

U.S. National Advisory Committee
*Independent Federal Advisors on the
North American Agreement on Environmental Cooperation*

December 3, 2014

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The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator McCarthy:

The National Advisory Committee (NAC) to the U.S. Representative to the North American Commission for Environmental Cooperation (CEC) held its forty-third meeting by teleconference on October 23, 2014. NAC members wish to communicate our appreciation for your commitment to advancing the mission and strategies of the CEC and the opportunity to provide our advice on these important issues.

The NAC wishes to express our thanks to the EPA team for their organization and support of our work. Jane Nishida, Acting Assistant Administrator, Office of International and Tribal Affairs (OITA), provided an orientation on the charge questions, especially our recommendations on the upcoming CEC Annual Operating Plan and 2015-2020 Strategic Plan. Ms. JoAnn Chase, Director, American Indian Environmental Office, OITA described the EPA's participation on U.S. priorities, including Traditional Ecological Knowledge (TEK). We also thank Sylvia Correa, Senior Advisor for North American Affairs in OITA for providing an orientation on the CEC process and setting a context for our work.

The NAC wishes to thank Director Denise Benjamin-Sirmons, Office of Diversity, Advisory Committee Management and Outreach (ODACMO), Associate Director Mark Joyce, NAC/GAC Designated Federal Officer Oscar Carrillo, Stephanie McCoy, and the entire ODACMO team for their outstanding support.

We appreciated the presentation by CEC Executive Director Irasema Coronado on progress made toward implementing the Council's strategic priorities approved at the Yellowknife meeting in July 2014, status report on the CEC, and proposed performance framework.

We also thank JPAC Chair Bob Varney for his comments on the 2014 Council meeting, especially TEK issues, and the upcoming JPAC session in November that will focus on blue carbon and the impacts of climate change on North American coastal regions.

Thank you for your consideration of the attached responses by the NAC to the Charge Questions regarding the CEC Operational Plan, Traditional Ecological Knowledge, and the CEC Performance Indicators. We hope our advice is useful to you in your capacity as a Party to the North American Agreement on Environmental Cooperation and look forward to your response.

Cordially,



Brian L. Houseal, Chair
U.S. National Advisory Committee

Attachment: National EPA - Tribal Science Council on TEK Integration

cc: Jane Nishida
Acting Assistant Administrator, Office of International and Tribal Affairs, EPA

Denise Benjamin-Sirmons
Director, Office of Diversity, Advisory Committee Management & Outreach, EPA

Oscar Carrillo
Designated Federal Officer for the NAC and GAC, ODACMO, EPA

Sylvia Correa
Senior Advisor for North American Affairs, OITA, EPA

Bob Varney
Chair, Joint Public Advisory Committee

Irasema Coronado, Ph.D.
Executive Director, CEC

Members of the U.S. National and Governmental Advisory Committees

National Advisory Committee
To the U.S. Representative to the
Commission for Environmental Cooperation

Advice 2014-4 (December 3, 2014): CEC Operational Plan

The members of the NAC applaud the Environmental Ministers' announcement during the 2014 Annual CEC Council Session in Canada that they will focus on three priority areas for the CEC 2015-2020 Strategic Plan:

- Climate Change – Mitigation & Adaptation, Short-lived Climate Pollutants, Blue Carbon;
- Green Growth – Transportation, Clean Energy, Sustainable Production & Consumption;
- Sustainable Communities and Ecosystems – Priority Species and Ecosystems, Landscapes and Seascapes, Sustainable Communities and Urban Initiatives.

We also commend the inclusion of cooperative initiatives that will be guided by three cross cutting themes:

- Learning from and assisting vulnerable groups and indigenous communities;
- Enhancing the alignment of environmental regulatory standards, enforcement, and compliance; and,
- Enhancing information, transparency, capacity building and communication

In particular, the NAC appreciates that the Ministers highlighted the valuable contribution that local and indigenous communities can provide to the environmental management activities of the CEC. The NAC strongly supports efforts that focus on preserving traditional ecological knowledge (TEK) and practices of communities that contribute to addressing the effects of climate change, conservation and sustainable use of natural resources and biological diversity.

The NAC's responses to the Charge Questions below takes into consideration the Council's 2015-2020 Strategic Priorities and Cross-cutting Themes for the CEC. We appreciate the opportunity to comment.

The NAC members commend the CEC for its efforts to integrate the Council's Strategic Priorities and Cross-cutting Themes into the new projects of the CEC Operational Plan. We recognize that the CEC 2014-2015 Operational Plan is being drafted at this time and we appreciate the EPA's leadership of the interagency process to develop project ideas for the new Operational Plan. Our advice is directed to the 'Summary of USG Proposals for CEC 2015-2016 Operational Plan.'

Although the 28 projects described by the USG Proposals may all be meritorious and demonstrate some degree of alignment with the CEC's strategic priorities and cross-cutting themes, we doubt that the CEC has the financial or human resources to adequately implement very many of them. We suggest several criteria be used to prioritize the list including, first and foremost, trilateral interest as well as the CEC mission, direct impact on the strategic priorities and ability to attract other governmental or private sector funds to implement the project.

Several of the projects appear to have a strong and direct strategic linkage with climate change. For example, **Project #1. "North America's Blue Carbon: Assessing the Role of Coastal Habitats in the Continent's Carbon Budget"** (Ariana Sutton-Grier and Lauren Wenzel, NOAA; Phil Colarusso and Clay Miller, EPA) builds on the initial CEC work accomplished

under the 2013-2014 Operational Plan. This is an opportunity to ensure that methodologies and protocols for measuring and monitoring are international, which will be essential in the long-term and so it seems appropriate for CEC to be a leading entity on this effort.

In a similar manner, several projects propose to continue and/or expand pollutant emissions inventories for GHG reduction, mitigation, trading etc. and it may be appropriate to either combine the projects or select the most relevant for current tri-lateral implementation and highest level of potential impact. These include the following proposed **Projects**:

#2. Pollutant Emissions Inventories for Climate Mitigation (Terry Keating, US EPA);

#8 Opportunities for North American Greenhouse Gas Trading (Marc Lemmond, EPA);

#9 Reducing North American Greenhouse Gas Emissions from Power Generation (Marc Lemmond, EPA);

#12 Reducing Emissions from shipping in North America (Angela Bandemehr, EPA);

#15 Enhancing North American enforcement of the IMO's maritime fuel sulfur limits (Brian Muehling, US EPA).

Project #7. Using Ecosystem Function and Tribal Ecological Knowledge together to Build Resilience and Adapt to Climate Change over North America (Daniel Heggem, Michael McDonald, John Lin, Robert Hall) offers what appears to be a strong example project of how to integrate TEK. It is focused on a novel approach to climate change resilience and will serve to collect TEK on an important topic. The NAC hopes it would also develop a model process available for other TEK efforts.

The NAC noted with interest **Project #21., Engaging Farmers and Other Landowners to Support Monarch Butterfly and Pollinator Conservation** (Donita Cotter, US Fish and Wildlife Service). This project addresses conservation of the single species on the CEC logo, a truly tri-national butterfly. While we applaud the recognition the endangered status of the Monarch and need to enhance its habitat, we are concerned that the major threat contributing to its decline is the use of new herbicides which eliminate the milkweed it depends on, and pesticides which affect many other pollinators in little understood ways. As the project suggests, it seems useful to initiate studies on how to plant compensatory milkweed, but that action alone cannot be effective fast enough. We commend the EPA for its recent regulatory efforts regarding pesticides and pollinators, and suggest that this project be revised to consider options for limiting current and/or more expansive use of the herbicide that led to the collapse of the milkweed so that the countries can assess and implement how to replace the lost milkweed in the same quantity in other landscapes. To be effective this would ultimately need to include a tri-national effort to enhance the conservation of this species.

The NAC recognizes that several of the USG proposed projects might be more appropriately incorporated into the CEC Performance Framework and used to monitor North American environmental quality as a result of implementing CEC's the Strategic Priorities. In particular, the following proposed Projects may provide useful mapping and monitoring tools to assess long-term conditions if they can be integrated with the CEC's on-going efforts:

#3. Interoperability & Maintenance of Information Systems (Bill Sonntag, US EPA);

#4. Air Quality Monitoring and Public Information (Phil Dickerson, US EPA);

#6. Local Environmental Observer Network (LEO) (Santina Gay, Region 10);

#10. Integrated Assessment Tools for Evaluating Climate Change Mitigation and Adaptation Options for North America (Dan Loughlin, Raj Bhandar, Rebecca Dodder, Carol Lenox, US EPA);

#22.Using the North American Invasive Species Network (NAISN) to maximize invasive species management (Peg Brady, NOAA); and,
#27.Enhancing Environmental Law Enforcement in North America (Debbie Kopsick and Susan Bromm, EPA)

The NAC notes the relative absence of USG proposed projects regarding ‘Urban Initiatives’, identified under the CEC Strategic Priority of Sustainable Communities and Ecosystems. Given the projected growth and impact of cities and their related demands for energy, water, water reuse, and other natural resources, we suggest that the EPA and CEC consider more so-called ‘green growth’ and ‘smart growth’ projects across the tri-national urban areas, especially where vulnerable populations are located.

The NAC has noted in previous Advice Letters that water and water reuse is an environment and trade issue that transcends individual watershed boundaries due to the increasing impacts of climate change. While we recognize the many bi-lateral watershed agreements among our three nations, we believe additional consideration should be placed on our precious water resources.

Recommendations:

(1) The NAC respectfully recommends that the EPA further prioritize and reduce the list of proposed USG projects based on criteria which reflect trilateral interest, the CEC mission, direct impact on the strategic priorities, and ability to attract other governmental or private sector funds to implement the project.

(2) Noting that the NAC’s response to this Charge Question, re: the CEC Operational Plan is incomplete due to the timing of the document’s preparation, we respectfully offer to provide comments on the final draft 2015 CEC Operational Plan at such time that the document be made available to us.

National Advisory Committee
To the U.S. Representative to the
Commission for Environmental Cooperation

Advice 2014-5 (December 3, 2014): Traditional Ecological Knowledge (TEK)

The NAC applauds the CEC Council, JPAC and the Secretariat for the outstanding focus on Traditional Ecological Knowledge (TEK) during the July 2014 Council meeting in Yellowknife, NWT, Canada. While the NAC understands the intent of the Charge Question, we do not believe it is possible, or in many cases, appropriate to "...comprehensively integrate TEK into all CEC projects..." either because the TEK won't exist in all cases or because the native holders of it may not be willing partners. As such we recommend that the CEC assess the availability of TEK for all projects.

We support the use of TEK in all CEC work that impacts North American indigenous communities and their natural resource base, as well as increased consultation with indigenous leaders and organizations to incorporate their rich and diverse place-based knowledge into environmental decision making. The NAC members noted several examples where so-called 'scientific methods' were augmented by indigenous knowledge that often spans millennia of tribal relationships with wildlife, water, air and other natural resources and is often passed to the next generations by oral tradition.

The NAC recognizes that not all indigenous groups would be willing to share their ancestral knowledge with others, and have sensitivities regarding government policies and regulation over their lands and resources. At the same time, there may be opportunities to incorporate TEK through local environmental observer networks, and to assist indigenous communities to document their knowledge within their own cultures so it will not be lost to the next generations.

The NAC suggests that the EPA and OITA recommend to the Council and CEC that a tri-national working group be assembled to develop a scope and framework for incorporating relevant TEK more effectively into the CEC Strategic Priorities and Annual Operational Plans. A significant body of international experts and literature already exist. In particular, the United Nations and International Union for the Conservation of Nature (IUCN) recognize that much of the remaining biological diversity on the planet is located on indigenous peoples' territory due to their long-term stewardship of the local ecosystems and native species. In addition, the EPA's Tribal Science Council's white paper (appended) "*Integration of Traditional Ecological Knowledge (TEK) in Environmental Science, Policy and Decision-Making*" (June 2011) offers an excellent proposed implementation strategy and potential measures of success that can be used to as input and guidance for the working group. As appropriate, many NAC members are willing and available to offer their own expertise to this important topic. The CEC may also consider the use of NAPECA grants to expand the use of TEK as part of the 2015-2020 Strategic Plan and Annual Operational Plans.

Recommendations:

- (1) The NAC respectfully recommends to the EPA that a Tri-national Working Group on Traditional Ecological Knowledge be formed to explore appropriate protocols and procedures to incorporate TEK into the CEC's 2015-2020 Strategic Plan and Annual Operational Plans.***

(2) The NAC respectfully recommends that the CEC make available NAPECA grant funds to encourage and strengthen the incorporation of TEK into North American programs and activities.

National Advisory Committee
To the U.S. Representative to the
Commission for Environmental Cooperation

Advice 2014-6 (December 3, 2014): CEC Performance Indicators

The NAC commends the CEC's integration of its mission and goals with the Strategic Priorities and Cross-cutting Themes for 2015-2020. In the past, the broadness of the CEC's Strategic Plan made it difficult to assess the CEC's accomplishments. We applaud the Council's efforts to refocus the CEC's strategy on the impacts of climate change across our shared terrestrial and marine ecosystems of North America.

In the past, both the NAC and GAC have underscored the need for metrics to assess the CEC's success in improving the implementation of the NAAEC, and to make the CEC as transparent and accountable as possible so that citizens can understand what the CEC is doing, why it is doing it, and the extent to which the CEC is achieving the hoped-for results. The '*CEC Framework for a Performance Measurement System*' (Secretariat Draft, 19 June 2014) is a good start for evaluating the effectiveness of CEC activities, strengthening the relevance and transparency of the organization, and measuring organizational capacity. We commend the development of the ten organizational-level performance measurements. However, we do not believe the CEC Framework goes far enough.

The NAC has the following comments regarding the Framework for a Performance Management System:

In general the NAC applauds the CEC's efforts to more clearly define the outputs and outcomes of the organization and align them with CEC's strategic objectives. The framework of defining metrics as outputs and outcomes is very helpful in understanding the scope of CEC activities and the range of their goals. However the selected outcomes, while reflecting the CEC's purposes, can in many cases be only marginally connected to the CEC's actual impacts, as per the CEC 2015-2020 Strategic Plan and Cross-cutting Themes. Furthermore, the NAC views the listed metrics (or at least #1- #8) as all "outcome" - based, with no "output" metrics included.

Of course it is difficult to measure the CEC's impact on outcomes; that is why it is important to focus more on "what" CEC does and "how" they do it, to help enable an assessment of their effectiveness by their stakeholders, including those internal to their structure (e.g., Council, JPAC, National Advisory Committees, etc.) The organizational performance metrics, numbers 9 and 10, measure "being on time" and "saving money", and while important, are not directly tied to the broad objectives of "...supporting cooperation among the NAFTA partners to address environmental issues of continental concern, including the environmental challenges and opportunities presented by continent-wide free trade."

The NAC suggests that the CEC better define and communicate "what" they do, and "how" they do it, so that they can more effectively measure and communicate performance. Environmental management programs of all sorts face this same challenge; even though an organization fully understands the broader goals (e.g., a healthy environment and more sustainable society while optimizing and conserving resources), measuring program effectiveness in accomplishing those goals can be a complex challenge, and even more so for the CEC on a tri-national scale.

The CEC has selected a strategy for implementing their objectives but how will it have a real and lasting impact? In the NAC's view, the CEC serves to influence governments' policies and actions: through informing the public on issues and trends from their unique perspective and resource base; supporting and engaging in research and shared learning to enhance overall capacity to manage selected objectives; and convening continental-scale fora to collaborate and develop solutions. The CEC might then break those broad objectives down into more detailed "whats" and "hows", with Key Performance Indicators for each objective. This effort may bring significant clarity to the CEC's work, especially when viewed by outside stakeholder groups and government units.

The following questions offer some examples of the specificity that the NAC is seeking in a performance framework:

- **Informing:** Is the information useful and actionable? Did it fulfill a need or help build awareness of one? How many citizens or groups used / benefited from of it? How can the quality of the information be evaluated? What can be determined about the effectiveness of the methodology used to inform?
- **Supporting and engaging in research:** Did the research help fulfill enhanced strategic capacity? Was it useful in supporting shared efforts? Did it broaden the public's awareness of strategic issues in a way that can be built on further? Was it effectively prioritized, given limited budget and capacity?
- **Convening:** Were the fora truly tri-national? Were they effective in accomplishing their purposes? Was participant collaboration well facilitated? Were solutions generated or enhanced through them? What criteria can help determine future success in convening?
- **Influence:** Did CEC's recommendations or other influential methods result in government actions? Did the actions effectively support their goals?

Interestingly, the Spent Lead Acid Battery case study seems to demonstrate the limits of the CEC's influence: an environmental problem has clearly been defined but so far no government actions have been taken on it, to our knowledge. Why is this? What can the CEC do to be more effective on this issue? The CEC should have the ability to ask why government actions weren't taken. The CEC's recommendations may be absolutely valid and appropriate, but the fault may lie with a government for not implementing it. Part of the CEC's function should be to shine a light when the governmental response isn't forthcoming.

Finally, the CEC is uniquely poised to assess the impacts of climate change, green growth and sustainable communities and ecosystems across North America. It has access to the scientific information, mapping and monitoring tools, governmental mandate under the NAAEC, and collaborative relationships at many levels to present a periodic and uniform assessment of the conditions and trends of our shared terrestrial and marine ecosystems, and the human communities which depend upon them for cultural and economic sustenance. The CEC has produced some excellent examples of this expertise, including: *'The North American Environmental Atlas'* *'The North American Mosaic; An Overview of Key Environmental Issues'* (CEC, June 2008) and *'Taking Stock; North American Pollutant Releases and Transfers'* (CEC, 2011.) The NAC believes that the CEC performance framework should also incorporate environmental baseline conditions and measures trends over the coming years to assess whether or not it has had an impact on the Strategic Priorities and Cross-cutting Themes from 2015-2020. A number of excellent references exist on measures and monitoring. One such resource is the Conservation Measures Partnership (<http://cmp-openstandards.org>) to which the U.S. Fish and Wildlife Service is a member, along with others, and for which the latest version is explicitly

requesting ideas on how to incorporate climate change into measures and monitoring frameworks.

Recommendations:

- 1) The NAC respectfully recommends that the CEC continue to refine the Performance Framework and identify Key Performance Indicators to measure the effectiveness of its outputs and outcomes, and which can be readily understood by the CEC's internal and external stakeholders.***
- 2) The NAC respectfully recommends that the CEC also incorporates environmental baseline conditions and measures trends over the coming years to assess whether or not it has had an impact on the Strategic Priorities and Cross-cutting Themes from 2015-2020.***

APPENDIX

National EPA – Tribal Science Council

June 2011

Integration of Traditional Ecological Knowledge (TEK) in Environmental Science, Policy and Decision-Making

Issue Statement

The traditional values and cultures of American Indian and Native Alaskan Villages (AI/NAV) nations are what make them distinct. The accumulated knowledge and understanding of AI/NAV's homelands, also called Traditional Ecological Knowledge (TEK), is their connection to the environment. The success of AI/NAV environmental programs evolves from their communities, traditional knowledge, and their economic and social dynamics. TEK could and should be an important force in shaping scientific research. TEK is currently not recognized as an important component of mainstream environmental decision making, subsequently inadequate resources are being allocated to inventory, protect and utilize this knowledge.

AI/NAV scientists need access to TEK and scientific resources and a process to ensure that procedures performed by their staff are culturally-appropriate, defensible and accurate. Additionally, developing core science competency and TEK programs in AI/NAV communities promotes self-sufficiency/determination (e.g., understanding data needs and developing data quality objectives).

Explanation of the Issue

Native people have been accumulating and valuing TEK for thousands of years. TEK can help confirm, support, or further define scientific research for the benefit of the environment and human health. Developing capacity and training for TEK is critical for tribal environmental decision and policy-making. Non-tribal members may need training in TEK for environmental decision making, but an important consideration in such training is the confidentiality and sensitivity of such information.

Through use of TEK, Tribes will have a better understanding of current and upcoming environmental impacts, such as global climate change. For example, native languages often capture the timing of flora/fauna cycles, which can be used as an ecological reference. In the Tuscarora language, the word for "dandelions" is the same for "sturgeon", indicating that dandelion blooms and sturgeon runs coincide with one another. Tribal cultural practices, (e.g., the use of medicinal herbs, sustenance gathering, and basket making), and threats to the resources upon which they depend, are intrinsically linked to TEK. The combination of TEK with mainstream scientific research will enable a comprehensive response to environmental impacts on traditional life-ways.

What do Tribes and Alaska Villages Specifically Need from EPA to Address the Issue?

- EPA should provide resources for the development of unique tribal policies to inventory protect and utilize TEK (e.g., AK Native Science Commission)
- EPA staff should be appropriately trained on TEK policies prior to initiating activities/projects with affected AI/NAV

- EPA should support opportunities for training collaboration between tribes and EPA (e.g., through IPAs/details)
- EPA should support the building of tribal capacity (both technically and financially) to implement TEK policies
- Recognize and support tribal language fluency and its association with TEK
- EPA should recognize that land claims/land rights within aboriginal territories are necessary to the protection of TEK
- Develop specific programs to protect traditional foods (through mapping and assessment) EPA should support the development and use of culturally-based environmental standards/regulations integrating TEK
- EPA should support tribes in publishing peer-reviewed TEK journal articles and reports

Proposed Implementation Strategy and Potential Measures of Success

Proposed implementation strategies are:

- Increase funding for tribal TEK (activities as stated above)
- Expand tribal eligibility to build and implement TEK activities under existing EPA programs (such as language fluency)
- Increase tribal ability to use EPA resources for both TEK and western science
- Coordinate with tribes to develop TEK sensitivity training for EPA personnel
- Develop accountability for tribal interests in aboriginal territories
- Have Tribes host student internships in which Tribal youth can bring their science/TEK training and education to bear on critical Tribal issues
- Develop an EPA web presence for TEK
- Develop science training and educational opportunities that incorporate TEK in cooperation with Tribes and provide online instruction to all levels of education
- Actively promote the importance of TEK in peer-reviewed literature through EPA representation on technical membership consortia

Potential measures of success are increased numbers of:

- TEK policies developed by AI/NAV
- Appropriate EPA representatives trained in TEK
- TEK-related presentations, research studies, and success stories shared at community, professional, academic, government, and inter-government meetings and conferences
- Funding available for AI/NAV TEK activities
- Tribes for which traditional foods are mapped, assessed and protected. TEK-related articles published in peer-reviewed literature
- Tribes, students, and agencies participating in TEK programs and internships
- EPA consultations that consider TEK with affected AI/NAV communities (as assessed through surveys, outreach, and feedback)