews published in 2018 and most of 2019. The CEEDER website is now available as an open-access resource to evidence users and we are seeking partnerships with user organisations feedback from individual users in order to improve and possibly extend the service. None of this would be possible without the work of volunteers in both the Editorial Group and the Review College who process and assess reviews and my personal thanks go to all of them.

Environmental Evidence continues to grow in both reputation and submissions. Special issues on 'Using Animal Behaviour in Conservation Management' and Environmental Evidence for the Future were established and should be completed in 2020. During 2019 the Editorial Board had further discussions about potential development of the journal and those will continue into 2020. A big thank you to the Editorial Board and all Peer Reviews who continue to provide their support for the journal and, of course, to all the authors who choose to publish their work with us.

The CEE Centres continue to be the engines of our network and our monthly discussions generate many of the new ideas and innovations. In 2019 we were delighted to open our new Centre in Chile, our first in Latin America. The Centre is already well connected in the region and we look forward to the opportunities this will provide to raise awareness of CEE in South and Central America.

CEE continues to develop its interdisciplinary work with other evidence synthesis collaborations. In October, a team from CEE attended to What Works Global Summit and presented talks and workshops as well as having a CEE booth. This proved an effective way to raise awareness of the work of CEE within the evidence synthesis community and its supporters.

During the year we welcomed to the Board, Dr Henrik Smith from Sweden who has excellent experience from being on the Executive Committee of EviEM during its time as the CEE Centre. We also saw the departure of David Makowski and we thank him very much for his contribution to CEE.

As always, all of our progress is achieved through the amazing work and dedication of individuals and groups in the CEE Network, many of them volunteers. My personal thanks to all those who have contributed in 2019.

Andrew Pullin

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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.

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.

Jessica Taylor (CEE Communications Officer), Ruth Garside (Exeter University) and Neal Haddaway (Stockholm Environment Institute) at the CEE stand at the What Works Global Summit 2019 in Mexico City.

In 2019, 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), Facebook page, the production of the Annual Report, and overall, acting as a 'brand guardian' ensuring consistency across all internal and external communications. A priority for 2019 was to increase the capacity for CEE to be well represented at conferences around the world by establishing a set of promotional materials that can be used by CEE ambassadors. In October, CEE members attended the What Works Global Summit in Mexico City hosted by the Campbell Collaboration and represented CEE at our first ever exhibitor booth introducing many new people to the Collaboration, the Environmental Evidence Journal, and CEEDER.

CEE Centres in 2019

Australia

The Centre for Evidence-Informed Policy and Practice

The Australian arm of the CEE had a quiet but effective year in 2019. After many years of outstanding service, Rob Richards handed over the reins to Angus Webb so that Rob could concentrate on his development of an evidence-informed (of course) nature-based health centre in rural Victoria, Australia. Richard Fuller has also taken a decision to move away from CEIPP as his research has taken him in different directions.

Evidence-based methods continue to struggle to find a substantial place in the regulatory environment in Australia. Much of our effort and focus going forward is to better engage with national and state government agencies to convince them of the value of more thorough assessments of existing evidence as part of decision-making processes. If anybody has the foolproof method here, please tell us!

Australia

Specific Activities

- Angus Webb and Sue Nichols have continued their long-running collaboration with the Office of Research and Development, US Environment Protection Agency, primarily concentrating on evidence banking and increasing the efficiency of evidence synthesis methods.
- Carly Cook has been collaborating with Bill Sutherland (Cambridge University) and Jessica Walsh (Monash University) to develop teaching materials for evidence-based conservation. Carly has also been collaborating with Peter Braage (Monash University) on the topic of rapid evidence synthesis in human health sciences.
- Rob Richards and Angus Webb have separately embedded teaching of principles and methods of evidence synthesis into two different Masters courses.
- Centre members proposed, and were contributors to, a special session planned for the CEE Ottawa meeting, "Comparing rapid and systematic review methods for environmental evidence: benefits and limitations of different approaches".
- Angus Webb supervised two Masters students at the University of Melbourne, working in collaboration with the USEPA to investigate effects of sub-sampling on meta-analysis results and quality.

Members of the Centre for Evidence-Informed Policy and Practice. From left to right: Rob Richards (Evidentiary), Angus Webb (University of Melbourne), Carly Cook (Monash University), Richard Fuller (University of Queensland), Sue Nichols (University of Canberra)

Priorities for 2020

We are looking for expansion of activities and contributors in 2020

- Carly Cook (Monash University) has extended invitations to several colleagues to become involved in CEIPP activities and is actively recruiting PhD students
- Sue Nichols (University of Canberra) has been recruiting extra members within the Centre for Applied Water Science.
- Angus Webb has joined the steering committee for a USEPA workshop (now postponed but still hopeful for 2021) on Rapid Evidence Synthesis.

Canada

Canadian Centre for Evidence-Based Conservation

The Canadian Centre for Evidence-Based Conservation (CEBC) had another productive and collaborative year in 2019. Two of our main centre priorities were to complete a number of large, centre-led projects for our Canadian government agencies (a systematic review, a systematic map, and two other evidence syntheses), and to continue to make significant progress on a number of other centre-led systematic reviews/maps and projects with anticipated publication submissions in 2020. In 2019, we also started to take a more managerial role on three systematic maps, by training, guiding, and working with project leads from Canadian government agencies [e.g., Department of Fisheries and Ocean (DFO)] and research centres [e.g., The International Development Research Centre]. We also continued to collaborate and help support other ongoing systematic maps with CEE colleagues in Sweden and the UK. Furthermore, we secured four new contracts/grants extending into 2020/2021.

One of the centre highlights of 2019 was an invitation for three of our Canadian CEBC members to participate (and deliver presentations) in a national science peer review meeting for DFO. This meeting was apart of The Canadian Science Advisory Secretariat (CSAS) process which is the mechanism by which DFO provides peer-reviewed science advice to the department's decision makers. Two of our centre-led evidence syntheses formed the basis for the development of this science advice on the effectiveness of spawning habitat creation for fish. CEBC members also delivered a number of presentations/webinars on review specific topics and general presentations on the importance of evidence-based conservation and environmental management. In addition, members of the CEBC trained eight student/early career researchers in evidence synthesis activities, and mentored one undergraduate and two graduate level students involved with evidence syntheses for their honours/dissertation projects. We also continue to host the position of the CEE Communications Officer (Jessica Taylor).

We also acknowledge that a significant effort by CEBC members in 2019 went into preparing to host the 3rd International Conference of the CEE in Ottawa, Ontario, Canada June 1-5, 2020.

Members of the the Canadian CEE Centre: (left to right) Trina Rytwinski, Kent Prior (Parks Canada), Steven Cooke, Lisa Donaldson, Jessica Taylor

CANADIAN CENTRE FOR EVIDENCE-BASED CONSERVATION

Carleton UNIVERSITY

Canada

Priorities for 2020

Priorities for the Canadian Centre for 2020 include: (1) completing the systematic reviews/maps for two centre-led projects, two centre-managed projects, and two centre-supported projects currently on-going; (2) making significant progress on a centre-led systematic review started in 2019; (3) continue to explore additional broader funding and partnership opportunities to ensure long term stability and enable us to engage more fully in realizing evidence-based conservation in Canada and beyond; and (4) delivering workshop, presentations, and training opportunities for partners and undergraduate/graduate students to build further appreciation and understanding of the role of evidence-based conservation.

Staff and students of the the Canadian CEE Centre: (left to right) Christopher Andrews, Adrienne Smith, Trina Rytwinski, Lisa Kelly, Dirk Algera, Albana Berberi, and Jessica Taylor

Chile

CEE Chile

Since its inception during 2019, the Chilean CEE center – CEE Chile – has been hosted by the Millennium Nucleus Center for the Socioeconomic Impact of Environmental Policies (CESIEP) and the Center for Applied Ecology and Sustainability (CAPES) at Pontificia Universidad Católica de Chile. CEE Chile aims to provide high quality scientific evidence to inform environmentally relevant policies in Chile.

In 2019, CEE Chile was directed by Associate Professor Rodrigo Arriagada, with support from our coordinators Francisca Rodriguez and Francisca Boher. CESIEP seeks to understand, evaluate and measure the different socio-economic impacts associated with various environmentally relevant polices. During 2020-2021, CESIEP will promote even further the use of scientific evidence to the different stages of the policy formulation process, that is, to not only continue to produce high quality scientific evidence on the socio-economic impacts of the ERPs, but also to maximize its use throughout the policy cycle. Specifically, it seeks to produce scientific evidence that supports the processes of designing and evaluating environmental policies, recognizing that growing challenges in this area make it necessary to study the link between the natural environment and human well-being. CAPES main mission is to carry out applied research on environmental issues relevant to the sustainable development of Chile, in the international context of OECD (Organization for Economic Cooperation and Development) standards and international free trade agreements.

During 2019, CEE-Chile produced the Spanish version of the CEE Guidelines for Systematic Reviews and Evidence Synthesis in Environmental Management.

Collaboration for Environmental Evidence - Chile

Below, Left to right: Stefan Gelcich, Oscar Melo, Cristóbal Pizarro, Francisca Rodríguez, Francisca Reyes, Mayarí Castillo, Cristián Echeverría, Rodrigo Arriagada, Alejandra Engler, Marcela Díaz, Tomás Ibarra, Roberto Jara and Francisca Boher.

France

2019 has been largely busy with several on-going systematic reviews which were submitted to EEJ for publication either as final reviews (resistance to antibiotics) or protocols (vectorial diseases). The principles of systematic mapping were used to launch a review about biodiversity and architecture of cities. Support was provided to a European EKLIPSE expert's team in order to conduct a systematic review on mental health and blue/green spaces in cities, partially funded by WHO. Finally, the national Agency for Biodiversity (OFB) funded a project inspired by EKLIPSE's Method Group work to provide decision-making support in French regarding the choice of methods for knowledge synthesis. This work included a presentation of systematic reviews and maps and should be available mid-2020 at the Foundation for Research on Biodiversity. CEE France also participated to the first summer school launched by INRA, where more than 40 researchers benefited from hands-on training provided by Cochrane and CEE trainers in order to be able to conduct systematic reviews in agriculture, agronomy and all possible related fields. This school was highly appreciated and should be renewed in the future. Training was pursued, either in forms of free conferences allowing to introduce the methodology, or as courses for students delivered at the university. CEE France will have to develop a new developmental strategy to adapt to such context as well as the departure of its main focal point. Contacts should be taken to encourage the creation of affiliated centres.

South Africa

CEE Joburg

Since late 2016, the South African CEE Centre – CEE Joburg – has been hosted by the Africa Centre for Evidence (ACE) at the University of Johannesburg. The mandate of CEE Joburg is to contribute to the work of the global CEE by encouraging the producing and use of evidence synthesis to inform environmental policy and practice in Africa, and specifically South Africa. Since our establishment in 2012, we have collaborated widely to promote research synthesis for environmental decision-making in South Africa.

In 2019 CEE Joburg was co-directed by Professor Ruth Stewart and Dr Carina van Rooyen, with full-time support from Likhwa Ncube, ad hoc time from other ACE staff members, and two interns (on Queen Elizabeth Scholarships) from the McMaster University in Canada. Our main occupation in 2019 remained working on setting up the Responsive Evidence Synthesis Service (RESS). The RESS project maps all South African environmental research evidence in a policy-relevant evidence map to serve as an evidence base to support the co-production of demand-led rapid evidence syntheses with the South African national Department of Environment, Forestry and Fisheries (DEFF). We are collaborating with DEFF and the Gauteng Department of Agriculture and Rural Development (GDARD) on this map, and in 2019 received input for framing of the map from Gibb Environmental Services. Funding for this project is from the University Research Committee of UJ.

Other projects and activities we were/are involved in, include:

- CEE Joburg was contracted by DEFF to conduct the mid-term review of South Africa's National Biodiversity Research and Evidence Strategy (NBRES) 2015-2025. The NBRES emerged from the South African government's acknowledgement of the need for evidence-informed decision-making. It provides for a strategic approach to produce and manage the evidence base for biodiversity management and conservation policies and practices, and aims to enhance science-policy-practices interfaces.
- We supported Yamina Saheb from Openexp, a lead author for the Inter-governmental Panel on Climate Change, to produce a systematic map of the energy sufficiency measures in mitigation pathways aimed at meeting the Paris Climate target. This support was part of the collaboration between Neal Haddaway, our CEE colleague from Sweden, and Prof Jan Minx on capacity building of climate change researchers on systematic review methodologies.

South Africa

Projects and activities continued...

- Based on a letter of intent with GDARD regarding a range of evidence support activities, during 2019 we incorporated their environmental research register in the South African environmental evidence map, conducted searching support on sustainable drainage systems in urban contexts, and provided planning support for the First Gauteng Environment Research Symposium in November.
- For the national government Department of Planning, Monitoring and Evaluation (DPME) we conducted a scoping of models and tools for forecasting related to climate change in South Africa.
- We wrote two blog posts during 2019: one on 'Strengthening the use of research in environmental policy processes in South Africa', and the other on 'A Canadian health intern's experience of the environmental policy-science interface in South Africa'.
- Our co-director, Professor Ruth Stewart, serves on the CEE board of trustees, whilst Dr Carina van Rooyen is a member of the editorial board of the CEE journal Environmental Evidence.

Participants in our workshop at the South African Monitoring and Evaluation Association conference

- We also participated in the activities and events of others, to provide input and feedback. As in previous years we again in 2019 provided programme support to DEFF's hosting of the annual national Biodiversity and Evidence Indaba on 16-17 September in Pretoria. In the course of the year we attended meetings arranged by DEFF to provide input on documents, such as National Stakeholder Consultation meeting in preparation for the IPBES-7. We received an invitation from the United Nations Environmental Program for a brainstorming workshop on 'Ecosystem-based approaches to adaptation: Strengthening capacity for evidence informing policy for climate change adaptation action'. We attended the 'Citizen science for the common good' social innovation lab, arranged the Environmental Learning Research Centre (at Rhodes University), the South African Biodiversity Institute, and Future Earth. And we served on the reference groups for two national Water Research Commission projects.

South Africa

Plans for 2020

In 2020, CEE Joburg plans to be involved in the following:
(1) Respond to requests from DEFF for rapid evidence syntheses, drawing on the South African environmental evidence map as an evidence base.
(2) Provide strategic research support to GDARD.
(3) On behalf of DEFF, coordinate the process of revising the NBRES.
(4) Collaborate on a South African case for the Transformative Innovation Policy Initiative (TIPC). The TIPC is an international five-year programme coordinated by the Science Policy Research Unit at the University of Sussex in the UK. At the end of 2019 we agreed – with Sustainable Energy Africa and DPME as collaborators – to support DEFF's work on 'Strengthening multi-level governance capacities for evidence-informed climate action implementation in Steve Tshwete Local Municipality, Mpumalanga'.

Above: Our DEFF colleague, Mapula Tshangela, and CEE Joburg co-director, Carina van Rooyen, at the 2019 Gauteng Climate Change Symposium

Below: The CEE Joburg team at the First Gauteng Environmental Research Symposium

Below: Two of the 2019 interns from McMaster University, with our researcher Likhwa Ncube

Stockholm Environment Institute

We have had a successful and diverse year, with a variety of new funding sources and a continued large number of evidence synthesis research publications.

Funding

The Centre has been successful in obtaining a number of grants in 2019. Biljana Macura, together with SEI colleagues, secured funding from CEDIL for two systematic reviews focusing on 1) gender and social equality components in complex water, sanitation and hygiene (WASH) interventions, and 2) the effectiveness of climate-related aid. Biljana, with lead from Chalmers University of Technology, secured the funding from the Kamprad Family Foundation and Formas for evidence synthesis work on nutrient recycling and knowledge brokering in the wastewater sector. Neal Haddaway, together with a group of researchers from the Evidence Synthesis Hackathon (ESH) led by Martin Westgate, obtained funding from the R Consortium to continue ESH project called the 'metaverse', assembling evidence synthesis packages in 'R'; fellowship funding from the Humboldt Foundation for Neal to spend 18 months from 2020 to 2022 at the Mercator Research Institute on Global Commons and Climate Change in Berlin working with computer assistance and evidence synthesis.

Ongoing projects

We have a number of ongoing projects across the Centre, including: 3MK, a project to synthesise evidence from different knowledge systems relating to the impacts of metal mining in the Arctic; the Bonus Return project involving several systematic reviews and maps on the effectiveness of nutrient reuse in the Baltic Sea Region; and innovative tools for data analysis and evidence synthesis relevant to the IPCC. In this process, we are continuing with capacity building in evidence synthesis methods both within and outside of SEI though our multiple external project collaborations.

FORTE fellowship to Lebanon

Neal was awarded a fellowship from the Swedish healthcare funder FORTE to visit the Secretariat for the Global Evidence Synthesis Initiative at the American University of Beirut in 2019. The work focused on building capacity for the conduct of evidence syntheses across sectors in low- and middle- income countries. In practice, this involved providing training, analysing guidance materials, and assembling methodology papers to support systematic review and map conduct. The fellowship also helped to build and strengthen connections between the SEI CEE Centre and other organisations like Campbell and Cochrane.

Biljana Macura delivering a presentation at the International Congress for Conservation Biology in Malaysia 2019. Funding for Biljana's attendance at ICCB was provided in part by CEE.

Stockholm Environment Institute

Online training materials

As part of the FORTE fellowship with the American University of Beirut, Neal has produced a suite of online training courses in evidence synthesis focusing on in-depth review methodology, systematic mapping, and stakeholder engagement. The self-paced courses are provided as Open Educational materials (free-of-charge) and can be found here: https://synthesistraining.github.io. Through a consultancy agreement, we are providing advice to the policy analysis section of the Swedish research council FORMAS on the conduct of systematic reviews and maps in Swedish.

Evidence Synthesis Hackathon

The Evidence Synthesis Hackathon, first run in Stockholm in April 2018, has become a flagship for collaboration and technological development for our Centre. We have now run three physical events, with three further physical events in the pipeline, and a series of ongoing, remote hackathons continuing over 2019-2020. The 2019 hackathon was incredibly productive, resulting in one published commentary in Nature Ecology & Evolution, one manuscript under development, and 7 software tools in various stages of development; including EviAtlas.

Participants of the Evidence Synthesis Hackathon 2019 in Canberra in April

Neal Haddaway and Martin Westgate at the Evidence Synthesis Hackathon in Canberra in April 2019

Outlook for 2020

Although 2020 promises to be an interesting and challenging year, we will continue to work towards securing more funding for evidence synthesis projects and central Centre activities. We will continue to integrate rigorous evidence synthesis into the activities across SEI, and we are hopeful that we will have another equally successful year, despite the challenges that we all face.

SEI Stockholm Environment Institute

United Kingdom

CEE UK Centre has continued to host the Editorial Office for CEE's Journal, Environmental Evidence, as well as hosting the Editorial Team for the CEEDER Evidence Service. The latter went live to users in 2019 and is accessible through the CEE website. The Centre was awarded an Impact Acceleration Grant by the ESRC to initiate co-production of CEEDER with Natural Resources Wales as a user organisation.

Members of the Centre represent CEE on the Governing Boards of Evidence Synthesis International, and the Global Evidence Synthesis Initiative as well as Chairing the Advisory Group for the NERC-funded Environmental Evidence for the Future Programme.

We received grants to deliver CEE training to the UN's Green Climate Fund (S Korea & Germany) and the World Bank's Global Environment Facility (USA) during 2019 & 2020 (more details on the UK Centre blog https://ceeukcentre.home.blog/).

We ensured a CEE presence and delivered keynote and training on Qualitative Evidence Synthesis at "Using Qualitative Evidence to support decision making in the SDG-era: New Frontiers and Innovations" in Brazil in October 2019 and were also part of the CEE presence at the What Works Global Summit in Mexico City.

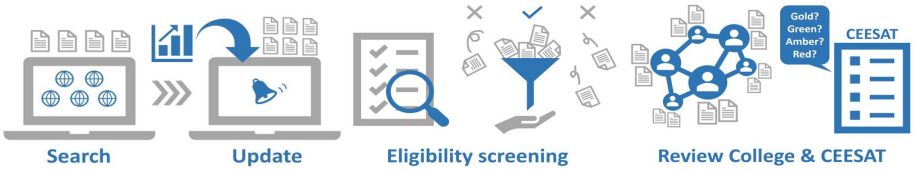
Ruth Garside is leading a Working Group developing joint Guidance on Qualitative Evidence Synthesis methods for Campbell and CEE.

Members of the UK CEE Centre: (left to right)
Andrew Pullin, Ruth Garside, Nicola Randall

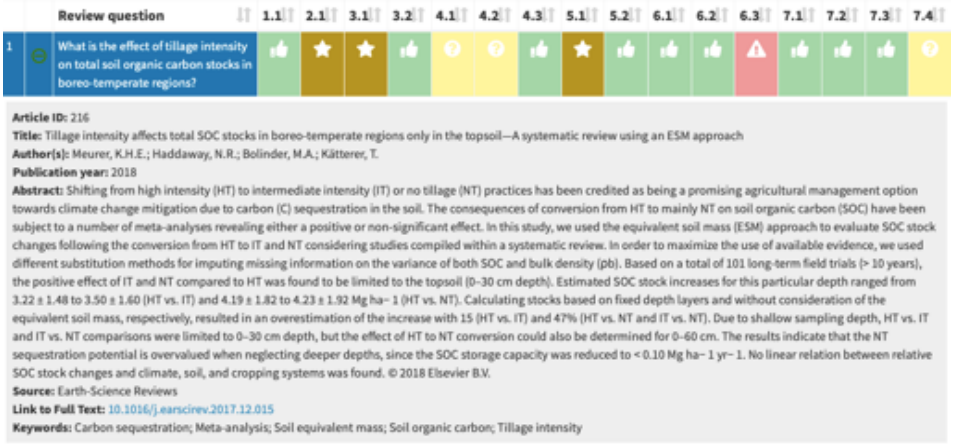
CEEDER

Open access evidence service

In 2019 the Collaboration for Environmental Evidence Database of Evidence Reviews (CEEDER) was officially launched on the CEE website. CEEDER is an evidence service enabling users to search for the most reliable evidence reviews (including literature reviews, meta-analyses, critical reviews, systematic reviews, rapid reviews) of relevance to their evidence needs. The service has been designed by the Collaboration for Environmental Evidence and co-produced by evidence synthesists and evidence users to provide rapid and reliable access to evidence that may inform decision making. The database is collated through a comprehensive and systematic search of commercially published journals and grey literature sources and covers the whole environmental sector. The service also provides a critical appraisal of each review's reliability based on the primary data available for the review and the conduct of the review itself using the CEE Synthesis Appraisal Tool (CEESAT).



In 2019 the CEEDER Review College was made up of 30-40 evidence synthesists from around the world, who volunteered their time to provided independent assessments on the over 300 reviews currently included in the CEEDER database. The database is updated quarterly and by early 2020 should include all eligible reviews published in 2018 and 2019.



Elements of each article are rated for reliability as GOLD, GREEN, AMBER, or RED using the CEE Synthesis Appraisal Tool

New CEE Centre

In 2019 the CEE welcomed it's seventh Centre, CEE Chile, hosted by the Millennium Nucleus Center for the Socioeconomic Impact of Environmental Policies (CESIEP) and the Center for Applied Ecology and Sustainability (CAPES) at Pontificia Universidad Católica de Chile. In the years leading up to becoming an official Centre, the team at CEE Chile have been hard at work advocating for evidence in Chile, leading initiatives and collaborating with existing CEE members.

Starting in 2017, a team composed by CESIEP and CAPES researchers, officials from the Division of Sustainable Development and Human Settlements of the United Nations Economic Commission for Latin America and the Caribbean CLAC, and with the support of CEE members Neal Haddaway and Jacqui Eales, carried out the "Environmental Knowledge Needs in Chile" initiative, aiming to define the knowledge gaps that Chile need to address in order to advance toward a more sustainable development. For the first time in Latin America, different sectors of society (scientists, decision makers, companies, science financiers and civil society) met to discuss the needs of environmental knowledge in Chile. This instance allowed innovating in a framework of democratic and participatory discussion that sought to diagnose and prioritize the needs for essential information to guide the country towards a more sustainable development. Starting with an open questionnaire where more than 100 people selected among researchers, government, NGOs, science funders, private companies and civil society linked to the environment had the opportunity to send their concerns in the form of a research question- on the main gaps in environmental knowledge in the country. Then, the initiative team categorized the 500 questions received, which were divided into twelve groups and ordered in five thematic axes. These questions were part of an online voting process, where the experts prioritized according to their relevance in the environmental context of the country and that pointed to the gaps in environmental knowledge. Finally, a final workshop was conducted that had the participation of actors from all sectors mentioned, where they chose the 55 priorities for Chile.

Collaboration for Environmental Evidence Chile

Stakeholder meeting to identify knowledge needs in Chile at United Nations Economic Commission for Latin America and the Caribbean (ECLAC) headquarter in Santiago, Chile

New CEE Centre

As derived outcomes form CEE-Chile stakeholder meeting, the following can be noted:

1. The faculty of medicine of the University of Chile replicated this methodology and launched a public consultation through which citizens can identify the scientific challenges in health that the country must address as a priority from the perspective of researchers, health professionals , civil society and those who implement public policies.
2. The SOFOFA factory development society, one of the main unions in the productive sector of our country, is using methodologies based on this initial experience to prioritize needs in the different areas of its concern.
3. The team that organized the Stakeholder meeting initiative is working on a manuscript draft to be sent to a scientific journal during the first semester of 2020.
4. Millennium Nucleus CESIEP developed the first Systematic Reviews workshop in Chile, to contribute to the elaboration of environmental policies based on scientific evidence. The workshop "Methodologies for Systematic Review and Mapping of Evidence", the first of its kind in Chile was led by Neal Haddaway and Jacqui Eales, aimed to disseminate these methodologies in Chile, in particular with academics, public sector and the Chilean Library of Congress. The main objective was to contribute to the creation of more efficient, effective and appropriate policies for the territory in which they will be applied, be it in the areas of environmental conservation, sustainable territorial development and others linked to environmental sciences. In Chile, the connection between science and public policies is incipient and through training in these methodologies, aimed to be a contribution to bringing science closer to decision-makers.
5. Vincula - The "Vincula" project seeks to contribute to the quality and legitimacy of public policies in general, and of laws in particular, generating a system of encounter and link between knowledge producers and decision makers through a platform open to citizens that facilitates the development of evidence-based public policies. Our objective is to develop an open platform that allows reducing the knowledge, participation and communication gap that exists between those who generate scientific knowledge and those who participate in the process of drafting a law.

   We seek that this platform strengthen the ties between the scientific communities (academics, scientists and experts) and politics (all who participate in decision-making processes associated with the generation of public policies), and promote transparency and access to both scientific knowledge and to its use in the legislative process, in order to strengthen the quality and legitimacy of public policies in general and of the law in particular.

We anticipate more great things to come from CEE Chile in the coming years and welcome them to our global networks of Centres.

CEE-Chile Director at ECLAC Headquarter in Santiago, Chile

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.

Featured Reviews

Bridging Indigenous and science-based knowledge in coastal and marine research, monitoring, and management in Canada

Steven M. Alexander, Jennifer F. Provencher, Dominique A. Henri, Jessica J. Taylor, Jed Immanuel Lloren, Lushani Nanayakkara, Jay T. Johnson & Steven J. Cooke. Environmental Evidence Volume 8, Article number: 36 (2019)

This study sought to examine the extent, range, and nature of published case studies (i.e., commercially published and grey) that seek to respectively bridge Indigenous and science-based knowledge in ecological research, monitoring, or natural resource management across Canada with a focus on coastal marine ecosystems.

The results of this systematic map provide key insights to inform and improve future research. First, a variety of methodologies and methods are used in these types of studies. Therefore, there is a need to consider in more detail how Indigenous and science-based knowledge systems can be respectively bridged across subjects while also recognizing specific place-based needs of Indigenous communities. Second, the work highlights the need to better report the demographics of knowledge holders. Further inquiry focused on the extent of knowledge co-production and assessing Indigenous participation across different stages of the research process would serve the research community well to improve future research and monitoring in support of, and to strengthen, evidence-based environmental management.

What is the available evidence for the range of applications of genome-editing as a new tool for plant trait modification and the potential occurrence of associated off-target effects: a systematic map

Dominik Modrzejewski, Frank Hartung, Thorben Sprink, Dörthe Krause, Christian Kohl & Ralf Wilhelm. Environmental Evidence volume 8, Article number: 27 (2019)

As genome-editing techniques are a promising tool to revolutionize plant breeding, they are of particular relevance to scientists, breeders, farmers but also to decision and policy makers with regards to the broader agricultural management and future challenges. Therefore, this review aimed to provide a comprehensive and transparent overview of the available evidence base concerning the effects of genome-editing in plants.

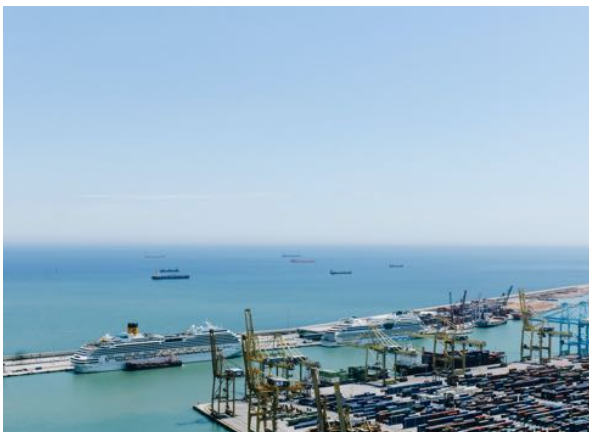
The rapid adoption in plant breeding was demonstrated by a considerable number of market oriented applications (crops and traits) described in publications worldwide. Studies investigating off-target effects are very heterogeneous in their structure and design. Therefore, an in-depth assessment regarding their weight of evidence is mandatory.

Featured Reviews

A systematic map of evidence on the contribution of forests to poverty alleviation

Samantha H. Cheng, Kavita MacLeod, Sofia Ahlroth, Stefanie Onder, Emilie Perge, Priya Shyamsundar, Pushpendra Rana, Ruth Garside, Patti Kristjanson, Madeleine C. McKinnon & Daniel C. Miller
Environmental Evidence volume 8, Article number: 3 (2019)

This study aims to examine the evidence on forest-based activities and poverty outcomes more broadly, in order to identify gaps in potential pathways and mechanisms across scales, by which forests can help the poor. In particular, this broader scope provides the opportunity to clarify what is known around the application of different approaches across different contexts, facilitating better understanding how to scale up.
The evidence base on forest-based productive activities and poverty alleviation is growing but displays a number of biases in the distribution of articles on key linkages. Priorities for future systematic reviews and evaluations include in-depth examinations into the impacts of rights-based activities (e.g. governance, empowerment) on poverty dimensions; and productivity-enhancing activities on social capital. More comprehensive and robust evidence is needed to better understand the synergies and trade-offs among the different objectives of forest conservation and management and variation in outcomes for different social groups in different social-ecological contexts.



Impact of structural habitat modifications in coastal temperate systems on fish recruitment: a systematic review

Biljana Macura, Pär Byström, Laura Airoldi, Britas Klemens Eriksson, Lars Rudstam & Josianne G. Støttrup. Environmental Evidence volume 8, Article number: 14 (2019)

The primary objective of this review was to collect and synthesise available evidence of impacts of small- and large-scale human-induced structural changes on fish recruitment in nursery and/or spawning grounds in shallow coastal or near-shore aquatic fish habitats in the temperate zone. This review revealed a very limited evidence base for how structural modifications and marine urban sprawl can affect fish recruitment. Thus, there is a substantial mismatch between stakeholder needs and research evidence. Further, the impact and ecological performance of artificial structures depend both on context and species. Clearly, there is a need for more research on the subject, especially on long-term consequences at larger spatial scales.

EEJ Supplement Issue

Using animal behavior in conservation management: a series of systematic reviews and maps

This special issue represents a collective push towards creating a sound and reliable evidence base for conservation behavior mechanisms and interventions. It covers topics that span a variety of conservation behavior applications, aimed at better understanding mechanisms to designing interventions; all of which have been flagged as research priorities for conservation behavior. From exploring interventions that attract animals via scent lures or acoustic playbacks, to mapping interventions that tap into learning to deter animals from human-conflict scenarios; the potential applications highlighted in this issue are diverse.

What evidence exists on the effectiveness of different types of olfactory lures as attractants for invasive mammalian predators? A systematic map protocol
Environmental Evidence 2019 8(Suppl 1):12

Effectiveness of animal conditioning interventions in reducing human–wildlife conflict: a systematic map protocol
Environmental Evidence 2019 8(Suppl 1):10

What is the available evidence that artificial light at night affects animal behaviour? A systematic map protocol
Environmental Evidence 2019 8(Suppl 1):7

Effect of anthropogenic light on bird movement, habitat selection, and distribution: a systematic map protocol
Environmental Evidence 2019 8(Suppl 1):13

What evidence exists on the effects of anthropogenic noise on acoustic communication in animals? A systematic map protocol
Environmental Evidence 2019 8(Suppl 1):18

Examining the efficacy of anti-predator training for increasing survival in conservation translocations: a systematic review protocol
Environmental Evidence 2019 8(Suppl 1):11

What is the effectiveness of using conspecific or heterospecific acoustic playbacks for the attraction of animals for wildlife management? A systematic review protocol
Environmental Evidence 2019 8(Suppl 1):20

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- 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.

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