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2025 Operational Plan Appendix



PROJECT NAME: Trilateral Data Exchange System on the Import and Export of Hazardous Waste – Maintenance, Implementation, Testing and Launch of US-Mexico API Exchange in Production

1. Project duration: 18 months

2. Budget (C\$): 249,000

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:

Pursuant to the legal frameworks controlling imports and exports of hazardous wastes across North America, Canada, Mexico and the United States exchange notice and consent notifications prior to shipping hazardous wastes. The “Notice and Consent Electronic Data Exchange” (NCEDE) is a system developed through the CEC in 2012 to enable the three countries to process these notifications efficiently and effectively and thus protect the North American environment through appropriate control of transboundary hazardous waste movements.

Building on the OP 2019–2020 project, “Modernizing the data exchange system for hazardous waste transfers,” the current project continues the joint work carried out by the trilateral working group/Steering Committee, representing areas of authorization management for transboundary movements of waste and information technology. This project is needed because of unexpected delays in modernizing the system, caused by contract lapses which have delayed issuance of security certification for the US IT system that hosts the API exchange.

The aims of the project are to:

- (1) test implementation of the maintenance approach created in 2021 for the node-based and API-based exchanges, including, at the trilateral level, an optimization and update of the data catalogs (operational codes) developed, and the incorporation of the regulatory changes on cross-border movements between the three countries;
- (2) complete testing of the US-Mexico API exchange in production; and
- (3) ensure IT support for a full period after the US-Mexico API exchange is successfully launched.

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):

Modernizing the NCEDE system is itself an innovative and effective solution, since improving existing NCEDE data exchange between the North American countries directly improves environmental protection by establishing more efficient control of hazardous waste exports and imports. For example, it can prevent unauthorized dumping and recycling of hazardous waste that could lead to environmental and health risks—particularly for vulnerable populations (e.g., women and children) that are exposed to these contaminants through their work or in their communities.

The use of a trilateral electronic system supports paperless information-sharing, extensive reduction in processing delays, and more efficient decision-making, as the current NCEDE has had a significant economic impact on recycling and waste management companies. The effective management of waste through international trade also supports job creation in the three countries, as each country develops better technology and the processes to manage waste and recyclables. However, while this project has the potential to positively impact all North American communities, it primarily involves enforcement agencies in the three countries and does not involve direct stakeholder engagement nor public participation.

In the case of the Mexican system, an information capture module of the hazardous waste export notification format for access by companies or individuals interested in requesting authorizations from the government agency responsible for the management of transboundary movements of hazardous waste had been developed under the OP 2019–2020 modernization project. This has brought added value by facilitating the management of authorization requests from the US and Canada and thus reducing errors in capturing technical information from the formats.

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

The international, regional and bilateral agreements that control the import, export, and transit of hazardous wastes are binding on Canada, the United States, and Mexico, and promote the application of the procedure for notification of attempted export of hazardous waste and prior consent. The NCEDE is a trilateral data exchange system that enables the three countries to comply with these requirements through electronic means.

Significant cost efficiency is gained in working trilaterally rather than developing three separate systems (e.g., US-Mexico, US-Canada and Canada-Mexico). Working trilaterally helps to harmonize hazardous waste management controls in the three countries, reducing the administrative burden on companies and facilitating compliance with environmental regulations. The NCEDE establishes common practices in handling regulatory and technical data so that they can be exchanged in an understandable way between the three countries. Working together is thus also necessary in order to update NCEDE, in order to maintain a user-friendly system that guarantees a good level of security as the data are exchanged. The CEC has been instrumental in facilitating the original development of the NCEDE and continues to serve as the best mechanism for achieving the level of cooperation necessary to update the NCEDE.

Under the previous project that ended on June 30, 2021, the three countries successfully updated and tested the existing US-Canada and US-Mexico node exchanges to allow more flexibility for updating required field values. They identified the updates required for the field values and agreed to phase in the updates, based on effective dates of international waste and transportation data and Canadian regulatory changes. In addition, the three countries developed the required structure and scope for a more robust and efficient API exchange and developed a US-Mexico API exchange using that structure.

While initial testing for the US-Mexico API exchange was successful, the US and Mexico would benefit from extended implementation and limited additional development support under this project. The three countries also developed an updated maintenance approach to facilitate updates to the exchanges due to future domestic or international changes to regulations or technologies but lacked the time to test the implementation of the approach. This project includes the next steps necessary to support this important effort.

7. Describe how the project complements, or avoids duplication with, other national or international work (max 100 words):

The exchange of information on notices and consents prior to shipping hazardous wastes supports the implementation of numerous domestic and international regulations applicable for transboundary hazardous waste movements. The project

complements national efforts and facilitates coordination and information sharing amongst the countries on any update or modifications.

8. Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable (max 100 words):

While this project has the potential to positively impact all North American communities, it primarily involves enforcement agencies in the three countries and does not foresee direct engagement with TEK experts or Tribal/First Nations/Indigenous communities.

9. Describe how the project engages new audiences or partners, if applicable (max 100 words):

While this project has the potential to positively impact all North American communities, it primarily involves enforcement agencies in the three countries and does not foresee direct engagement with new audiences or partners.

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	Expert	Country
Environment and Climate Change Canada (ECCC)	Georges Kedl Unit Head, Regulatory Operations Modernization Unit	Canada
Environment and Climate Change Canada (ECCC)	Robin Tremblay Program Manager, Regulatory Operations Section	Canada
Environment and Climate Change Canada (ECCC)	Yann Guilbault Unit Head, Notification Unit	Canada
<i>Secretaría de Medio Ambiente y Recursos Naturales— Semarnat (Dirección General</i>	Alejandra Medina Arévalo	Mexico

de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	Lead, Hazardous waste and materials management staff	
Secretaría de Medio Ambiente y Recursos Naturales— Semarnat (Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	Jesús Ignacio López Olvera Deputy Director of Transboundary Movements of Hazardous Waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales—Semarnat (Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	Azucena Olivares Angeles Management staff of authorizations for transboundary movements of hazardous waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales—Semarnat (Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	Dania Zepeda Ramos Management staff of authorizations for transboundary movements of hazardous waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales— Semarnat (Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	Alejandra Cuenca Ortega Management staff of authorizations for transboundary movements of hazardous waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales— Semarnat (Dirección General de Informática y Telecomunicaciones - DGIT)	Claudia Leticia Guerrero López Lead, IT Development Staff	Mexico
Secretaría de Medio Ambiente y Recursos Naturales— Semarnat (Dirección General de Informática y Telecomunicaciones - DGIT)	Rodolfo Yañez Ramirez IT Development Staff	Mexico
Secretaría de Medio Ambiente y Recursos Naturales—Semarnat (Dirección General de Informática y Telecomunicaciones - DGIT)	Rudy Gustavo Gonzalez Ortiz IT Development Staff support	Mexico
US Environmental Protection Agency (USEPA)	Laura Coughlan EPA waste import/export branch, US import/export regulations and policy expert	United States

US Environmental Protection Agency (USEPA)	Jana Tatum EPA waste import/export branch, US notice team leader	United States
US Environmental Protection Agency (USEPA)	Audrianna Maki EPA waste import/export branch, US notice officer	United States
US Environmental Protection Agency (USEPA)	Katie Linder EPA waste import/export branch, US notice officer	United States
US Environmental Protection Agency (USEPA)	Roy Chaudet EPA Information Technology Services	United States
US Environmental Protection Agency (USEPA)	David Charbonneau Chief, EPA Information Collection and Analysis Branch	United States
US Environmental Protection Agency (USEPA)	Scott Christian EPA Information Collection and Analysis Branch	United States
US Environmental Protection Agency (USEPA)	Christopher Muir EPA Information Collection and Analysis Branch	United States

Other organizations/individuals (if applicable)	Country
Consultant(s)	

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	To test implementation of the maintenance approach developed under the previous project, including, at trilateral level, an optimization and update of the data catalogs (operational codes) developed, and the incorporation of the regulatory changes on cross-border movements of the three countries	
Activity 1 Budget year 1 and year 2: C\$57,000	Regular, periodic trilateral calls to ensure a sound maintenance of the system. Budget: Year 1 – C\$28,500; Year 2 – C\$28,500	
Output(s)	Updated the data catalogs (operational codes) developed in the previous project Regulatory changes on cross-border movements of the three countries incorporated Successful exchanges over trilateral calls	
Expected results, performance measures	Optimized and robust system complete	
Baseline (current status), if known	System to be launched by January 2022	
Target (by project end)	Operations and Maintenance (O&M) support has been ensured throughout the entire project. The “NCEDE Maintenance Communication and Change Management” document has been drafted under the OP19-20 NCEDE project	
Subtask 1.1	Regular and periodic trilateral CEC-hosted calls - simultaneous interpretation services provided for four planned meetings	When: Full length of the project
Subtask 1.2	Continuation of management of items dealt with during preceding months and any anticipated outages or updates needed	When: Full length of the project
Subtask 1.3	Note any problems with how maintenance approach worked during preceding months and propose revisions as needed	When: Full length of the project
Subtask 1.4	Translate any updates to the maintenance approach document (“NCEDE Maintenance Communication and Change Management”) and other project-related documents as required	When: by the end of the project

OBJECTIVE 2	To bilaterally conduct extended testing for US-Mexico exchange developed under the previous OP19-20 project	
Activity 2 Budget year 1 and year 2: C\$57,000	Testing of US-Mexico API exchange after US launch of exchange in production in US system via virtual meetings. Budget: Year 1 – C\$28,500; Year 2 – C\$28,500	
Output(s)	The “Lessons learned” document is updated and serves as living useful reference	
Expected results, performance measures	The US-Mexico API exchange is successful after US launch of exchange in production	
Baseline (current status), if known	The “Lessons learned document” has been drafted under the OP19-20 NCEDE project	
Target (by project end)	Tests finalized and lessons learned identified and compiled in a document accessible to the three countries’ government officials	
Subtask 2.1	Regular and periodic CEC-hosted calls - simultaneous interpretation services provided for four planned meetings	When: Full length of the project
Subtask 2.2	Carry out the testing of the new API between US and Mexico after US launch of exchange in production	When: Second quarter of year 1
Subtask 2.3	Update lessons learned document drafted in the previous project to reflect testing outcomes	When: Third quarter of year 1

OBJECTIVE 3	To provide Operations and Maintenance (O&M) and development support for Semarnat’s IT system	
Activity 3 Budget year 1 and 2: C\$135,000	To provide IT support to complete any needed additional modifications or development for Semarnat’s IT system associated with Objective 2, along with Operations and Maintenance (O&M) support for Semarnat’s IT system. Budget: Year 1 – C\$67,500; Budget Year 2 – C\$67,500	

Output(s)	Completion of tests and full integration of the new system between US and Mexico and eventually with Canada	
Expected results, performance measures	Full integration of the new system between US and Mexico achieved	
Baseline (current status), if known	System to be launched by January 2022	
Target (by project end)	Adjustments and developments needed made	
Subtask 3.1	Provide IT project for Support and Maintenance	When: from third quarter of year 1 to end of project
Subtask 3.2	Assessment of the need for and provision of IT project support for modification or development activities arising from the US-Mexico API production testing conducted under Activity 2	When: from second quarter of year 1 to end of project

12. Describe post-project expected impacts:

Expected impact (by the end of the project)	SMART performance measure(s)
The project is expected to advance the modernization of a user-friendly computer platform, easy to update by the IT areas of the environmental authorities of the three countries.	Full exchange between US and Mexico is enabled through the new API.
The modernization of the system will contribute to facilitating the compilation of information for individual country reports on authorized cross-border movements of hazardous waste.	Exchange of information and optimization and update of the operational codes following regulatory updates in the region and at international level.
The modernization of the system will contribute to increasing information flow and coordination between the countries regarding hazardous waste imports and exports.	Increase of trilateral communications of updates and any changes.

PROJECT NAME: Using the World Cup and Large-Scale Events to Raise Awareness about the Importance of Reducing Food Waste

1. **Project duration: 24 months**
2. **Budget (C\$): \$425,000**
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:**

Large public events (such as sports games, music concerts, and cultural celebrations that may take place at stadiums or other public gathering spaces) offer a unique opportunity for both promoting awareness of wasted food and engaging and activating a diverse crowd that might not have felt compelled to act on the issue before. Furthermore, large-scale public events require coordination and execution of massive food operations, and cities organizing such events face associated challenges with waste and materials management. The CEC can play a role by providing funding to develop outreach materials that will raise awareness of wasted food. These materials will be used by partners, such as local and municipal governments, event managers and organizers, sports venues, and other organizations.

The scale and continent-spanning setting of the 2026 World Cup (FWC26) presents a unique opportunity to meet project objectives and pilot support materials. Such materials would take the form of public-facing assets and a deployment guide for partners to use, leading up to and during FWC26, that highlight the issue of wasted food and opportunities for fans and residents to take action in their own lives to reduce wasted food. Findings from this pilot will enable the subsequent refinement of tools for use in other types of future large-scale public events in North America. A secondary project deliverable will be a social marketing toolkit containing guidance and messaging for partners to use in launching effective sustainability campaigns that capitalize on the setting and local surroundings of large public events, and producing highly visible, evergreen assets.

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 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 considerations of gender and diversity effects and opportunities, and youth):

The World Cup is one of the world's largest and most-watched sporting events, and attracts viewers and attendees of all ages, genders, ethnicities, and nationalities and thus provides a unique opportunity to develop, use, and test public-facing assets and the deployment guide that will be prepared during this project.

This project also aims to develop generic materials that municipal and local governments, as well as event managers and organizers, sports venues, and other organizations can use for many types of large-scale public events, considering lessons from the World Cup.

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

All three countries will host various FWC26 matches and associated events. Beyond the World Cup, all countries also host large-scale public events that offer potential opportunities to raise awareness and motivate action on sustainability and reducing wasted food, both during the events and, more generally, in the daily lives of the attendees. The FWC26 events will likely draw attendees from all over North America, and many fans may travel to venues in multiple countries to view the matches. Common themes and calls to action in each city and country ("repeat exposure"¹) might very well lead to greater awareness and adoption of sustainable behaviors among the attendees.

In addition, providing a social marketing toolkit, along with customizable public-facing assets to support planning and delivery of food waste reduction-awareness campaigns at other large-scale public events, that include uniform guidelines for local and municipal governments, event managers and organizers, sports venue employees, etc., in host cities may lead to greater cooperation and coordination in promoting the sustainable management of food in using the World Cup as a catalyst event to create a larger community of practice, both internal to each country and across North America, as a whole.

1. Repeated exposure creates a sense of comfort or safety. The mere exposure effect is a phenomenon in which people like something more as a result of repeated previous exposure to it, however brief and fleeting.

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

This work both complements and avoids duplication with work being done by FIFA – this work will complement any FIFA sustainability commitments. However, the toolkit and support materials will provide resources directly to the cities hosting World Cup matches, and thus supporting their own sustainability initiatives. Furthermore, other sustainability toolkits have been created by organizations like the Rockefeller Foundation, but those toolkits are specifically designed for large-scale events and do not focus exclusively on sports events. Likewise, several FWC26 host cities have sustainability and/or food waste-specific efforts or campaigns under way, so expert-crafted outreach and messaging associated with the World Cup will add value to those cities' existing efforts. By crafting and sharing consistent sports-adjacent sustainability messaging, the project will provide complimentary assets to such partners (local and municipal governments of host cities, sports venues, and other organizations) who are involved in the planning and delivery of World Cup events. Lastly, the adaptable nature of assets and the content of the deployment guide will merit its use as a supplement to cities' local capacities for sustainable management of food for other public large-scale events.

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

In areas where these large events also house large Tribal/First Nations/Indigenous communities, it is important for the guides and assets created by CEC to consider the traditional ecological knowledge that these community members can provide. Sustainable, responsibly run events should benefit all who live in the community by ensuring no additional ecological harm results from the production of said events.

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

This project enables the CEC to leverage current relationships and engage with new partners. CEC has worked with several governments and government-adjacent organizations on past CEC projects on various environmental topics (i.e., Metro Vancouver, City of Toronto, Clallam County in Washington State, the city of Merida in Mexico, etc.). In creating FWC26 public-facing assets and a deployment guide, along with a social marketing toolkit and customizable assets for use at other events, this project allows for engagement beyond what the CEC has offered in the past and may foster more collaborative outreach. In addition, CEC has not previously undertaken project activities that have focused on reducing wasted food at public large-scale public events, so this effort will engage those new partners and new audiences. Furthermore, the whole of material under this project will reach new audiences that the CEC has not communicated with – attendees of sports and other public large-scale cultural or of other nature events.

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
US Environmental Protection Agency (EPA)	United States
US State of Department	
Environment and Climate Change Canada	Canada
<i>Secretaría de Medio Ambiente y Recursos Naturales</i> (Semarnat)	Mexico

Other organizations/individuals (<i>potential</i>)	Country
Local stadium operators in FWC26 host cities	US/Canada/Mexico
Local venues supporting FWC26 in select cities	US/Canada/Mexico
Local governments in FWC26 cities	US/Canada/Mexico
Green Sports Alliance or similar organizations	US/Canada/Mexico
FIFA Local Chapters	US/Canada/Mexico
Nonprofits working in cities on food waste reduction (i.e., BAMX)	US/Canada/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	Provide local governments, communities, and other stakeholders tools to design and implement social marketing campaigns to reduce FLW, during large-scale, city-wide events
Activity 1 Budget Year 1 and Year 2: C\$250,000	FWC26 Food Waste Reduction Awareness-Raising Campaign Development and Deployment Budget Year 1: \$105,000; Year 2: \$145,000
Output(s)	<ol style="list-style-type: none"> 1. Develop FWC26 assets and assets deployment guide: <ol style="list-style-type: none"> a. Suite of customizable assets (digital content, printable content, and out of home ads) to raise awareness and motivate action to reduce wasted food that can be used at FWC26 games, including posters, ads, social media, infographics, etc. b. Accompanying guide on how to deploy the assets in section 1a. 2. Establish a FWC26 technical advisory group of key international, regional, state, city/local partners (government, NGO, private sector) that will provide feedback on FWC26 materials, suggest partners and messengers to engage, and pilot the assets during the World Cup. 3. Outreach to stakeholders (local and municipal governments, event managers and organizers, and others) in 16 cities hosting World Cup matches to share assets and deployment guide. 4. Summary report evaluating FWC26 campaign implementation, including metrics on campaign implementation, such as asset quantities, modes, placement, engagement, views, etc.
Expected results, performance measures	<ol style="list-style-type: none"> 1. The assets and assets deployment guide from activity #1 and the social marketing toolkit from activity #2 and will have been used by at least 10 cities during the World Cup (striving for at least 1 city per North American country) 2. Increased awareness about food waste by World Cup fans 3. Increased awareness by residents of local efforts and local educational campaigns focused on food waste prevention 4. Data and anecdotal evidence of the effectiveness of the campaign will be made available to stakeholders.
Baseline (current status), if known	<ol style="list-style-type: none"> 1. No food waste campaign has been carried out at the World Cup.

	2. As of 10/8/24, various fragmented working groups have assembled with various sustainability ambitions for World Cup events, i.e., FIFA local committees in host cities (local, international spread); Subworking Group on Sustainability under the White House Council on Global Sports (USGOV).	
Target (by project end)	Develop, promote, and implement a food waste reduction awareness-raising campaign during World Cup.	
Subtask 1.1	Create a FWC26 working group, which would include local and municipal governments, event managers and organizers, and others involved in education and marketing around World Cup events.	When: Year 1
Subtask 1.2	Develop World Cup digital assets, deployment guide for those assets, and publish them on the CEC website.	When: Year 1
Subtask 1.3	Provide outreach and assistance to stakeholders (local and municipal governments, event managers and organizers, sport venues, and others) in host cities on digital assets deployment and partner engagement opportunities.	When: Year 1 and Year 2
Subtask 1.4	Summary report of campaign outcomes to be published on CEC website.	When: Year 2
Activity 2 Budget Year 1 and Year 2: C\$110,000	Develop a social marketing toolkit and customizable assets to support Planning and Delivery of Food Waste Reduction Awareness-raising Campaigns at large-scale public events Budget Year 1: \$0; Year 2: \$110,000	

Output(s)	<ol style="list-style-type: none"> 1. Food Waste Reduction during public large-scale events: A Social Marketing Toolkit <ol style="list-style-type: none"> a. Guidance regarding how to capitalize on large-scale events to reach attendees with messaging to raise awareness and motivate action at the consumer level to reduce food waste. b. Guidance on how to approach developing a campaign associated with a large-scale event, including messaging, materials, partnerships, conducting pilots, etc. c. Messaging examples to raise awareness and motivate consumer action. d. Customizable digital assets such as posters, digital ads, social media, infographics, out of home ads, etc. that raise awareness of the importance of reducing food waste with related guidance for their deployment. e. Evaluation guidance including common key performance indicators for measuring performance. f. Guidance on budgeting and estimating costs related to social marketing at public large-scale events. 	
Expected results, performance measures	More stakeholders (local and municipal governments, event managers and organizers, and others) will use social marketing to design campaigns and interventions to raise awareness and motivate action that will reduce food waste amongst attendees and citizens of host cities at large-scale public events.	
Baseline (current status), if known	Current availability of social marketing toolkits, of the public awareness of wasted food, and of the education for fans and citizens at large events, varies from city to city.	
Target (by project end)	Publish and promote Social Marketing Toolkit and associated assets.	
Subtask 2.1	Consult existing resources/toolkits (Rockefeller Foundation green guide, EPA toolkits, etc.) to ensure there is no duplication and that work is additive.	When: Year 2
Subtask 2.2	Develop a Social Marketing Toolkit and assets, and publish them on the CEC website.	When: Year 2

Activity 3 Budget Year 1 and Year 2: C\$65,000	Continued outreach, promotion, and awareness-raising of CEC products related to FLW reduction Budget Year 1: C\$40,000; Year 2: C\$25,000	
Output(s)	Continued dissemination and use of new and existing CEC FLW content and assistance or support to stakeholders in the uptake of this content (priority will be given to local governments and communities, including Indigenous communities).	
Expected results, performance measures	Enhanced awareness of FLW issues in North America, facilitate dissemination and use of related CEC material to support FLW reduction, and address stakeholder demand for assistance in using CEC FLW resources and raising local awareness.	
Baseline (current status), if known	<ul style="list-style-type: none"> Through past projects, the CEC has developed and promoted content to support FLW reduction activities in North America, including foundational studies, the Food Matters Action Kit, and the Guide on How and When to Measure FLW. Following the success of these past CEC FLW projects and awareness-raising focused actions and campaigns, and considering the leadership and visibility achieved, this activity will assist local policymakers, communities, and other stakeholders in designing and implementing campaigns to stimulate behavioral changes to reduce consumer FLW. Opportunities exist to continue CEC support for the dissemination and uptake of both new and existing content that will help foster FLW reduction across North America, and thus this project responds to the interest expressed by the stakeholders, allowing the CEC to address the current momentum by supporting the growing demand for CEC leadership and FLW resources. 	
Target (by project end)	Ensure that interested groups are aware both of new and existing CEC FLW content, and able to access, understand, and use this content (e.g., via training, the translation of relevant material, hardcopy materials, etc.).	
Subtask 3.1	Provide editing, translation and other services to support publication and dissemination of CEC relevant products.	When: Year 1 and Year 2

Subtask 3.2	Promote new and existing CEC FLW content via CEC-hosted webinars, workshops and meetings (with simultaneous interpretation, as needed), other third-party events, the use of social media, as appropriate.	When: Year 1 and Year 2
Subtask 3.3	Ensuring the right support to relevant stakeholders' requests, related to the use of CEC FLW resources. Priority will be given to requests from local governments and communities (including Indigenous communities).	When: year 1 and year 2
Subtask 3.4	Printing and mailing of relevant CEC material, upon request.	When: year 1 and year 2

12. Describe post-project expected impacts:

Expected impact (by when: March 2027)	SMART performance measure(s)
By the end of the project (Year 1), the Toolkit will be complete and its use promoted.	The CEC has promoted the social marketing toolkit by placing it on the CEC website and promoting it through CEC networks.
By the end of the project (Year 2), the Assets will have been developed and used in cities in all three countries that are participating in the World Cup.	The CEC has promoted the assets by placing them on the CEC website and promoting the assets through their networks.
By the end of the project (Year 2), a summary document on the effectiveness of the assets used during the World Cup will be completed.	The CEC has datapoints to reference on the effectiveness of the assets at the World Cup events.

By the end of the project (Year 2), a working group will have used the toolkit, piloted the assets in the World Cup, and created a network in which they share best practices on planning for future large-scale events.	A working group has been created that includes representatives from cities in which World Cup events are hosted. This group will have used the toolkit, piloted the assets in their respective cities, and created a network in which they share best practices for future large-scale events beyond the World Cup.
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PROJECT NAME: Strengthening Evidence-Based Collaborative Monarch Butterfly Conservation

1. **Project duration:** 14 months
2. **Budget):** C\$180,000
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 monarch butterfly population has experienced a significant decline over the last few decades, with the second lowest wintering population size¹ ever recorded during the 2023–2024 wintering season. This decline highlights the urgent need for coordinated, evidence-based conservation efforts. The Trilateral Monarch Conservation Science Partnership (TMCSP), established by Canada, Mexico, and the United States, in response to the record-low wintering population size observed in 2013/2014, has played a crucial role in addressing monarch conservation challenges collaboratively. However, the TMCSP's capacity to convene and act has been constrained, following the conclusion of CEC-funded Monarch projects in 2019.

At a strategic planning meeting convened by Mexico's Secretariat of Environment and Natural Resources (Semarnat), and National Commission of Protected Natural Areas (Conanp) in February 2024, the TMCSP identified several priorities for conservation efforts, including conservation and restoration of habitat (wintering grounds, migration corridors and breeding grounds) and addressing the impacts of climate change and pesticides. These evidence-based priority conservation themes were then presented at the XVIII Trilateral Committee for Conservation and Management of Wildlife and Ecosystems meeting and the North American Intergovernmental Committee on Cooperation for Protected Areas Conservation meeting in April and May 2024, where it was agreed to continue efforts in monarch conservation and explore further actions. These priorities must now be translated into proposed actions that can be delivered by conservation practitioners across North America.

The project will convene the TMCSP and other key conservation actors within targeted virtual meetings, where they will take stock of evidence-gathering efforts and draw lessons from their implementation and results. Inclusive collaborative action will be

¹ In the context of the monarch butterfly, this refers to the total area (measured in hectares) occupied by wintering colonies in their overwintering forests in Mexico. This metric helps assess the health of the population, with smaller surface areas indicating a decline in numbers. For the wintering season of 2023–2024, the area occupied was 0.9 hectares, marking the second-lowest recorded since systematic monitoring began in 1993.

(Source: <https://www.gob.mx/conanp/prensa/disminuye-la-presencia-de-mariposas-monarca-en-los-bosques-mexicanos-de-hibernacion>)

further supported through a joint, in-person meeting to identify needs, barriers and opportunities related to on-the-ground monarch conservation, evidence-based priority actions, and a unified approach to addressing them.

As a result, the project will help guide future conservation strategies and support the ongoing efforts of the Trinational Monarch Conservation Science Partnership and monarch conservation practitioners working for the recovery of monarchs in North America.

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 organize both virtual and in-person meetings to foster collaboration and evidence-sharing among diverse stakeholders, including government agencies, NGOs, academic partners, and agricultural and other private sectors, to address habitat conservation and connectivity, effects of climate change and pesticide use, and to help prioritize strategic evidence-based conservation actions for the monarch butterfly. This strategic convening will support broad participation and the inclusion of various perspectives in developing monarch conservation priorities. By facilitating inclusive discussions and integrating feedback from a wide range of participants identified by the project's steering committee and relevant partners (including representatives from academia, ENGOS, and government), the project will address diversity considerations and promotes effective collective action to enhance conservation outcomes.

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

Through trinational cooperation, the project can significantly enhance its impact on monarch butterfly conservation. Each country has its own initiatives, expertise and legal framework for monarch conservation, but the multi-generational migration of this animal over long distances across the continent demands a collaborative approach, to support an evidence-based, coherent, complementary suite of actions along the migratory path that will help protect and leverage national investments in conservation.

Including national agencies presents an opportunity to develop an approach that aligns with national priorities and promotes cross-sectoral collaboration within each country. By facilitating the exchange of information, identifying best practices, and aligning conservation efforts, the project seeks to explore opportunities for efficient use of resources and collaborative action, building on initiatives and relationships developed under previous CEC work and contributing to unified progress in conserving monarch butterflies across North America.

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

While many national and local initiatives in Canada, Mexico, and the United States address monarch butterfly conservation, active trilateral collaboration has been relatively limited in recent years. This project will build on the groundwork laid by previous efforts focused on monarch and pollinator conservation, complementing existing initiatives by linking and enhancing local and regional activities (to be identified through the project) without duplicating them. It aims to leverage the unique strengths and insights from various national programs to create a cohesive, trilateral approach, ensuring that efforts are integrated and optimized for greater impact.

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

The project recognizes the existence of traditional ecological knowledge (TEK) related to monarch butterflies and their conservation across North America. Engagement with communities and their TEK experts will be incorporated as applicable, ensuring that their perspectives and insights are considered in the conservation efforts. This approach will be adapted based on the scope and specific needs of the project, aiming to enrich the conservation strategies with diverse and culturally relevant knowledge, informed by past CEC work looking at monarch-related TEK.

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

The project aims to bring together a range of participants, including government agencies, local conservation organizations, academic researchers, landowners, and community groups, who may not have previously collaborated on monarch conservation. This inclusive approach helps to expand the network of partners and foster new relationships, enhancing the collective effort to address conservation challenges and driving broader involvement in monarch butterfly conservation.

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	Canada
Semarnat, Conanp	Mexico
USFWS	United States
Trinational Monarch Conservation Science Partnership	Canada, Mexico, United States
Other organizations/individuals	Country
Other federal organizations	Canada, Mexico, United States
NGOs (e.g. Monarch Joint Venture)	Canada, Mexico, United States
Provincial and state agencies	Canada, Mexico, United States
Local/ municipal/ regional authorities	Canada, Mexico, United States
Community partners	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	Facilitate effective collaboration and evidence gathering for monarch butterfly conservation
Activity 1 Budget C\$120,000	Conduct virtual and in-person meetings of the Trinational Monarch Conservation Science Partnership and other relevant groups
Output(s)	- Summary reports from virtual and in-person meetings
Expected results, performance measures	- Enhanced understanding of current conservation status, efforts, needs, and priorities (e.g. Monarch Blitz; climate change scenarios; co-benefits with pollinators conservation; data sharing; habitat loss, pesticides, and climate change; priority actions and places; shared commitments; future science, monitoring and data priorities, mobilizing urgent conservation actions) (<i>specifics to be determined through project implementation</i>) - Strengthened collaboration among partners

Baseline (current status), if known	- TMCSP last met in February 2024, for the first time since 2019, producing a general report	
Target (by project end)	- Virtual meetings of the TMCSP and other groups (international or national, at least 4 in total) - Joint in-person meeting of groups involved in virtual meetings	
Subtask 1.1	Host virtual meetings to discuss status, lessons learned, and conservation needs	January – September 2025
Subtask 1.2	Organize an in-person meeting to outline conservation priorities and action plans (linked to other monarch conservation event, if possible)	June 2025
Subtask 1.3	Prepare and distribute comprehensive meeting report to participants	February – October 2025

OBJECTIVE 2	Develop and refine priority areas for action in support of monarch butterfly conservation	
Activity 2 Budget C\$60,000	Identify and agree on evidence-based priority areas for monarch butterfly conservation actions	
Output(s)	- Outline of priority evidence-based conservation actions - Documentation of input and feedback from stakeholders - Geospatial priorities “anchor sites” for continental-scale connectivity and resiliency of the migration phenomenon	
Expected results, performance measures	- Evidence-based trinational conservation priorities and proposed actions - Updated Mexican action plan	
Baseline (current status), if known	- Existing priorities are either outdated or could benefit from updates given new evidence.	
Target (by project end)	- Finalized outline and documented set of priority areas for conservation action with timelines and ready for implementation	
Subtask 2.1	Draft priority areas for conservation action based on virtual and in-person meeting outcomes	January – June 2025

Subtask 2.2	Coordinate feedback and finalize the priority areas for action	June – October 2025
Subtask 2.3	Publish and disseminate the final outline of priority areas for conservation action	November 2025 – March 2026

12. Describe post-project expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By December 2026, the Trinational Monarch Conservation Science Partnership will have developed and endorsed actionable evidence-based conservation priorities and strategies for monarch butterfly conservation.	Evidence of documented conservation priorities and strategies that have been agreed upon by all three countries.
By December 2026, stakeholders across Canada, Mexico, and the United States will have increased collaboration on monarch butterfly conservation efforts.	Evidence of new international involvement in collaborative actions, projects or initiatives.
By December 2026, the Trinational Monarch Conservation Science Partnership will have a refined and actionable set of priorities and tools to guide future conservation efforts.	Evidence of finalized priority areas and tools being used in ongoing or new conservation initiatives, with feedback from stakeholders showing improved alignment and effectiveness in conservation planning.