2021 Operational Plan Appendix I

Appendix I: Cooperative Project Descriptions

Transforming Recycling and Solid Waste Management in North America

1. **Project duration:** from November 2021 to October 2025 (48 months)

2. **Budget (C$):** 1,530,000
   - Phase I (Years 1 and 2 – Objective 1): C$745,000
   - Phase II (Years 3 and 4 – Objective 2): C$785,000

3. **Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries:**

The World Bank estimates that around 2 billion tonnes of municipal solid waste were generated in 2016, with Canada, Mexico and the United States generating 0.4-1.5 kg more waste per capita per day than the global average.[1] North America has the highest per capita plastic and paper consumption in the world. The region represents 21% of total plastics consumption[2] and four times the global average in per capita paper consumption.[3]

According to the World Bank, while waste is generally managed in an environmentally sound manner in North America, globally the mismanagement of waste is polluting the oceans, clogging sewers, and causing flooding, transmitting diseases, and increasing respiratory problems, and, according to 2016 data, generating 1.6 billion tonnes of carbon dioxide.

Reducing waste and closing material loops will help minimize the environmental impacts along the value chain of resources and products, as well as presenting considerable economic opportunities. Circular economy strategies, including various recovery options, are estimated to unlock $4.5 trillion of economic growth around the globe.[4] The World Business Council for Sustainable Development

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[1] Kaza, Silpa; Yao, Lisa C.; Bhada-Tata, Perinaz; Van Woerden, Frank. 2018. What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. Urban Development. Washington, DC: World Bank. © World Bank. License: CC BY 3.0 IGO.

[2] Heller, M., Mazor, M., & Keoleian, G. (2020). Plastics in the US: toward a material flow characterization of production, markets and end of life. Environmental Research Letters, 15(9), 94034–.

[3] Mandy Haggith, Susan Kinsella, Sergio Baffoni, Patrick Anderson, Jim Ford, Rune Leithe, Emmanuelle Neyroumande, Neva Murtha and Bas Tinhout. 2018. The State of the Global Paper Industry. Shifting Seas: New Challenges and Opportunities for Forests, People and the Climate. Environmental Paper Network

[4] Accenture (2018), retrieved from https://newsroom.accenture.com/news/the-circular-economy-could-unlock-4-5-trillion-of-economic-growth-finds-new-book-by-accenture.htm

estimates that the global bioeconomy market could be worth up to US$7.7 trillion by 2030, with significant opportunities for circular solutions.

The transition to a circular economy and increased material recovery also offers solutions to mitigate climate change. The magnitude of avoided GHG-emissions benefits from material circularity is highly dependent on the type of material and the local circumstances for energy offsets. For example, the US EPA estimates that recycling of various paper products could result in 2.64-3.59 Mt CO_2e reduction per short ton of paper,[1] and a study of the Canadian plastic sector estimates that diverting 90% of the plastic waste now going to landfills could result in 1.8Mt of CO_2e reduction by 2030.[2]

The objective of this proposal is to accelerate the uptake of circular economy and sustainable materials management practices that are needed to transform North American recycling and solid waste management and to realize the economic and environmental benefits for the region. This will be accomplished by developing milestone studies to better understand the opportunities for the recycling sector and secondary material markets in North America, an overview/description of the legal and policy relevant frameworks, identify emerging materials and technologies, and support stakeholder collaboration and knowledge sharing via networking activities. Building on the results of milestone studies and stakeholder input, the project will include pilot projects to assess the feasibility of innovative technologies or practices for adoption at scale across North America.

The project is expected to address information gaps, inform policy-making across Canada, Mexico and the United States, identify potential areas for policy coherence, and advance circularity and sustainable material management practices. The project will support CEC member states in their efforts to promote circular economy and sustainable materials management approaches to encourage eco-design and thus increase product and material reuse, recovery and recycling rates in North America. The transition to circular economy approaches that are restorative or regenerative by design is intended to prevent and eliminate waste through improved design of materials, products, and systems (including business models), allowing resources used in such processes and activities to maintain their highest values for as long as possible.

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[1] US-EPA (2016), Waste Reduction Model, Documentation for Greenhouse Gas Emission and Energy Factors Used (2016), retrieved from: Waste Reduction Model (WARM), Documentation for Greenhouse Gas Emission and Energy Factors Used

[2] Government of Canada (2019), Economic Study of the Canadian Plastic Industry, Markets and Waste

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
   ☐ Clean Air, Land and Water

   ☒ Preventing and Reducing Pollution in the Marine Environment

   ☒ Circular Economy and Sustainable Materials Management

   ☐ Shared Ecosystems and Species

   ☒ Resilient Economies and Communities

   ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth):**

   The proposed activities will add value and accelerate sustainable materials management and inform the development of a circular economy in North America by supporting foundational knowledge creation; fostering collaboration between industry, academia, governments, and other relevant stakeholders; and strengthening public information sharing. The project will be an opportunity for entrepreneurs, including youth, in the recycling and recovery sector to develop sustainable materials practices and scale other emerging technologies for waste management and material recovery. The project will consider circular economy and sustainable material management opportunities for Indigenous communities, as appropriate.

6. **Explain how the project can achieve more impact through trinational cooperation:**

   The acceleration of the uptake of circular economy and sustainable materials management practices that are needed to transform North American recycling and solid waste management can be done through a process of exchange and discussion among the three countries. The milestone studies of the state of opportunities for the recycling sector in the region will offer wider perspectives on the supply and demand for secondary material and opportunities for innovation, given the integrated nature of key value chains across North America. By working together to collect information about recycling and waste management and facilitate a forum for open exchange with stakeholders, the three countries can create a shared understanding of potential barriers as well as opportunities for supporting the sector and making progress. The outcomes of the pilot testing phase will highlight different approaches and

technologies that could be expanded beyond national boundaries. As part of this project, the three countries will also strengthen their waste management networks, disseminate relevant information in the three CEC official languages and promote other initiatives focused on the circular economy.

7. **Describe how the project complements, or avoids duplication with, other national or international work:**

   The project will expand on existing material recovery studies from the United States and Canada and cover a targeted scoping study of recycling infrastructure in Mexico. The milestone studies will open potential ways to scale-up opportunities around this industry, while broad stakeholder engagement in the process, and specifically in the pilot testing, is key to potential implementation of improvements in materials management in North America.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable:**

   Where possible, the project will take into account traditional ecological knowledge of tribal and Indigenous communities that has the potential to be applied in the circular economy and opportunities for sustainable material management. In addition, Indigenous and tribal communities or organisations could participate in the project's discussion forums and final dissemination stage of the project outcomes.

9. **Describe how the project engages new audiences or partners, if applicable:**

   The project has the potential to bring together stakeholders along North American value chains, from brand-owners and producers to recyclers and municipalities to exchange information, identify barriers to material recovery, and explore opportunities to expand the secondary material markets in North America. In this context, the project will create opportunities for discussions and exchange, the development of pilot projects as well as potential partnerships, amongst industry, academia, government organizations, and NGOs.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g., federal agencies, other levels of government, academia, NGOs, the private sector, civil society, and youth):**

Lead agencies or organizations	Country
Natural Resources Canada (NRCan)	Canada
Environment and Climate Change Canada (ECCC)	Canada
Agriculture and Agri-food Canada	Canada

Innovation, Science and Economic Development Canada	Canada
US Environmental Protection Agency (USEPA)	United States
US Department of State	United States
US Department of Energy ReMade Institute	United States
Secretaría de Medio Ambiente y Recursos Naturales (Semarnat)	Mexico
Instituto Nacional de Ecología y Cambio Climático (INECC)	Mexico
Procuraduría Federal de Protección al Ambiente (Profepa)	Mexico

Potential Expert Organizations and Networking Partners	Country
FPInnovations, researchers within government and universities (e.g., UBC Bioproducts Institute, Smart Prosperity Institute)	Canada
Regional recycling agencies	Canada
Canada Plastics Pact, BioDesign	Canada
PIP360, Canadian Product Stewardship Council	Canada
National Zero Waste Council	Canada
Circular Economy Leadership Coalition	Canada
Pembina Institute	Canada
World Wildlife Fund	Canada
Other actors implementing practices such as cities with plastic bags and fees, bottle bills	Canada
Researchers within government and universities (e.g., Center for Bioplastics and Biocomposites, Golisano Institute for Sustainability), Ellen MacArthur Foundation, University of Florida SMM research lab, University of Georgia	United States
US Plastics Pact, Association of Plastic Recyclers	United States

Sustainable Packaging Coalition	United States
The Recycling Partnership	United States
Closed Loop	United States
Institute of Scrap Recycling Industries (ISRI)	United States
Keep America Beautiful	United States
Plastics Industry Association	United States
Alliance to End Plastic Waste	United States
Circulate Capital	United States
Center for Biological Diversity	United States
Greenpeace	United States
Surfrider	United States
Beyond Plastics	United States
Natural Resources Defense Council	United States
Other actors implementing practices such as cities with plastic bags and fees, bottle bills	United States
Researchers within government and universities (e.g., University of Valle de Atemajac and University of Guadalajara research in bioplastics), National Autonomous University of Mexico, National Polytechnic Institute, Monterrey Institute of Technology and Higher Studies)	Mexico
Asociación Mexicana de Envase y Embalaje	Mexico
Asociación Nacional de Industrias del Plástico A.C.	Mexico

ECOCE A.C.	Mexico
PetStar	Mexico
Proyecto Fronterizo de Educación Ambiental	Mexico
Federación Nacional de Municipios de México	Mexico
Red Queretana de Manejo de Residuos A.C.	Mexico
Instituto Nacional de Recicladores A.C.	Mexico
Other actors implementing practices such as cities with plastic bags and fees, bottle bills	Mexico

11. **In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget:**

PHASE I: YEAR 1 AND 2 (OBJECTIVE 1)

OBJECTIVE 1	Accelerate the uptake of circular economy and sustainable materials management practices that are needed to transform North American recycling and solid waste management.
Activity 1 **Budget C$580.000**	**Milestone studies**
Output(s)	Three key studies, based on robust definitions of key terms that will allow sound compilation of specific data and figures, will be implemented with a focus on various waste streams, for example, plastics, bioplastics, and paper: • Evaluating the current state of recycling infrastructure across North America. This would include expanding on existing studies in the United States and Canada, as well as evaluating the current state of recycling infrastructure across Mexico and could include regulatory frameworks in the region. • Evaluating opportunities and barriers in enhancing/improving secondary material markets and trade. • Evaluating emerging technologies and sustainable materials design pathways and best practices and examples implementing circular economy principles, taking into account traditional ecological knowledge of Indigenous communities. The milestone studies will be key input for defining and developing appropriate pilot projects in phase two of this initiative, which may result in tools and resources to support stakeholder action. Examples of these could be catalogues of innovative packaging designs or other technologies, reports of best practices and case studies, traditional knowledge, practical guides for industry, etc.
Expected results, performance measures	These studies will collate foundational knowledge to inform policy options that drive the transformation of materials management in North America, including potential ways to scale-up opportunities around this industry.

	These studies will go beyond the existing studies of US and Canadian recycling and recovery infrastructure, including a targeted scoping study of recycling infrastructure in Mexico that focuses on sustainable materials; the studies will also evaluate opportunities and barriers in secondary markets throughout North America and consider emerging technology for materials recovery and recycling infrastructure and product design (e.g., sorting-related, material selection).	
	Each study will include recommendations and possibly tools and resources for key actions by stakeholders that could further the development of the circular economy in North America. Recommendations could cover areas such as potential recycling metrics, harmonized regulatory framework for sustainable materials management, improvements in labeling clarity for recyclability/compostability, improvements in secondary markets, targeted investment in post-consumer solid waste management infrastructure, recycling standardization, consumer education, and increases in packaging biodegradability and compostability.	
Baseline (current status), if known	Existing US/Canada recycling infrastructure studies and basic studies of waste management in Mexico	
Target (by project end)	Milestone studies completed and stakeholders successfully engaged	
Subtask 1.1	Conduct studies on recycling and recovery markets, innovative product design, sustainable packaging designs currently on the market and emerging materials recovery and recycling technologies.	Years 1 and 2
Subtask 1.2	Finalize report documenting outcomes of studies and outlining next steps.	Years 1 and 2
Activity 2 Budget C$165,000	**Stakeholder engagement: Develop a work program to identify relevant stakeholders and interested partners and promote their engagement into collaborative work on the topics related to the studies.**	

Output(s)	Consolidated group of engaged and relevant stakeholders (e.g., manufacturers that recycle post-consumer and residential materials, all levels of governments, the economic ministries of the three countries, business chambers, academia, NGOs, independent workers). The nature of this group will be two-fold: - A consolidated group of engaged stakeholders acting as an "expert group" contributor to the preparation of the milestone studies, with the main goal of informing priority areas and scope as well as the general development of the studies. - A consolidated group of engaged stakeholders and a series of networking events. These networking events will provide opportunities to share and seek feedback on the result of the milestone studies as well as feedback and recommendations to be carried out in scoping pilot projects, and tools and resources to support stakeholders' future endeavors.	
Expected results, performance measures	Through the networking series, the CEC will analyze milestone studies, formulate working groups to determine next steps and receive feedback.	
Baseline (current status), if known	N/A	
Target (by project end)	Support knowledge dissemination, greater collaboration, and funding aligned for transformation with the appropriate North American stakeholders (e.g., industry, investors, academia, governments and NGOs) and facilitate networking activities/events.	
Subtask 2.1	Schedule and implement work program for the stakeholder expert group.	Years 1 and 2
Subtask 2.2	Schedule and implement work program on stakeholder engagement, including the organization and hosting of networking events for stakeholders to share and seek feedback on the result of the milestone studies, as well as feedback and recommendations to be carried out in the scoping pilot projects, and support decisions for next steps, including voluntary involvement in the pilots.	Years 1 and 2

PHASE II: YEAR 3 AND 4 (OBJECTIVE 2)

OBJECTIVE 2	Pilot test the identified opportunities and technologies in the milestone studies to better understand the state of and opportunities for the recycling sector in North America, supporting the collaboration of stakeholders via networking activities/events.
Activity 3 **Budget C$460,000**	**Implement pilot testing**
Output(s)	Building on the findings of the milestone studies, design and implement pilot projects through collaboration between industry, academia, governments and civil society on issues of circular economy and sustainable materials management strategies, with findings supported and adopted by various stakeholders. A report compiling the results of pilot projects that illustrate recommendations will be assessed at the project's final conference.
Expected results, performance measures	Outcomes may include improvements in materials management in North America related to such topics as finance, product design, and cross-border trade enablers for recovered materials. Pilot projects demonstrating feasibility and providing evidence for level of impact, if technologies or practices are adopted at scale across North America. Other expected results are recommendations that can direct future innovation, research, and development.

Baseline (current status), if known	N/A	
Target (by project end)	Possible areas of focus for pilot projects may include: • Analysis of circular materials design pathways to address waste reduction and maximize recovery of materials and improve circular economy practices • Analysis of improvements in sustainable, currently marketed packaging designs, incorporating biodegradability and compostability features into emerging and new product designs, while taking into consideration potential trade-offs • Analysis of improvements in sorting infrastructure to improve recycling and reduce contamination of recycling streams • Evaluation of recycling feedstock accessibility through better integration with existing supply chains, including secondary materials markets, recycling and composting facilities	
Subtask 3.1	Analyze findings of the milestone studies and integrate stakeholder input in select pilot projects.	Years 3 and 4
Subtask 3.2	Conduct the pilot projects.	Years 3 and 4
Subtask 3.3	Finalize report documenting results/outcomes of pilot projects.	Years 3 and 4
Activity 4 **Budget C$325,000**	**Organize and host networking series and a project final conference**	
Output(s)	A networking series of events and a project final conference are held.	

Expected results, performance measures	The networking series offers a forum for discussion and progress as well as increasing awareness of CEC reports and pilot projects. The series contributes to enhanced stakeholder engagement in disseminating pilot project findings and follow-up actions. Offering specific training may be considered. The final event is expected to assess progress and provide recommendations for next steps on adding value and accelerating the transition to circular economy in North America.	
Baseline (current status), if known	N/A	
Target (by project end)	The networking series promoted knowledge transfer, exchange, and cooperation amongst the project partners and the stakeholders.	
Subtask 4.1	Organization and coordination of the networking series	Years 3 and 4
Subtask 2.1	Organization and coordination of the project final conference	Year 4

12. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By September 2023, an evaluation of emerging technology and sustainable materials design pathways and existing experiences implementing circular economy principles will be developed.	The Parties and the stakeholders will have a better understanding of emerging technology and previous experiences in the region.
By September 2023, a network for the recycling, reuse, material design and economics sector will be consolidated.	The network with all sectors (governments, academia, NGO and industry) will have identified potential activities.

By September 2025, project pilots will have been implemented.	The pilot project in each country will serve as a model for the implementation of new initiatives.
By September 2025, results dissemination to stakeholders and the general public will be completed.	The dissemination of results will further the exchange of knowledge.

Strengthening the Implementation and Effective Enforcement of CITES for Timber in North America

1. **Project duration:** from November 2021 to October 2023 (24 months)

2. **Budget (C$):** 535,000

3. **Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries:**

   CITES provides crucial mechanisms to ensure that international trade in wild animals and plants is carried out in a controlled manner that does not threaten the survival of species. Appendix II of CITES covers species that are not necessarily threatened with extinction, but for which trade must still be controlled in order to avoid the possibility that they become endangered. Appendix II also includes so-called "look-alike species"—whose morphology closely resembles that of species listed for conservation. The CEC can help reduce illegal trade in CITES Appendix II timber species in North America by bringing together and leveraging the knowledge and roles of management and scientific authorities, enforcement officers, wood identification experts and forensic scientists, and other relevant experts to address specific needs within CITES regulations and enforcement activities. Specifically, this project will develop information on CITES enforcement relevant to the trinational North American context, enhance the capacity of enforcement officials to identify CITES timber species reaching our borders, explore methods and systems for tracking timber species in trade, and support scientific assessment of a new CITES source code (related to timber species). These efforts will strengthen communication and coordination between key actors throughout North American CITES implementation, provide them with invaluable information to strengthen CITES enforcement, and contribute to addressing the root causes of illegal trafficking of timber species.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
   ☐ Clean Air, Land and Water
   ☐ Preventing and Reducing Pollution in the Marine Environment
   ☐ Circular Economy and Sustainable Materials Management
   ☒ Shared Ecosystems and Species
   ☐ Resilient Economies and Communities
   ☒ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic, cross-cutting approaches in its implementation (i.e., Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation, including gender and diversity effects and opportunities, and youth):**

This project focuses on Appendix II timber species, including look-alike species, which must be better monitored to ensure that they are not adversely affected by international trade. To do so, this project will facilitate the exchange of expertise between relevant stakeholders, including enforcement officers and forensics experts, on recent and innovative developments in identification and traceability solutions, including software, devices and forensic technologies, that can facilitate improved North American identification, tracking, and enforcement of CITES Appendix II specimens in international trade.

6. **Explain how the project can achieve more impact through trinational cooperation:**

   The CEC is well positioned to bring together experts and government officials from Canada, Mexico and the United States to create networks, share experience, develop knowledge on CITES implementation and enforcement related to trade in wood products from CITES-listed timber species (e.g., species identification), and examine similarities and differences in national legislation and regulations. Building on CEC's 2017–2018 project "Sustainable Trade of Priority Species in North America" and leveraging each country's strengths, this project will improve CITES implementation and prevent and reduce illegal timber trade in North America.

7. **Describe how the project complements, or avoids duplication with, other national or international work:**
   This project leverages ongoing national and international work on forest legality and illegal logging. Specifically, members from this CEC working group are coordinating with, and in many cases, are directly participating in complementary programs and initiatives, such as the North American Forest Commission, the CITES Plants Committee Working Group on timber identification, US-Mexico-Canada Agreement (USMCA), World Forest ID (WFID), the Canadian Wood Identification Research Project, and other joint efforts. Collaboration amongst the various working groups, initiatives and programs ensures complementarity of our actions to accelerate adoption of best practices and avoids duplicative work.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable:**
   No in-depth engagement with TEK experts or Tribal/First Nations/Indigenous communities is expected during the implementation of this project.

9. **Describe how the project engages new audiences or partners, if applicable:**
   This project involves possible communications and collaborations with the United Nations Office on Drugs and Crime (UNODC), Interpol, the North American Forest Commission and the Global Illegal Logging and Associated Trade Program.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g., federal agencies, other levels of government, academia, NGOs, the private sector, civil society, and youth):**

Lead agencies or organizations	Country
Environment and Climate Change Canada (ECCC) - Wildlife Enforcement Directorate	Canada
Natural Resources Canada–Canadian Forest Service (CFS)	Canada
Secretaría de Medio Ambiente y Recursos Naturales (Semarnat)	Mexico
Procuraduría Federal de Protección al Ambiente (Profepa)	Mexico
Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (Conabio)	Mexico
US Department of Agriculture's Forest Service (USFS)	United States
US Fish and Wildlife Service (USFWS)	United States

Other organizations/individuals (if applicable)	Country
US Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS)	United States
US Trade Representative	United States
US Department of State, Office of Conservation and Water in the Bureau of Oceans and International Environmental and Scientific Affairs (OES/ECW)	United States
US Environmental Protection Agency	United States
US Department of Homeland Security	United States
US Department of Justice	United States
Comisión Nacional Forestal	Mexico
Wildlife Conservation Society (Latin America Coordination for Wildlife Trafficking; Mr. Adrian Reuter, Regional Coordinator)	United States-Mexico
National Autonomous University of Mexico (Department of Botany)	Mexico
Chapingo Autonomous University (Laboratory of Wood Anatomy and Identification)	Mexico
Administración General de Aduanas—SAT	Mexico

11. **In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget.**

OBJECTIVE 1	Increase understanding of national contexts for CITES implementation in North America, especially relating to the verification process for legal trade of wood products.	
Activity 1 **Budget:** $55,000	Share information on, and assess similarities and differences between national legislation, regulations, and processes for implementation of CITES by enforcement officers, with particular reference to laws and regulations specifically related to what information needs to be verified for traded wood products and the process for that verification. The results of this activity will inform activities 2 and 3.	
Output(s)	Report compiling relevant national legislation, regulations, and processes for implementation of CITES by enforcement officers in North America, with particular reference to what information needs to be verified for traded wood products and the process for that verification	
Expected results, performance measures	This information is used by enforcement officers, forensics experts and other actors within North America to facilitate collaboration and to develop training curricula for enforcement officers [indicator: number of recommendations that inform enforcement officer trainings (activity 2) and improved identification of timber evidence (activity 3)].	
Baseline (current status), if known	N/A	
Target (by project end)	N/A	
Subtask 1.1	Conduct a survey and organize online meetings to exchange and compare information on national legislation, regulations, and processes for implementation of CITES by enforcement officers.	First half of Year 1
Subtask 1.2	Develop a report of the findings, including recommendations for activities 2 and 3 (internal document).	First half of Year 1
OBJECTIVE 2	Increase the knowledge and capacity to intercept suspicious wood products of CITES-regulated species at North American borders.	
Activity 2 **Budget:** $205,000	Provide training, including information on novel tools and risk assessment, to enforcement officers to improve their ability to determine if a timber import is at high risk of being illegal.	
Output(s)	Training on identification tools and risk assessment for suspicious wood products of CITES-regulated species	
Expected results, performance measures	An increased number of enforcement officers with capacity to identify and assess risk related to wood products at North American borders (indicator: Number of frontline officers trained, by country)	

Baseline (current status), if known	N/A	
Target (by project end)	12 new officers trained per country	
Subtask 2.1	Develop the curriculum and materials for training enforcement officers (including tools, as appropriate and feasible), in close collaboration with enforcement officials in the three countries, to ensure their needs and interests are taken into account.	Second half of year 1
Subtask 2.2	Organise and conduct training sessions, following a "train the trainer" model.	First half of year 2
OBJECTIVE 3	**Form an alliance of laboratories to facilitate collaboration on wood identification between the three countries.**	
Activity 3 Budget: $115,000	Form an alliance of the laboratories providing forensic and research capacity for wood products identification, in order to harmonize databases, share reference samples, and facilitate accurate, rapid and expedient species identification of timber evidence.	
Output(s)	Hold exchanges and training sessions with laboratories in the three countries to share reference samples and data, facilitate identification of timber evidence, and develop related standard operating procedures.	
Expected results, performance measures	An alliance of laboratories from the three countries will have been created and exchanges have taken place (indicators: points of contact at laboratories identified in each country; number of meetings between alliance laboratories; number of samples shared; standard operating procedures for sharing samples and data developed and implemented).	
Baseline (current status), if known	No such alliance currently exists, and no exchanges of expertise and samples have yet taken place at the North American level.	
Target (by project end)	N/A	
Subtask 3.1	Develop an alliance among forensic and research laboratories that conduct timber testing, beginning with each country identifying who is or will be doing timber identification for CITES enforcement and optimum choices for laboratory equipment.	First half of Year 1
Subtask 3.2	Conduct a meeting that brings together relevant scientists and staff from the identified institutions.	Year 1

Subtask 3.3	Determine priority species and the number of validated samples needed and available.	Year 1
Subtask 3.4	Develop and implement approaches for sharing samples and harmonizing relevant wood identification reference databases.	Years 1 and 2
Subtask 3.5	Assist each country in capacity development for priority taxa.	Years 1 and 2
Subtask 3.6	Conduct a meeting with scientists from alliance laboratories for sharing of tools and methodologies for wood identification.	Year 2
Subtask 3.7	Conduct virtual and in-person meetings and training sessions with wood identification scientists and enforcement officers to share samples, data, and knowledge on wood identification techniques.	Years 1 and 2
Subtask 3.8	Publish a case study (e.g., brochure) highlighting the outcomes of this activity.	Year 2
OBJECTIVE 4	**Improve North America's capacity to track the origin of timber in trade.**	
Activity 4 **Budget:** $90,000	Identify potential methods and processes, exchange best practices, and deliver recommendations to improve North American capacity to track the origin of timber in trade.	
Output(s)	Report on best practices and recommendations to improve North American capacity to track the origin of timber in trade.	
Expected results, performance measures	This information is used by the three countries to inform decisions to improve the tracking of the origin of timber in trade (indicator: number of best practices and recommendations shared with the three countries).	
Baseline (current status), if known	N/A	
Target (by project end)	N/A	
Subtask 4.1	Establish a technical working group, including enforcement officers.	Year 1
Subtask 4.2	Carry out research and exchanges of best practices to identify methods and processes to track wood products in trade.	Year 1
Subtask 4.3	Develop a report and recommendations to improve North American capacity to track the origin of timber in trade.	Year 2

OBJECTIVE 5	Develop guidance on CITES source code Y implementation and conducting non-detriment findings for tree species.	
Activity 5 **Budget:** $70,000	Coordinate exchanges and produce information to increase guidance to CITES Parties on CITES regulation and enforcement in North America.	
Output(s)	Report on guidelines and tools on source code Y implementation and conducting non-detriment findings (NDFs)	
Expected results, performance measures	This information is used by the three countries to inform the implementation of CITES source code Y and conducting NDFs and shared with the rest of CITES parties in order to contribute to better implementation of the Convention worldwide.	
Baseline (current status), if known	No specific guidance exists on CITES source code Y.	
Target (by project end)	N/A	
Subtask 5.1	Organize and conduct a workshop and other consultations, as needed, to develop guidance on source code Y implementation and conducting non-detriment findings (NDF).	Year 1
Subtask 5.2	Publish a report of the findings, guidance and tools on CITES source code Y implementation and conducting NDFs, based on the workshop outcomes.	First half of Year 2

12. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By December 2025, an increased number of enforcement officers will have received training to identify and assess risk related to wood products traded at North American borders.	Number of frontline officers trained, by country
By December 2025, ongoing exchanges and sharing of reference samples and data between alliance laboratories will have taken place to facilitate identification of timber evidence.	Number of meetings between alliance laboratories Number of samples shared
By December 2025, the information produced through this project will have proved useful to the CITES Parties and other stakeholders in informing implementation and enforcement efforts.	Perceived usefulness of the information (through survey)

Grasslands Conservation and Migratory Birds

1. **Project duration:** from November 2021 to October 2024 (36 months)

2. **Budget (C$):** 450,000

3. **Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries:**
The central grasslands of the Great Plains are a shared ecosystem stretching from southern Canada, through the United States, to northern Mexico. These grasslands are one of the most endangered ecosystems in North America, home to many endemic grassland-dependent species that are at-risk, threatened, or endangered. The central grasslands also provide other valuable environmental services (e.g., carbon sequestration, water supply and flow regulation, and erosion control), and play a crucial role in agricultural sustainability for rural communities and economies.
In this context, and recognizing the need to achieve adequate ecosystem representation for grasslands, the three countries have made commitments to conserve at least 30% of our respective land and waters by 2030 ("30 X 30"). North American collaboration is required to address conservation at the ecosystem scale.
Building on its past work on grasslands conservation, the CEC is well placed to leverage ongoing efforts, such as the Central Grasslands Roadmap and JV8 Central Grasslands Initiative, two complementary international partnerships engaging diverse partners and communities to conserve grasslands and ensure thriving human and wildlife communities. In particular, the project will contribute by filling three recognized gaps in central grasslands conservation: First, the project will produce the first human dimensions study of central grasslands conservation, to support more effective conservation actions. This has been identified as a key priority, based on the improvement in conservation outcomes observed by practitioners who include both biological and social sciences knowledge in conservation planning, design and implementation. Second, the project will develop a standardized framework to support data-based, comparable monitoring of grasslands change. Finally, collaboration for conservation will be strengthened and expanded through more inclusive engagement and messaging aimed at underrepresented and new partners.
As a result, the CEC will support central grasslands cross-sector, mainstreamed management, restoration, and conservation in Canada, Mexico, and the United States by raising awareness on the importance of grasslands, providing new knowledge for decision-making, and strengthening collaboration, through inclusive network-building and strategic planning.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
    - ☐ Clean Air, Land and Water
    - ☐ Preventing and Reducing Pollution in the Marine Environment
    - ☐ Circular Economy and Sustainable Materials Management
    - ☒ Shared Ecosystems and Species
    - ☒ Resilient Economies and Communities
    - ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth):**
    The project will produce social science knowledge to integrate in conservation decision-making, an innovative and effective solution in conservation practice, which traditionally has been informed mainly by biological sciences. The approach has demonstrated its effectiveness, as recognized notably by the creation of HDgov, a US interagency initiative to inform decision-making on environmental issues with human dimensions consideration. More generally, the project collaborates with efforts that promote the use of Innovative and Effective Solutions (such as regenerative ranching) for ecosystem conservation, biodiversity protection, carbon sequestration and the sustainable management of natural resources. It also focuses on Diverse and Inclusive Stakeholder Engagement to strengthen trinational collaboration for the continued advancement and implementation of the Central Grasslands Roadmap and JV8 conservation strategy, supporting intentional engagement of those traditionally less represented in grasslands conservation processes and using communications targeted at expanding collaboration to new stakeholders.

6. **Explain how the project can achieve more impact through trinational cooperation:**
    The central grasslands of the Great Plains are a shared ecosystem stretching continuously across international borders from southern Canada, through the United States, to northern Mexico, providing habitat to many migratory species and livelihoods to many local communities. As a natural system, it will greatly benefit from being managed at the correct scale with recognition of the different social, economic, and legal contexts that affect its management. This is best achieved through trinational cooperation, which helps ensure that knowledge is shared and collaborative actions are aligned to increase efficiency, efficacy, and complementarity, delivering stronger outcomes that also help protect national investments in conservation.

7. **Describe how the project complements, or avoids duplication with, other national or international work:**
    Ongoing initiatives to build collaboration on grasslands conservation include commitment from the Trilateral Committee for Wildlife and Ecosystem Conservation (TCWEC), and the JV8 Central Grasslands Initiative and its Central Grasslands Roadmap (CGR), which offers a shared vision and priorities identified with input from several sectors and the three countries, providing a solid foundation

for trinational collaborative action. The project will work directly with the CGR team to identify opportunities to complement and leverage their work, informed by the TCWEC's priorities to be presented at their May 2021 meeting.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable:**
   The project includes activities specifically focused on engaging Indigenous communities in support of an inclusive, representative approach to grasslands conservation.

9. **Describe how the project engages new audiences or partners, if applicable:**
   The project includes activities specifically focused on intentional engagement of new partners and audiences in grasslands conservation processes (including private and communal landowners in Mexico, Indigenous communities).

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g., federal agencies, other levels of government, academia, NGOs, the private sector, civil society, and youth):**

Lead agencies or organizations	Country
Federal: ECCC/CWS, Natural Resources Canada, Agriculture and Agri-Food Canada	Canada
Federal: Semarnat, Conanp, Sader, Conagua, Conabio, Profepa, Bienestar	Mexico
Federal: USFWS, other agencies	United States
NGOs: JV8 Grassland Initiative (partnership of 8 Habitat Joint Ventures throughout the Great Plains from southern Canada to northern Mexico)	Trinational
NGOs: Bird Conservancy of the Rockies	United States
P3: National Fish and Wildlife Foundation (NFWF)	United States (NA scope)
Other organizations/individuals (if applicable)	**Country**
Local land cooperatives: Winnett Agricultural Community Enhancement and Sustainability (ACES), Ranchers Stewardship Alliance, South Dakota Grazing Lands Coalition, Thunder Basin Grasslands	United States
Indigenous organizations and governments	Canada, Mexico, United States
Locally engaged NGOs (TBD): WWF	Canada, Mexico, United States
Provincial and State agencies	Canada, Mexico, United States
Pheasants Forever/Quail Forever "Call of the Uplands" campaign	United States
Academic experts	Canada, Mexico, United States

11. In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s), the corresponding outputs, expected results and how they will be measured (performance measures), baselines (if known), and targets by end of the project, and the timeline and budget:

OBJECTIVE 1	Produce knowledge to inform decision-making and actions that stop and prevent loss of central grasslands and support sustainable grasslands, wildlife, and human communities.	
Activity 1 **Budget C$170,000**	Produce a social science analysis of challenges, constraints, and drivers for grasslands conservation, analyzing socio-economic factors and human dimensions (motivations, values, economics, needs of communities and barriers) to inform grasslands conservation strategies.	
Output(s)	A social science study that identifies the challenges, constraints, and drivers to grasslands conservation in the three countries, that can support mainstreaming biodiversity and identify opportunities to improve cross-sectional coordination	
Expected results, performance measures	Decision-makers and conservation practitioners that understand the values, needs and barriers to address to increase participation in grassland conservation programs and implement successful conservation actions	
Baseline (current status), if known	No comprehensive social science investigations on central grasslands conservation, to date	
Target (by project end)	A social science analysis including: - a conceptual model representing a baseline assessment that identifies the threats to central grasslands and the social, economic, cultural, and political factors that drive them (the social-ecological system) - a set of strategies, and related theories of change, designed to mitigate/address threats - a plan for evaluating strategies	
Subtask 1.1	Develop a social science study analyzing the social, economic, and political context of central grasslands conservation.	early – late 2022
Subtask 1.2	Support integration of local stakeholder input (through surveys, facilitated discussions).	early to mid 2022–

Subtask 1.3	Hold an internal workshop to present findings.	late 2022
Subtask 1.4	Develop messaging on the importance of grasslands to local communities (informed by input from the social science study).	early-late 2023
Activity 2 Budget C$140,000	Identify a standardized, annually updated trinational framework for monitoring grasslands change, indicator species and methodology to track loss/gain in native grasslands.	
Output(s)	Recommended standardized metrics for measuring grasslands change	
Expected results, performance measures	A common system to measure grasslands loss will be available for use across the entire central grasslands.	
Baseline (current status), if known	Several systems for monitoring grassland loss exist (e.g., WWF Plowprint), but no common system.	
Target (by project end)	Needs/requirements document and recommendation on platform & metrics	
Subtask 2.1	Establish an ad hoc scientific group on measuring grasslands change to scope needs.	early 2022
Subtask 2.2	Task consultant with analysing current monitoring approaches, identifying needs and identifying approach.	mid 2022– mid 2023
Subtask 2.3	Task ad hoc scientific group with recommending standardized approach.	mid 2023–mid 2024
OBJECTIVE 2	**Strengthen trinational collaboration for the continued advancement and implementation of the Central Grasslands Roadmap and JV8 conservation strategy.**	
Activity 3 Budget C$140,000	Create and support (virtual) events and materials focused on intentional engagement of those less represented in or absent from the Central Grasslands Roadmap and JV8 conservation strategy (such as private and communal landowners (*ejidos*) in Mexico, Central Grasslands Indigenous communities and other potential partners).	
Output(s)	- Agreement for support of the Central Grasslands Roadmap as the main platform for coordination, communication and tracking of progress with convenors (focus on increasing participation of key groups, facilitation, and communication support among participants)	

	- Agreement to support development of the JV8 Central Grasslands Initiative conservation strategy (with increased participation of key groups from Central Grasslands Roadmap work), including support for facilitation, translation, and communication around the strategy - Communications material to increase support on grasslands conservation	
Expected results, performance measures	Develop a more inclusive network for wide adoption of conservation measures through intentional engagement of a more diverse and representative group of stakeholders.	
Baseline (current status), if known	- The first Central Grasslands Roadmap Summit was held in July 2020; organizers plan to host a second Summit in Winter 2021 or early 2022 (virtual or in-person meeting, depending on COVID-19 status). - A coordinator was hired for the JV8 and started in November 2020. The strategy is currently in development and will be ready for review in spring 2021. - The first Central Grasslands Roadmap Summit included limited participation from Indigenous communities and some communities in Mexico, resulting in their limited representation in the Roadmap. After the Roadmap Summit, additional efforts were made to engage underrepresented communities from Mexico.	
Target (by project end)	- Websites for Central Grasslands Roadmap and JV8 are updated, and relevant materials are available in multiple languages (English, French, Spanish). - Second Central Grasslands Roadmap Summit is held with more inclusive participation	
Subtask 3.1	Support intentional engagement for underrepresented groups.	early – mid 2022 (TBC, dependent on Summit date)
Subtask 3.2	Support inclusive trinational engagement at the second Central Grasslands Roadmap Summit through coordination, facilitation, and translation support.	Mid-2022 (TBC, dependent on Summit date)
Subtask 3.3	Support continued focus for on-the-ground conservation delivery of grasslands conservation through the development of the JV8 Strategy.	early 2022–TBD (dependent on JV8 timeline)
Subtask 3.4	Develop communications material to increase support for grasslands, complementing and leveraging existing efforts (e.g., material focused on economic value, carbon sequestration value, story from Indigenous communities to private landowners, connectivity and trinational cooperation across the three countries).	mid 2022–mid 2024

12. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By December 2025, a large, diverse, representative array of stakeholders will be participating in central grasslands conservation.	Evidence that the group of engaged stakeholders has expanded to be more diverse and inclusive.
By December 2025, a shared system for measuring grasslands loss across three countries will create common understanding and supporting shared goals.	Knowledge gaps have been identified and recommendations have been implemented by stakeholders (governments, producers, etc.) to support pollinator conservation.
By December 2025, social scientists and communication specialists will have been engaged to promote grasslands conservation to key audiences.	Evidence that knowledge on the human dimensions of grasslands conservation has been integrated into decision-making and outreach.
By December 2026, key mechanisms causing the conversion of grasslands to other land-use types will be better understood.	Evidence that strategies to decrease the rate of conversion of grasslands to other land-use are under implementation.

13. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By June 2024, a large, diverse, representative array of stakeholders will be participating in central grasslands conservation.	Evidence that the group of engaged stakeholders has expanded to be more diverse and inclusive.
By June 2024, a shared system for measuring grasslands loss across three countries will create common understanding and supporting shared goals.	Knowledge gaps have been identified and recommendations have been implemented by stakeholders (governments, producers, etc.) to support pollinator conservation.
By June 2024, social scientists and communication specialists will have been engaged to promote grasslands conservation to key audiences.	Evidence that knowledge on the human dimensions of grasslands conservation has been integrated into decision-making and outreach.
By December 2025, key mechanisms causing the conversion of grasslands to other land-use types will be better understood.	Evidence that strategies to decrease the rate of conversion of grasslands to other land-use are under implementation.

Reduction of Marine Litter

1. **Project duration:** from November 2021–April 2024 (30 months)

2. **Budget (C$):** 800,000

3. **Short statement of the issue(s) under this topic, need/gap identified, the project objective(s) and activities to address the issue, and expected outcomes and benefits/beneficiaries:**

As a growing problem that negatively affects economies and threatens ecosystems and potentially human health, marine litter is a high-priority global issue being addressed from several different angles. It is estimated that 80% of marine litter originates from land-based sources, often due to the improper disposal of items or uncollected waste that becomes litter and travels through watersheds to the oceans. In order to prevent and reduce marine litter, actions are needed across the lifecycles of products.

North America is a significant contributor of land-based marine litter. Recognizing the importance of acting on this issue, Canada, Mexico and the United States have committed to taking measures to prevent and reduce marine litter through their environmental cooperation work program. Initially, the CEC focused on reducing land-based marine litter originating near the coast through community action and empowerment, convening local stakeholders to implement low-tech and low-cost solutions in two transboundary watersheds: the Salish Sea and the Tijuana River watershed. This work was the first of its kind—a trilateral effort to tackle marine litter across North America. Subsequently, recognizing that public awareness around the journey and impacts of inland litter and its contribution to marine litter remains low, the CEC developed guidance and engagement and communications tools to reduce marine litter, targeting inland communities.

Building on these previous efforts, the proposed collaborative work aims to build public awareness about marine litter, deploy litter capture devices, collect comparable data across the three countries, and reduce land-based marine litter, including single-use plastic products and packaging, in communities located inland along waterways and river systems in North America. By demonstrating, educating, and communicating about the flow of commonly littered items downstream to the ocean, using low-cost technology and a variety of communication tools, the project will help prevent and reduce marine litter originating from inland cities.

Using devices such as trash traps in waterways will help build local capacity, remove plastic pollution from the environment, and strengthen public awareness. The project will also demonstrate capture device technologies, collect information on the amount and type of waste found in those waterways, bring attention to local land-based sources of marine litter, communicate the impacts and threats on the issue, and inform and empower further actions. The work will integrate the community engagement toolkit and public

awareness campaign material developed through the previous CEC project and benefit from lessons learned about how to change behavior locally to reduce and prevent marine litter.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
   ☒ Clean Air, Land and Water
   ☒ Preventing and Reducing Pollution in the Marine Environment
   ☐ Circular Economy and Sustainable Materials Management
   ☒ Shared Ecosystems and Species
   ☐ Resilient Economies and Communities
   ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth):**
   The project aims to mobilize a diverse range of relevant stakeholders across the lifecycles of products, including academia, the private sector and the public, and help them become active, informed and engaged participants in marine litter reduction through the innovative use of demonstration projects, participation, engagement, and communications. The project will also provide tools to support positive and sustained behaviour change with benefits extending after the project is completed.

6. **Explain how the project can achieve more impact through trinational cooperation:**
   The project builds on the knowledge and results of two previous trinational projects, leveraging existing work and current national experience to support capacity building across the three countries. Trinational cooperation increases the visibility and audience reach of the work and facilitates the exchange of knowledge, data and lessons learned between experts from the three countries. It will also provide valuable insight to inform future actions on land-based marine litter nationally and trinationally, through comparison of information obtained using recognized and consistent methodology across the three countries.

7. **Describe how the project complements, or avoids duplication with, other national or international work:**
   In a context where marine litter reduction is the focus of many initiatives, the project implements harmonized actions in communities that have not previously been the focus of marine litter reduction efforts. No previous efforts to implement a common trash-capture initiative locally across the three countries were identified. The project will offer the first opportunity to test and tailor the new awareness campaign material and community engagement tool developed by the CEC.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable:**

Indigenous communities will be engaged as part of inclusive engagement with the local community at the chosen test sites, as applicable.

9. **Describe how the project engages new audiences or partners, if applicable:**
The project will be implemented in three communities not previously engaged in CEC marine litter work, working with a new audience and new partners, including representatives of government, industry, and nongovernmental organizations. The results will be communicated to a broad North American audience, further extending the audience reach.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g., federal agencies, other levels of government, academia, NGOs, the private sector, civil society, and youth):**

Lead agencies or organizations	Country
ECCC	Canada
Semarnat, INECC, Profepa	Mexico
EPA, Department of State, National Oceanic and Atmospheric Administration (NOAA)	United States
Other organizations/individuals (if applicable)	**Country**
Local/ municipal/ regional authorities; NGOs	Canada, Mexico, United States
Academia, SEMAHN and government-supported research institutes (e.g., Institute of Marine Sciences and Limnology of the National Autonomous University of Mexico, Veracruz University, Metropolitan Autonomous University), NGOs	Mexico
Industry (e.g., capture device developers and innovators)	Canada, Mexico, United States
Community-based social marketing experts	Canada, Mexico, United States

11. **In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s), the corresponding outputs, expected results and how they will be measured (performance measures), baselines (if known), and targets by end of the project, and the timeline and budget:**

OBJECTIVE 1	Demonstrate the flow of commonly littered items downstream to the ocean.
Activity 1 **Budget** **C$500,000**	Install trash capture devices in small to mid-size streams or urban waterways (one inland pilot city per country).
Output(s)	- Trash capture devices installed in three cities (at least one in each country) - Targeted communication materials for each trash capture device installed (in-situ signage, etc.) - Report on trash captured by the devices (including quantities, sources, and type of materials and how those results differ across the three countries) - Digitized map showing trash capture device locations within watersheds with additional demographic and location data - Plan of action informed by stakeholder input following waste analysis of trash capture device - Information on successful installation and operation as well as challenges and limitations of trash capture devices to inform potential future implementation in other communities
Expected results, performance measures	- Information on the amount, type and source of litter is available for decision makers and the public. - Local stakeholders from all relevant sectors have engaged and have a plan of action identifying next steps to reduce land-based marine litter. - The local community is aware of the links between littering on land and the state of their local waterway.
Baseline (current status), if known	- No known information on litter is available for selected sites. - Studies on waste composition and its transport in waterways available for Canada, Mexico and the United States. - Results of trash capture device demonstration projects is available from North American or other international projects.
Target (by project end)	- Trash capture devices deployed - On-site communication materials - Stakeholders successfully engaged - Report on trash captured by devices - Digitized map

	- Local plan of action for each test site, including raising public awareness of the problem and identifying next steps.	
Subtask 1.1	Select test cities (one per country) and trash capture devices (same technology type) and hold virtual meetings with local authorities to confirm feasibility and identify key stakeholders.	early 2022
Subtask 1.2	Acquire, install, operate, and monitor trash capture devices for set time (at least one device per test site), with targeted communications material installed at each site.	mid 2022 - -mid 2023
Subtask 1.3	Identify a consistent methodology for data collection and reporting across the three test sites and conduct waste analyses to track the amount and type of litter captured by the devices.	mid 2022 –mid 2023
Subtask 1.4	Create a digitized map showing trash capture device locations within watersheds with additional demographic, location and results.	mid 2023 -late 2024
Activity 2 Budget C$75,000	**Implement Community Science Activities.**	
Output(s)	- Data and information collected from community science activity using a harmonized approach - Community engaged in science activity related to local trash capture device	
Expected results, performance measures	- The local community is aware of the state of litter in their local waterway and engaged in marine litter reduction.	
Baseline (current status), if known	- It is not known if an activity such as this has been undertaken in each of these communities previously. - Existing community science initiatives in Canada, Mexico and the United States.	
Target (by project end)	- Community science activity is successfully completed. - Data is contributed to report (and digital map as appropriate) that summarizes information collected by trash capture devices.	
Subtask 2.1	Select local consultant and identify participants (from local government, local schools, environmental groups, etc.) for community science activity (based on data collected under activity 1).	early 2022
Subtask 2.2	Engage groups in community science activities at the site of the local trash capture device, based on engagement plan.	mid-late 2022

Subtask 2.3	Consolidate results of community science activity into trash capture report.	early 2023
OBJECTIVE 2	**Communicate about the flow of commonly littered items downstream to the ocean.**	
Activity 3 Budget C$225,000	Implement the inland litter public awareness campaign developed by the CEC in collaboration with local organizations engaged with the community on related issues and communicate results.	
Output(s)	- Report on public awareness campaign at each location (on-site and virtual) - "Waterway litter snapshot" for each pilot site - Trinational virtual workshop to present results and lessons learned on this collaboration - Awareness-raising materials (e.g., ads, graphics, videos, social media), from 2021 CEC public awareness campaign, implemented in public spaces within community and through virtual channels	
Expected results, performance measures	- Local communities are aware of the demonstration projects and the journey of marine litter and engaged in solutions. - Lead agencies in the three countries have information on litter at test sites and on the use of trash capture devices as awareness-raising and marine litter prevention tools.	
Baseline (current status), if known	No implementation of communications at test sites	
Target (by project end)	- Communication campaign informed by local information is developed - Information and lessons learned on effort available for the three countries	
Subtask 3.1	Implement the inland litter public awareness campaign developed by the CEC in collaboration with local organizations engaged with the community on related issues.	early–late 2023
Subtask 3.2	Convene local stakeholders at workshops to discuss information collected from the trash capture device and community science activity and contribute to a plan of action using the data to inform future land-based litter reduction efforts (integrating the 2021 CEC community engagement toolkit).	early–late 2023
Subtask 3.3	Conduct trinational virtual workshop to present results and lessons learned on this collaboration.	early 2024

12. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By December 2024, projects results will have been disseminated to a wide North American audience.	Evidence that project results have reached communities outside the test sites
By December 2026, local collaborative action on marine litter reduction is under implementation.	At least one local action to reduce marine litter implemented at each test site.
By December 2026, local communities are aware of the journey of marine litter.	Evidence that local community members are aware of the journey of marine litter

Nature-based Solutions to Address Flooding in Coastal Cities

1. **Project duration:** from November 2021 to April 2024 (30 months)

2. **Budget (C$):** 560,000

3. **Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries:**

Many North Americans live in coastal cities that produce a high value of goods and services but are vulnerable to flooding. The risks associated with coastal flood hazards are escalating due to land-use changes, ecosystem loss or transformation, population growth in coastal zones, sea-level rise, changes in the frequency and severity of storms, and ageing flood protection infrastructure. Tide- and storm-driven flooding is increasingly damaging homes and infrastructure, and generally disrupting coastal communities and their economies.

Natural areas adjacent to cities provide ecosystem benefits and services that support climate change adaptation for communities. Inspired by these systems, nature-based solutions (NBS) reduce flood and erosion risk through the protection, restoration, and sustainable management of natural coastal environments, and the construction of new features that mimic or work with ecological processes. NBS contribute to increased resilience in coastal areas, helping to manage risks with cost-effective, holistic, and innovative approaches, while also delivering co-benefits, such as habitat, recreation, and water quality. As countries look to finance infrastructure work in the context of a COVID-19 economic recovery, NBS represent one promising way to combine development, climate, disaster risk reduction and conservation objectives.

Despite growing interest in these solutions, there are many gaps and barriers currently preventing broader implementation of NBS in North America. These include a lack of data and authoritative design guidance, difficulty quantifying co-benefits and creating business cases, and uncertainty concerning efficacy and performance in extreme conditions, different environments, and changing climate conditions. Collaboration and interdisciplinary approaches that consider future climate conditions are needed to overcome these challenges.

Building on past collaborative experiences advancing knowledge on blue carbon, coastal adaptation, and extreme events, the CEC is uniquely placed to build capacity for coastal communities to manage flood risk in a changing climate through NBS that maximize co-benefits to human and natural communities. In particular, the project provides a first opportunity for NBS practitioners, working across North America in a broad range of disciplines, to lay the foundation for a North American community of practice that can offer an interdisciplinary approach to implementing NBS. It also addresses barriers to using NBS by filling knowledge gaps on co-benefits, retrofitting and monitoring, and by training practitioners and educating community members on the use of NBS.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
    - ☐ Clean Air, Land and Water
    - ☐ Preventing and Reducing Pollution in the Marine Environment
    - ☐ Circular Economy and Sustainable Materials Management
    - ☒ Shared Ecosystems and Species
    - ☒ Resilient Economies and Communities
    - ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth):**
    The project's first objective is to seed new intersectoral, international collaboration through diverse and inclusive engagement to help fill knowledge gaps and implementation challenges that currently limit the use of NBS. As such, it will promote the use of underutilized innovative and effective solutions to address flooding in coastal cities. Effective NBS deliver on coastal flooding management and prevention while adding several co-benefits not offered by traditional infrastructure, namely carbon sequestration, habitat creation and other conservation objectives that will translate into ecosystem services of high value to fisheries and tourism, among other sectors.

6. **Explain how the project can achieve more impact through trinational cooperation:**
    While there is expertise and experience applied to develop NBS to address flooding in coastal cities in each of the three countries, there is very little collaboration and knowledge-sharing across countries, approaches, and fields of expertise. The CEC offers a unique forum to foster the development of integrated flood risk management approaches across North America, integrating sector-specific knowledge and expertise from the three countries to lay the foundation for the creation of a North American NBS community of practice and leverage existing knowledge.

7. **Describe how the project complements, or avoids duplication with, other national or international work:**
    While each country has developed expertise and experience applying NBS to coastal flooding, there is no international multidisciplinary community of practice focused on this. The project committee has identified and shared the main relevant initiatives and sources of information available in each country and internationally and will begin the project with an intersectoral scoping workshop to discuss most recent developments, opportunities, and specific priorities to advance within the project in the context of ongoing national and international work.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable:**

The project will engage Indigenous and local communities as it develops its community of practice, and as participants in webinars, trainings, and site visits, as applicable.

9. **Describe how the project engages new audiences or partners, if applicable:**

The project targets coastal city decision-makers, planners and managers, project funders and evaluators, infrastructure engineers, coastal engineers, risk reduction practitioners, conservation and restoration ecologists and researchers in several disciplines, most of whom have not engaged with the CEC in the past.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g., federal agencies, other levels of government, academia, NGOs, the private sector, civil society, and youth):**

Lead agencies or organizations	Country
Infrastructure Canada, Natural Resources Canada, National Research Council of Canada,	Canada
Semarnat, Conabio, Conagua, Profepa, INECC	Mexico
NOAA, USACE, USGS, FEMA, EPA	United States
Other organizations/individuals	**Country**
Department of Fisheries and Oceans Canada	Canada
Conanp, Mexican Chamber of Construction Industry	Mexico
International Joint Commission (IJC)	Canada-United States
NGOs (WWF, others TBD)	Canada, Mexico, United States
Provincial and State agencies	Canada, Mexico, United States
Local/ municipal/ regional authorities	Canada, Mexico, United States
Academic experts	Canada, Mexico, United States

11. **In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget:**

OBJECTIVE 1	Produce knowledge informed by multidisciplinary expertise to support the use of NBS by coastal communities vulnerable to flooding.	
Activity 1 Budget C$40,000	Establish trinational intersectoral collaboration to support the use of NBS to address coastal flooding in cities.	
Output(s)	- A workshop report identifying specific opportunities and priority areas for trinational work - A North American multidisciplinary core group of practitioners (ad hoc community of practice) sharing experience on integrated coastal flood risk management in urban areas	
Expected results, performance measures	Members of the ad hoc multidisciplinary community of practice can collaborate on common priorities to support the implementation of NBS for coastal flood risk management (measures TBD).	
Baseline (current status), if known	- Opportunities and priority areas for intersectoral trinational work have not been identified. - There is no North American multidisciplinary core group of NBS practitioners.	
Target (by project end)	- Opportunities and priority areas for intersectoral trinational work are identified. - The ad hoc community of practice includes members from each country for most sectors identified.	
Subtask 1.1	Host an intersectoral scoping workshop series with participants covering a range of NBS-relevant disciplines and agencies (e.g., NBS application, disaster risk reduction, climate change adaptation, municipal flood management, conservation practitioners, scientists, engineers, contractors, planners, policy makers, municipal representatives, project funders and evaluators), to identify specific opportunities to fill gaps and leverage existing efforts.	early2022
Activity 2 Budget C$400,000	Provide knowledge and tools for communities to support NBS implementation.	
Output(s)	- A socio-economic analysis of NBS co-benefits - A practical synthesis of existing knowledge on retrofitting existing infrastructure while enhancing co-benefits - A practical synthesis of existing knowledge on monitoring the efficacy of NBS under current and future conditions - A high-level guidance document on methodology and indicators to monitor the efficacy of NBS - A collection of selected case studies highlighting best practices of implementing NBS in coastal cities - Communications material on NBS co-benefits	

Expected results, performance measures	Outputs are used to inform the development of webinars and other engagement actions under Objective 2.	
Baseline (current status), if known	- Limited socio-economic analysis of NBS co-benefits - Limited practical synthesis of existing knowledge on retrofitting existing infrastructure while enhancing co-benefits - Limited practical synthesis of existing knowledge on monitoring the efficacy of NBS under current and future conditions - Limited guidance on methodology and indicators to monitor the efficacy of NBS - Case studies highlighting best practices of implementing NBS in coastal cities exist but they do not account for co-benefits and future conditions. - Limited communications material on NBS co-benefits	
Target (by project end)	A minimum of 10 information products are made available.	
Subtask 2.1	Produce a socio-economic analysis of NBS co-benefits (job creation, resilience to climate change and other stressors, environmental quality, carbon sequestration, biodiversity conservation, access to nature, human health, equity and inclusion).	mid 2022–late 2023
Subtask 2.2	Produce a practical synthesis of existing knowledge on retrofitting existing infrastructure while enhancing co-benefits.	mid 2022–late 2022
Subtask 2.3	Produce a series of case studies highlighting best practices of implementing NBS in coastal cities (how communities achieve this under existing conditions, contrast with usual way of doing thing).	mid 2022–early 2023
Subtask 2.4	Produce a synthesis of existing knowledge on monitoring the efficacy of NBS under current and future conditions with proposed methodology and indicators to monitor the efficacy of NBS.	early 2022–late 2023
Subtask 2.5	Produce information products based on the results of the analyses on co-benefits and on retrofitting.	early - late 2023
OBJECTIVE 2	**Strengthen local capacity to implement NBS by exchanging knowledge across disciplines and the three countries.**	
Activity 3 **Budget** **C$120,000**	Share practical experience on implementing NBS.	

Output(s)	- Online training for professionals and municipal and federal staff on good practices for planning, implementing, and monitoring NBS for coastal communities in a changing climate - Webinars for practitioners sharing their experience implementing and evaluating the performance of NBS projects - Site exchanges on different types of coastal assets
Expected results, performance measures	Professionals and staff can apply good practices for planning, implementing and monitoring NBS for coastal communities.
Baseline (current status), if known	- There are online trainings on some aspects of NBS but they are not designed for a wide North American audience
Target (by project end)	- Webinars on implementation and evaluation of NBS projects - Three site exchanges (focused on different types of coastal assets)

Subtask 3.1	Deliver trainings on the implementation and monitoring of NBS for local communities	mid–late 2023
Subtask 3.2	Create a series of webinars for practitioners to share their experience implementing and evaluating the performance of NBS projects	early–mid 2023
Subtask 3.3	Host workshops on barriers and opportunities for NBS	early-mid 2023

12. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By December 2025, a North American community of practice that can offer an interdisciplinary approach to implementing NBS will have been formally established	A community of practice will have established the leadership and financial capacity to support engagement in NBS across North America
By December 2025, decision-makers in coastal cities will be using information developed by the project to support the use of NBS over that of traditional infrastructure when applicable	Evidence based on surveys that communities are planning to use NBS in infrastructure to address flooding based on information provided by the project
By December 2030, coastal cities will be using NBS in retrofitting or newly-developed infrastructure to address coastal flooding in a changing climate	Evidence based on surveys that communities are implementing NBS in infrastructure to address flooding based on information provided by the project

TEK Initiative: "Indigenous approaches to freshwater management in North America"

1. **Project duration: from November 2021 to February 2023** (16 months)

2. **Two-year budget (C$): C$500,000**
   Budget Year 1 (Nov. 2021- Aug. 2022): C$ 376,000
   Budget Year 2 (Sept. 2022- Feb. 2023): C$ 124,000

3. *Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries (max. 200 words):*
   Water is at the core of the six pillars under CEC's Strategic Plan: water management, water cleanliness, ecosystem health, marine pollution, and supporting economic sectors heavily reliant on the sustainable management of water. Indigenous Peoples´ traditional cultures and knowledge systems are globally recognized as holding critical information related to achieving sustainable practices in environmental management. As such, a fuller appreciation of Indigenous Peoples´ perspectives is essential to advancing inclusive and diverse sustainable environmental management approaches in meeting the goals and priorities of the CEC, and to institutionalizing the inclusion of traditional ecological knowledge (TEK) in the activities of the organization.
   This initiative will document Indigenous approaches to freshwater management in North America and make lessons learned available to the public through an online portal on CEC's website. This initiative will include a series of case studies identified by the Traditional Ecological Knowledge Expert Group (TEKEG), a public consultation to complement the case studies and a workshop with water experts on potential opportunities to apply TEK to the CEC's operations and policy recommendations.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
   ☒ Clean Air, Land and Water
   ☐ Preventing and Reducing Pollution in the Marine Environment
   ☒ Circular Economy and Sustainable Materials Management
   ☒ Shared Ecosystems and Species
   ☒ Resilient Economies and Communities
   ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth) (max 100 words).**

In its Strategic Plan, the CEC recognized the importance of Indigenous Peoples´ approaches to generate innovative and effective solutions. Water is central to the spiritual, cultural and personal aspects of Indigenous life, and these holistic relationships and intergenerational knowledge transfer inform traditional approaches to sustainable management. This project will reflect upon these unique perspectives and engage Indigenous communities, promoting the participation of women and youth, in North America increasing CEC's diverse and inclusive stakeholder engagement efforts. Engagement with other groups will also be achieved through the public consultation, and the workshop. This engagement effort will allow for meaningful consideration of indigenous peoples' perspectives when addressing sustainable freshwater management.

6. **Explain how the project can achieve more impact through tri-national cooperation (max 100 words):**
Within each country there are diverse Indigenous peoples' perspectives and cultures born from relationships to specific ecosystems and environments that can contribute to innovative approaches in freshwater management. The CEC offers a unique platform to increase collaboration and knowledge sharing between Indigenous and non-Indigenous communities in the three countries, and to assess potential opportunities to apply TEK to the CEC's operations and policy recommendations, while respecting data/knowledge sovereignty and seeking free, prior and informed consent. All three countries share ecosystems and migratory species that rely on sustainable freshwater management and will benefit from a continental approach.

7. **Describe how the project complements, or avoids duplication with, other national or international work (max 100 words):**
Canada, Mexico, and the United States are all increasing their efforts to better integrate and consider Indigenous peoples' approaches and TEK in decision-making and sustainable resource management based on their national priorities and issues. This project will complement and inform those efforts at the North American scale. All three countries share ecosystems and migratory species that rely on sustainable freshwater management and will benefit from a continental approach. Furthermore, this project proposal is the result of previous efforts from the Parties recognizing the importance of Indigenous Peoples and communities approaches to address shared priorities and goals and successfully implement the CEC 2021-2025 Strategic Plan.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Indigenous peoples and communities, if applicable (max 100 words):**
The project seeks to document Indigenous Peoples and communities approaches and TEK related to freshwater management while respecting Indigenous oral traditions and work within the respective cultural contexts and protocols, capturing Indigenous perspectives through interviews, storytelling, and demonstrative displays of cultural teachings associated with water management in diverse contexts, with their free, prior and informed consent.

TEK experts, and Indigenous peoples and communities will be actively engaged throughout the implementation of the project, including during the case studies, the online public consultation, and the workshop that will include water experts from the three countries. The project will provide opportunities to increase the integration of ancestral knowledge in the CEC's work.

9. **Describe how the project engages new audiences or partners, if applicable (max 100 words):**
The project will provide the CEC the opportunity to reach out and engage Indigenous communities in the three countries in culturally appropriated ways. The project will also broaden CEC's audience by targeting freshwater experts from Indigenous peoples and communities, NGO's, private sector and local communities, to participate in a workshop.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g.: federal agencies; other levels of government; academia; NGOs; the private sector; civil society; and youth):**

Lead agencies or organizations	Country
ECCC – Canada Water Agency Project (Tim Gull)	Canada
USEPA – Office of International and Tribal Affairs	USA
SEMARNAT	México
INPI – Instituto Nacional de los Pueblos Indígenas National Institute of Indigenous Peoples (Saúl Vicente Vázquez, María Isabel Reyes Guerrero)	México
CONAGUA (Dulce Carolina Salcedo García)	México
Consejos de Cuenca	México

Other organizations/individuals (if applicable)	Country
Indigenous communities	Canada, México, United States
Academia/water research institutes	Canada, México, United States
NGOs	Canada, México, United States
Provincial and State agencies	Canada, México, United States
Community/ municipal/ regional authorities	Canada, México, United States
Private sector representatives TBD	Canada, México, United States
Assembly of First Nations	Canada
Inuit Taparit kanatami	Canada

Métis National Council	Canada
Water Security Agency	Canada
The National Tribal Water Center (NTWC)	United States
Secretaria de Pueblos y Barrios Originarios y Comunidades Indígenas Residentes	México
Indigenous Guardians (from Indigenous Guardian Programs)	Canada
California Fish and Game Commission	United States
Waterlution	Canada, México
Coastal First Nations	Canada
National Council of Indigenous Peoples	México

11. In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget.

OBJECTIVE 1	**Advance the integration of TEK, Indigenous Peoples´ perspectives and Indigenous Peoples-led stewardship practices in freshwater management in CEC operations and across North America.**	
Activity 1 Budget	Document Indigenous Peoples´ approaches to freshwater management in North America through 6 case studies including site visits to each community, should public health conditions permit. In the case that public health conditions do not allow for in-person visits, the case studies will be completed through virtual meetings. Year 1: 246,000$	
Output(s)	Report documenting case studies (at least 2 per country) of Indigenous Peoples´ approaches to freshwater conservation and sustainable use.	
Expected results, performance measures	Recommendations on how TEK can be used for the sustainable management of freshwater in North America to address different environmental issues.	
Baseline (current status), if known	Some information on Indigenous Peoples´ approaches to freshwater management exists but has not been analyzed and synthesized at the North American scale. New case studies will also increase the body of knowledge on the use of TEK for freshwater management.	
Target (June 2022)	Report on Indigenous Peoples´ approaches to freshwater management in North America disseminated and lessons learned shared with CEC departments to allow for their integration in CEC activities.	
Sub-task 1.1	Development and analysis of 6 case studies including site visits to document Indigenous Peoples´ approaches to freshwater management in North America.	**When:** November 2021-June 2022
Activity 2 Budget	**TEKEG-led public consultation on Indigenous approaches to freshwater management in North America.** Year 1: 20,000$	
Output(s)	Summary report on outcomes from the public consultation complementing the case studies.	

Expected results, performance measures	Documenting Indigenous Peoples´ approaches to freshwater management in North America. Number of comments/responses received from Indigenous communities.	
Baseline (current status), if known	Some information on Indigenous Peoples´ approaches to freshwater management exists but has not been analyzed and synthesized at the North American scale. The consultation will also increase the body of knowledge on the use of TEK for freshwater management.	
Target (May 2022)	Report on Indigenous Peoples´ approaches to freshwater management in North America is disseminated and lessons learned shared with CEC departments to allow for their integration in CEC activities.	
Sub-task 2.1	Elaborate an outreach and engagement plan.	**When:** February 2022
Sub-task 2.2	Liaise with other regional or international initiatives to leverage network resources, efforts.	**When:** February 2022
Sub-task 2.3	Conduct the public consultation.	**When:** April 2022
Sub-task 2.4	Compile and analyze information collected as part of the public consultation.	**When:** May-June 2022
Activity 3 Budget	**Assess potential opportunities to integrate TEK, Indigenous Peoples´ perspectives and Indigenous Peoples-led stewardship practices in freshwater management in CEC operations and across North America.** Year 1: 70,000 $ Year 2: 114,000$	
Output(s)	Workshop report. Assessment report to the Council.	
Expected results, performance measures	The Parties and the CEC have increased their capacity to integrate TEK, Indigenous Peoples perspectives and Indigenous communities-led stewardship practices in freshwater management in CEC operations and across North America. The workshop allowed for the identification of other potential areas of work related to Indigenous Peoples approaches to address environmental issues affecting the three countries under future operational plans. Identification of potential Indigenous Peoples and communities' partnerships for future work. Number of participants at the workshop and the diversity of organizations represented (e.g., governmental, local communities, NGO, private sector, etc.) Number of leads for future projects.	

	Number of Indigenous Peoples and communities' partnerships identified for future work.	
Baseline (current status), if known	CEC projects with Indigenous communities in the three countries.	
Target (November 2022)	CEC constituents have been informed of ways to integrate Indigenous approaches and TEK freshwater management into the organisations' activities.	
Sub-task 3.1	Hold a hybrid workshop (in-person and virtual) involving water experts (Indigenous and non-Indigenous experts) to share results from the case studies and the public consultation and assess how to integrate lessons learned in policies, programs, and projects at the local, regional, national, and international level.	**When:** September 2022
Sub-task 3.2	Workshop summary on key findings.	**When:** September 2022
Sub-task 3.3	Elaborate an assessment report including recommendations for the integration of TEK to programmes, policies and projects in North America including to CEC's activities.	**When:** October- November 2022
Activity 4 Budget	**Creation of an online portal on CEC's website showcasing Indigenous Peoples' perspectives on freshwater management and sustainable use.** Year 1: 40,000$ Year 2: 10,000$	
Output(s)	Online portal on CEC's website on "Indigenous Peoples' approaches to freshwater management in North America"	
Expected results, performance measures	Information about Indigenous Peoples'' approaches to freshwater management in North America is publicly available in three languages. All relevant materials are easily accessible on-line. Number of visitors (traffic) on the portal.	
Baseline (current status), if known	The CEC has a general section on Local and Indigenous ecological knowledge but with limited information on Indigenous Peoples approaches to environmental management.	
Target (November 2022)	The online portal has been launched.	
Sub-task 4.1	Develop a user-friendly webpage and post all relevant project outputs in the three languages.	**When:** November 2021- November 2022
Sub-task 4.2	Elaboration of videos documenting freshwater management practices for outreach and communication purposes.	**When:** November 2021- October 2022

| Sub-task 4.3 | Elaborate a communication campaign to inform the public and stakeholders of the creation of the online webpage. | **When:** August 2022-November 2022 |

12. Describe <u>post-project</u> expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
Integration of Indigenous Peoples and communities approaches and TEK in CEC operations and recommendations. Dec., 2027	Number of times Indigenous Peoples and communities approaches have been used as part of CEC operations and policy recommendations.
Increased visibility of Indigenous Peoples and communities approaches and TEK in environmental management. Dec., 2027	Traffic on the "Indigenous Peoples and communities approaches to freshwater management in North America" webpage.