Project 14: Local Environmental Observer Network	**Operating Year(s): 2015–2016**
Planned Budget for Two Years: C$250,000 **Year 1: $125,000** **Year 2: $125,000**	

Strategic Priorities/Subtheme

- Sustainable Communities and Ecosystems
- Climate Change Mitigation and Adaptation

How will this project address the cross-cutting themes?

The LEO International Project will address the following CEC strategic priorities: Sustainable Communities and Ecosystems, and Climate Change Mitigation and Adaptation. These will be advanced by enhancing information-sharing and building capacity in indigenous communities to build a surveillance system involving traditional ecological knowledge (TEK) that serves to open a dialogue with governmental agencies and collaborate in addressing global climate change and its impacts on communities and ecosystems.

Project Summary (including a clear statement of project goal)

With the growing public health challenges involved in climate change and the environment, it is important that communities have the capacity to monitor, respond, and adapt to new impacts and health effects. Developing effective systems for accessing locally relevant information is part of the challenge. In addition, once such data are available, there are challenges in linking the observations made by indigenous communities to Western science and policy communities. To respond to this challenge, the United States began the Local Environmental Observer (LEO) Network, in Alaska, which is hosted by the Alaska Native Tribal Health Consortium (ANTHC) (www.anthc.org/chs/ces/climate/leo/). LEO is composed of local, indigenous experts who collect observations about unusual environmental events in their communities. This TEK content is uploaded to the LEO account and vetted by LEO content managers to confirm the observations and then posted on Google Maps. LEO managers and advisers can then link the observations and local community to the appropriate decision-makers and experts to help resolve issues identified. In addition, the aggregate data collected by LEO are a powerful repository of information on changes in the environment, an issue of particular concern in the face of a rapidly changing climate system.

The goal of this project is to introduce and expand the Local Environmental Observer (LEO) Network to Canada and Mexico. LEO proposes to focus on the geographic areas of the Yukon, the Northwest Territories, and/or British Columbia, in Canada, and in a designated area of Mexico to be identified by our trilateral partners. The project will assist partners with development and training of their own affiliated LEO Network chapters. It will also assist in identifying climate change–related impacts in the focus regions, along with enhancing dialogue about the value of local observations, the health and environmental effects of climate change, and strategies for mitigation and adaptation.

Short-term Outcomes (at halfway point)

The primary short-term outcome will be signature of an MOU(s) containing work programs, training plans, and outreach strategies to launch a new, pilot LEO chapter.

Long-term Outcomes (by the end of the project)

Improved access of TEK environmental observations that have been verified and can be used in Western decision-making and scientific processes; increased availability of technical assistance to indigenous communities to address environmental issues; improved mapping of environmental observations.

Longer-term, Environmental Outcome (post-project)

The launch of the LEO network in three countries will provide North American communities with tools and technology to improve monitoring of changes in the environment at the tribal community level as well as on a regional scale, by using an Internet-based system for posting observations. The observations are recorded and archived to provide a lasting record of verified conditions, creating a rich repository of information for both the local community and the overall scientific and policy community. In addition to documenting the impacts of change across North America, the network is also designed to improve communication and facilitate the connection between indigenous communities and scientific and policy organizations in order to provide technical assistance on how to address the environmental problems identified. The CEC LEO International project could serve as model for other regional/global networks via the Arctic Council, UN Environmental Programme (UNEP) or International Union for Conservation of Nature (IUCN), making the CEC a global leader on TEK.

Performance Measures (quantified SMART measures)

- Establishment of pilot North American LEO network comprised of one chapter in each the United States, Canada and Mexico, with soft launch by late 2016.
- Number of people trained to use LEO.
- Number of tribes and organizations trained to use LEO.
- Number of observations recorded each month between January and June 2017 and annually thereafter.
- Number of technical assistance engagements facilitated between January and June 2017 and annually thereafter.
- Number of decisions or reports that use LEO data in their policy or scientific process annually.

Tasks necessary to reach the environmental outcome

(Low-carbon-footprint approach. Focus on watershed communities and connection between watersheds and coastal areas.)

1) Identify appropriate indigenous groups and organizations to partner with in Canada and Mexico.

2) Develop and enhance LEO infrastructure.

3) Train regional partners on LEO processes.

4) Report results.

5) Continue to operate and improve LEO network in Alaska to maintain the US Arctic perspective and enhance the flow of information on new developments with North American partner networks.

Task #1) Identify appropriate indigenous groups and organizations to partner with in Canada and Mexico to establish new Network(s)

Subtask	**Project outputs**	**How does the subtask/output move the project towards the environmental outcome**	**Timing**	**Budget (C$)** (activities)
1.1 Outreach, consultations and network development	- List for potential LEO network members and partner organizations - Fact sheets and other materials to educate prospective members on LEO - Site visits, meetings and teleconferences to build support and identify network members - List of potential resources to support sustainable operations for new LEO networks - Refining topical areas of interest, based on local interest and available resources - Letter of intent, resolution or MOU and signing ceremony - Workplan on implementation phase of project	Identification of network participants and resource needs to establish the network for a new LEO chapter	Summer 2015 to Spring 2016	Year 1: $20,000 Year 2: $5,000

Task #2) Develop and enhance LEO infrastructure				
Subtask	**Project outputs**	**How does the subtask/output move the project towards the environmental outcome**	**Timing**	**Budget (C$)** (activities)
2.1 Identify existing and build new LEO infrastructure	- Identification of regional technological needs; providing the required technology and training,(if needed); for the desired local observation results - Analysis of systems for LEO - Establish infrastructure required for new network(s) to begin recording observations	Provides mechanism inputting observations	Fall 2015–Spring 2016	Year 1: $20,000 Year 2: $35,000
Task #3) LEO training				
Subtask	**Project outputs**	**How does the subtask/output move the project towards the environmental outcome**	**Timing**	**Budget (C$)** (activities)
3.1 Launch of new LEO chapter(s) and regional consultations	- Training on LEO systems for: communication, social media; posting observations, photos and video; electronic surveys; quality control; permissions; intellectual knowledge; mapping; working with technical partners (local, regional, international); webinars/teleconferences; etc.	Increases capacity of the partners to use LEO's tools and system, and formalizes the presence of LEO in Canada and Mexico	Mid 2016 - 2017	Year 1: $36,000 Year 2: $36,000

	- Regional introductory presentations to include maps, tools, and web presence			
3.2 Identify technical assistance and experts	- Contact list - Enrollment system - Outreach tool for sharing LEO posts - Venues for informing science, management systems, and policy (e.g., OneHealth groups)	Increases knowledge of LEO among external partners and linkages between LEO members and the scientific community	Early to mid-2016	Year 1: $2,000 Year 2: $2,000
3.3 Convene quarterly meetings (webinars) with Canada and Mexico partners to discuss network observations, challenges and progress; continue to develop international dialogue on LEO network	- Webinar meetings	Promotes use of LEO system by participants and validates their capacity to use it	2016–2017	Year 1: $2,000 Year 2: $2,000
Task #4) Report results				
Subtask	**Project outputs**	**How does the subtask/output move the project towards the environmental outcome**	**Timing**	**Budget (C$)** (activities)
4.1 Report on environment, and findings assessments	- Report on observations of climate change that documents what is happening in the community and the watershed, with pictures and words (translated and provided to community) - Findings for Mexico and Canada	Raises awareness about climate change events and existing knowledge among local people, regional providers,	Fall to Winter 2015	Year 1: $10,000 Year 2: $10,000

		and the CEC Allows a better understanding of how LEO is evolving in Mexico and Canada		
Task #5) Continue to operate and improve LEO Network in Alaska to maintain the Arctic US perspective and enhance the flow of information on new developments with North American partner networks				
Subtask	**Project outputs**	**How does the subtask/output move the project towards the environmental outcome**	**Timing**	**Budget (C$)** (activities)
5.1 Apply and maintain LEO system to document environmental changes in Alaska and share knowledge regionally, nationally and internationally	- Maps (regional / international) - Webinars - Training - Consultation - E-News - Improved / updated educational tools	Contributes to improving LEO's program implementation and sustainability	2015-2017	Year 1: $35,000 Year 2: $35,000

Explain how this project meets the selection criteria adopted by Council in the Strategic Plan (see below)

The goal of all projects funded by the CEC will be to support the efforts of the Parties to conserve, protect and/or enhance the North American environment. The following criteria will guide the Secretariat, Working Groups, Committees, and other appropriate officials of the Parties in considering cooperative activities for Council approval under operational plans. These selection criteria do not apply for activities to be funded through the NAPECA grant program.

- **How does the project contribute to achieving Council's strategic objectives as described within the current Strategic Plan, or as related to other priorities subsequently confirmed by Council?**

  By improving a model for engaging communities and connecting with technical experts and resources and informing about specific events and the impacts, needs, and responses required across three countries, LEO contributes directly to the achievement of CEC's strategic priority: Sustainable Communities and Ecosystems. More precisely, by improving monitoring of changes in the environment

and by connecting local environmental and health managers with agencies and organizations that can provide technical assistance and resources at the community level, LEO will contribute to the Priority Species and Ecosystems subtheme.

- **Are the proposed objectives North American in scope? In other words, how are the proposed results relevant to protecting the environment in North America? (For example, what would Council members announce to the press at the successful completion of this project?)**

  Many of the environmental problems we are facing nowadays and we will be facing in the future have considerable impacts and do not limit themselves to countries and their borders. By launching LEO in Canada and Mexico and connecting it to the network already existing in the US, this project will contribute to increasing communication and sharing of information between communities across North America. Furthermore, the new LEO Network will provide a model for engaging communities and connecting them with technical experts and resources not only at the community level but as well at the regional, national and international levels.

- **What specific, clear and tangible results will be achieved and how will progress toward each result be measured over time? Identify performance measures to be used to indicate success at reaching all outcomes and/or performance.**

  Multiple results are expected at the end of the project. The main ones are presented below:

  1. Presence of LEO programs in both Canada and Mexico

  LEO programs will have been developed and will be functional in both countries by the end of the project. Progress toward this result will be monitored based on the approved workplan to establish the programs.

  Performance indicator: Number of countries with LEO program in place

  2. Numbers of communities participating in a LEO program will have increased throughout North America

  The number of communities participating in a LEO program across North America will have increased. Progress toward this result will be monitored based on the number of formal agreements signed with communities including them in a LEO program.

  Performance indicator: Number of new communities joining the LEO program

  3. Number of LEO local observers will have increased across North America

  The number of LEO local observers trained across North America will have increased. Progress toward this result will be monitored based on the number of users of LEO system used to report observations.

  Performance indicators: Number of new users of the LEO system. Number of new observations collected

- **Explain why the CEC is the most effective vehicle for the Parties to use in undertaking this project, considering these points:**
  - The value added by doing it under the CEC cooperative program
  - Any other public, private or social organizations that work on such activities
  - Opportunities to cooperate and/or leverage resources with such organizations

As stated by CEC, “In North America, we share vital natural resources including air, oceans and rivers, mountains and forests. Together, these natural resources are the basis of a rich network of ecosystems which sustain our livelihoods and well-being.”[1] LEO, by providing a model for engaging communities and connecting with technical experts and resources across North America, contributes to the protection of those ecosystems. LEO’s expansion from the US to Canada and Mexico will allow increased exchange of information and further collaboration between the three countries and consequently will contribute to successfully protecting the North American environment. CEC, with its mission to facilitate governmental and public cooperation among Canada, US and Mexico to foster conservation, protection and enhancement of the environment, has already the structure and network in place to support the implementation of a project such as LEO and to facilitate coordination between the different countries. As an intergovernmental organization, and through its role in the implementation of the North American Agreement on Environmental Cooperation (NAAEC), the CEC also provides a vehicle for facilitating cooperation and leveraging funds with other organizations.

- **Does the project propose a clear timeline for implementation of the activities, including a target end-date for CEC involvement? Where applicable, describe how the work will continue after CEC involvement ends.**

  The role of this project is limited to facilitating the expansion of the network to Canada and Mexico and strengthening in the United States. In the actual economic context, having a project in multiple countries represents an enormous challenge which can limit the implementation of a project such as the one proposed. The work proposed in this project will develop LEO resources in Canada and Mexico, concluding with the launch of new LEO chapters by the end of the CEC project. However, once national programs have been created, national organizations (governmental, nongovernmental or private) can take the lead in ensuring the further development and management of those LEO national programs. In Canada, for example, some organizations are already looking at options to secure funding to expand LEO in Canada.

- **Where applicable, identify with reasonable specificity the following:**
  - **Linkages with other relevant CEC projects, past or present, in order to create synergies, capitalize on experience, or avoid duplication**

  In addition to linking to the Ecosystems Functions project currently under consideration by the CEC, the expansion of the LEO network across North America will contribute to the success of many past and future CEC projects. By providing a way to engage communities and connect them with technical experts and resources, LEO’s collected observations provide a source of information useful in the monitoring of the environment that can be used by projects such as the ones funded under the CEC’s Ecosystems or Climate Change stream.

[1] <www.cec.org/Page.asp?PageID=1246&SiteNodeID=1221&BL_ExpandID=879>

- **The target audience, as well as its receptivity and capacity to use the information that may be produced as a result of the project**

Many communities have already expressed interest in joining the LEO network. In Canada, for example, LEO is already present in some scattered communities in the Yukon, Northwest Territories, and British Columbia, demonstrating both the receptivity and the capacity of local community members to participate in such an initiative. In Mexico, one possible area for LEO expansion could be groups or communities residing in specific watersheds or coastal communities (or groups of communities) that have an interest in landscape or species conservation. This project will provide the stepping-stones for the expansion of this network in a more coordinated fashion across the NAFTA party countries.

- **The beneficiaries of capacity-building activities that the project may include**

Local community members will be the target audience for this project. Training and capacity-building activities will be carried out to provide the interested members with the required set of tools and knowledge to adequately document and share environmental changes happening in their community.

- **The relevant stakeholders, with particular attention to communities, academia, NGOs and industry, and their involvement and contribution to a successful outcome**

LEO Network's success is based on its capacity to engage communities and to connect them with technical experts and resources. The project will build LEO connections in Canada and Mexico and expand connections already existing with communities, academia, NGOs and industries to include new ones.