Canadian Evaluation Society
Société canadienne d'évaluation

Dear CES Members,

I am pleased to share with you the CES Sustainability Working Group Stocktaking Report (2021).

Out of CES' strong belief in the importance of Environmental Sustainability, in 2018 CES created the Sustainability Working Group (SWG), which is responsible for improving the environmental sustainability of CES' activities and for suggesting ways to support sustainability-ready evaluation practices.

While delivering on its mandate, the SWG undertook a stocktaking exercise to identify the current practices around evaluating the impacts of programs on natural systems in Canada. The exercise considered the extent to which sustainability has been addressed in federal evaluations as well as by other levels of government and organisations in Canada.

The findings from the stocktaking exercise are eye-opening, as they show that environmental sustainability is considered to a very limited extent in Canadian evaluation studies. This clearly flags an opportunity for CES to advocate for the recognition of environmental sustainability in evaluation in Canada over the coming years.
On behalf of CES National Board, I would like to thank the CES Sustainability Working Group members: Andrealisa Belzer CE (Chair), Matt Jacques CE (SWG National Board Liaison), Andy Rowe, Benoit Gauthier FCES (2018-19) and Debbie DeLancey CE (2019-20) for the time and effort they put to make this report possible.

I would also like to acknowledge the generosity of Le Groupe-conseil baastel ltée, Goss Gilroy Inc., Prairie Research Associates Inc., and Universalia, who participated pro bono toward the development of this report.

Doaa Saddek, PhD
CES President

CANADIAN EVALUATION SOCIETY SUSTAINABILITY WORKING GROUP:

REPORT ON STOCKTAKING FOR SUSTAINABILITY-READY EVALUATION

Submitted to: CES National Council

December 2020

Summary

A motion was passed at the 2018 Canadian Evaluation Society Annual General Meeting in Calgary calling for CES to "…promptly strike a working group on establishing a sustainability-ready CES including but not limited to our convenings and meetings, our training, professional designations, our external contributions and submissions and developing partnerships and collaborations…" Shortly thereafter, the CES created a Sustainability Working Group (SWG) which was charged with improving the sustainability of CES activity and improving support for sustainability-ready evaluation practice. SWG members have included Andrealisa Belzer (Chair), Matt Jacques (SWG National Board Liaison), Andy Rowe, Benoit Gauthier (2018-19) and Debbie DeLancey (2019-20). The SWG refined this mandate to identify three streams of activity:

1. CES activity greening, starting with the 2019 and 2020 conferences

2. Stocktaking exercise to describe the current Canadian capacity and capacity building opportunities for the evaluation of the impact of programs on natural systems (sustainability-ready evaluation)

3. International networking and exchange to coordinate on defining and developing capacity for sustainability-ready evaluation

This report summarizes activities and findings related to the second stream – stocktaking of the readiness to address sustainability of evaluation in Canada.

The stocktaking considered the extent to which sustainability has been addressed in federal evaluations as well as by other governments and organisations in Canada and by Canadian evaluators working internationally; as well as assessing the intellectual infrastructure for evaluating sustainability in Canada and the U.S. Four Canadian evaluation firms undertook much of the substantive work of the stocktaking on a pro bono basis.[1]

The main message from the CES stocktaking is that sustainability and consideration of the natural system was largely missing from federal evaluations conducted 2016-18 with Global Affairs Canada being a notable exception. Further the intellectual infrastructure in Canada and the US for evaluation in the natural system is very limited.

The CES stocktaking is of widespread importance given the strong and long standing evaluation infrastructure in Canada: the CES is the elder national evaluation organisation amongst its global peers, membership per capita is highest relative to peer organisations, national training programs have been in place since the mid 1990s and the CES developed the first evaluator credentialing in 2009. The Canadian government enacted a government wide M&E system in 1977 and the National Evaluation Policy in 1994 and 2001 requiring all federal programs and initiatives of material importance (roughly greater than $5 million CDN) to be evaluated at least once every five years meaning, that all federal departments have a strong evaluation function. Supporting evaluation in their Departments and responding to evaluations is an important part of the performance criteria of federal senior managers; Provinces and Territories also have evaluation functions and requirements as do other levels of government such as municipalities, school boards and health agencies. The evaluation function and infrastructure in Canada is a global leader. In addition, Canada has signed most international climate and

[1] Baastel, Goss Gilroy, Prairie Research and Universalia

sustainability protocols and agreements and the elected government platform and positions have, since 2015, have accorded sustainability and climate a strong priority.

Given the relative strength of evaluation in Canada and wide acceptance of the importance of climate and sustainability it is reasonable to expect more positive observations than the sustainability stocktaking showed. The stocktaking had four elements:

- A review of all federal evaluations reporting in 2016-18 revealed only a very tiny portion addressing nexus[2] or sustainability. Global Affairs Canada was the leader associated with its responsibilities for international climate and sustainability agreements. Natural resource focused departments only evaluated human system effects – that is departments in the Canadian government whose mandates included natural resources only considered extraction of resources without much regard to sustainability.

- A review of Canadian philanthropic, non-governmental and First Nation evaluations did not identify much in the way of evaluations addressing nexus, though natural systems were addressed when this was the focus of funding. It was rare for evaluations from these sectors to consider both human and natural systems.

- An effort to consider whether Canadian based evaluators working internationally considered the natural system and nexus did identify international examples where this occurs.

- And perhaps most concerning, the intellectual infrastructure for nexus evaluation or even just evaluation of natural system effects is almost asymptotic to zero. That is, the natural system does not appear in peer reviewed evaluation literature in Canada or the US, conference presentations, grey literature and professional and university based training. For example, 4% of published papers in the four leading North American evaluation journals address natural system matters and only a few of these addressed nexus evaluations.

The findings are sobering, but also encouraging. They are sobering in that they confirm that the evaluation field has little or no presence and little existing capacity in contributing to sustainability, to the leading issue of the day. And encouraging because they clearly point to a growing recognition that sustainability is a top matter and an interest to address sustainability as a priority.

It is notable that the UN Evaluation Group (UNEG) has recently concluded a similar stocktaking with similar findings to the CES stocktaking. The UNEG report concluded *the over-arching need emerging from documentary analysis and survey responses of UNEG member Agencies is for a comprehensive document providing advice on how to evaluate the interactions among social and environmental considerations within the framework of UN activities in support the SDGs* (Todd, 2020, p. 6)[3]. What we observed with the CES stocktaking is reflected in evaluation globally.

[2] Nexus is where human and natural systems connect

[3] Todd, D. (2020). UNEG working group on integrating environmental and social impact into evaluations, Volume One Main Report. United Nations Evaluation Group.

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BACKGROUND

A motion was passed at the 2018 Canadian Evaluation Society Annual General Meeting in Calgary calling for CES to "…promptly strike a working group on establishing a sustainability-ready CES including but not limited to our convenings and meetings, our training, professional designations, our external contributions and submissions and developing partnerships and collaborations…" Shortly thereafter, the CES created a Sustainability Working Group (SWG) which was charged with improving the sustainability of CES activity and improving support for sustainability-ready evaluation practice. SWG members have included Andrealisa Belzer (Chair,), Matt Jacques (SWG National Board Liaison), Andy Rowe, Benoît Gauthier (2018-19) and Debbie DeLancey (2019-20). The SWG refined this mandate to identify three streams of activity:

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SCOPE AND PURPOSE OF THE STOCKTAKING EXERCISE

Sustainability ready evaluation envisions an evaluation profession that systematically incorporates sustainability into commissioning and undertaking evaluations, and that the intellectual infrastructure and enabling environment for evaluation is also ready. Sustainability-ready evaluation thus reaches to evaluation policy and guidance, professional development and education for evaluation, evaluation research, standards, and competencies. It recognises that sustainability is of the highest importance and that evaluation has the potential to contribute to improving sustainability efforts and that an evaluation function that does not address sustainability is unlikely to be regarded as relevant.

Incorporating sustainability into evaluation recognises that all human activity draws from and affects the natural system and involves consideration of the roles of both human and natural systems and focuses on the nexus of human and natural systems where are both systems are active, influential, and affected. As a result, including sustainability is not a requirement limited to evaluations of programs and activities focusing primarily on the natural system (e.g. environment or natural resources). It is a consideration for all evaluations, as practically all programs and activities involving the human system necessarily have an impact on the natural system that is currently too often ignored.

This stocktaking confirms that the evaluation function in Canada is strong on human systems but weak on natural systems and currently falls short of what is required to incorporate sustainability. And while there are many challenges, we are fortunate in having access to assets that can facilitate and expedite closing this gap.

Approach to the Stocktaking

The stocktaking exercise was designed to provide a foundation for CES to assess what is required to reach a point where evaluation in Canada can be considered ready to address sustainability. Some key elements of a sustainability-ready evaluation include addressing sustainability in the guiding principles and standards for evaluation, in competencies and certifications, and having the necessary intellectual infrastructure (guidance, training, methods) for evaluations to systematically consider both the human and natural systems and how they may interact and affect each other.

As a volunteer activity, it was recognized that this exercise would face some constraints, and so the working group established a goal of completing a "good enough" assessment of the status and trends in sustainability-ready evaluation in Canada to result in a product that could be used to provide advice and support to the CES Board (and other CES organizations) in mapping a way forward to advance the state of sustainability-ready evaluation; and to provide a starting point for opening communications and collaboration with other key interested partners in Canada and globally.

The stocktaking focused on evaluation of natural system interventions on the premise that the human system side of evaluation is already well advanced. The work was divided into four sub-themes:

- Inventory and assessment of the extent to which evaluations commissioned or conducted by the Government of Canada incorporate natural systems,
- Inventory and assessment of the extent to which evaluations commissioned or conducted by philanthropic and environmental non-government organizations (ENGOs) incorporate natural systems,
- Inventory and assessment of the extent to which Canadian evaluators working in international development incorporate natural systems into their work, and
- The state of the intellectual infrastructure for evaluation that considers both human and natural systems, and/or coupled systems – including publications, conference presentations, grey literature, and training and education opportunities.

METHOD AND APPROACH

Andy Rowe and Debbie DeLancey led the stocktaking on behalf of the SWG. Andy Rowe developed a Theory of Change to guide the work (attached as Annex 1). Once the parameters for the stocktaking were established, SWG members determined that a practitioner-based approach would be an effective way to pull together the information and approached Canadian evaluation firms with prior demonstrated interest and expertise in the subject matter to assist with the project. Volunteers associated with four major consulting firms in Canada agreed to review and create an inventory of recent evaluations that addressed sustainability; and to examine the current intellectual infrastructure available to support the capacity of the Canadian profession to conduct sustainability evaluation.

The firms and individuals who supported this work on a volunteer basis included:

- Assessment of Government of Canada evaluations:
  Baastel (Alain Lafontaine, Miek van Gaalen, and Melissa MacLean)

- Assessment of international development evaluations:
  Universalia (Eric Abitbol, Florence Allard-Buffoni, Anne Gabrielle Ducharme

- Assessment of ENGOs:
  Goss Gilroy (Leah Simpkins), with assistance from Andy Rowe and Debbie DeLancey

- Assessment of intellectual infrastructure:
  Prairie Research Associated (Francois Dumaine and Susanna Beaudin)

FINDINGS

CES set the stage for work in this area by updating the *Competencies for Canadian Evaluators* to include the following:

- Under the Reflective Practice domain:
  - 1.4 Considers the well-being of **human and natural** systems in evaluation practice.

- Under the Situational Practice domain:
  - 3.1 Examines and responds to the multiple **human and natural** contexts within which the program is embedded

In addition, the CES 2019-2024 Strategic Plan includes as a principle the following statement:

- We take a leader role in sustainability, building opportunities to align work in diverse sectors in support of sustainability, and incorporating increasingly sustainable practices as an organization.

These statements are evidence of the CES' commitment to promoting and advancing sustainability-ready evaluation as a core tenet of evaluation practise.

Government of Canada[4]

By way of background, at the time of the stocktaking (2019), there was no reference to "environmental sustainability" on the website or in most of the guidance documents that were provided on the website of the Government's Centre of Excellence of Evaluation (which guides evaluations of federal programmes and policies). One exception identified was in the section on the website called *"Supporting Effective Evaluations: A Guide to Developing Performance Measurement Strategie*s" which indicates that risks and issues to consider when establishing the scope and complexity of a Performance Measurement Strategy should include the following

[4] See Appendix 2 for a more detailed summary

- risks to the **health and safety of the public or the environment** (including both the degree and magnitude of the consequences that could result from the policy, program, or initiative's failure as well as the probability of risk materializing).

Methodology

A review was undertaken of Government of Canada evaluations during the period 2016-2018, taking into consideration 33 selected government departments deemed most likely to have undertaken activity in this area. 77 evaluations were identified as potentially relevant to the stock-taking. A first scan of evaluation report summaries was undertaken, based on simple search criteria including “sustainability”, “environmental sustainability”, and “impact on the environment”; followed by a more in-depth scan of evaluation reports that showed initial promise using a broader range of search terms. This second scan resulted in a list of 47 evaluation reports posted by 18 federal agencies with potential relevance that were subsequently included in the review.

Nature of evaluation activity

- **Sustainability** is not addressed in a systematic or standardized way in the evaluations that were reviewed. Other than the Federal Sustainability Strategy and Departmental Sustainability where these exist no guidance was identified as to how evaluators are to include this aspect in evaluations. There are very few evaluations that measured long-term impact, but several indicated there were limitations in that regard due to a lack of information or a limited period of review.

- Of all evaluations reviewed, only those undertaken for *Global Affairs Canada* addressed sustainability explicitly as a cross-cutting issue in both programming and evaluations.

- The *formative Evaluation of Canada’s Development Assistance on Extractive Sector and Sustainable Development* was the only case so far where environmental sustainability and the sustainability of the results of the program were addressed as separate issues. In this case, evaluation questions were designed to address issues of relevance, effectiveness (including cross-cutting themes of gender equality, governance, and environmental sustainability), the sustainability of results achieved and programming efficiency

- Several of the evaluations reviewed involved programs that were expected to contribute to “environmental sustainability” (e.g., “environmental sustainability of the sector”), however their impact on the natural systems was in most cases not assessed.

- Sustainability was addressed in varying types of exercises, not only limited to “impact evaluations” (which was the initial starting point of the SWG but of which only very few were found). Most evaluations reviewed addressed “relevance” and “performance” (effectiveness and cost), others were marked as “program reviews”. When found potentially relevant to SWG, these were included in the overview. For example, the *2017 Transport Canada - Horizontal review of the World Class Tanker Safety System* was designed as a review prior to an evaluation that was planned for 2018-2019, to ensure readiness for evaluation. The review noted the adjustment of some indicators, including environmental indicators to measure some of the immediate and longer-term outcomes throughout the program implementation.

In sum, based on the review of the evaluations, the SWG concludes that during the period under review, there has been no systematic review of environmental sustainability across the federal evaluations. One obstacle for measuring environmental impact was a lack of data for the measurement of such impact, as observed in some evaluations, a lack of technical capacity to measure such environmental impacts and/or the inability of the evaluation to measure impact, due to the limited time that had passed.

Current status of the profession to respond to this need

The scan yielded a list of six evaluation firms and a number of names of individuals who were engaged by federal departments to conduct the 47 evaluations that were identified as relevant.

Challenges and opportunities

There is no doubt that increased attention will be directed towards sustainability in both programming and evaluation. And there is an opportunity for CES to contribute to GoC thinking, guidance and direction on the approach to evaluating sustainability. The window for CES to contribute is likely narrow and it would be useful to prioritise a rapid scan and pursue engagement with those tasked with the responsibilities.

It should be noted that, **separate from the federal evaluation function**, the Office of the Auditor General, with the creation of the position of Commissioner of the Environment and Sustainable Development (CESD) in 1995, has increased responsibilities regarding environmental matters. "*The CESD is responsible for monitoring sustainable development strategies of federal departments, overseeing the environmental petitions process, and auditing the federal government's management of environmental and sustainable development issues*."[5] This was however outside of the scope of this review.

In addition, since the compilation of the evaluations by the SWG, **important recent developments** have emerged, that may require further study and monitoring by the CES/SWG. This includes the adoption of the *Impact Assessment Act in 2019*, which led to the establishment of the *Impact Assessment Agency*, a relatively new federal institution that is accountable to the Minister of the Environment and Climate Change. This Agency will lead federal reviews of all major resources projects, including impact assessment processes, to identify and assess the potential environmental, social and health impacts of policies, programs and services that are to be designed. In this regard, as recent as November 2020, the Agency has published a *Draft Guide on Federal Impact Assessments under the Impact Assessment Act*, which is now available online, as an evergreen document that will be updated constantly[6]. An example of such guidance includes the incorporation of GBA+ assessments, the extent to which a project contributes to sustainability, and the involvement of indigenous participation and engagement in impact assessments.

In view of the novelty of these important developments and the respective newly developed guidelines for practitioners, a review of the potential effect of these guidelines and their meaning for future federal evaluations may require continued monitoring and follow up from the SWG.

[5] For more details see: What We Do (oag-bvg.gc.ca) (Accessed on 3rd of December 2020)
[6] Practitioner's Guide to the Impact Assessment Act - Canada.ca

ENGO/Philanthropic Sector

Methodology

Initially, a list of more than 60 Canadian ENGOs and philanthropic organizations conducting work on environmental and natural systems issues was compiled, with a view to doing a scan of evaluation activities and then focusing on organizations that were deemed to be leaders in the field. After doing an initial in-depth look at 12 most promising of these organizations, it became clear that the level of evaluation activity – especially as it relates to impacts on natural systems or coupled systems – was extremely low and that further exploration of the remaining organizations on the list was not likely to yield useful results. This led to a shift in approach whereby a short list of leading experts in the field known to be applying evaluation to conservation interventions was compiled based on findings of the initial scan, personal knowledge of the SWG members, and advice from the initial experts that they reached out to. In-depth interviews were conducted with six of these informants that were judged or known to be most likely to be addressing human as well as natural systems. As such it cannot be taken as at all representative and is better viewed as close to the leading edge. A standard interview guide was used to guide the discussions.

Key findings are summarized below.

Nature of evaluation activity

Among the organizations there is a range of focus, methods, and approaches:

- Conservation International (CI) Moore Centre for Science[7] focuses on applying coupled human and natural systems concepts and using quasi-experimental methods to evaluate both ecological and social outcomes. This is a deviation from the approach of wider CI organisation where the focus is on technical assessments of conservation values and mainly qualitative assessments of internal processes such as the planning and implementation of programs. The Moore Centre seeks to understand both the social and natural systems impact of their work and utilise meta-analysis of program impacts. The flagship and innovative evaluative work from the Centre fuses coupled human and natural systems approaches with impact evaluation.[8]

- Coast Funds[9] is a First Nations managed entity established to promote sustainable ecosystems and communities of First Nations in the Great Bear Rainforest and Haida Gwaii. It is funded by an endowment from the Great Bear Rainforest, a massive and important conservation effort of a partnership of First Nations, environmental groups, the forest industry, and the Government of British Columbia. Coast Funds, First Nations and government and other partners developed an outcomes measurement methodology[10] that addresses learning and accountability focusing on community well-being, environmental conservation, economic prosperity, social empowerment and cultural vitality". The Coast Funds outcomes approach was developed from consultations with First Nations and donors and informed by recognised evaluation impact measurement sources and by values of interest to First Nations. Outcomes are reported individually and in aggregate at community, project, and broader

[7] https://www.conservation.org/about/Betty-and-Gordon-Moore-Center-for-Science
[8] https://nyaspubs.onlinelibrary.wiley.com/doi/full/10.1111/nyas.13428
[9] https://coastfunds.ca/
[10] https://coastfunds.ca/outcomes-methodology/

scales on a quarterly and annual basis. Additional monitoring by First Nations addresses their stewardship responsibilities. The overall approach might be described as *by us for us and you, enabled by governance and funding structure and the people servicing monitoring are the people we (Coast Funds) are working for.*

- National Fish and Wildlife Foundation (NFWF) has a well-established evaluation structure[11]. The primary focus is evaluating against the conservation goals of programs. They strongly promote use, and more recently are incorporating elements of the human system that are directly associated with conservation interventions. A recent focus is looking at the sustainability of outcomes achieved by their programming and assessing potential risks to that sustainability. They are particularly interested in identifying best conservation practices that have potential to be spread and scaled. Evaluations are usually led by biophysical sciences as part of a team that includes some evaluation capacity.

- Nature Conservancy of Canada designs its own metrics, combining hard science with considering the community and human impact of their work. Their preference seems to be towards conservation values and assessments conducted by biophysical science consultants.

There is a mix of improvement and accountability drivers for evaluations in this sector and there are instances where both human and natural systems are or are staring to be addressed.

Current capacity of the profession to respond to this need

An important portion of natural system evaluation appears to be led by people with natural science and/or conservation planning backgrounds, with one organization responding that they employ people with econometrics training. There may be more evaluators with natural science backgrounds, and/or firms who can bring combined subject matter expertise of natural science and evaluation, available to do this work in the US than in Canada – some respondents stated that the field has come a long way, while others identified a lack of available evaluators with the required skill sets. The Coast Funds monitoring framework, for example, was developed by natural scientists, Indigenous participants, and program staff, with no involvement by evaluation professionals. All those interviewed agreed that sustainability-ready evaluation requires a multi-disciplinary approach, employing both natural and social science expertise; and that the scope and nature of this type of evaluation makes it sufficiently complex that it requires a team.

Challenges and opportunities

Those interviewed agreed that there is a paucity of evaluations that address human and natural systems as coupled, and although the level of activity of evaluations looking at natural systems is increasing, it is still not widespread. This is due to a number of factors, among them the difficulty of quantifying impacts on natural systems, and the time frames for evaluation often required by funders or governing bodies which do not allow for adequate tracking of impacts on natural systems. Funder constraints and expectations limit evaluation timelines and make it difficult to get at the fundamental questions which need to be answered. One respondent indicated that, “What can be quantified shapes the evaluation,” noting that the time frame for evaluations doesn’t allow for true examination of the dynamic relationship between human and natural systems.

[11] https://www.nfwf.org/strategies-results

A lack of understanding on the part of funders about connection between human and natural systems can also be a constraint.

Attribution vs. contribution remains a challenge as there are so many factors that have an impact on natural system outcomes. Identifying a counterfactual is not easy.

Some respondents pointed to the emerging field of Indigenous evaluation as an opportunity, since it is grounded in values that acknowledge and honour the interconnectedness of human and natural systems. In Canada, the emerging area of Indigenous Protected Conservation Areas, and notably the recent work of the Indigenous Circle of Experts and Indigenous Guardian programs, may provide leadership and motivation.

One respondent felt that increased demand for sustainability-ready evaluation is already driving development of the field. Several suggested that it will be necessary to develop new models for undertaking this work and training a contingent of new evaluators with specialized skills to carry it out. All agree there needs to be a focus on building capacity in this field.

International Development Sector

Methodology

Universalia invited 60 evaluators to participate. 10 responded and participated by recording a short video where they answered the following questions:

- Who you are and what you do in the field of evaluation?
- How your evaluation work is situated at the nexus of human/social and ecological systems, with a focus on your work internationally.
- Providing narrative on approaches or methodologies that you are pursuing (and perhaps also of innovations in the field you are considering).
- What are some of the key opportunities and challenges of such sustainability-oriented evaluations, for Canadians working internationally, and more broadly.
- How you see the future of the field of sustainability-oriented evaluation in Canada and internationally, and what needs to happen/change/expand for the field to further develop.

The participants had all worked with international organizations. In both the private and non-profit sectors, and brought varied backgrounds to the evaluation work (engineering, political science, economics, biology, and project management).

Nature of evaluation activity

Some of the projects these evaluators worked on were directly related to environmental programming (e.g., clean energy, promotion of sustainability), while others focused on the ecological footprint of other types of programming.

Participants used a number of methods, both quantitative and qualitative, including surveys, fieldwork, document reviews. Those working in the non-profit sector placed a strong emphasis on the need for participatory methods, understanding local context and constraints, while those working with the private sector identified the need for better and more in-depth analysis of big data.

Current capacity of the profession to respond to this need

Evaluators working with the private sector particularly identified a need for better data management skills and statistics literacy among evaluators working in this arena, recognizing that evaluation of programs related to climate change and global phenomena require "macro perspectives". Due to the emerging nature of sustainability-ready evaluation, there are no set rules on how to approach these projects; and there is a need to continue to develop and adapt appropriate methods.

Challenges and opportunities

As others have noted, a key challenge is the relatively short time frames allowed for evaluation of programs and projects, relative to the long-term nature of mitigation and adaption efforts. Environmental degradation can take decades to unfold and mitigation or conservation efforts can require decades to have an impact.

Another challenge stems from transboundary geographical and political complexity – environmental issues are not circumscribed by state borders or affected by the activities of single jurisdictions. As well, there is complexity in evaluating multiple inter-connected systems.

The participants saw opportunity in the increasing interest in sustainability-ready evaluation, the increased investment in sustainability initiations, and increased interest in understanding the impacts of human activity on complex systems. There is also opportunity to break down sectoral silos and try new approaches.

Intellectual Infrastructure

Methodology

Given the potential scope of the work and the need to establish workable parameters, the SWG determined that the review of intellectual infrastructure would include the following:

- Relevant articles from a recent issue of the *New Directions for Evaluation* journal with the theme, "Evaluating Sustainability: Evaluative Support for Managing Processes in the Public Interest" (No. 162), including a scan of the reference list for each article

- Review of the four main evaluation journals (Canadian Journal of Program Evaluation, New Directions in Evaluation, American Journal of Evaluation, and Evaluation and Program Planning) for the period 2017-2019 for: (a) the number of evaluations on natural systems and (b) the number of evaluations that touched on sustainability

- Review the CES and AEA 2018 national conferences for (a) the number of topics that discussed natural systems and (b) the number of topics that touched on sustainability

- Conduct a Google Books search for the period of 2017-2019 for publications from three main publishers (Guilford Press, Sage Publications, Jossey-Bass)dealing with evaluation of natural systems and/or sustainability (search parameters used were 'evaluation'+[publishing house] + 'sustainability/environment/natural systems').

Inventory

Using the parameters above, a scan was conducted which revealed the following:

- As indicated in Table 1 below, only a small proportion of journal articles dealt with issues related to sustainability and the natural environment

- Two relevant recent books were identified and

- Out of 91 workshops, presentations, and plenaries at CES conferences during the identified time period, only four addressed sustainability or natural systems. It was not possible to conduct a similar scan of the 2018 AEA conference based on program information available on-line.

Table 1 : A small proportion of articles dealt with sustainability and the natural environment issues

Journal	Total number of articles, book reviews and program notes (2017-2019)	Number of articles dealing with natural systems	Number of articles dealing with sustainability	Number of articles dealing with sustainability of human and natural systems
Canadian Journal of Program Evaluation	68	0	3	0
New Directions for Evaluation	105	8	7	7
American Journal of Evaluation	117	0	0	0
Evaluation and Program Planning	360	0	2	0
Note: 3 of the NDE articles were in a single issue addressing sustainability				

Two directly relevant books were identified: Michael Quinn Patton's Blue Marble Evaluation: Premises and Principles (Guilford Press), and Future Challenges in Evaluating and Managing Sustainable Development in the Built Environment, edited by Peter S. Brandon, Patricia Lombardi and Geoffrey Q. Shen (Wiley Blackwell).

The inventory was not intended to be a literature review, but a high-level scan of key documents was completed, resulting in an assessment of their relevance and utility to the field, as summarized in Annex 3.

Findings

The results of the scan of intellectual infrastructure confirm that to date, little attention has been paid by the evaluation profession in Canada or the US to evaluation of natural systems and/or coupled human and natural systems, or evaluation of sustainability.

KEY OBSERVATIONS

The stocktaking exercise indicates conclusively that sustainability is not being systematically addressed by evaluators in either Canada or the United States. The focus of publications, grey literature, and the vast majority of evaluation projects continues to be on human systems, and even evaluations dealing with environmental or natural systems issues tend largely to focus upon operational and program processes (i.e., the human dimension of those programs).

With respect to the work that has been done in this field, it tends largely to be at a high level, most frequently dealing with arguments about the need for, and importance of, sustainability-ready evaluation. There is almost a complete dearth of literature dealing with approaches, methods, or best practices.

RECOMMENDATIONS FOR FURTHER ACTION BY CES

In the Anthropocene, biodiversity loss and climate change are posing a direct threat to human survival. More recently, the Covid-19 pandemic has dramatically illustrated the necessity of making linkages between the impacts of human activity on natural systems, and the implications for health and well-being. Capacity to contribute to rebalancing the relationship of human activity within natural systems must become a priority for evaluation if evaluation is to remain relevant in a 21st century context. Evaluation of natural systems, and of coupled human and natural systems, requires competencies that go beyond traditional approaches to project and policy evaluation.

As stated in a New Directions for Evaluation article, “A sustainability-ready evaluation will be transformative. It will be an evaluation that recognises that human and natural systems are coupled, and that current evaluation portfolios are now and will increasingly be affected by natural system forces including climate.” CES can become a leader in this transformation, and the results of the stocktaking exercise help to shape the actions that are required for effective leadership.

Two cross-cutting themes compliment member services in the CES strategic plan: diversity and equity and sustainability. By doing so CES is seeking to improve the contribution of evaluation to these absolutely critical issues and thereby increasing the relevance of evaluation.

There is a wide difference in the capacity and readiness of evaluation and broader communities to address these issues. Consequently, CES will need to adopt different approaches for the two issues. This report regards as belonging to CES the strategic decisions on how to proceed, the members of the SWG are fully committed to supporting this effort, as are we expect the individuals and firms undertaking the research on which this report rests. The SWG is however able to point to some key outcomes that the evaluation profession will need to address.

While the task might appear daunting, working in partnership with other bodies, organisations, and disciplines, and adopting an adaptive and learning approach will greatly enhance the feasibility and pace of this effort.

- At the top of the list of key outcomes, evaluations must be conducted with an active and explicit consideration of the connectivity between human and natural systems; absent of compelling evidence that the natural system does not contribute to or is not affected by the intervention, evaluations must address both systems.

- This will require that evaluations consider temporal and spatial scales appropriate for the systems involved and engage stakeholders from both systems.

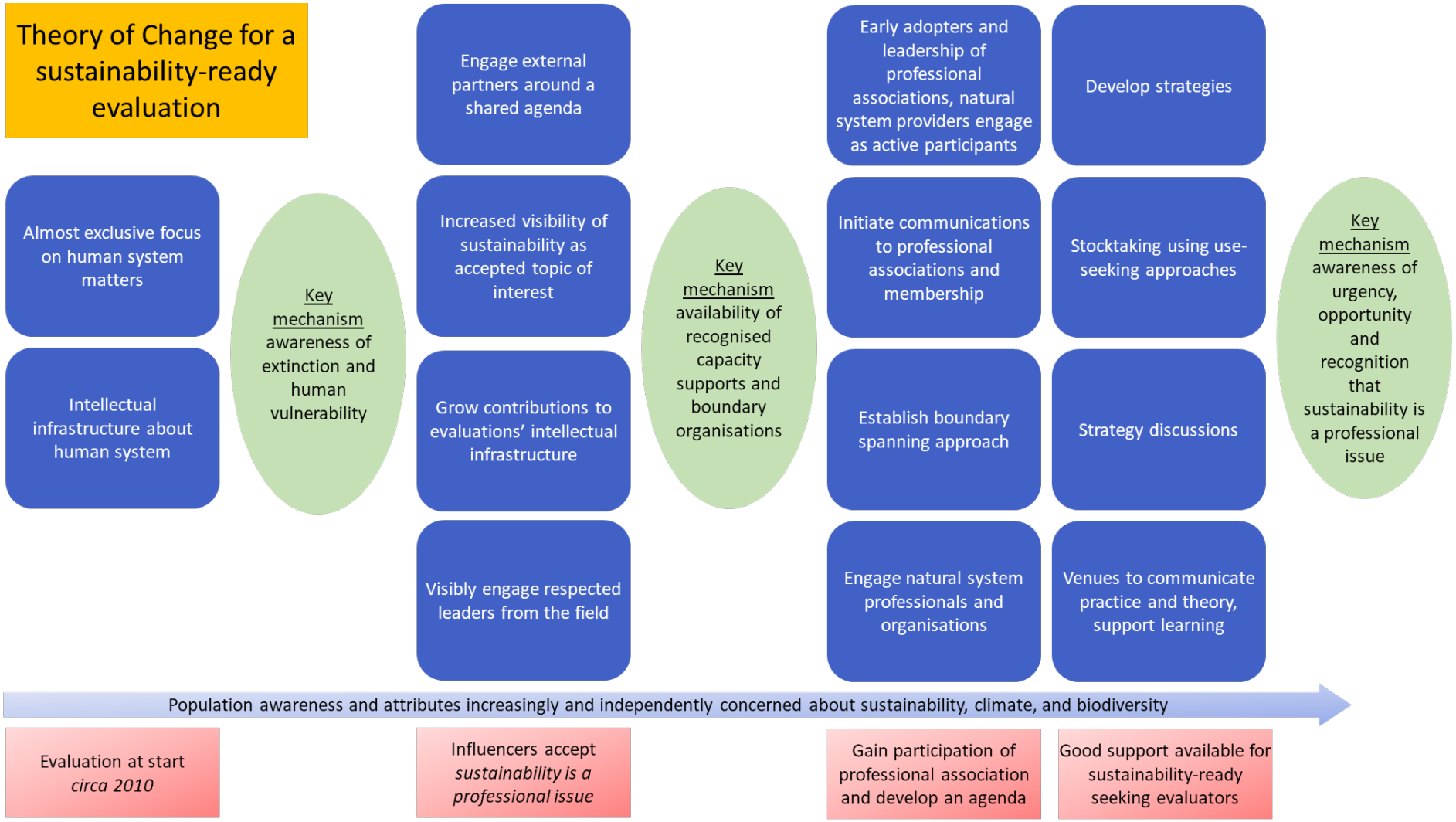
- Rapidly mainstreaming sustainability in evaluation goes well beyond the reach and capacity of CES and requires governments and other commissioning organisations to join the effort. It also goes beyond the reach of social sciences and requires knowledge and inputs from selected biophysical sciences.

- Those who conduct and commission evaluations and those who use evaluations will need support (e.g., support materials, training, communications, mentoring). Support and training materials will need to be developed and disseminated12 for evaluators to address sustainability and also for those outside evaluation who are involved in evaluative undertakings focusing on the natural system.

- CES will need to mobilise its resources to support this effort which is bound to be challenging given the pandemic and addressing diversity and equity. However, the sustainability challenge will not wait, partnering with other national evaluation associations and organisations already working in evaluation and sustainability might be an option for CES to consider.

[12] Fortunately, some important efforts are underway such as Blue Marble Evaluation https://bluemarbleeval.org/ and Footprint Evaluation (hosted by Better Evaluation) https://www.betterevaluation.org/en/themes/footprint_evaluation

Appendix 1: Theory of Change for Sustainability-Ready Evaluation



Appendix 2: Government of Canada evaluations considered in stocktaking

Government Department	Name of Department in Charge of Evaluation	Names of Companies / Individual Evaluators
Agriculture and Agri-Food Canada	Office of Evaluation of the AAFC (1)	
	Office of Audit and Evaluation* (2)	OAE - with support from Management consulting firm **Ference and Company**. (2)
Environment and Climate Change (ECCC)	ECCC Audit and Evaluation Branch (1)	
	Evaluation Division of the ECCC Audit and Evaluation Branch (1)	
	Horizontal Evaluation Steering Committee (1)	
	UTC Evaluation 2016	Evaluation Project Team included Cairine Chisamore, Lindsay Comeau, William Blois, Lindsey Derrington, Kevin Marple, Michael Callahan and R.A. Malatest and Associates
	Great Lakes Program Evaluation (2017)	Michael Callahan, under direction of William Blois, and included Lindsey Comeau, Kevin Marple, Lindsey Derrington, Sarah Flesher and Jessica Robinson. In addition, Gavin Lemieux and Tyler Toso (planning) Evaluation was led by Michael Callahan under the direction of William Blois, and included Lindsay Comeau, Lindsey Derrington, Kevin Marple and Goss Gilroy, Inc. (GGI)
	Sustainability Reporting and Indicators Program Evaluation (2016)	The Evaluation Project Team was led by Susan Wharton, under the direction of William Blois,

Government Department	Name of Department in Charge of Evaluation	Names of Companies / Individual Evaluators
		and included Kevin Marple, Lindsey Derrington, Katherine O'Connor, and Science-Metrix Inc.
	Lake Winnipeg Basin Initiative Evaluation (2016). Evaluation and Audit Branch.	The Evaluation Project Team include Susan Wharton, Lindsay Comeau and Goss Gilroy, Inc. (GGI)
	Evaluation of the Water Quality an Aquatic Ecosystems Health Program (2016) ECCC Audit and Evaluation branch.	ECCC Audit and Evaluation branch. Evaluation Project Team included Nicole Michaud, Susan Wharton, William Blois, Lindsey Derrington, Kevin Marple and Alison Kerry.
Fisheries and Oceans	Evaluation Directorate (3)	
Global Affairs Canada	2018 Evaluation of Honduras Country Programme 2010-22 to 2016-17	International Assistance Evaluation Division (PRA), assisted by an external consultant.
	Evaluation of Vietnam Country Program (2009-10-2016-17)	International Assistance Evaluation Division (PRA), assisted by an external consultant in Vietnam.
	2017 Formative Evaluation of Canada's Development Assistance on Extractive and Sustainable Development FY 2010-11 to FY 2016-27.	Project Services international and PLAN:NET Limited. The reporting for this evaluation was done by Dianne Lepa and Amanda DeSadeleer from PRA. PRA provided oversight and management throughout the evaluation process.
Health Canada	Office of Audit and Evaluation Health Canada and the Public Health Agency of Canada (2)	
Industry Canada	Audit and Evaluation Branch (2)	
Natural Resources Canada	Evaluation team was managed by Olive Kamanyana, with support from Amélie Veillette, Barthelemy Pierrelus and	Evaluation Services were provided by **Goss Gilroy Inc. (GGI)**

Government Department	Name of Department in Charge of Evaluation	Names of Companies / Individual Evaluators
	Edmund Wolfe, Jennifer Hollington, Glenn Hargrove, Mark Pearson, Gavin Lemieux, and William Blois (Senior Management oversight).	
Transport Canada	Asia Pacific Gateway and Corridor Initiative Evaluation (2017): **Evaluation and Advisory Services** (1) *Horizontal Implementation Review of World Class Tanker Initiative* (2017): Evaluation and Advisory Services in collaboration with the three partner departments involved in the WCTSS initiative: Department of Fisheries and Oceans (DFO), Environment and Climate Change Canada (ECCC) and Natural Resources Canada (NRCan). 2016 Motor Vehicle Test Centre Evaluation; 2017 Evaluation of Transportation Centre's Rail research and Development: **Evaluation and Advisory Services Transport Canada.**	
Aboriginal Affairs and Northern Development	Evaluation, Performance Measurement Review Branch, Audit and Evaluation Sector (2) Evaluation Performance Measurement, and Review Branch (1)	
Parks Canada	*Evaluation of the Clean Air Agenda Adaptation Theme* (2018) Full report is not available, only a summary. No mention of agency in charge of evaluation (1) Evaluation of Townsite Management Sub program. **Office of Internal Audit and Evaluation.**	
Atlantic Canada Opportunities Agency (ACOA)	Evaluation Unit Evaluation and Risk Directorate Atlantic Canada Opportunities Agency	

Government Department	Name of Department in Charge of Evaluation	Names of Companies / Individual Evaluators
Infrastructure Canada	Evaluation Directorate together with the Environmental Initiatives Group of the P&C Branch *2015 Evaluation of the Gas Tax Fund,* evaluation department or agency unknown.	
Canadian Northern Development Agency	2016 Evaluation of the Northern Projects Management Office Initiative 2009/2010 to 2015/2016.	R.A. Malatest & Associates Ltd.
International Development Research Centre	External Review of the IDRC Climate Change and Water Program, Final Report (2015) Agriculture and Environment External Program Reviews: Climate Change and Water (CCW) and Ecosystems and Human Health (Ecohealth) 2014	Larry Harrington, Cecilia Tortajada and Stephen Tyler. With Research Assistance from Rebecca McMillan and Stephanie Tissot The CCW review (pp. 1-4) was conducted by Cecilia Tortajada, Larry Harrington, and Stephen Tyler. The Ecohealth Review (pp. 5-8) was prepared by Rachel Nugent, Michael Bopp, and John Ehrenberg.
National Energy Board	Internal Evaluation Function at the NEB	

Appendix 3: Key publications identified through intellectual infrastructure stocktaking

TITLE	AUTHOR(S)	WEBPAGE OR JOURNAL NAME	RELEVANCE	LINK
A Sustainability Manifesto for Evaluation	• Matt Keene (US EPA) • George Julnes	Panel discussion during the 2014 AEA annual conference (Visionary		https://www.eval.org/e/in/eid=3&req=info&s=362

TITLE	AUTHOR(S)	WEBPAGE OR JOURNAL NAME	RELEVANCE	LINK
	• Baljit Wadhwa (GEF Evaluation Office) • Beverly Parsons (InSites) • Andy Rowe (ARC Economics) • Alejandro Ortega-Argueta (El Colegio de la Frontera Sur) • Claudia Romero	Evaluation for a Sustainable, Equitable Future)		
A Systematic Tool and Process for Sustainability Assessment	• Claude Villeneuve • David Tremblay • Olivier Riffon • Georges Y. Lanmafankpotin • Sylvie Bouchard	Sustainability 2017, 9	This article presents a tool developed over the last 25 years, to build a framework for sustainability assessment of policies, strategies, programs, and projects in light of Agenda 2030. The tool takes into account economic, social, ethical, environmental and governance dimensions.	https://www.mdpi.com/2071-1050/9/10/1909
Complexity of Coupled Human and Natural Systems	• Jianguo Liu • Thomas Dietz • Stephen R. Carpenter • Marina Alberti • Carl Folke • Emilio Moran • Alice N. Pell	Science (317)	Not about evaluation but can provide some tangible examples of what is meant by coupled human and natural systems to help practitioners better understand the concept.	https://science.sciencemag.org/content/317/5844/1513.abstract

TITLE	AUTHOR(S)	WEBPAGE OR JOURNAL NAME	RELEVANCE	LINK
	• Peter Deadman • Timothy Kratz • Jane Lubchenco • Elinor Ostrom • Zhiyun Ouyang • William Provencher • Charles L. Redman • Stephen H. Schneider • William W. Taylor			
Coupled Human and Natural Systems	• Jianguo Liu • Thomas Dietz • Stephen R. Carpenter • Carl Folke • Marina Alberti • Charles L. Redman • Stephen H. Schneider • Elinor Ostrom • Alice N. Pell • Jane Lubchenco • William W. Taylor • Zhiyun Ouyang • Peter Deadman • Timothy Kratz • William Provencher	AMBIO: A Journal of the Human Environment 36(8)	Not about evaluation but can provide some tangible examples of what is meant by coupled human and natural systems to help practitioners better understand the concept	https://www.canr.msu.edu/csis/archive/CHANS_Ambio_2007.pdf
Evaluating sustainability: Controversies, challenges, and opportunities	• Georges Julnes	New Directions for Evaluation (No. 162)	Good primer on evaluating sustainability and why it's important. This article helps make the case to CES	https://onlinelibrary.wiley.com/doi/abs/10.1002/ev.20361

TITLE	AUTHOR(S)	WEBPAGE OR JOURNAL NAME	RELEVANCE	LINK
			and the wider public about the importance of evaluating sustainability. Includes a useful working definition of sustainable development.	
Supporting Transitions to Sustainability: Evaluation for Managing Processes in the Public Interest	• Georges Julnes	New Directions for Evaluation (No. 162)	This article argues that standard evaluation is not well equipped to address the complex contexts where sustainability is evaluated. It provides recommendations on how evaluators can counter some of these problems.	https://onlinelibrary.wiley.com/doi/10.1002/ev.20366
Sustainability-ready Evaluation: A Call to Action	• Andy Rowe	New Directions for Evaluation (No. 162)	Makes the case about the importance of evaluating sustainability and illustrating the fields it touches on. Contains a helpful 10-step list for developing a sustainability-ready checklist, as well as an outline of the current state of intellectual infrastructure in this regard.	https://www.researchgate.net/publication/333616139_Sustainability-Ready_Evaluation_A_Call_to_Action

TITLE	AUTHOR(S)	WEBPAGE OR JOURNAL NAME	RELEVANCE	LINK
Transformation to Global Sustainability: Implications for Evaluation and Evaluators	• Michael Quinn Patton	New Directions for Evaluation (No. 162)	This article makes a convincing argument that autonomous and isolated projects and programs (and their evaluations) do not lead to major systems change or global transformation, providing a useful frame for where the profession needs to go.	https://onlinelibrary.wiley.com/doi/abs/10.1002/ev.20362
The GEF Evaluation Policy 2019	Independent Evaluation Office of the Global Environment Facility	Independent Office of the Global Evaluation Facility publication.	This policy document outlines how sustainability fits in as the fourth primary criterion in evaluation (along with relevance, efficiency, and economy).	http://www.gefieo.org/sites/default/files/ieo/evaluations/files/gef-me-policy-2019.pdf
Sustainability Assessment and Management: Process, Tools and Indicators.	Contributors: • National Research Council • Policy and Global Affairs • Science and Technology for Sustainability Program • Committee on Incorporating Sustainability in the U.S. Environmental Protection Agency	In: Sustainability and the US EPA (2011).	Contains tangible information on the application of sustainability assessment tools, such as the risk assessment, life-cycle assessment, benefit-cost analysis, ecosystem services valuation, integrated assessment model, sustainability impact assessment, and environmental justice tools.	https://www.nap.edu/read/13152/chapter/6#61