PROJECT NAME: Reduction of Marine Litter

1. **Project duration:** from July 2021 to December 2023 (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.

   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 stakeholders 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.	summer - fall 2021
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.	fall 2021 – fall 2022
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.	fall 2021 – late 2022
Subtask 1.4	Create a digitized map showing trash capture device locations within watersheds with additional demographic, location and results.	late 2022 - spring 2023
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).	late 2021–early 2022
Subtask 2.2	Engage groups in community science activities at the site of the local trash capture device, based on engagement plan.	early–fall 2022
Subtask 2.3	Consolidate results of community science activity into trash capture report.	summer–late 2022
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.	**late 2022 – mid 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).	**late 2022 – mid 2023**
Subtask 3.3	Conduct trinational virtual workshop to present results and lessons learned on this collaboration.	**Fall 2023**

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

Expected impact (by when: month, year)	SMART performance measure(s)
By July 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 2024, 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 2024, local communities are aware of the journey of marine litter.	Evidence that local community members are aware of the journey of marine litter