



**OFFICIAL MEETING OF THE
NATIONAL AND GOVERNMENTAL ADVISORY
COMMITTEES
(NAC/GAC)**

FINAL SUMMARY

November 16 – 17, 2016

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EPA Conference Room 1117A
1200 Constitution Avenue, NW
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and Via Adobe® Connect Teleconference

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Table of Contents

Call to Order and Introductions	3
Welcome and Overview of the Agenda	3
Update on U.S. Priorities and Guidance	3
Update on Tribal Issues.....	7
OARM Remarks	8
CEC Update on CEC Operational Plan (OP)	9
Public Comment Period	11
Update on Monarch Butterflies	11
Update on SEM and Status of Submissions	12
Joint Public Advisory Committee Report-Out	13
Marine Litter Update	14
Food Waste Update	16
Update on Traditional Ecological Knowledge (TEK) Recommendations.....	19
Summary and Next Steps Discussion/Other	19
Plenary: Joint Committee Meeting	20
Public Comment Period	20
Committees Meet Separately	
GAC Separate Meeting.....	21
NAC Separate Meeting.....	24
Committees Reconvene in Plenary Session	26
Action Items	27
Summary Certification	29
Appendix A: Meeting Participants	30
Appendix B: Meeting Agenda	34
Appendix C: Charge Questions for November 16–17, 2016 NAC/GAC Meeting	37

Wednesday, November 16, 2016

Call to Order and Introductions

Oscar Carrillo, National and Governmental Advisory Committees (NAC/GAC) Designated Federal Officer (DFO), Federal Advisory Committee Management Division (FACMD), U.S. Environmental Protection Agency (EPA or the Agency)

Mr. Oscar Carrillo, NAC/GAC DFO, FACMD, EPA, called the meeting to order and welcomed participants to the 47th meeting of the NAC and GAC committees. Mr. Carrillo expressed appreciation to Ms. Donna Vizian, Principal Deputy Assistant Administrator, Office of Administration and Resources Management (OARM), EPA; Ms. Jane Nishida, Acting Assistant Administrator, Office of International and Tribal Affairs (OITA), EPA; Ms. Monisha Harris, Director, FACMD; the OITA staff; the FACMD staff; and the NAC/GAC Chairs and members for their continued support. He remarked on the opportunity to share ideas with members of diverse backgrounds and expertise. Mr. Carrillo asked the meeting participants to introduce themselves. He then introduced Dr. Theresa Pardo (University of Albany, State University of New York), Chair of the NAC, and Mr. Jeffrey Wennberg (City of Rutland, Vermont), Chair of the GAC, to provide an overview of the agenda.

Welcome and Overview of the Agenda

Jeffrey Wennberg, Chair of the GAC

Theresa Pardo, Ph.D., Chair of the NAC

Mr. Wennberg thanked the members for attending; most of whom he noted were new to the NAC/GAC. The orientation session conducted on November 15, 2016, introduced new members to the procedures of the committees. Mr. Wennberg commented on the full agenda and the Chairs' responsibilities in presiding over the meeting. He remarked on the unique privilege and opportunity of the committees to provide the U.S. government advice that affects its interactions with the Canadian and Mexican governments to address issues of continental consequence to the North American environment. Mr. Wennberg expressed appreciation to EPA and the FACMD staff for their continued support of the meeting. As the committees collectively offer advice, the diverse background and expertise of each member provide more strength to that advice.

Dr. Pardo welcomed and thanked the committee members for attending the meeting. She expressed enthusiasm for the opportunity to serve as chair of the NAC and pointed out the seriousness and the importance of the advice the committees will provide to EPA. Dr. Pardo encouraged new members to engage in the conversations and seek better understanding of the social, scientific and process issues and how they align with the broader cycle of providing advice.

Update on U.S. Priorities and Guidance

Jane Nishida, Acting Assistant Administrator, OITA, EPA

Ms. Nishida thanked the NAC/GAC Chairs for their leadership and welcomed members, new FACMD Director, Ms. Harris, and other participants to the meeting. She expressed appreciation to the new and continuing members for their service in providing advisory input to EPA and extended her appreciation to the FACMD and OITA staff for their contributions to the NAC/GAC meetings. She noted the vast representation from tribal and state governments, nongovernmental organizations (NGOs), academia, industry, and now the youth that the committees have, which reflects the diversity of the United States.

Ms. Nishida reminded members that the NAC/GAC were authorized, in the North American Agreement of Environmental Cooperation (NAAEC) as part of the North American Free Trade Agreement (NAFTA), to provide advice on policy issues of the trilateral cooperation with Canada and Mexico. She

provided an overview of the U.S. priorities and guidance that included a report of the accomplishments of the 2016 Commission for Environmental Cooperation (CEC) Council Session in Mérida, Yucatán, Mexico; a summary of the CEC Council priorities as outlined in the Ministerial Statement; an update on strategic objectives for Canada's chairmanship of the CEC for 2017; and review of the advice letter charge to the NAC/GAC. The CEC Council comprises the Canadian Minister of Environment and Climate Change Catherine McKenna, Mexican Secretary of Environment and Natural Resources Rafael Pacchiano Alamán, and EPA Administrator Gina McCarthy.

Members were informed that the September 2016 Council Session had in its backdrop two major global events that helped to frame the priorities of the CEC: the 2015 Paris Agreement under the United Nations Framework Convention on Climate Change and the 2016 North American Leaders Summit. For this Council Session, the three Environmental Ministers demonstrated their strong commitment and major personal involvement by providing a first draft of the Ministerial Statement. She noted the achievements of the NAC/GAC in providing advice that is reflected in this and prior statements.

Ms. Nishida described the actions by which the 2016 Ministerial Statement reflected on the three thematic areas of the CEC's Strategic Plan: climate change, green growth, and sustainable communities and ecosystems. Recognizing the prior agreements and commitments on climate change, the CEC Council Ministers reiterated their commitment to clean and sustainable growth and supported strong and effective actions to address climate change. In so doing, the Council Ministers recognized the need to reduce short-lived climate pollutants (e.g., methane, hydrofluorocarbons and low-sulfur fuels) for which further cooperation would be necessary. These commitments can be solidified through strengthening cooperation and implementing concrete projects under the CEC Strategic and Operational Plans. Noting that the NAAEC was the first agreement to link trade and environmental protection, the Council Ministers steadily ensure that the CEC remains a forum for bringing together economic and environmental issues associated with the movement of goods and services—championing green growth. It is imperative that trade and environment linkages be highlighted in the CEC Strategic and Operational Plans. Regarding sustainable communities and ecosystems, the Joint Public Advisory Committee (JPAC) invited experts and the public to discuss biodiversity and climate change, their forum for this session. The Council Ministers emphasized economic value and stressed highlighting the relationship between ecosystems, job creation, gender impacts and income generation. Marine litter and food waste were offered as areas that affect ecosystems and communities; these topics have been identified as future areas of work for the CEC.

The 2016 Council Session convened its first town hall meeting that focused on youth engagement and included youth representatives who attended in person and in virtual hubs in Canada, Mexico and the United States. Ms. Nishida acknowledged Justin Robert McCartney, a Georgetown University undergraduate student who has been appointed to a 2-year term on the NAC. The youth representatives drafted a resolution which they presented to the Council Ministers that detailed their interests in the decision-making process of the CEC. In addition, the Council Ministers emphasized developing a path forward to focus on producing tangible initiatives for youth engagement, including indigenous youth, in such areas as marine litter and food waste. Using new social networking tools to encourage crowdsourcing of new ideas will be a key focus of youth engagement.

Ms. Nishida remarked on the first in-camera segment where trilateral representatives from the Roster of Traditional Ecological Knowledge (TEK) Experts were invited to formally participate at the 2016 Council Session. She acknowledged a founding member, Ms. Gail Small, Executive Director, Native Action, former GAC member, who will provide an update to the NAC/GAC on the activities of the TEK. Recognizing the progress made by the trilateral TEK, the CEC has endorsed developing the following recommendations: a statement of principles and TEK guidance document; a North American inventory and map of TEK expertise; and case studies that showcase best practices in the three countries for incorporating TEK into the decision-making process.

Ms. Nishida detailed the advice letter for the NAC/GAC. The committees have been charged to provide advice on the potential directions on marine litter and food waste as future areas of work under the CEC's Operational Plan (OP) and provide advice on implementing a path forward on tangible initiatives for youth engagement, including indigenous youth, in marine litter and food waste. She added that EPA staff have been invited to provide briefings on the two topics.

Canada, as CEC Council Chair for 2017, convened a meeting of the Alternative Representatives (Alt Reps) to the CEC on October 28, 2016, in Ottawa, Ontario, Canada, to discuss the strategic objectives of its role as Chair. As Council Chair, the priorities for Canada included the Alt Reps' having discussions on modernizing the Council Session meetings and increasing public engagement; fostering earlier involvement with JPAC, TEK Experts, and the Secretariat on advice for future direction of the 2017–2018 OP; and ensuring CEC's continued relevance with the North American public by innovating on public engagement and fostering discussions with appropriate groups. At the close of the meeting, Canada announced that the next Council Session will be held June 27–28, 2017, in Charlottetown, Prince Edward Island, Canada.

Question and Answer Period

Donald Harris (Amerris Consulting), NAC member, lauded EPA's and the CEC's recognition of the relationship between economics and the environment, as the two are not mutually exclusive. He asked about EPA's priorities with the new Administration in regard to NAFTA and how it would affect the CEC and the committees in 2017. Ms. Nishida emphasized the importance of the work that the CEC and the NAC/GAC are engaged in and expressed confidence in EPA's mission for maintaining sustainable relationships with Canada and Mexico on all levels.

Dr. Ivonne Santiago (University of Texas at El Paso), NAC member, commented on how developing sustainability in regard to the environment affected not only the people, but also the economy—establishing an environmental economy promotes job creation. She noted the consortium of universities, including University of Texas at El Paso that are engaged in these efforts.

Mary Klein (Wildlife Habitat Council), NAC member, asked about the communication between EPA and the U.S. Department of State regarding the agenda for the 2016 United Nations Biodiversity Conference, Conference of the Parties (COP) 13, which includes many of the priorities of the CEC. Ms. Nishida stated that as the designated lead agency for the federal government on the CEC, EPA works closely with its counterparts at the U.S. Department of State, U.S. Department of the Interior (DOI) and the Office of the U.S. Trade Representative on the international components related to current and prior charges to the NAC/GAC, as well as on the cross-cutting themes in the CEC's sustainability development goals (SDGs). She noted that Mexico's Alt Rep to the CEC, Enrique Lendo Fuentes, was the organizer of the 2016 COP 13 Conference on Biodiversity and is very involved in ensuring that the CEC's issues are integrated.

David Antonioli (Verified Carbon Standard), NAC member, asked for clarification on the committee's role in providing advice and offering solutions on marine litter and food waste issues, given that they are not the subject matter experts (SMEs). Ms. Nishida explained that EPA is not necessarily engaging the NAC/GAC to find solutions to the problems, but to get the perspectives of members, who represent a diverse group of organizations, institutions and regions, to better understand the unique opportunities and challenges posed by problems—in this case, marine litter and food waste and how they are related to the thematic areas of the CEC. The CEC has SMEs and projects in place that address these issues; the committee's advice, however, will help identify gaps in areas of urgency for EPA to consider extending attention to in the future. Mr. Wennberg added that the best advice may come by framing new questions for EPA and the CEC. Dr. Aminata Kilungu (Sonora Environmental Research Institute), NAC member,

pointed out the members' expertise in such related areas as energy, which would help to shape the advice on marine litter and food waste.

Dr. Ann Marie Chischilly (Northern Arizona University), NAC member, suggested including protecting and conserving the land in the objective for CEC's strategic priority on sustainable communities and ecosystems, in addition to improving and restoring them. Tribes that possess pristine lands need help to protect and conserve those lands, especially in cases like the Standing Rock Sioux Tribe and the Dakota Access Pipeline. Recognizing that protection is an important concern for sustainable lands, Ms. Nishida stated that the recommendation to include it in the scope of the strategic priority on ecosystems is duly noted. She reaffirms EPA's commitment to strengthening tribal relations as a priority, and explained that the American Indian Environmental Office (AIEO) is staying abreast of the consultations regarding the Standing Rock Sioux Tribe issues; Ms. JoAnn Chase, Director, AIEO, will brief the committees on those efforts.

Mr. McCartney (Georgetown University), NAC member, expressed his appreciation to EPA and the CEC for the opportunity to serve as the youth representative on the NAC. He will share the details of the resolutions on engaging youth in the CEC that was drafted at the 2016 Council Session; he looks forward to some of those initiatives being addressed in the advice letter to the Administrator.

Carolyn Green (EnerGreen Capital Management), NAC member, asked whether low-sulfur fuels and short-lived climate issues were unintended consequences of lowering the sulfur content in fuels to improve air quality. Ms. Nishida described the United Nations Partnership for Clean Fuel and Vehicles, which encourages countries to reduce the sulfur in fuels. Canada and the United States have established emissions control areas (ECAs) to control the emissions from ships, and the CEC has focused on developing projects to support establishing ECAs in Mexico.

Simone Sagovac (Southwest Detroit Community Benefits), NAC member, asked about the effects of long-lived packaging designs for short-lived products on marine litter and food waste and providing incentives to food suppliers that use local companies to transport agricultural foods and products. Ms. Nishida replied that EPA's Sustainable Materials Management Program, managed by the Office of Land and Emergency Management, addresses the use and reuse of packaging. Also, EPA's SmartWay Program assists companies with transportation efficiency.

For the benefit of new members, Mr. Wennberg asked for discussion on the process for approving the CEC OP. Ms. Nishida invited Sylvia Correa, OITA, EPA, to summarize the CEC's OP approval procedures. Ms. Correa presented the timeline and key milestones the Alt Reps identified at the October 2016 meeting in Ottawa, Ontario, Canada: December 2016 to February 2017, the Secretariat, representatives of the three Parties, JPAC, TEK Roster of Experts and Alt Reps will meet to begin discussions on priorities and develop the executive summary of the proposed initiatives as informed by the NAC/GAC and CEC experts; February 2017 to March 2017, advice from the trilateral groups, collected during town hall meetings convened in the three countries, and further guidance from the Alt Reps will be received; and from April 2017 to June 2017, the plan description will be finalized and final project decisions will be distributed.

Dr. Santiago asked about developing OP projects for urban areas. Ms. Nishida explained that the current focus is on the underserved communities and those with the greatest need; the CEC's budget and resources are limiting factors.

Update on Tribal Issues

JoAnn Chase, Director, AIEO, OITA, EPA

Ms. Chase reflected on her time working in tribal relations at the Agency and thanked EPA for the opportunity to serve in the AIEO. She expressed appreciation to former EPA Administrator, Ms. Lisa P. Jackson, and former OITA Assistant Administrator, Ms. Michelle DePass, for their mission to foster a strong foundation in tribal partnerships, which Ms. Nishida and Administrator McCarthy continue to advance. She is confident that this commitment to strengthening tribal partnerships will continue. Ms. Chase acknowledged colleagues who are beginning service with the NAC/GAC and welcomed other new members.

Ms. Chase updated the members on tribal issues. As EPA continues to engage the tribal community, the protection of tribal treaty rights has remained in the forefront of the conversations. The AIEO issued a Tribal Treaty Rights Guidance document, the first of its kind for any federal agency, which complements the 1984 Indian Policy, *EPA Policy of Consultation and Coordination with Indian Tribes*. Other federal agencies are using this guidance to improve tribal relations and decision-making in the context of their perspective operations. To further advance the protection of tribal treaty rights, EPA, the U.S. Departments of Agriculture (USDA), Commerce, Interior, and Justice, and the Advisory Council on Historic Preservation signed a *Memorandum of Understanding (MOU) Regarding Interagency Coordination and Collaboration for the Protection of Tribal Treaty Rights* to assist in reducing federal silos regarding access to information. This MOU will be available for signature by federal agencies on a rolling basis. Ms. Chase added that these efforts collectively reaffirm EPA's commitment to tribal issues and lauded the Agency's efforts in setting the standard for tribal engagement.

Other efforts that the AIEO is engaged in include the Tribal ecoAmbassadors Program, a partnership with professors at Tribal Colleges and Universities (TCUs), and the Local Environmental Observer (LEO) Network. The Nation's 37 TCUs are organized under the American Indian Higher Education Consortium and have participated as ecoAmbassadors by including environmental programs in their curricula and empowering students to solve environmental problems unique to their communities. The Bureau of Indian Affairs, DOI, has provided funding to assist in these efforts, specifically in the area of climate change. A new class of ecoAmbassadors will soon be announced. Ms. Chase remarked on the early stages of the ecoAmbassadors Program and the momentum it has gained in promoting tribal environmental issues.

The LEO Network, established under the Alaska Native Tribal Health Consortium, provides an opportunity for local observers, as citizen scientists, and topical experts to incorporate TEK to report environmental changes in their communities. To better use the resources available to tribal communities broadly, the White House Council on Native American Affairs established several subcommittees, including the Climate Change Subgroup co-chaired by Administrator McCarthy and DOI Secretary Sally Jewel. Given the charge from the Climate Change Subgroup to develop projects that would support climate change initiatives in the tribal communities, EPA announced expansion of the LEO Network program beyond Alaska and the Arctic region into the lower 48 states. In collaboration with Northwest Indian College, AIEO established a lower-48 network hub—a model for other TCUs—to increase indigenous youth engagement in the Network.

Ms. Chase added that AIEO has worked closely with the media offices across the Agency to streamline many processes and procedures, thereby eliminating any administrative burdens that would prevent tribes from regulating their environmental programs. She touched briefly on water quality standards and EPA's efforts to address water quality issues in the tribes. Ms. Chase noted that the AIEO Director position will be vacated as she transitions with the Obama Administration. She is confident that the work will continue and thanked the AIEO staff and the NAC/GAC for their due diligence in supporting tribal relations.

Question and Answer Period

Ms. Green asked about the breakdown and lessons learned in the review process regarding the Standing Rock Sioux Tribe issue. Ms. Chase explained that the leading agencies (i.e., Department of Justice, DOI and the Army Corps of Engineers) and EPA have been engaged in consultations with the tribes in Region 8 and that the process is ongoing. Decisions and agreements are pending.

Mr. Kelly Wright (Fort Hall Indian Reservation), GAC member, complimented EPA for establishing the TEK that is now incorporated into the Superfund process. He noted the problems that tribes have in understanding EPA's definition of government-to-government consultation. A consultation is and should be defined as a face-to-face meeting. Ms. Chase pointed out that informed versus technical consultations might be a point of confusion. Webinars and phone calls do not constitute consultations unless the parties have agreed to them upfront. EPA will continue to remind federal colleagues of the guidelines for conducting tribal consultations.

Dr. Chischilly asked about the steps EPA and the Subgroup on Climate Change are taking to support funding for climate change adaptation and program implementation. Ms. Chase explained that EPA's budget is limited in this area; however, Indian Environmental General Assistance Programs (GAPs) resources could be used. Creative ideas, such as funding small citizen science initiatives and leveraging other resources, also are options.

Dr. Charles Striplen (North Coast Regional Water Quality Control Board), GAC member, thanked Ms. Chase and AIEO for their work. He referred members to the "Director's Order 100: Resource Stewardship for the 21st Century" and noted that comments are due by November 18, 2016. He cautioned about the use of TEK and giving advice to tribes that would be legally binding. Ms. Chase echoed the caution.

Dr. Santiago wondered about ways for the NAC to be better advocates for tribal relations. Ms. Chase replied that former NAC/GAC members, local legislative representatives and AIEO were good resources. She emphasized continuing to be aware and staying engaged in environmental issues. Ms. Chase will forward information on advocacy organizations and names of experts to Mr. Carrillo for distribution to the committees.

Ms. Sagovac noted the funding concerns and suggested that aggregating and sharing data nationally could be improved so that designated funds would go further. Ms. Chase commented on the challenge in securing funding and noted that leveraging and merging resources could be an approach for EPA to consider.

OARM Remarks

Donna Vizian, Principal Deputy Assistant Administrator, OARM, EPA

Ms. Vizian welcomed the new members and acknowledged EPA's efforts to embrace the charge of increasing youth engagement in the committees by the appointment of Mr. McCartney to the NAC. She asked the meeting participants to introduce themselves again. The OARM supports all of the Agency's federal advisory committees, including the Good Neighbor Environmental Board (GNEB); National Advisory Council for Environmental Policy and Technology (NACEPT); and the NAC and the GAC—these committees are important resources for EPA. The GNEB and NACEPT have been tasked with developing reports on climate change and citizen science and those documents will be shared with the NAC/GAC when they become available. Ms. Vizian extended appreciation to the committees for the hours of dedication and work that they perform in advising the CEC and EPA Administrator. Due to conflicting priorities, Ms. Vizian's time at the meeting was limited.

CEC Update on CEC Operational Plan

Cesar Rafael Chavez, Executive Director, CEC Secretariat (via Adobe® Connect)

Mr. Cesar Chavez updated members on the activities of the CEC and its 2015–2016 OP. He began by providing an overview of the 16 active trilateral projects, which are aligned with the three strategic priorities of the CEC: climate change mitigation and adaptation, green growth, and sustainable communities and ecosystems. Five projects address climate change mitigation and adaptation (1–5); five address green growth (6–10); and six (11–16) are addressing sustainable communities and ecosystems. Detailed descriptions of the projects are provided in the 2015–2016 OP, which is accessible from the CEC website.

Mr. Chavez reported on the progress of the climate change mitigation and adaptation projects:

1. **Integrated Modeling and Assessment of North American Forest Carbon Dynamics and Climate Change Mitigation Options.** Six strategic landscapes were selected; two per country. Modeling of mitigation options (e.g., re-forestation, improved management, long-lived harvested wood products and biofuels) will run from 2016 to 2020.
2. **Helping North American Communities Adapt to Climate Change: A Pilot Syndromic Surveillance System for Extreme Heat.** Health authorities in Detroit, Michigan; Hermosillo, Sonora, Mexico; and Ottawa, Ontario, Canada are conducting a small pilot experiment; a guidance document will be drafted from these efforts.
3. **North American Initiative on Food Waste Reduction and Recovery.** A joint United Nations Environment CEC video contest, “Make Not Wasting Food a Way of Life,” launched November 2016, and the CEC will convene a stakeholder workshop in February 2017.
4. **North American Initiative on Organic Waste Diversion and Processing.** A foundational report and white paper are being developed, and a series of stakeholder consultations will begin in early 2017.
5. **North American Blue Carbon: Next Steps in Science for Policy.** Two meetings of the North American Blue Carbon experts were convened, and policy analysis for Mexico and Canada was completed.

Mr. Chavez highlighted the progress of the green growth projects:

6. **Reducing Emissions From Goods Movement via Maritime Transportation in North America (Phase II).** Workshops to share experiences and best practices for compliance with maritime fuel standards were completed in September 2016. Mexico is developing an implementation strategy for ECAs and completing the internal ratification process for Annex VI.
7. **Enhancing North American Enforcement of the International Maritime Organization Maritime Fuel Sulfur Limits.** This work is being combined with project 6 to leverage the involvement of key stakeholders. The progress updates are the same as those for project 6.
8. **Accelerating Adoption of ISO 50001 and Superior Energy Performance Certifications.** Nineteen facilities across North America are receiving the CEC training and are expected to seek International Organization for Standardization (ISO) 50001 certification by the end of 2017, and nine energy management experts are receiving training to become ISO 50001 and Superior Energy Performance company trainers.

9. **Strengthening Conservation and Sustainable Production of Selected CITES' Appendix II Species in North America.** A consultation with stakeholders, wildlife trade experts and national Convention on International Trade in Endangered Species (CITES) authorities was held October 2016 in Mexico City, Mexico. Action plans are being developed for a May 2017 release date.
10. **Greening of Chemicals Management in North America.** Draft reports of findings are currently under review; publications are expected in early 2017.

Mr. Chavez reported on the progress of the sustainable communities and ecosystems projects:

11. **Arctic Migratory Birds Initiative (AMBI)—The Americas' Flyway Action Plan.** Community engagement is in progress in key sites along the Atlantic and Pacific flyways to establish the Western Hemisphere Shorebird Reserve Network by the project's end; a website to share data on these sites is being developed. Preliminary research to identify Arctic shorebird breeding habitats that are resilient to climate change has been completed.
12. **Engaging Farmers and Other Landowners to Support Monarch Butterfly and Pollinator Conservation.** A user-friendly website for farmers and other landowners is under development, and national and international priority actions to support monarch conservation have been developed from partnership meeting recommendations.
13. **Monarch Butterfly Flyway: Communication, Participatory Conservation and Education.** Preliminary research revealed limited availability of monarch-specific TEK. Priority actions and international partnerships to support monarch conservation, outreach and education were developed from partner recommendations.
14. **Local Environmental Observer (LEO) Network.** New LEO hubs were established in Ensenada, Baja California, Mexico, and Victoria, British Columbia, Canada.
15. **Using Ecosystem Function and Traditional Ecological Knowledge Together to Build Resilience and Adapt to Climate Change in North America.** Two communities in Ontario, Canada, and Tabasco, Mexico, are currently applying climate adaptation planning methodologies.
16. **Marine Protected Areas: Strengthening Management Effectiveness and Supporting Coastal Community Resilience.** A rapid vulnerability assessment tool has been developed and workshops are planned for December 2016.

Mr. Chavez noted CEC's online tools and resources: North American Land Change Monitoring System; North American Atlas; North American Pollutant Releases and Transfers; and North American Portal on Climate Pollutants.

In addition to the OP Projects, the CEC funds the North American Partnership for Environmental Community Action (NAPECA) grants, which are smaller community-based projects. In the 2015–2016 funding cycle, the CEC made 22 awards: eight to Canada; six to Mexico, and seven to the United States. The Council has requested a comprehensive assessment of the NAPECA program before the next Council Session.

Question and Answer Period

Mr. Harris commented on the ISO 50001 initiative and the opportunity to meet David Donaldson and Katherine Hallmich during a presentation of ISO 50001 and Superior Energy Performance. He noted advocates of the initiative within the automotive industry in Mexico and abroad (e.g., Japanese and German affiliates) and looks forward to working with the CEC on these efforts. Mr. Chavez thanked Mr. Harris and his colleagues for their support and pointed out that the CEC is exploring the possibility of public-private partnerships to further advance the ISO 50001 initiatives.

Mr. Antonioli inquired about the long-term view of the North American Blue Carbon project and coordinating efforts with other blue carbon markets in the United States (e.g., California markets) and Canada (Montreal and Quebec markets). Mr. Chavez replied that the CEC is in the process of collecting information on other blue carbon markets for possible considerations on the next phase of the project. Ms. Sagovac wondered whether reducing emissions from goods movement via maritime transportation (e.g., OP project 6 and project 7) would include the design of containers that could accommodate different weights of goods—the weight is directly related to the use of fuels. Also, in regard to project 10, Greening of Chemicals in North America, she asked whether microplastics were identified as a concern. Mr. Chavez recognizes the importance of factoring in the design of containers and considerations for microplastics, but the CEC has not focused on addressing these concerns.

Public Comment Period

No public comments were offered.

Update on Monarch Butterflies

Donita Cotter, U.S. Fish and Wildlife Service, U.S. Department of the Interior

Ms. Cotter reported on the trilateral initiative to conserve the monarch butterfly in North America. Mr. Wennberg noted that this update was requested by the NAC/GAC in a prior meeting and that prior advice letters also have highlighted environmental issues on this topic.

The monarch butterfly is one of the world's most well-known and beloved insects, often referred to as an *iconic and charismatic micro-fauna*. The migratory phenomena observed depends on the habitats in all three countries. She noted the significant decline in the Eastern (observed from 1994/1995 to 2014/2015) and Western (observed from 1997 to 2015) population trends. This alarming decline in the monarch population rates prompted the Trilateral Call to Action. Scientists in the three countries attributed the population decline to a suite of growing threats, including habitat loss, pesticide use and climate change. They recognized the need for landscape-scale restoration on public and private lands. Because the monarch could be considered a “flagship species” for other grassland-dependent species and pollinators, their status is therefore an indicator of environmental health.

At the 2014 North American Leaders Summit, the three countries agreed to establish a Trilateral Working Group to ensure the conservation of the monarch butterfly. In June 2014, the White House released a Presidential Memorandum, “Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators.” Next, a petition to list the monarch under the Endangered Species Act was submitted in August 2014. The Secretariat of Environment and Natural Resources of Mexico (SEMARNAT), the Environment and Climate Change Canada (ECCC) and the DOI are the heads of the Trilateral Working Group. The DOI, ECCC and SEMARNAT delegated the work to their respective departments: U.S. Fish and Wildlife; Canadian Wildlife Service; and the Natural Commission of Natural Protected Areas, respectively. The goal of this trilateral cooperation is to conserve the migratory phenomena and monarch

habitat required for breeding, migrating and overwintering. A progress report will be given at the next North American Leaders Summit.

One of the first agreements for the Trilateral Working Group was to develop an action plan that would track the related activities in each country. Existing trilateral actions that could be leveraged included the Trilateral Committee for Wildlife and Ecosystems Conservation and Management annual meetings and the CEC and its *North American Monarch Conservation Plan (NAMCP)*, which was published in 2008. The Trilateral Working Group recommended that each of the three countries establish high-level working groups to develop in-country strategies. Canada has developed an action plan; Mexico's national action plan is scheduled to be released soon; the United States' trilateral focus for the monarch will concentrate on specific quantifiable, actionable priorities and projects to supplement the 2008 NAMCP. This will be conducted under the auspices of a U.S. interagency high-level working group composed of federal and local government agencies, including EPA.

The overarching goal is to develop a habitat to support near-term population targets of 225 million monarch butterflies by 2020 for the Eastern population as a first step; the second step will be to develop a similar accommodating habitat for building the Western population. To build the habitat, the Trilateral Working Group agreed to develop a trinational monarch science partnership, develop and implement a trinational integrated monitoring strategy, and develop and implement two funded CEC projects in 2015–2016. Developing a monarch habitat in the United States will consist of restoring and enhancing the landscape and will include use of public and private lands. The strategic model for the habitat includes four main pillars: science (e.g., research and monitoring); partnerships; funding; and education and outreach. Ms. Cotter discussed some of the strategic initiatives in the four main categories. She noted the two CEC 2015–2016 OP projects (projects 12 and 13) described by Mr. Chavez that support the monarch butterflies. Some remaining challenges include funding, capacity building, strategic conservation, and coordination of programs and actions with differing laws and regulation.

Question and Answer Period

Mr. Wennberg thanked Ms. Cotter and the U.S. Fish and Wildlife Service for the detailed update on monarch butterflies. Due to time restraints and the full agenda, members were invited to submit their questions to Ms. Cotter via email.

Update on SEM and Status of Submissions

Robert Moyer, Director, Submissions on Enforcement Matters (SEM), CEC (via Adobe® Connect)
Lisa Goldman, Office of General Counsel (OGC), EPA (via phone)

Mr. Robert Moyer updated the committees on SEM and the status of submissions; he was joined by Ms. Lisa Goldman, OGC, EPA. Mr. Moyer provided a brief context of the purpose and intent of SEM. The CEC's SEM process fulfills the requirement per the NAAEC, which states that a resident or organization in North America may file a submission with the CEC Secretariat asserting that one of the parties (e.g., Canada, Mexico and the United States) is not effectively enforcing its environmental law. Members viewed the 2-minute video explaining the SEM process (<https://www.youtube.com/watch?v=bdWH950zoeY>), which was developed by the SEM unit. He noted the preliminary eligibility criteria for submissions: they must be submitted in one of the three languages of the parties (e.g., English, Spanish or French); they must be submitted in written form; and they must detail a clearly defined environmental issue. Submissions that meet the eligibility criteria are forwarded to the party in question for a response to be made within 30 business days. Those not meeting the criteria will take a different avenue (e.g., revised and resubmitted) before soliciting a response. Once the response is submitted, the Secretariat will apply due process to determine whether to produce a factual record,

which, if recommended, is then forwarded to the Council for approval. The Council will then vote on authorizing the factual record.

The SEM process leading to the publication of a factual record is a fact-finding mechanism concerning the effective enforcement of environmental laws in North America that is open to residents of Canada, Mexico and the United States. It fosters transparency, public participation, and information sharing regarding a party's environmental law enforcement and enhances accountability in effective enforcement of those laws. He noted that the SEM process is non-judicial and non-adversarial and does not provide legal redress that would lead to sanctioning of a party, nor does the Secretariat determine whether a party has or has not enforced its environmental law.

A total of 88 submissions have been filed before the Secretariat since 1994: 30 from Canada, 45 from Mexico, 1 joint Canada-U.S. submission and 12 from the United States. Mr. Moyer noted that the five new submissions since June 2015 and the four submissions currently pending all concern Mexican environmental issues. Of the 88 submissions, the Secretariat has published 22 factual records, including Sumidero Canyon in 2015 and the Wetlands in Manzanillo in 2016.

Mr. Moyer detailed the current active submissions. The La Primavera Forest submission involves a housing project that is stated to be the cause of destruction of a netleaf oak forest. Following the response from Mexico, the Secretariat recommended producing a factual record. The Management of Analog Television Waste submission asserts that televisions discarded because of the analog blackout were not being managed per Mexico's law. Following a response from Mexico, the Secretariat will determine whether to recommend the production of a factual record. The Monterrey Aqueduct VI submitters asserted that Mexico is failing to effectively enforce its environmental laws with respect to this project, and Secretariat eligibility determination is pending. The agricultural waste burning in a Sonora submission asserts that Mexico is failing to enforce its climate change and air quality laws effectively in relation to the burning of agricultural waste; Secretariat eligibility determination is pending. There currently are no active submissions for the United States or Canada. The U.S. submission on Wastewater Drop Shafts was dismissed by the Secretariat in June 2016.

Mr. Moyer highlighted the recent actions taken by the Secretariat to improve the SEM process, which included enhancing the visibility of the SEM Web page, increasing targeted outreach activities (e.g., continuing relationships with law schools in the three different countries), continuing to develop more accessible factual records, and continuing to process submissions in a timely manner.

Question and Answer Period

Ms. Sally Ann Gonzales (Arizona House of Representatives), GAC member, asked for more clarity on the submission regarding agricultural waste burning in Sonora. Mr. Moyer explained that the waste-burning activities were occurring following the harvest of asparagus near Caborca, Sonora, Mexico.

Mr. Antonioli asked whether the 22 factual records had resulted in governmental changes or actions and whether the submitters were satisfied with the outcome. Mr. Moyer replied that the actual number of records that resulted in specific changes or actions had not been determined; however, infrastructure changes were already occurring during the issuance of factual records in some of the older submissions.

Joint Public Advisory Committee Report-Out

Lindsay Brumwell, Chair, JPAC (via phone)

Ms. Lindsay Brumwell, Chair, JPAC, discussed the Committee's actions. She reported that JPAC attended the April 2016 CEC Alt Rep meeting held in Cuernavaca, Morelos, Mexico. They discussed

implementation of the Operational and Strategic Plans, the NAPECA grant progress, and the March 2016 TEK workshop. Overall, it was a productive and informative meeting. JPAC sent a follow-up letter to the Alt Reps reiterating the 2016 JPAC Sessions themes: Biodiversity and Climate Change; Clean Energy Cooperation in North America: Needs and Solutions; and Greening North America's Trade. The Alt Reps were invited to send, in advance of the next JPAC Sessions, questions or comments of what they would like to learn from the public on these topics. Ms. Brumwell emphasized that the goal of this type of engagement is to focus the advice and input from the public and SMEs from the private sector, academia, indigenous peoples, and other stakeholders and to continue creating a space for open dialogue between a government and its citizens.

She touched briefly on the joint piece of advice generated from the March 2016 meeting with the TEK Roster of Experts, during which they discussed the Roster's engagement in the CEC. Principles were developed for the TEK Roster; the group then met in Ottawa, Ontario, Canada, on November 2016 to further discuss these principles. Ms. Small, a TEK member, will provide an update on their activities later in the agenda.

The 2016 Council Session and the September 2016 JPAC session were held in Mérida, Yucatán, Mexico. The theme for the JPAC forum was biodiversity and climate change. More than 3,000 members of the public participated. The advice letter to the Council is being developed.

JPAC attended the October 2016 Alt Rep meeting via telephone. Again, discussions focused on CEC's OP. Mr. Chavez joined the meeting and presented his views; he provided feedback on his comments. In terms of a value proposition for the CEC, leveraging is key. Building a framework for engaging youth was encouraged.

The November 2016 JPAC session was held in Ottawa, Ontario, Canada; the theme was clean energy cooperation in North America. The December 2016 JPAC session will be held in Los Angeles, California. The next steps are to continue having an impact in the community on health and policy issues.

Question and Answer Period

Mr. Wennberg thanked Ms. Brumwell for the comprehensive update and noted that 75 percent of the NAC/GAC were newly appointed after the April 2016 NAC/GAC meeting.

Mr. McCartney inquired on the process involved in selecting youth members to the JPAC. He noted the recent appointment from Mexico and the United States' interest to encourage youth participation in the JPAC. Ms. Brumwell explained that each country has its own requirements. Mexico's recruits have an undergraduate degree, are bilingual (e.g., English, Spanish or French), and serve 1-year appointments. JPAC is looking at ideas to engage youth to provide input to the CEC.

Marine Litter Update

Stephanie Adrian, Acting Senior Advisor, Office of Global Affairs & Policy, OITA, EPA

Ms. Adrian updated the NAC/GAC committee members on the domestic and international initiatives to combat marine litter. The goal of EPA is to adapt domestic efforts to international countries. She introduced the "Trash-Free Waters Program" (TFW), EPA's strategic approach toward addressing marine litter, which is mainly a solid waste problem. She mentioned that most marine litter (80 percent) is derived from land-based sources, hence EPA's involvement. Other sources of litter include, but are not limited to, fishing nets and garbage dumped from ships.

Ms. Adrian provided the U.S. statistics of marine litter. She mentioned the importance of addressing this issue because of land waste contamination into the marine environment and the various health effects on humans and animals. Plastic litter is a vector for transferring toxins from water into the food web, which places humans at risk. Approximately 51 billion (B) pieces of litter are found on U.S. roads, costing almost \$11.5 B annually in cleanup. Plastics comprise 60 to 80 percent of marine litter and are ingested by marine lifeforms.

TFW is a strategic holistic national approach to reducing and preventing land-based waste sources. Preventing trash from entering waterways is essential to ensuring healthy communities and habitats. The goal of the TFW is to reduce significantly the trash waste entering the U.S. waterways through government actions, business communities and individual citizens, approaching zero loadings of trash entering aquatic ecosystems by the year 2023.

TFW has four focus areas: research, international efforts, regional strategies and public/private partnerships. For research, an increase of global research to assess ecological human health effects from plastics in the marine food chain is needed. EPA's goal is to prioritize research and harmonize global methodologies in addressing waste. The international initiative consists of collaborative forums to discuss marine litter; increase visibility of problems and present initiatives to foreign countries. For example, TFW is a partnership between EPA, the Peace Corps and the United Nations (U.N.) Environment Programme in Jamaica to implement community-based efforts. New TFW launch areas include Jamaica, Panama and Peru (2016–2017) and will assist with identifying priorities and potential solutions on a community level. Stakeholder workshops are planned in Jamaica and Panama early this year. Regarding regional strategies, EPA is working with individual states and their stakeholders on strategic planning, creating tools and resources to support state/local programs (e.g., storm catchment devices that collect water from storm drains). The California/Pacific, Pacific Northwest have accomplished more than other regions in addressing waste, education, research and regulatory standards. Other regions have received grant funding to support school waste projects (e.g., Region 2, New York). Puerto Rico has identified novel priorities that may be adopted in other regions. To address the need for public-private partnerships, EPA has made an effort toward working with the private sector (e.g., Coca Cola) and corporate sponsors to address source-reduction policies (i.e., minimize overall plastic usage).

Ms. Adrian asked about the role of the CEC in possibly developing marine litter projects on the U.S.-Mexico and U.S.-Canada borders using the TFW approach. She expressed her concern of implementation feasibility of TFW within these regions. She expressed the necessity of CEC to build upon current TFW efforts in EPA Regions 6 and 9 along the Tijuana River, at the U.S.-Mexico border. She raised the importance of youth engagement (e.g., outreach to youth-related organizations, universities), particularly in tribal areas in stakeholder outreach, which is mainly behavioral changes affecting the environment. It is necessary to get tribal areas into the stakeholder arena. Lastly, she invited suggestions and ideas from committee members on how to implement these initiatives.

Question and Answer Period

Mr. Wright asked about Region 10 being underdeveloped as compared with other regions (i.e., Region 9). Ms. Adrian stated that Region 10 is interested in tackling the issues, but the problem may be due to a lack of accessible resources, in addition to other unknown factors.

Dr. Striplen attributed 80 percent of marine litter deriving from land-based sources to marine trash vortices. Specifically, the marine trash vortex (North Pacific Garbage Patch) comprising a triangle of ocean north of Hawaii between Hawaii, Alaska and the U.S. West Coast. Region 9 has plans to address the problem of trash; however, because of the vortex, trash still comes up from the West Coast to Alaska back down into international waters again. He raised the possibility of exacerbating the solid waste problem near Alaska because of its large land mass, climate change and large body of fluctuating water.

Ms. Adrian acknowledged that Mr. Wright's comments point to a great need to address the solid waste issue and again emphasized the lack of available resources. She suggested that she and the CEC may have opportunities to address border areas through projects that assist other regions (e.g., Region 10).

Nazaret Sandoval (Michigan Department of Environmental Quality), GAC member, asked whether there is research studying the psychology of behavioral changes in youth (colleges, universities). In response, Ms. Adrian stated that although such research would be helpful, OITA focuses on the impact of marine litter on health (humans, fish) and the environment. Ms. Adrian pointed out that marine litter is of highest interest in the political arenas, which is the current focus. A new youth program initiative has limited resources. Therefore, EPA is looking toward unification with various stakeholders to direct resources in the appropriate areas. In other countries, educational materials have been developed into student curricula. EPA's goal is to adapt these successful tools for use in other areas.

Dr. Vincent Nathan (San Antonio Metropolitan Health District), GAC member, commented that most of the waste trash appears recyclable; therefore, recycling should come with some incentive for citizens, especially those of poor countries. Ms. Adrian agreed with the importance of incentives, but cautioned that the process of selecting specific initiatives must be determined on a local level; each region must decipher which process works best for them.

Dr. Striplen described a comprehensive strategy called the West Coast Marine Debris Alliance; the CEC may be able to expand such a strategy.

Mr. Tracy Hester (University of Houston Law Center), NAC member, asked about the extent to which TFW should encourage/discourage the use of biodegradable plastics. He also mentioned the enforceability of trash. Ms. Adrian replied that trash enforcement should be left to the individual stakeholders and does not directly involve TFW. Some states, such as Louisiana, have implemented a trash ordinance. Communities are responsible for determining what priorities to address. Regarding TFW use of biodegradable plastics, research is insufficient to support such usage.

Food Waste Update

Ted MacDonald, Senior Sustainability Officer, Office of Global Affairs & Policy, OITA, EPA

Mr. MacDonald presented a profile of landfill waste in the United States. The largest category of waste is food, representing 21 percent of all waste entering landfills. The generation of methane from organic waste is of great concern (greenhouse gas). This is considered by EPA standards a municipal solid waste issue. He noted that there is a "groundswell" of local and international interest in food waste; this is being considered a resource, food security and climate issue.

Regarding food waste costs, an estimated one third of all food grown globally is lost or wasted, costing up to \$936 B. In the United States alone, approximately 31 percent of food is uneaten, representing 430 pounds of wasted food per person; the retail and consumer level loss is estimated at \$161 B annually. Concerning food security, in 2013, 14.3 percent of households were in "food insecure" situations at some time during the year; 15 percent of the food wasted could feed approximately 25 million people.

Mr. MacDonald raised the important point that wasted food equates to wasted resources. In the United States, food production accounts for 50 percent of land use, 80 percent of water use and 10 percent of energy usage. Therefore, food waste accounts for roughly 25 percent of all fresh water use, equating to sufficient energy to power the entire country for longer than a week or enough land to feed the world's hungry. Furthermore, the FAO (Food and Agriculture Organization of the United Nations) estimates a total carbon footprint of food waste at 4.4 gigatonnes or 8 percent of global greenhouse gas emissions. If food wastage was a country, it would be the third largest emitting country in the world.

Mr. MacDonald mentioned that several programs, tools and resources have been implemented through public-private partnerships (e.g., Food Steward's Pledge). In September 2015, EPA and the USDA announced the first-ever national food waste reduction goal to reduce food loss and waste by 50 percent by the year 2030. This aligns with an international goal: the U.N. Sustainable Development Goal Target 12.3. He stated that these initiatives could not be accomplished by U.S. government action; a call to action was implemented to galvanize various stakeholder communities. A National Food Recovery Forum (NFRF) and outreach meetings were held to engage stakeholders; future meetings will be targeted for Midwestern and West Coast regions of the United States. The key findings or priorities from the NFRF include seeking prevention strategies, increasing public awareness, improving data, forging new partnerships and expanding existing ones, clarifying date labels and food safety, and building food loss and waste infrastructures.

He highlighted that this effort engages a broad community. He identified various entities—such as the Food Waste Reduction Alliance, Food Recovery Network, ReFED, Savethefood.com, and Food Loss and Waste Solution Center—that have multi-stakeholder initiatives. Within the CEC food and organic waste initiatives exists a “food recovery hierarchy” that delineates between most preferred and least preferred approaches. He described two specific approaches or companion projects: food waste reduction/recovery (FWRR) and organic waste diversion/processing (OWDP). Within the FWRR, a source-reduction plan (reduction of surplus food volume) is currently the most preferred approach and landfill/incineration disposal (OWDP) is the least preferred.

Mr. MacDonald presented current project activities, which include a foundational report (discussing food waste in three countries), white paper (barriers and future opportunities to reduce food waste), workshops (in February and March 2017) and regional cooperatives (international engagements). In closing, he reinforced the charge for NAC/GAC to provide advice on the food waste reduction agenda under CEC and to implement tangible initiatives for youth engagement (particularly indigenous youth).

Question and Answer Period

Mr. Harris asked—given the link between charge issues—how much marine litter would relate to the issue of food usage? He then asked what the primary cause is for 50 percent of all food waste coming from households. In response to this, Mr. MacDonald stated that there is much effort toward identifying causes, but also efforts to change behaviors and improved food packaging. EPA has implemented “Too good to waste,” a program that encourages household behavioral changes.

Ms. Klein asked how much food waste is composed of inedible things being thrown away (e.g., banana peels). Is EPA emphasizing food waste or organic waste? Mr. MacDonald responded that EPA is looking at both, along with resource efficiency and climate issues. EPA moved from tackling this problem as waste management toward seeing it as an issue of sustainable materials management. He reiterated that the need to move people up the food recovery hierarchy is preferential (food waste reduction and recovery).

Donna Lybecker (Idaho State University), NAC member, clarified that food insecurity and food waste are two distinct problems that are economically related and dependent on food location/access. She pondered whether EPA is trying to find solutions to address these. Mr. MacDonald replied that EPA has established an advocacy group addressing food insecurity. This issue is not being looked at as an environmental problem, but rather as a hunger/food insecurity challenge.

Ms. Sagovac discussed the possibility of changes in food consumption behavior (e.g., fast food restaurants). She mentioned implementing a “just ask” campaign at college campuses where often-discarded food (e.g., condiments) may be provided only upon consumer request. She then expressed interest in seeing more public service ads over social media. Mr. MacDonald reminded the committee that

the website savethefood.com lists several multimedia initiatives. Regarding changing food behaviors, he mentioned that an elementary school is currently implementing this; it may be a model for future programs.

Mr. Antonioli asked for clarification on the data showing that the waste in developed countries is mainly on the consumer level (pre-prepared food), whereas in developing nations the waste comes from the food production process. He asked whether the focus in the United States should be on both or the latter. Mr. MacDonald said that it is not that clear. Some data from a CEC study project in Mexico suggest that the main sources of waste in different regions may differ and not be clearly defined.

Gerald Keenan (James R. Thompson Center), GAC member, wondered if the two foundational studies that Mr. MacDonald mentioned have been completed and are available for review. Mr. MacDonald said the studies are still in progress.

Mr. Hester questioned what the food waste specialists need to look at regarding agricultural subsidies; perhaps the overproduction of food is contributing to food waste. Mr. MacDonald responded that the focus is currently not on the farm issue. Mr. Tracey then asked about the problem of food pricing and its effect on consumer accessibility. Mr. MacDonald noted that, comparatively, the level of food pricing in other regions is typically higher. From an international context, the amount of food waste from a consumer level is higher in some regions. Mr. MacDonald raised the point that there is an interest in novel areas of food consumption: retail sector with more prepared foods (e.g., prepackaged foods with exact portion sizes).

Mr. Wennberg emphasized that action will lie locally, not nationally and raising awareness along with more public education is important. He mentioned the 2014 legislative bill (AB 1826, Chesbro. solid waste: organic waste) requiring businesses' organic food waste to be recycled and banned from going to landfills. He expressed concern that these types of decisions are being made by government sources. Mr. MacDonald responded by noting that federal programs similar to these offer tax incentives. He mentioned that food donation programs also exist. To prevent perceived liability from businesses' donating food, the "Good Samaritan Food Donation Act" (Bill Emerson Act) addresses food insecurity. USDA also has a research program looking for alternative products; success, however, will be achieved mainly at a local municipal level.

Dr. Kilungu commented that the solution to the problem discussed is food preservation. She asked about research efforts or solutions toward the issue of food spoilage, and Mr. MacDonald remarked on various solutions (i.e., food portioning and natural food additives to extend shelf life).

Suzanne Hanson (Minnesota Pollution Control Board), GAC member, raised the point that current recommendations are to never compost animal products and wondered how to dispose of food waste when composting is not an option. Mr. MacDonald recognized the challenge and mentioned the existence of other types of processing that converts the waste into animal feed. He also stated that composting glass and plastic waste is also a major problem.

Ms. Sandoval wondered whether there were differences in fees in municipal areas (e.g., Ontario, Canada) versus other regions (the United States) and the incentive for citizens to not waste food. Mr. MacDonald replied that incentive programs are available, such as "Pay as You Throw." Only 5 percent of the food waste that is generated goes to non-landfill destinations.

Update on Traditional Ecological Knowledge (TEK) Recommendations

Gail Small, Member of the CEC TEK Experts Group (via phone)

Ms. Small provide a brief summary of the TEK activities in the CEC. She acknowledged Dr. Octaviana Trujillo (Pascua Yaqui Tribe), JPAC member, former GAC member, for her role in establishing TEK in the CEC and engaging in tribal environmental issues across the U.S.-Canada and the US-Mexico borders. Members are invited to refer to the April 2015 NAC/GAC meeting summary for a more detailed synopsis of the TEK and its establishment within the CEC. Ms. Small noted that the relevancy of the TEK work to the CEC extends across the tribal nations on both sides of the border and serves to provide the EPA Administrator with advice on how best to advance the use of TEK in the tribes. Some of the key areas include climate change, change in migration of different animals, documentations and quantifications, and displacement of tribes from their ancestral homelands due to issues like water quality.

The TEK Roster of Experts met with the JPAC on two occasions: first to discuss the volunteer work of the Roster, which resulted in the two groups' drafting a document, and second to discuss how best to utilize the JPAC analysis. Ms. Small noted the importance of TEK in the CEC to preserve generational knowledge and extended appreciation to the NAC/GAC and EPA for their support.

Question and Answer Period

Dr. Santiago asked about data collection and other repositories of TEK, commenting that standards for identifying what information to include in the database are needed. Ms. Small replied that some countries maintain their own best practices portfolios. Also, Ms. Chase, AIEO, EPA, would be a point of contact for this type of information. Her office may have or will be doing a region-by-region data collection. Dr. Chischilly pointed out that Dr. Kathy Lynn at the University of Oregon had previously done this type of data collection regarding the tribal uses of TEK and would be a good person to reference for the CEC TEK Roster.

Dr. Chischilly noted the guidance document developed in May 2015 by a tribal climate work group, a team of climate change experts, on the use of TEK in climate change; this document has been accepted by the DOI as an official recommendation. It is a foundational document that many tribes are using in their climate change adaptation plans and could assist the CEC Roster in their efforts. She will forward the document and Internet links to Mr. Carrillo for distribution to the committees.

Summary and Next Steps Discussion/Other

NAC/GAC Chairs

Mr. Carrillo explained the logistics for the following day and completion of the meeting agenda. The meeting was recessed at 5:25 p.m.

Thursday, November 17, 2016

Call to Order

Mr. Carrillo called the meeting to order and reviewed the day's agenda, which focused on the business meeting of the NAC/GAC. Mr. Carrillo introduced Ms. Stephanie McCoy, FACMD, OARM, EPA, to provide logistical information regarding travel vouchers and other matters. Monisha Harris, Director, FACMD, OARM, EPA, expressed appreciation to the committees for their efforts, hard work and commitments to EPA and the CEC.

Plenary: Joint Committee Meeting

Mr. Wennberg remarked on the previous day's presentations and the excellent discussions the committees have been engaged in at this meeting and pointed out that today's challenge will be to morph those ideas into advice and recommendations on the charge question as the committees meet separately. Given JPAC's calendar and the process for developing the CEC's 2017–2018 OP, the Chairs agreed to submit final advice letters to EPA no later than December 9, 2016. The Chairs will work to expeditiously generate draft advice letters; members are requested to provide their comments accordingly.

Mr. Carrillo called members' attention to the future meeting dates that have been selected based on the other activities of the CEC, JPAC and EPA's calendar: April 26–28, 2017, and October 25–27, 2017. Members will be asked for their availability via a Doodle Poll to determine the dates when a quorum can attend.

Public Comment Period

Mr. Wennberg informed members that Brian Houseal, former NAC Chair, had provided written comments prior to the meeting. He provided an overview of the issues that Mr. Houseal raised. Mr. Houseal expressed concern that the views of the incoming Administration may not closely align with the existence and purpose of the CEC and the NAC/GAC. Recognizing the possibilities for negotiating changes to NAFTA and NAAEC regarding trade balances and environmental issues, he encouraged members to not abandon the North American ideas on environmental issues as articulated by Gustavo Alanis-Ortega, former NAC member. Mr. Houseal emphasized staying vigilant to ensure increased Congressional appropriations for maintaining the CEC budget and the need to remain focused on climate change and biodiversity as outlined in the strategic plan of the CEC. He lauded the efforts of EPA and the mission of the CEC. Mr. Houseal also pointed out the need to include Transboundary Environmental Impact Assessments (EIAs) into the existing agreements regarding large-scaled transboundary projects (e.g., Keystone XL Pipeline) and continue communication to stakeholders about the importance of the NAAEC.

Mr. Antonioli asked about the transboundary issues and the environmental impact that Mr. Houseal referred to in his public comments. Dr. Pardo replied that the point of the EIAs are to emphasize the global impact that large-scaled transboundary projects could have on the environment, and Mr. Wennberg explained that the assessments differ between the United States, Canada and Mexico and that the intent is to develop an international impact assessment that would activate regardless of where the region of activity rested. Mr. Carrillo pointed out that the EIA process was mandated by Article 10 of the NAAEC and that the U.S. Department of State would be the lead agency to resolve these issues. Mark Joyce, Associate Director, FACMD, OARM, EPA, noted the challenges of resolving enforcement of an international environmental assessment and data-sharing issues between the federal governments of Mexico and the United States; negotiations, however, are ongoing.

Ms. Hanson explained how the state of Minnesota and the neighboring U.S.-Canadian border along with the United States International Trade Commission had worked to resolve data-sharing issues of data that would have an impact on the environment. They first reviewed the quality of the data in question. Although the regulatory affairs differ between countries, the goals are the same. She noted the data management tools that currently exist.

No further public comments were offered, and the NAC/GAC used the time for an update on youth engagement in the CEC from Mr. McCartney, youth representative to the NAC. Mr. McCartney reported on the Georgetown-EPA partnership and the September 2016 Council Session in Mérida, Yucatán, Mexico, where the call for integration of North American youth, including indigenous youth, in the work

of the CEC was reiterated. Youth attendees from the three countries drafted a proposal to the Council Administrators consisting of the following recommendations: include a youth representative on the NAC and establish permanent engagement in the activities of the CEC to include the TEK Roster of Experts and the JPAC. In addressing today's charge to engage youth in the areas of marine litter and food wastes, he pointed out that the best strategies would be to focus on leveraging existing partnerships and establishing new partnerships with universities to develop food waste initiatives; developing multimedia campaigns on marine litter; and using student-led documentaries to increase youth engagement in the two areas. Mr. McCartney also emphasized the need to engage youth in the CEC and environmental issues and to not make the business of engaging youth the issue.

Dr. Pardo described the new movement on U.S. college campuses for engaging youth in outreach and community-related projects that include the Carnegie Community Engagement Classification at colleges and universities, which was discussed at the April 2016 NAC/GAC meeting.

Committees Meet Separately

Mr. Wennberg explained that the NAC and GAC would meet separately and then reconvene for a report on their individual deliberations.

GAC Separate Meeting

Mr. Wennberg opened the GAC discussion by noting the twofold charge to provide advice on (1) potential directions on marine litter and food waste as future areas of work in the CEC's Operational Plan and (2) implementing a path forward on tangible initiatives for youth engagement, including indigenous youth, on the areas of marine litter and food waste. The advice to EPA should focus on identifying ways that the U.S. government in collaboration with Canada and Mexico, can engage the CEC, with its unique continental perspective, to fill gaps or harmonize efforts on marine litter and food wastes in addition to its existing efforts and \$9 M budget. Recognizing that some recommendations could cross-cut the two areas, he suggested discussing each topic separately.

Dr. Nathan asked for a clarifying definition of marine litter and whether marine oil spills, release of liquid petroleum hydrocarbon, would be included. Mr. Wennberg clarified that EPA defines marine litter as solid waste originating primarily from land-based sources. Dr. Striplen shared the definition of marine debris from the *West Coast Marine Debris Strategy* published in 2013 by the West Coast Governors Alliance (WCGA).

On a global scale, adopting better recycling practices, such as sorting, which is being used in San Antonio, Texas (as described by Dr. Vincent) and El Paso, Texas (as described by Ana Maria Cristina Viesca-Santos [El Paso County Attorney's Office], GAC member), could provide sustainable relief from littering. In addition, providing incentives would encourage recycling and sorting of trash. Mr. Keenan commented that recycling does not have the same appeal as it previously held, because of reduced efforts like curbside collections and realizable value of the recyclables; economically, the costs overshadow the environmental benefits. Dr. Striplen suggested that developing ways for decoupling material recovery from its market value could be a strategy to consider.

Dr. Nathan explained that certain establishments, such as zoos, have banned plastic containers with disposable caps from being used inside the visitor areas; however, beach-front stores still serve refreshments in plastic containers that eventually end up in the waters. Mr. Keenan pointed out that the marine litter problems identified by EPA largely are in reference to waterways and only to a lesser degree to beaches.

Marina M. Brock (Department of Health and Environment), GAC member, suggested use of educational public service announcements (PSAs) to increase awareness of the problems of marine litter and dually focus efforts on both mitigation and cleanup. Mr. Wennberg noted the budget limitations of the CEC to conduct these types of advertisements and suggested partnering with industry and other agencies (e.g., USDA Agriculture Council) as an option to enlist resources for an effective campaign that crosses the three nations. Mr. Joyce added that using mobile devices (e.g., smartphones) to deliver PSAs would be cost-effective, and developing a computer application (app) would have the potential to reach a broader audience. An environmental impact status could be given as feedback to adopters of the app. Dr. Striplen added that EPA could implement policy to ensure that a certain percentage of the PSA be structured strictly for social media outlets.

Members pointed out that developing the message to convey the urgency of marine litter and food waste control is critical to the charge, and global harmonization of that message and any regulations that follow would be necessary. Also, adopting a unique symbol that would convey the message of the charge and encouraging the target audience to share in generating the message would be good approaches to take. Martha Bohrt (City of Norfolk), GAC member noted the differences in the school system of other countries that might affect the PSA delivery and uptake of the message.

Mr. Keenan suggested harnessing the power of social networking groups with highly developed sustainability ethics such as Facebook and Google as a means for increasing the awareness in the two areas; these groups already have the youth voice in their infrastructures. Leveraging companies to broadcast their sustainability messages to the public has the potential for global influence if the environmental Ministers engage that company. Ms. Viesca-Santos pointed out instances of youth educating their parents and suggested developing ways to target elementary schoolers. Ms. Brock echoed these ideas and offered that modifying class curricula—especially those in Science, Technology, Engineering and Math—to include modules on environmental issues also could be beneficial. Mr. Keenan explained that environmental issues have been incorporated into the curricula of many U.S. schools; however, the right avenues to convey these messages need to be identified.

Ms. Bohrt suggested leveraging public-private partnerships to sponsor contests, develop call to action plans and offer scholarships to engage youth in the charge question—a trilateral effort. Mr. Joyce added that the NAC and GAC could act as the driving forces for the United States to negotiate establishing public-private partnerships to advance the mission of engaging youth in the activities of the CEC. Ms. Sandoval suggested leveraging and expanding existing initiatives, such as the Water Share Programs that some states are already engaged in.

Members cooperatively recommended that the CEC hire a consultant to conduct scientific research to catalog (i.e., creating metadata representing information sources) the existing efforts, as well as regulation changes in these two charge areas in the United States and other countries. The outcome would be similar to the North American Environmental Atlas. Performing gap analysis and reviewing transboundary issues on large-scaled projects in the United States and abroad, such as the *West Coast Marine Debris Strategy*, would be places to begin. Mr. Wennberg suggested leveraging the LEO Network to document activities, and Mr. Wright suggested engaging youth to do the monitoring. In Tribal communities, educating youth leads to the education of adults.

Dr. Nathan pointed out the necessity also to identify the package producer responsibilities in being accountable for their products and the role that those products have in litter control in addition to the consumer and community-based efforts. Ms. Viesca-Santos pointed out the need to address the production of materials and products that end up as marine litter. Mr. Wright noted that education is needed globally and the packaging industry leaders should be the drivers of this education. Dr. Striplen noted the Safe Medicine Disposal Programs and producer responsibilities and its application for marine litter.

Ms. Gonzales pointed out that the use of Styrofoam in some developing countries could be attributed to a lack of clean water to support such necessary daily activities as washing dishes.

The tone should be balanced between mandates, regulations and best practices in the language of the recommendations. Mr. Wennberg suggested the CEC develop a recognition program similar to the Greening Supply Chains project to encourage the packaging industry to participate, which would offset making new or changing existing regulations. Mr. Keenan added that Walmart and Procter & Gamble Supply Chains initiatives are ones to leverage.

Dr. Nathan suggested the CEC sponsor small community-based grants to support trash collecting efforts and help educate residents on the impact of marine litter. Mr. Wennberg lauded the success of the NAPECA grants and suggested that setting a subject area priority would be one way to address marine litter and food waste.

Members pointed out the logistical problems that food banks and grocery stores face in selling products before expiration dates and suggested developing best practices to address these issues. Food banks are one of the largest distributors of foods to the public, homeless and others, and that contributes to the problem. Ms. Gonzales commented that food safety regulations could contribute to the litter problems by not allowing onsite prepared foods to leave the facility (e.g., senior centers). Dr. Nathan added that although regulations may be burdensome, they are necessary for the safety and health of the public.

Ms. Viesca-Santos commented on the litter control practices at many federal agencies that could be improved. Ms. Sandoval asked about the Good Samaritan Rule and the role it could play in alleviating food waste observed in grocery stores. Ms. Gonzales pointed out the agricultural food wastes of unharvested crops.

Mr. Wennberg suggested leveraging the zero food waste programs that colleges are enacting as a way the CEC could adopt for engaging youth. Ms. Sandoval described the campus food waste audit conducted by Western Michigan University that was published in 2012; researchers concluded that integrating the dining services with the practices of the university provided the best food waste elimination efforts.

Ms. Gonzales asked about the TEK and what activities for engaging youth are being considered. Mr. Wennberg explained that the youth representatives had articulated their ideas to the Environmental Ministers at the September 2016 Council Session and this list should have more discussion in the NAC session. He added that the CEC is not a strong proponent of long-standing committees due to budgetary constraints, but might entertain suggestions to form a temporary working group or subcommittee of youth engagement that would mimic the TEK Roster of Experts. Mr. Keenan suggested that the CEC extend the current youth involvement on the NAC by establishing a subcommittee to leverage existing university partnerships to identify the prior youth engagement efforts; this model could be adopted by other countries. Mr. Joyce cautioned against duplicating efforts and added that moderating behavior changes would be critical to implementing any system to reduce marine litter or food waste.

Mr. Wennberg opened the discussion to items beyond the charge question. Members wondered about the possibility of hosting face-to-face meetings outside of the Agency's headquarters. Mr. Joyce pointed out that holding these meetings at other locations would be challenging for EPA officials to attend. Mr. Keenan and Ms. Gonzales suggested establishing a broader, formal youth working group to engage with the TEK Roster. Mr. Wennberg envisions the TEK Roster interacting with the NAC and GAC in ways that are similar to those with the JPAC.

Dr. Striplen wondered about the extent to which EPA and the CEC are engaged in the Dakota Access Pipeline and the potential effect on the Standing Rock Sioux Tribe's water supply. Mr. Joyce explained that EPA is the lead agency on CEC activities and pointed out the challenge that Ms. Nishida and OITA

have in keeping all of the federal government abreast of the various issues; the Standing Rock Sioux Tribe issue is an important example of the coordination needed to address these challenges. He reiterated the federal governmental lead agencies that were named by Ms. Chase and AIEO. Members were encouraged to make note of the importance of ensuring coordination and information sharing among all departments and agencies within the federal government in the advice letter. Mr. Wennberg added that the responsibility of the GAC is to address issues that are within the context of the CEC and the NAAEC. Members are welcome to draft statements for the advice letter to bring environmental issues they deem relevant to the Agency's attention.

NAC Separate Meeting

Dr. Pardo reminded the NAC members of the charge question. She opened the discussion to recommendations on marine litter. A member suggested identifying the potential sources of marine litter in fresh and ocean waters. Dr. Santiago suggested that the environmental economy concept be factored into doing engaging research to develop a business model to circumvent the problem at the pre-litter stage. Making connections between the community and the economics can be done strategically by engaging the water recreationist (e.g., fisherman, kayakers); a member added that youth engagement will be innately embedded. Ms. Sara Hooper (DuPont), NAC member, suggested incentives for innovation, adopting risk-based policies, promoting value and engaging stakeholders. A member stated three critical areas to consider in addressing marine litter: mitigating, containing and eliminating plastics from entering the waters.

A member recommended launching recycling initiatives in key cities along the U.S.-Mexico border and another member suggested leveraging key stakeholder constituency groups currently active in recycling who could provide data that would inform these recommendations. This would provide a landscape of programs that are currently operating and are creating value. Mr. McCartney suggested addressing the source of the problem and making distinctions in classic waste. Educating the communities to the impact cross-cuts both charge topics. Using existing resources from EPA and the CEC, engaging in partnerships, engaging North American youth at colleges and universities to conduct projects and using established infrastructures and media platforms (e.g., Technology, Entertainment and Design (TED) Talks) are places to begin.

A member recommended using PSAs to increase awareness of the actions and behavioral habits that could be contributing to the litter problem. Also, recognizing/identifying U.S. states that have cutting-edge policies, expanding these efforts further and linking them to awareness initiatives also would be valuable. Ms. Sagovac commented on the recycling efforts in the state of Michigan and offered that communities should be engaged to commit to reducing and reusing those items comprising solid waste. She added that a lack of adequate solid waste disposal is an international issue. A member suggested that a cost analysis of the various approaches to reducing marine litter would result in more focused initiatives.

A member recommended that the TFW programs include efforts to engage cities and towns that are not easily accessible to the waterways and provide them with information about the benefits of such waste reduction. Ms. Green commented that the source (e.g., point source versus area-wide source) of the waste would dictate how it would be handled. Dr. Santiago suggested engaging the community in design of art displays depicting the various types of trash to highlight the impact it has on litter control. A member pointed out that art displays also could be used as educational tools to engage the youth, along with developing community-based watershed projects similar to those done in Mexico.

Dr. Pardo suggested focusing initially on single-use items, while being mindful of alternative strategies that might be cost effective. A member recommended developing ways to promote safe drinking water

and noted the linkages between marine litter and food waste in regard to packaging. Extending the shelf life for foods is another linkage, as pointed out by Ms. Sara Hopper (DuPont), NAC member. She recommended that the CEC consider developing trilateral initiatives on marine litter and food waste.

Mr. McCartney suggested using approaches that would restate the narrative in a positive manner—envisioning a futuristic look without marine litter and food waste issues. A member suggested leveraging the U.S. Beverage Container Industry to engage the states to enact effective programs and to compare the economic benefits. Another member recommended that EPA promote stronger container deposit legislation (e.g., bottle bills), which the U.S. beverage container industry and others oppose. Members collectively remarked on the increased interest in sustainability and the environment and the opportunity to reinforce prior legislations. Dr. Chischilly pointed out two issues the tribal communities would face in decreasing litter: lack of community enforcement and lack of funding to maintain and better dispose of trash. She recommended that EPA develop enforcement codes and implement requirement changes in GAP funding to accommodate trash removal.

Dr. Pardo summarized the broad overarching themes for marine litter: develop a life-cycle perspective; pursue an education and awareness policy; reinvest and reinvigorate basic programs; control the source with recycling and intervention; explain the links between economics and the environment; define specific effective strategies and successes; focus on single-use items; use the research to inform decisions; and build awareness through community-focused interventions. The NAC then detailed broad messages for marine litter recommendations: identifying the linkages between marine litter and food waste; empowering the community to make decisions to address initiatives unique to their priorities; encouraging pollution control and legacy cleanup; developing a trilateral strategic plan to identify the gaps and engaging multiple stakeholders; funding initiatives; developing local programs that are specific and meaningful to the community; providing guidance that is accessible to the states; and developing a national approach that would create a market for jobs.

Dr. Pardo opened the discussion to recommendations on food waste. A member pointed out that the food waste issue was closely tied to the food security and food insecurity issues that exist at the U.S.-Mexico border. Leveraging existing guidance of other federal agencies, such as the USDA and its initiative of the food pyramid, would be one strategy. Ms. Hopper emphasized maximizing the yield of crops pre- and post-harvest, even though it may be outside the scope of what the CEC could do. Ms. Green explained that odd-shaped and speckled fruits and vegetables, post-harvest, were being delivered to the landfills and not distributed to needy consumers. One member commented that the use of gleaners in field harvesting would be one way to reduce wasted produce and also address community engagement and food justice issues. Dr. Chischilly recommended that the CEC develop ways to ensure that native crop seeds are protected from genetically modified crops planted near tribal territories as more tribes begin to grow their own food. Increased awareness to the issues and policy changes will be necessary.

Mr. McCartney suggested connecting families to justice for waste food initiatives at restaurants and schools located in non-urban areas, encouraging them to donate safe unused food rather than discarding it as waste. Ms. Sagovac pointed out the possible relationship between food waste and food product packaging. Adopting broad advertising campaigns and awareness programs should be considered. Dr. Santiago added that educating families on composting would increase its acceptance and compliance. A member commented that the transportation and delivery of food factors into the shelf life, as well as access to fresh food, is an issue. Members collectively recommended that the CEC provide more information that is readily accessible to those who are advocating for food waste justice.

Mr. Antonioli commented that large portion sizes are drivers for food waste and suggested that linking smaller portions to good health could reduce excess waste. Mr. McCartney pointed to a targeted approach that supermarkets could do to educate families to portion sizes at the point of purchase. One member

commented that the feasibility of linking government subsidies to sustainability practices is something the CEC could explore. Mr. Carey suggested developing a strategy for engaging youth in the food waste issues. Members detailed a list of activities that could be included: creating apps to monitor food consumption; social media campaigns; developing K–12 and college-level programs (e.g., citizen science projects); and sponsoring food waste hackathons.

Dr. Pardo opened the discussion to items beyond the charge question. Mr. McCartney inquired about youth engagement in general and asked for updates on youth in the CEC at the next face-to-face meeting and teleconference. Dr. Chischilly noted that CEC’s OP listed “improve and restore” in regard to sustainable communities and ecosystems; she suggested considering expanding the scope to include conservation and protection. Dr. Santiago commented that border transportation and the like were not highlighted in the NAPECA grants and asked that it and other areas of the project life cycle be included in future applications.

Members asked about available EPA resources for the NAC to better advocate CEC’s mission and a forum in which to provide valuable input (e.g., solution strategy) on the OP projects and NAPECA grant concepts. Dr. Pardo recommended that the committee include a statement of its continued support in the advice letter. Although the political landscape changes with federal elections, EPA’s commitment to CEC’s mission remains the same.

Dr. Chischilly emphasized the need to clearly define TEK in the CEC and better understand the current U.N. efforts regarding TEK. She noted the upcoming treaty on Intellectual Property Rights that would have world-wide effects and suggested advocating for a balance of rights to protect tribal use of TEK. Dr. Santiago suggested including TEK in future conversations regardless of the charge. Given the comments regarding the CEC and TEK, Dr. Pardo suggested a briefing on TEK and the Roster of Experts at the next meeting.

Committees Reconvene in Plenary Session

Report-Outs From the NAC and GAC Chairs

Mr. Wennberg reviewed the GAC deliberations. Extended conversations covered ways to engage the public and actions on awareness that apply equally to both charge topics. These included public education; PSAs on television and social media; public-private partnerships; and recognition programs. Members recommended that the CEC leverage existing partnerships and institutional and industry commitments on sustainability issues. They also discussed the opportunities for the CEC to conduct research on marine litter by reviewing the activities of other entities in North America, such as the WCGA, to highlight successes and conclusions. The source or product producer was identified as a major factor in reducing marine litter, as well as developing new regulatory approaches and incentives. Members suggested that the principal focus should be on reviving proven models (e.g., CEC’s Greening Supply Chains project) to catalyze the packaging industry into new directions.

Recognizing the possible consequences of emphasizing marine litter and food waste initiatives, the GAC recommended conducting cost analyses that would provide a basis for the CEC to engage in these topical areas. Youth engagement in the CEC could be further expanded by the educational and media outlets and incorporate more activities on marine litter into the LEO Network. Leveraging food waste management studies (e.g., 2012 Western Michigan University food audit project) could provide necessary structure for addressing food waste in the CEC.

Mr. Wennberg summarized the other topics discussed by the GAC. Members suggested more interactions between the GAC and the expertise of the TEK Roster. The Standing Rock Sioux Tribe’s opposition to the Dakota Access Pipeline has been an issue for some time, and members expressed concern that it was not getting enough attention from EPA. An assessment of the CEC’s and EPA’s role in this matter will be

carefully reviewed and a statement of awareness will be considered. Broadly, the role of EPA and the engagement of other federal agencies on environmental issues should be clearly defined to aid in drafting timely responses to various proposals that the United States would be involved in resolving or providing input.

Dr. Pardo reported on the NAC deliberations. Regarding marine litter, members' suggestions were divided into two categories: pollution prevention and legacy cleanup. Within this context, the following areas of engagement were identified: awareness building; strategic planning; gathering new data while understanding cost-effectiveness; high-impact leverage points; both local and global partnerships; source versus non-source issues; positioning; amplifying messages; and facility development. The NAC recommended that the CEC consider key activities that would be centered on pollution prevention and legacy cleanup, such as research, best practices, and developing ways for local programs to yield meaningful outcomes. In addition, assessing the global aspects or status, as well as the local ramifications, will be necessary, as will engaging stakeholders and industry partners at all levels.

Members engaged in discussions on food wastes and identified justice for food waste, food justice (e.g., fresh foods), sources, better understanding of existing knowledge, incentives for behavior changes, leveraging existing policies, waste to security issues, infrastructure challenges in tribal communities, linkages to health, strategies for engaging schools and curriculum changes, and field waste.

Dr. Pardo summarized the other topics discussed by the NAC. Members suggested briefings on the status of youth engagement in the CEC, including those of indigenous youth, and activities of the TEK at the next meeting. The NAC recommended including conservation and protection in the CEC's strategic priorities for sustainable communities and ecosystems. Members also suggested providing resources to enable better advocacy on the NAC and providing a statement of support to EPA regarding the strength and value of the committee that is independent of the Administration or federal election cycle. The NAC recommended revising the NAPECA grant requirements to include specific details in the proposals on the significance locally, as well as globally.

Adjournment

Mr. Wennberg thanked Ms. Vizian for advocating for face-to-face meetings, and Dr. Pardo thanked the members for an engaging session and expressed appreciation to EPA and FACMD for continuing the support of the NAC/GAC.

Dr. Pardo and Mr. Wennberg adjourned the meeting at 12:41 p.m.

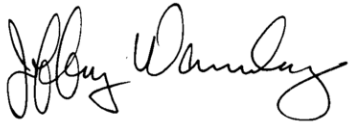
Action Items

- ❖ Mr. Carrillo will forward copies of the meeting's PowerPoint presentations to committee members.
- ❖ Mr. Carrillo will ask members via Doodle Poll for their availability to determine future dates when a quorum can attend the meetings.
- ❖ Ms. Chase will forward information on organizations and names of experts to increase advocacy efforts to Mr. Carrillo for distribution to the committees.
- ❖ Dr. Chischilly will forward a copy of the guidance document on use of TEK in climate change to Mr. Carrillo for distribution to the committee members.

- ❖ Mr. Striplen will forward a draft summary of the Standing Rock Sioux Tribe dispute to the GAC chair.
- ❖ Mr. Carrillo will forward a copy of the CEC 101 PowerPoint presentation to committee members.
- ❖ Dr. Pardo will share her draft advice letter on marine litter and food waste with the NAC members for their comments.
- ❖ Mr. Wennberg will share his draft advice letter on marine litter and food waste with the GAC members for their comments.

Summary Certification

I, Jeffrey Wennberg, Chair of the Governmental Advisory Committee, and I, Theresa Pardo, Chair of the National Advisory Committee, certify that the meeting minutes for the dates of November 16–17, 2016, as hereby detailed, contain a record of the persons present and give an accurate description of matters discussed and conclusions reached and copies of all reports received, issued or approved by the advisory committees. My signature date complies with the 90-day due date after each meeting required by the GSA Final Rule.



Jeffrey Wennberg
Chair, GAC

2/15/2017
Date



Theresa Pardo
Chair, NAC

1/27/17
Date

Appendix A: Meeting Participants

NAC Members

Theresa Pardo, Ph.D.

Director
Center for Technology in Government
Associate Professor of Public Administration
and Policy
University at Albany
State University of New York

David Antonioli

Chief Executive Officer
Verified Carbon Standard

Andrew P. Carey

Executive Director
U.S.-Mexico Border Philanthropy Partnership

Ann Marie Chischilly, Ph.D.

Executive Director
Institute for Tribal Environmental Professionals
College of Engineering, Forestry and Natural
Resources
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Abbas Ghassemi, Ph.D.

Executive Director
Institute for Energy and Environment
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Carolyn L. Green

Founder/Managing Partner
EnerGreen Capital Management, LLC

Donald K. Harris

President and Founder
Amerris Consulting, LLC

Tracy Hester, J.D.

Professor of Practice
University of Houston Law Center

Sara E. Hopper

Manager
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Aminata P. Kilungo

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Mary L. Klein

Member
Wildlife Habitat Council

Donna L. Lybecker, Ph.D.

Professor and Chair
Department of Political Science

Justin Robert McCartney

Georgetown University Undergraduate
Student
The Edmund A. Walsh School of Foreign
Service
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Carlos Perez

Principal
Galica, LLC

Simone Sagovac

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Southwest Detroit Community Benefits
Coalition

Ivonne Santiago, Ph.D.

Professor
College of Engineering
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Commissioner of Public Works
City of Rutland, Vermont

Cornelius Antone
Environmental Engineer
Department of Safety
Tohono O'odham Nation
Environmental Protection Office

Martha Bohrt
City Manager's Fellow
Office of Resilience
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Sally Ann Gonzales
State Representative
Arizona State Legislator
Arizona State Government

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Regional Manager
Minnesota Pollution Control Agency

Gerald M. Keenan
Chairman
Illinois Pollution Control

Vincent R. Nathan, Ph.D., M.P.H.
Assistant Health Director
San Antonio Metropolitan Health District

C. Nazerat Sandoval
Environmental Engineer
Air Quality Division
Michigan Department of Environmental Quality

Charles (Chuck) J. Striplen, Ph.D.
Environmental Scientist
North Coast Regional Water Quality Control
Board
Cal EPA–State Water Resources Board

Cristina Viesca-Santos, J.D.
Assistant County Attorney
El Paso County Attorney's Office

Kelly C. Wright
Program Manager
Environmental Waste Manager Program
Shoshone-Bannock Tribes
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Designated Federal Officer

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JoAnn Chase
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American Indian Environmental Office
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Sylvia Correa
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Lisa Goldman

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Pam Teel

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Donna Vizian

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Other Participants**Lindsay Brumwell**

Chair
Joint Public Advisory Committee

Cesar Rafael Chavez

Executive Director
Commission for Environmental Cooperation
Secretariat

Donita Cotter

U.S. Fish and Wildlife Service
U.S. Department of the Interior

Robert Moyer

Unit Director
Submissions on Enforcement Matters
Commission for Environmental Cooperation

Gail Small

Director

Native Action

TEK Roster of Experts

Commission for Environmental Cooperation

Contractor Staff

Carolyn J. Fisher, Ph.D.

The Scientific Consulting Group, Inc.

Appendix B: Meeting Agenda



Official Meeting of the National and Governmental Advisory Committees to the U.S. Representative to the Commission for Environmental Cooperation

November 16-17, 2016

U.S. EPA WJC East

1200 Pennsylvania Avenue, NW

Washington, D.C. 20004

Tel: 202-564-2294 fax: 202-564-8129

FINAL

AGENDA

~EPA Conference Room 1117A~

Wednesday, November 16, 2016

- 9:00 a.m. **Registration**
- 9:30 a.m. **Call to Order and Introductions**
Oscar Carrillo, Designated Federal Officer (DFO), EPA
- 9:40 a.m. **Welcome and Overview of Agenda**
Theresa Pardo, Chair of the National Advisory Committee (NAC)
Jeff Wennberg, Chair of the Governmental Advisory Committee (GAC)
- 9:50 a.m. **Update on U.S. Priorities and Guidance**
Jane Nishida, Acting Assistant Administrator, Office of International and Tribal Affairs (OITA), EPA
- 10:50 a.m. **BREAK**
- 11:00 a.m. **Update on Tribal Issues**
JoAnn Chase, Director, American Indian Environmental Office, OITA, EPA
Question & Answer Period
- 11:30 a.m. **Remarks**
Donna J. Vizian, Principal Deputy Assistant Administrator, Office of Administration and Resources Management, EPA

Wednesday April 20, 2016 (Continued)

- 11:40 p.m. **CEC Update on CEC Operational Plan**
Cesar Chavez, Executive Director, CEC Secretariat (via Adobe® Connect)
Question & Answer Period
- 12:00 p.m. **Public Comment Period**
- 12:30 p.m. **LUNCH**
- 1:30 p.m. **Update on Monarch Butterflies**
Donita Cotter, Fish & Wildlife Service, U.S. Department of Interior (via Webex)
Question & Answer Period
- 2:00 p.m. **Update on SEM and Status of Submissions**
Robert Moyer, Director, SEM, CEC (via Adobe Connect)
Question & Answer Period
- 2:30 p.m. **Joint Public Advisory Committee (JPAC) Report-Out**
Lindsay Brumwell, Chair, JPAC (via phone)
Question & Answer Period
- 2:45 p.m. **BREAK**
- 3:00 p.m. **Marine Litter Update**
Stephanie Adrian, Office of Global Affairs, OITA, EPA
Question & Answer Period
- 3:30 p.m. **Food Waste Update**
Ted MacDonald, Office of Global Affairs, OITA, EPA
Question & Answer Period
- 4:00 p.m. **Summary and Next Steps Discussion/ Other**
NAC/GAC Chairs
- 5:00 p.m. **RECESS**

Thursday April 21, 2016

BUSINESS MEETING:

- 8:30 a.m. **Registration**
- 9:00 a.m. **Call to Order**
Oscar Carrillo, DFO, EPA
- 9:05 a.m. **Plenary: Joint Committee Meeting**
Theresa Pardo, Chair of the NAC
Jeff Wennberg, Chair of the GAC
- Discussion on dates for April and October 2017 meetings
- 9:30 a.m. **Public Comment Period**
- 9:45 a.m. **Committees Meet Separately**
NAC stays in "1117A" Conference Room
GAC meets in "1132" Conference Room
- 12:00 p.m. **LUNCH**
- 1:00 p.m. **Committees Reconvene in Plenary Session**
Report-outs from the NAC and GAC Chairs
- 3:00 p.m. **ADJOURNMENT**

Appendix C: Charge Questions for November 16–17, 2016 NAC/GAC Meeting

CHARGE QUESTIONS: NAC/GAC MEETING

~ November 16-17, 2016 ~

WASHINGTON, D.C.

Dear NAC & GAC Members,

Since our last meeting in April 2016, EPA Administrator Gina McCarthy and her counterparts in Canada and Mexico, Secretary Rafael Pacchiano and Minister Catherine McKenna, respectively reiterated their commitment to *clean and sustainable growth and support for strong and effective actions to address climate change in the North America region* during the CEC Council Session in Merida, Yucatan on Sept 8-9, 2016. These commitments stemmed from the strategic priorities defined in the CEC's 2015-2020 Strategic Plan: climate change mitigation and adaptation, green growth, and sustainable communities and ecosystems, and also build on the momentum set by two significant environmental events this year: the April 22, 2016 signing of the Paris Agreement on climate change, and the Statement and Action Plan on Climate, Clean Energy, and Environmental Partnership resulting from the June 29, 2016 North America Leaders' Summit (NALS) in Canada.

The Ministers also encouraged greater emphasis on the *relationship between ecosystems, job creation, gender impacts, and income generation under the sustainable communities and ecosystems priority of the CEC, and identified two new areas for attention in the next operational plan: marine litter and food waste*. Council also called for the integration of North American youth, including indigenous youth, in the work of the CEC; and directed that a path forward be developed to identify tangible initiatives for such engagement with the expectation that youth involvement will encourage a spirit of innovation in the work of the CEC. In addition, the Council reaffirmed its support for the ongoing development of a TEK Statement of Principles, a guidance document, as well as a North American inventory and map of TEK expertise. The CEC will develop case studies that showcase best practices, incorporating TEK in decision making in each of our countries. By doing so, the Council will ensure the integration of TEK in all CEC activities.

Therefore, the “**CHARGE**” for this meeting is two-fold. One is to provide advice on potential directions on marine litter and food waste as future areas of work in the CEC's Operational Plan, and second is to provide advice on implementing a path forward on tangible initiatives for youth engagement, including indigenous youth, on the areas of marine litter and food waste.

For these charges, you will be briefed by Jane Nishida, Acting Assistant Administrator in the Office of International and Tribal Affairs (OITA) and JoAnn Chase, Director of the American Indian Environmental Office in OITA. You will also be briefed by Mr. Cesar Chavez, CEC Executive Director and a JPAC representative.

During the last portion of the meeting the committees will meet separately to develop their respective advice letters, based on the materials and presentations shared throughout the meeting. Finally, as always, the committees are welcome to provide advice on other trade and environment issues related to the NAAEC.