Project 1	**Mapping North American Environmental Issues**	**Responsible Project Manager at the CEC Secretariat**	Evan Lloyd
Planned Allocation	C$180,000	**Working Group(s) associated with this work**	North American Atlas Consultative Group (NAACG)

Objective of Project

The objective of this project is to enable the visualization of North American environmental information through maps. This will be accomplished through the continuing development of a digital North American Environmental Atlas. This project will enhance awareness of environmental topics of continental scale, add value to other CEC projects, provide a framework for geo-referenced environmental data, and build networks among partner mapping organizations through collaboration on harmonized map layers of mutual interest.

Background

Project History and Foundation

As an initial activity, the CEC and representatives of the National Atlas agencies of Canada, Mexico and the United States—Natural Resources Canada, the *Instituto Nacional de Estadística y Geografía* (INEGI—National Institute of Statistics and Geography), and the United States Geological Survey (USGS)—collaborated to compile a number of base map layers, both in hard copy and as a digital platform. These base layers are now known as the North American Atlas Framework (NAAF), and they provide a consistent, harmonized geographic framework for the display and analysis of thematic data at the North American scale.

The NAAF base layers are standardized geospatial data sets, with a scale of 1:10 million. Released for public access in June 2004, these base layers include political boundaries (international and state/provincial), major roads, railroads, populated places, hydrography (lakes, rivers, coastlines), glaciers and sea ice, and bathymetry (depths of water bodies). The completed base map layers are available for download from the online North American Environmental Atlas webpages, http://www.cec.org/naatlas. A North American watersheds base layer was also produced in a wall map format.

In October 2006, the National Atlas agencies, the Parties, and the CEC Secretariat formalized their working relationship through the creation of the North American Atlas Consultative Group (NAACG).

Over the last two years, this project has developed NAAF-compatible data layers for renewable energy capacity, marine and terrestrial ecoregions, pollutant release facilities, protected areas, priority conservation areas, important species ranges, elevation, land cover, and watersheds. Some of these data layers were developed in cooperation with other CEC projects, while other layers were contributed by the National Atlas agencies. All completed data layers and associated metadata are shared with the public through the North American Environmental Atlas webpages, http://www.cec.org/naatlas/. In the six months following its launch in mid-February 2008, this site has had approximately 10,000 visits, with significant spikes in traffic following the release of new map layers.

The CEC has also been active in exploring innovative map-based displays of environmental information from CEC project areas. These include several new print maps for the *Taking Stock* report series, interactive Google Earth layers of industrial pollution and species of common conservation concern, which have been featured via the Google Earth Outreach Showcase, http://earth.google.com/outreach/showcase.html, and a virtual tour of monarch butterfly sister sites for presentation at the most recent Council session.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

The key partners in this work are representatives of the national mapping agencies of the three North American countries—Natural Resources Canada, the USGS, and INEGI. These agencies have worked together to develop the base map layers and continue to produce North American maps of priority themes that are shared through the online Atlas. In addition, these mapping agencies provide publicity for the North American Environmental Atlas through their own webpages and activities (e.g., participation in international meetings and conferences).

Based on an identified priority to develop thematic layers for land cover, the CEC supports a technical subgroup of the NAACG, which is developing a North American Land Change Monitoring System (NALCMS). The NALCMS produces annual land-cover and land-change information in a harmonized manner across North America. The NALCMS subgroup consists of representatives from the remote-sensing and land cover groups of Natural Resources Canada, USGS, INEGI, the *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (Conabio), and the *Comisión Nacional Forestal* (Conafor). The CEC facilitates the technical work of these partners. These remote-sensing organizations have become important stakeholders and partners of the CEC mapping project.

This project has also partnered informally with international organizations and academic institutions whose outputs include global maps of environmental data. These have included McGill University in Canada and Clemson University in the United States, the Center for International Earth Science Information Network (CIESIN), NGOs such as the International Union for Conservation of Nature (IUCN), and international organizations such as the Global Precipitation Climatology Centre (GPCC). The CEC has supported these international mapping activities by incorporating into the North American Environmental Atlas key environmental thematic maps that they have developed. In 2008, these maps have included North American protected areas, precipitation, population density, and wetlands, as well as human impacts on marine ecosystems, among others. These arrangements are mutually beneficial to the CEC and the institutions contributing the data: the North American Environmental Atlas gains breadth by incorporating new information that supports the visualization of environmental issues on a continental scale, while the international participants gain a wider audience for their work.

Advisory Groups Related to This Project

The North American Atlas Consultative Group (NAACG) serves an advisory role for the project and provides a focal point for trilateral collaborative activities. It is composed of representatives from Natural Resources Canada, INEGI, and the USGS.

Rationale

Fulfillment of Strategic Objectives

This project is linked to the Information for Decision-Making priority in the 2005–2010 Strategic Plan. The long-term goal for this priority is to support better decision-making by providing information on the key environmental challenges and opportunities facing North America.

The Strategic Plan specifically identifies the need for an initiative to provide for “the development over time of an online North American environmental atlas depicting environmental protection, conservation, biodiversity and other information on a continental scale.” The role of the CEC has been to bring together the three governments’ mapping experts to facilitate development of this atlas and to further the development of the Atlas through new maps of information from CEC projects and other priority thematic areas. The proposed work in 2009 will contribute to fulfillment of these information objectives by further increasing the breadth and depth of the North American Environmental Atlas content.

Information for Decision-making

The type of information made available through this project is map-based. The project is primarily aimed at furthering the visualization, display, and communication of information on continental-scale environmental topics, through maps. Maps are not a substitute for reports and other environmental information, but serve as a complementary communications resource for decision makers (and the interested public) by simplifying the geographical patterns associated with environmental data. Maps can help decision makers visualize the geographic nature of environmental issues and bring important patterns to light. Because the information from the North American Environmental Atlas is depicted at the continental scale, its value as a tool for decision makers is at a broad level. The information can help decision makers to identify opportunities for collective action as well as the areas in which to focus their efforts.

Trade and Environment

The role of this project in the context of trade and the environment is to further the understanding of trade and environment–related topics through map-based display of information, whenever feasible. An example of trade and environment data within the North American Environmental Atlas is installed renewable energy across North America.

North American Scope of the Project and Its Relevance to the Three Parties

This project supports the visualization of the North American environment through maps. The online North American Environmental Atlas includes information that is harmonized and seamless across the continent. Thus it differs from national mapping activities and even binational mapping activities. Bringing together information in this manner requires coordination between the Parties to harmonize and reconcile existing data for a seamless North American view. The mapping project allows the three Parties to more effectively visualize the shared North American environment and identify opportunities for collective work. Moreover, because the data in the Atlas covers each of the countries, the project enables the Parties to visualize their own environment in the context of North America.

CEC Niche and Value Added

The CEC plays a key role in bringing together and facilitating the harmonization of a range of environmental maps on the continental scale. To this end, a major role of the CEC in this project has been to convene the three countries' government experts, through the NAACG, NALCMS and other mapping initiatives (e.g., groundwater) and coordinate their cooperative efforts in developing new maps of priority environmental themes. In addition, the CEC seeks new sources of environmental information that can be mapped at a continental scale, explores methods for sharing map-based North American environmental information, and provides the completed data and maps to the public through the North American Environmental Atlas webpages.

Through this project, the CEC brings harmonized environmental data for North America and also facilitates the governments to continue to create new maps of priority environmental themes. Other mapping initiatives exist in North America at the national level (e.g., National Atlas of the United States, the National Atlas of Canada) and sub-national levels (e.g., state, provincial, county, and municipal), but their maps do not typically span the continent and are not usually harmonized with each other. While international organizations and environmental NGOs undertake mapping work, the data does not always cover the continent in a consistent way, and these maps are focused on specific themes.

Working with other project areas of the CEC has led to thematic maps that display a breadth of environmental information on a continental scale. Further, the CEC has identified and compiled North American data from international organizations, NGOs, and academic institutions and displayed this information in a manner consistent with the North American Environmental Atlas, to increase the breadth of the Atlas. The CEC has also actively explored and participated in the development of products for innovative mapping display, such as the Google Earth platform, and used these platforms to more broadly disseminate North American environmental information.

Linkages with Other CEC Projects

This project is linked to other CEC projects that produce information that can be displayed through maps at the continental scale. Examples include biodiversity projects (e.g., maps of protected areas, priority conservation areas, and ecoregions), the PRTR project (e.g., maps of pollutant release and transfer facilities, maps of emissions from PRTR facilities), and the air project (e.g., maps of power plant emissions and acid deposition). The online North American Environmental Atlas serves as a clearinghouse for most of these program-related maps, thereby drawing attention to the issues that the projects address and the continental scale of the topics.

Activities and Outputs

Key Activities

In 2009, the development of the digital North American Environmental Atlas will continue through six main areas of work:

- Strengthening collaboration among the Atlas and the environmental partner agencies of the three countries through an annual in-person meeting and regular conference calls. This will promote the identification of issues of common interest and foster improved exchange of environmental mapping information.

- Supporting CEC project activities that have NAAF-compatible mapping. This work will supply the Atlas Framework with relevant environmental information based on CEC work in various areas—such as trade and sustainability, air quality, PRTR, and biodiversity—to better serve the needs of existing CEC user groups.
- Creating an outreach strategy to more clearly identify North American Environmental Atlas users and identify mechanisms to better promote the Atlas to these users.
- Supporting development of a North American Land Change System that will utilize remote sensing data and a harmonized land-cover classification system to produce annual land cover maps, at a 250-meter cell resolution.
- Creating new map layers of environmental themes that are seamless, harmonized, and consensus-based, in priority areas identified by the NAACG.
- Strengthening the CEC Secretariat's capacity to use information assets to maximum benefit, with a particular emphasis on integrated, geo-referenced or GIS-based (geographic information system–based) information. This task aims to increase the understanding of the requirements for creation of additional harmonized North American geo-referenced data layers. It also seeks improvements in the utility of CEC information products through, for example, the creation of interactive mapping tools using Google Earth and Google Maps.

Target Groups

The primary target audiences for this project are 1) the general North American public with an interest in understanding North American environmental issues, 2) users of other CEC reports and background papers who may be better served though enhanced mapping capacity, 3) researchers in environmentally related disciplines (such as ecology, earth sciences, biology, and geography) who may be interested in using harmonized North American environmental data, and 4) decision makers with an interest in understanding the continental scope of environmental topics. In 2009, an outreach activity of this project will seek to more clearly identify the audience groups within the general North American public, e.g., students and educators, environmental NGOs, etc.

Partners, Stakeholders

Key partners in this project in 2009 are the mapping agencies (USGS, Natural Resources Canada, INEGI) from the three countries. Partners in the land change monitoring activity include experts from the three countries' remote-sensing and land change organizations: Natural Resources Canada, USGS, INEGI, the *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (Conabio), and the *Comisión Nacional Forestal* (Conafor).

In 2009, the North American Environmental Atlas will incorporate maps of North American forests; in developing these maps, the CEC is partnering with the North American Forestry Commission (NAFC) of the FAO. This project will also work with experts from the groundwater agencies of the three countries to finalize a North American aquifers map.

International organizations, research institutions, and environmental NGOs whose outputs include maps that cover North America are also important partners. North American maps of environmental data developed by other organizations will continue to be important sources of new information for the North American Environmental Atlas.

Leveraging

In 2009, this project will continue to leverage CEC resources by facilitating the efforts of mapping experts from a variety of government agencies to produce new environmental thematic maps. In 2009, government partners working in remote sensing and land cover, groundwater, and forests will all contribute new maps to the North American Environmental Atlas. In these initiatives, the CEC will continue to play a leadership and facilitation role while the government agencies will contribute their technical and cartographic expertise. Moreover, these agencies will promote the Atlas, on their own webpages and through their participation in international meetings and conferences.

Outside of government, the project will continue to benefit from the in-kind use of North American environmental information from a variety of sources, including research institutions and international organizations. In 2009, it is expected that for several priority map layers already under development by academic institutions, limited CEC funding may be leveraged to help complete a much larger effort.

The CEC has publicized and more widely disseminated some of its mapping products through the use of freely available mapping platforms, in particular

Google Earth. Several thematic maps developed by the CEC were featured in the Google Earth Outreach Showcase. While leveraging of funding from the private sector is not anticipated, use of the KML file format enables CEC map products to be viewed interactively in a variety of freely available mapping applications, such as Google Earth. This serves to increase the accessibility and utility of the North American Environmental Atlas.

This project will continue to encourage map-based display of environmental information, whenever feasible, in other CEC projects, thereby adding to the breadth of the North American Environmental Atlas while enhancing the work of other projects. In 2009, new maps from CEC project activity will include North American power plants, marine protected areas, and hazardous waste generating and receiving facilities.

Outputs and Associated Timelines

The following map layer outputs are planned for development, completion, and inclusion in the online North American Environmental Atlas in 2009:

- Power plant locations and emissions.
- Watershed loadings of selected PRTR chemicals.
- Marine protected areas.
- Marine priority conservation areas in eastern North America.
- Hazardous waste generating and receiving sites.
- Sites of potential avian species impact from wind power development.
- North American land cover (2006) and land cover change (2005–2006).
- Aquifers/groundwater.
- Forests.
- Greenhouse gas flux.

Additional outputs in 2009 will include the following:

- Annual in-person coordination meeting and monthly conference calls of national Atlas agencies and mapping agency partners.
- Identification of proposed strategic priorities for 2010–2015 strategic plan.
- Outreach strategy for use by CEC Secretariat and NAACG.
- Dissemination plan for use by CEC.
- North American Environmental Atlas outreach materials.
- Wall map displaying environmental thematic data.

In 2009, this project will investigate new hosting arrangements for North American Environmental Atlas data. The expected timeline for completion of this output is 2010.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Regular collaboration among the three National Atlas programs and other mapping agencies with capacity to contribute to the North American Environmental Atlas.
- Development of additional map layers and geo-referenced datasets.
- Ongoing posting and maintenance of geospatial data, map layers, and metadata on webpages.

Performance Indicators

- Continued endorsement by and participation of the National Atlas programs (information available).
- Number of new map layers added to the North American Environmental Atlas each year (baseline and current information available).

Intermediate Outcomes

- Identification of appropriate niche for CEC mapping activities.
- Consensus on priorities for improvements to existing products and understanding of requirements for new thematic layers.
- Successful collaborative arrangements, including processes to maintain, update, and disseminate existing products.
- Digital atlas displaying continent-wide environmental topics, available through CEC website.
- More effective use of maps and map-based displays in CEC reports and information products.
- Wider awareness of Atlas and CEC mapping products.
- Additional attention to North American–scale research questions by

academics and other researchers.

Performance Indicators

- Traffic on Atlas pages of CEC website (current information available)
- Use of Atlas map layers in poster presentations and academic research (no information available)
- Specific use of Atlas maps in CEC reports (current information available)

Final Outcomes

- Common approaches, comparable data and information across North America on continent-wide environmental topics.
- Improved visualization and understanding of North American environmental topics through mapping products.
- Stronger regional information systems.
- Facilitation of geographic analysis and decision-making on a broad range of environmental topics.

Performance Indicators

- Utilization of common approaches, comparable data and information consistent with the NAAF.
- References to the NA Atlas, reproduction of NA Atlas map layers, and use of NA Atlas data and products, in print and Web media sources.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

At current levels of project funding and staffing, it is reasonable to expect broad coverage of North American environmental themes within two to four years. This schedule may be accelerated through prioritization of mapping tasks by other CEC project areas and through in-kind support from mapping agency partners and international organizations.

Over the next two to four years, the CEC expects to produce additional environmental thematic layers and pilot applications of innovative mapping products—using coverage at a scale of 1:10 million and/or 1:1 million—of environmental topics with trilateral interest, North American scale, and readily available geo-referenced data.

Possible future topic areas include the following:

- Renewable energy potential (solar, wind, biomass, hydro, geothermal).
- Updated renewable energy capacity.
- Population and distribution of invasive species.
- Population and distribution of threatened species.
- Wetlands.
- Air quality.
- Pollutant monitoring sites and data.
- Soils.
- Geology.
- Trade flows.
- Transportation modes and infrastructure.
- Indigenous areas.

It is expected that the CEC will continue to provide the coordination and leadership of trilateral activity to allow this work to continue to be developed. This project will continue to create networks among mapping experts in the key mapping agency partners and among subject matter experts (e.g., forest mapping and land cover mapping) in the three countries.

Target End Date for CEC Involvement

The optimal arrangement for data hosting (among the CEC and project partners) will be examined in 2009. Prior to 2012, the CEC might modify its involvement in hosting the data if it is determined that a different organization or arrangement is preferable for hosting the North American Environmental Atlas.

By 2012, the North American Environmental Atlas should contain a breadth of environmental information on the continental scale, available to the public for download in a variety of file formats. The CEC anticipates an ongoing role in facilitating the trilateral development of new maps of priority information, as identified by the three governments, maintaining the existing maps on the North American Environmental Atlas, regularly updating the

data underlying the maps, and incorporating new maps as new data becomes available on different environmental themes.

Sustainability Beyond

After 2012, the role of the CEC in mapping North American environmental issues is anticipated to consist of maintenance and updating of the North American Environmental Atlas, as well as facilitation of trilateral collaboration to improve the Atlas.

Longer-term project sustainability, in particular the development of new map layers by the national mapping agencies and the continued improvement of existing data, is dependent upon the perceived value of data harmonization efforts, the utility of innovative map displays and interactive applications, and national priorities.

Communications

The target audiences are: 1) users of other CEC reports and background papers who will be better served though enhanced mapping capacity, 2) researchers in environmentally related disciplines (such as ecology, earth sciences, biology, and geography) who may be interested in using harmonized North American environmental data, 3) decision makers with a need to understand the continental scope of environmental topics, and 4) the general public with an interest in understanding North American environmental issues.

The webpages for the North American Environmental Atlas serve as the primary communications mechanism, with periodic announcements to CEC list-serve members about new layers. In addition, the CEC incorporates currently available maps into CEC information products such as the *Taking Stock* series and the *North American Mosaic* report. Google Earth Outreach Showcase has highlighted Atlas products in the past, and it will continue to be targeted as an outreach tool. The project manager and NAACG members take advantage of their ongoing participation in conferences and workshops to raise awareness of the North American Environmental Atlas.

It is anticipated that print versions of selected NAAF data layers or feature maps will be produced on a periodic basis for widespread distribution to the public and stakeholders. Distribution mechanisms will include: direct distribution at conferences and meetings (e.g., of geographers, the mapping community, and of environmental policy makers and scientists), distribution by CEC staff at meetings and conferences (e.g., at international meetings, at meetings at universities and with NGOs), and through the CEC website by request. Past examples include the print versions of the North American base map and the North American watersheds map. In 2009, the Secretariat and mapping partners will explore the possibility of a new, thematic, printed map.

In 2009, the NAACG, working with the CEC Secretariat, will complete a communications/outreach strategy to guide the planning and development of various North American Atlas products, e.g., a printed wall map and other communication materials. Such a strategy would seek to raise awareness of and participation in the North American Environmental Atlas initiative by the target audiences throughout the region.

Information Management

Upon completion, all metadata, shapefiles, keyhole mark-up language (KML) file formats, and geospatial databases developed by the CEC will be maintained on the North American Environmental Atlas webpages. This will serve both archiving and distribution functions for mapping related data files. Some layers (in particular, base layers) may be mirrored on mapping agency partner websites; the *Atlas of Canada* has also offered to explore the possibility of offering interactive North American thematic maps through its website.

At the outset, CEC interactive content will be limited to files produced in a Google Earth KML format. During this year, there is a developmental task to explore the potential of using ArcGIS Server and other data hosting arrangements for interactive access to data and Web mapping.

The CEC currently maintains licenses for ArcMap, Google Earth Pro, and Arc2Earth, but has limited in-house capacity for substantial analytical or cartographic work. To the extent that new thematic layers and mapping products are produced by the CEC rather than through in-kind assistance by mapping agency partners, the CEC will require contracted GIS technical services which are not currently available in-house.

It is expected that mapping requirements will be incorporated into other contracts for CEC projects, using the project manager for Environmental Information and NAAF guidance documents as references.

Implementation Plan

PROJECT 1 – Mapping North American Environmental Issues

Strategic Objectives:

- Strengthen the capacity of North American decision makers to understand continental environmental issues of common concern.
- Establish an environmental information and knowledge framework for North America.
- Make environmental information more widely available in order to facilitate local, national and regional action.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
1. Strengthen and facilitate North American collaboration on Atlas development and use.	Annual in-person coordination meeting of national Atlas agencies and mapping agency partners. Monthly conference calls. Identification of proposed strategic priorities for 2010–2015 strategic plan. Presentations at conferences and workshops.	Jan–Dec	Consensus on priorities for improvements to existing products, development of new thematic layers, and choice of dissemination methods. Successful collaborative arrangements, including processes to maintain and update existing products. Wider awareness of Atlas mapping products.	National Atlas programs. National mapping agency partners. Researchers with an interest in environmental topics at the North American scale.	$27,000	Annual planning and coordination meeting of national Atlas agencies and mapping partners. Monthly conference calls. Presentations at appropriate conferences and workshops.
2. Provide mapping support for CEC project activities and encourage map-based display of project activity information.	Possible outputs – maps of: Power plant locations and emissions Analysis of watershed loadings for *Taking Stock* special feature chapter	Jan–Dec	Increased awareness and/or knowledge of North American environmental information through map-based visualization. Facilitation of geographic analysis	Existing audiences for CEC information products and existing audiences for other CEC project activities, including individuals, organizations, students, NGOs Researchers with an	$25,000	Possible future areas: Pollutant monitoring sites and data. Renewable energy potential (solar, wind, biomass, hydro, geothermal). Updated renewable

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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Marine protected areas. Marine priority conservation areas in eastern North America. Hazardous waste generating and receiving sites. Sites of potential avian species impact from wind power development .		and decision-making.	interest in environmental topics at the North American scale.		energy capacity. Trade flows.
	Quality Assurance Summary. Project Database/Dataset: Updated power plant dataset.	Development: In coordination with the project Enhancing North America Air Quality Management Party Review: In coordination with the project Enhancing North America Air Quality Management Availability online as .jpg image, GIS shapefile and metadata for download: January 2010				
	Quality Assurance Summary. Project Database/Dataset: Map-based analysis of watershed loadings for *Taking Stock* special	Development: In coordination with the project Tracking Pollutant Releases and Transfers in North America Party Review: In coordination with the project Tracking Pollutant Releases and Transfers in North America Availability online within *Taking Stock 2006* report: May 2009				

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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	feature chapter.					
	Quality Assurance Summary. Project Database/Dataset: Marine protected areas.	Development: January–April 2009. Party Review: May 2009. Availability online as jpg image, GIS data, *a*nd metadata for download: June 2009.				
	Quality Assurance Summary. Project Database/Dataset: Priority conservation areas along Atlantic coast.	Development: In coordination with the project Conserving Marine Species and Spaces of Common Concern. Party Review: In coordination with the project Conserving Marine Species and Spaces of Common Concern. Availability online as jpg image, GIS data, and metadata for download: December 2009.				
	Quality Assurance Summary. Project Database/Dataset: Hazardous waste generating and receiving sites.	Development: In coordination with the project Trade and the Enforcement of Environmental Laws. Party Review: In coordination with the project Trade and the Enforcement of Environmental Laws. Availability online as jpg image, GIS data, Google Earth layer, and metadata for download: December 2009.				
	Quality Assurance Summary. Project	Development: In coordination with the project Supporting the Development of Renewable Energy. Party Review: In coordination with the project Supporting the Development of Renewable Energy. Availability online as jpg image, GIS data, and metadata for download: December 2009.				

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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Database/Dataset: Sites of potential avian species impact from wind power development.					
3. Communications/outreach strategy	Outreach strategy for use by CEC Secretariat and NAACG. Dissemination plan for use by CEC Outreach materials, e.g. brochure, display materials.	Summer 2009	Raise awareness of and participation in the North American Environmental Atlas initiative by the target audiences throughout the region	Cartographic community; government agencies; research and academic community; GIS practitioners; identified target audiences (e.g., students, academic researchers, indigenous groups, NGOs, others from general public).	$15,000	The strategy will guide development of future Atlas work, including products such as electronic materials and wall maps and effective means of reaching target audiences.
	Quality Assurance Summary. Outreach: North American Environmental Atlas brochure.	Secretariat review: April 2009. Party review–Quality assurance: May 2009. Publication: July 2009.				
4. Support development of North American Land Change Monitoring	Harmonized classification system and capacity in each	Jan–Dec	Ability to characterize changes in land cover on an annual basis.	International organizations with an interest in tracking	$40,000	Possible future areas: 30-meter resolution

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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
System	country to produce annual land cover and land change products, at 250-meter cell resolution		Improved visualization and understanding of North American environmental themes through mapping products. Creation of collaborative networks among subject-matter experts at national mapping agency partners.	continental-scale patterns of land change. Researchers with a wide variety of academic interests related to land change. Nongovernmental organizations with interests in habitat and conservation. Land managers or planners interested in detecting land change that may impact valued resources. National agencies or organizations involved in transborder land-cover assessment and planning projects .		products. Development of land cover/land change indicators. Development of information about fractional land cover. Publication of regular report on trends in North American land cover.
	Quality Assurance Summary. Ongoing Database/Dataset: North American Land Cover Thematic Map	Development: December 2008–April 2009 (2006 land cover), April 2009–October 2009 (land cover change). Party Review: April 2009 (2006 land cover), November 2009 (land cover change). Availability online as images, GIS data, and metadata for download: May 2009 (2006 land cover), December 2009 (land cover change).					

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Strategic Objectives:

- Strengthen the capacity of North American decision makers to understand continental environmental issues of common concern.
- Establish an environmental information and knowledge framework for North America.
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2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	Layers (2006).					
5. Create new map layers of priority themes and support collaboration for improvement of map layers.	Aquifers/groundwater. Forests (North American Forestry Commission). 1:1,000,000-scale base maps. Ports. Airports. Greenhouse gas fluxes (total and per capita) (TBD). Protected areas with harmonized conservation status categories and/or addition of privately held conservation land (TBD).	Jan–Dec	Improved visualization and understanding of North American environmental themes through mapping products. Create collaborative networks among subject-matter experts at national mapping agency partners.	Members of public who are interested in North American environmental issues (e.g., NGOs, students). Academic researchers with an interest in environmental topics at the North American scale. National mapping agency partners. Government agencies working on a range of environmental issues at the North American scale.	$55,000	Possible future areas: • Wetlands • Water quality • Air flows • Migration routes • Soils/soil chemistry • Geology • Population demographics • Transportation modes and infrastructure

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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Quality Assurance Summary. Project Database/Dataset: North American aquifers thematic map layer.	Development: May–October 2009. Party Review: November 2009. Availability online as jpg image, GIS data, and metadata for download: December 2009.				
	Quality Assurance Summary. Project Database/Dataset: North American forests thematic map layers.	Development: January–July 2009. Party Review: August 2009. Availability online as jpg image, GIS data, and metadata for download: October 2009.				
	Quality Assurance Summary. Project Database/Dataset: North American transportation infrastructure thematic map layer (sea ports and airports).	Development: January–September 2009. Party Review: October 2009. Availability online as jpg image, GIS data, and metadata for download: November 2009.				

PROJECT 1 – Mapping North American Environmental Issues						
Strategic Objectives: • Strengthen the capacity of North American decision makers to understand continental environmental issues of common concern. • Establish an environmental information and knowledge framework for North America. • Make environmental information more widely available in order to facilitate local, national and regional action.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Quality Assurance Summary. Project Database/Dataset: North American greenhouse gas flux (TBD, based on data availability).	Development: January–September 2009. Party Review: October 2009. Availability online as jpg image, GIS data, and metadata for download: November 2009.				
	Quality Assurance Summary. Project Database/Dataset: North American protected areas, including privately held conservation land (TBD, based on data availability).	Development: January–September 2009. Party Review: October 2009. Availability online as jpg image, GIS data, and metadata for download: November 2009.				
6. Explore feasibility of new methods for map dissemination.	Hosting data via ArcGIS Server or via hosting arrangement or via National Atlas program partners. Wall map publication, perhaps land cover or aquifers/groundwater	Jan–Dec	Improvements to utility of geo-referenced data in CEC information products and for external data users.	CEC. National Atlas programs and key national mapping agency partners. Members of public who are interested in North American	$18,000	Migration/conversion of static data layers to interactive formats and applications, as appropriate. Delivery of interactive online maps through JavaScript APIs.

PROJECT 1 – Mapping North American Environmental Issues

Strategic Objectives:

- Strengthen the capacity of North American decision makers to understand continental environmental issues of common concern.
- Establish an environmental information and knowledge framework for North America.
- Make environmental information more widely available in order to facilitate local, national and regional action.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	or protected areas.			environmental issues (e.g., NGOs, students).		Re-evaluation of GIS software requirements. Evaluation of efficiency of contracting versus in-house GIS technical support.
	Quality Assurance Summary. Outreach: Thematic wall map.	Secretariat review: March 2009 Party review–Quality assurance: March 2009 Publication: June 2009.				

Total Cost: $180,000

Performance Measurement Indicators:

- Number of new map layers added to the North American Environmental Atlas.
- Traffic on Atlas pages on CEC website.
- Requests for wall maps.
- References to Atlas map layers in media.
- Specific use of Atlas map layers in poster presentations and academic research.
- Specific use of Atlas map layers in CEC reports.

Key Partners:

Natural Resources Canada

Environment Canada

Instituto Nacional de Estadística y Geografía (INEGI)

Semarnat

Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (Conabio)

Comisión Nacional Forestal (Conafor)

US Geological Survey

US EPA

Project 2	**Reporting CEC Results and Performance 2005–2010**	**Responsible Project Manager at the CEC Secretariat**	Evan Lloyd
Planned Allocation	C$165,000	**Working Group(s) associated with this work**	General Standing Committee (GSC), State of the Environment Advisory Group (SOEAG)

Objective of Project

This project has four objectives:

- To prepare a comprehensive report on the results and accomplishments the CEC has made in fulfillment of its five-year 2005–2010 Strategic Plan, of which a preliminary and high-level summary of results would be published in time for the 2009 Council Session.
- To review and measure in a comprehensive manner the performance of CEC projects in meeting the specific goals and objectives of the 2005–2010 Strategic Plan.
- To provide the Council, JPAC and the Secretariat with an analytical foundation for the purposes of expressing the goals, objectives and performance measures to be included in the CEC's next strategic plan, 2010–2015.
- To assist the Parties and the Secretariat in concluding the ongoing work of refining a monitoring, evaluation and reporting framework.

Certain tasks under this project also support the continuing development of the CEC's reporting on the state of the North American environment.

Background

Project History and Foundation

In 2004, the CEC Council adopted three broad priorities for the cooperative work program of the CEC (the Puebla Declaration[1]):

- Information for Decision-making
- Capacity Building
- Trade and Environment

Subsequently, and to advance these priorities, the Council adopted the Strategic Plan for the Commission for Environmental Cooperation 2005–2010.[2] This plan embraces specific five-year goals and objectives as well as several multi-year cooperative initiatives to accomplish them.

The five-year goals under these priorities are to:

- support better decision-making by providing information on the key environmental challenges and opportunities facing North America;
- strengthen the capacities of the three countries to manage environmental issues of common concern; and
- promote policies and actions that provide mutual benefits for the environment, trade, and the economy.

The Strategic Plan further articulates twelve specific multi-year program objectives in support of these priorities. Together, the plan states "these

[1] http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1551
[2] http://www.cec.org/pubs_docs/documents/index.cfm?ID=1761&varlan=english

initiatives comprise a focused, integrated and coherent effort to produce visible and concrete results."

Since 2006, each of the CEC's subsequent annual operating plans has been developed in such a manner that each project has been intended to accomplish one or more of these stated objectives.

The Council has indicated that, for planning purposes, the project year 2009 will mark the culmination of the current Strategic Plan. A new five-year strategic plan (2010–2015) is expected to be developed and adopted by Council in 2009.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

The key stakeholders associated with this project are the Council and other constituent elements of the Commission for Environmental Cooperation.

Advisory Groups Related to This Project

Activities and outputs of this project will be conducted in collaboration with the CEC's General Standing Committee and the State of the Environment Advisory Group.

Rationale

Periodic objective analysis of achievement in the delivery of a multi-year program of work is widely recognized as organizational best practice, both to inform management with regard to performance as well as to provide input into future planning processes. With the "completion" of the 2005–2010 Strategic Plan, the logic of developing the succeeding plan demands a reliable measure of the efficacy and impact of the previous plan and the years of project activity dedicated to reaching its stated objectives. Moreover, the measurement and assessment of results would provide valuable and timely information for the purpose of communication with the CEC stakeholders and audiences.

A comprehensive strategic planning framework will include five elements:

1. A Strategic Plan
2. An Operational Plan
3. A Management Approach
4. An Implementation Plan
5. An Evaluation and Monitoring Framework

The CEC has made significant progress in the adoption of the first four items. Although a comprehensive planning, monitoring, evaluation and reporting framework has been the subject of discussion and review since 2004, this matter remains incomplete and its completion remains on the agenda of the Council's General Standing Committee and the Secretariat.

Fulfillment of Strategic Objectives

While not targeting support to any one strategic objective this project is intended to support the assessment of the CEC's effectiveness in achieving all 2005–2010 objectives, and to inform future work.

North American Scope of the Project and Its Relevance to the Three Parties

Results will be expressed in North American terms and will inform both the Parties and the CEC as a whole.

CEC Niche and Value Added

It is assumed that the CEC is the appropriate body to measure and report upon the performance of the 2005–2010 Strategic Plan.

Linkages with Other CEC Projects

- The results of this project will be of use throughout the CEC to inform all audiences and partners of the accomplishments and role of the CEC, 2005–2010.
- The results of this project will support and inform 2009 Strategic Planning activity within the CEC and the enhancement of future operational plans.

Activities and Outputs

This project will have several components, including the following:

- Measurement of the progress, at the annual Operating Plan project level, against stated outcomes and performance indicators for the years 2005–2009, inclusively.

- Measurement of aggregated results in the case of multi-year initiatives (i.e., NAMPAN, SMOC,[3] enforcement compliance).
- Measurement of the progress in achieving the objectives and targets of any specific multi-year program-specific strategic plans (i.e., the Trade and Environment Strategy, Biodiversity Conservation Strategy).
- Assembly of the above measures, and construction of a comprehensive report on the CEC's performance in achieving or advancing towards the specific program objectives articulated in the 2005–2010 Strategic Plan.
- Supplementary analysis to more effectively measure the impact of CEC projects where the stated five-year program objectives or subsequent performance indicators are so insufficiently robust or defined as to frustrate any meaningful expression of accomplishment or not. This work may involve surveys, audits, interviews and the assessment of secondary action on the part of the Parties and of other collaborators who either participate in the delivery or hold direct responsibility for environmental action or policy.

SOE-related tasks:

- Evaluation of the 2008 Mosaic report on the state of the North American environment and identification of priorities for future state of environment (SOE) reporting.
- Investigation of the feasibility of developing North American environmental indicators for future SOE reporting.

Outputs include the following:

- A clear report on the results of the CEC's activities, 2005–2010.
- A preliminary version of the above, containing high-level conclusions and assessment for presentation by the Council.
- Clarity of outcome responsibility between the CEC and the Parties for CEC-related activity.
- Enhanced understanding of the effective capacity of the CEC to accomplish the goals of NAAEC.[4]
- Support for the selection and definition of goals, objectives, and performance measures in the CEC's 2010–2015 Strategic Plan.
- Support for the completion of a monitoring evaluation and reporting framework for the CEC.
- Meeting of the SOE experts and identified priorities for future CEC work on SOE reporting.
- Guidance document summarizing opportunities for CEC in ongoing SOE reporting and exploring feasibility—in terms of time and resources required—of North American environmental indicators development.

Activities include the following:

- Agreement of project methodology, including primary research (comparison of objectives to reported results in Strategic Plans, Operating Plans, and CEC progress and other reports) and secondary research (to bridge data and reporting gaps in the above).
- Development of a work plan and management responsibility.
- Identification of contract and other staff support.

Target Groups

- Council
- Parties
- Affiliated agencies
- JPAC
- CEC public constituencies
- Provincial/State officials

[3] NAMPAN—North American Marine Protected Areas Network; SMOC—Sound Management of Chemicals

[4] North American Agreement on Environmental Cooperation

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Preliminary results report (June 2009) that communicates the key accomplishments of the CEC in the preceding five years. This report will contain a compelling set of results, which will communicate the importance of the CEC's role and work, and it will complement any expression of the goals and results expected from the succeeding five-year strategic plan.
- Comprehensive report (November 2009), which includes both primary and secondary research results from the CEC's project-by-project evaluation of results assessed against the goals and targets of the 2005–2010 plan.
- Proposed approach for future SOE reporting, including rationale and timeline.

Performance Indicators

- Completion of the preliminary results report, June 2009.

Intermediate Outcomes

- A critical assessment of the effectiveness of the CEC's work compared to goals and targets. This analysis is essential to the credibility and quality of the CEC's next five-year strategic plan.
- Guidance document for continued North American SOE reporting by the CEC.

Performance Indicators

- Completion of the final assessment document.
- Next report on state of North American environment.

Final Outcomes

- A higher degree of confidence in the CEC's unique and important role in the protection and enhancement of the North American environment.
- Greater understanding of the state of the North American environment as well as trends over time.

Timetable, Project Completion and Sustainability Beyond

- Fall 2008: project development and preparation.
- November–April: primary and secondary research.
- May–June: preparation of preliminary report for Council 2009.
- June–November: completion of final assessment.
- Fall 2009: incorporation of revised monitoring and evaluation framework elements according to new strategic plan in 2010; draft Operational Plan; and project descriptions (first year of implementation of the CEC's next five-year strategic plan).

SOE

- Spring 2009: meeting of SOE experts.
- Summer/fall 2009: summary of SOE experts' advice; development of guidance document for continued North American SOE reporting, to include an overview of the feasibility of environmental indicators development.

Communications

The high-level report and the assembly of results of CEC action have the potential to create compelling communications material for utilization by the Council and the CEC as a whole. Concise and comprehensive results will inform key messages for the CEC.

Information Management

No immediate impacts are expected upon the CEC's information management framework, although it may emerge that management of this resource can play an enhanced role in the monitoring and reporting of project activity and results.

Implementation Plan

PROJECT 2 – Reporting CEC Results and Performance 2005–2010						
Objective – To prepare a comprehensive report on the results and accomplishments of the CEC in fulfillment of its five-year strategic plan 2005–2010.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Development of methodology	Terms of reference for study.	November 2008	Agreed terms of reference.	Council, GSC, CEC Secretariat	none	Note–All results will inform the development of the CEC strategic plan 2010–2015. No further work is envisioned.
2. Identification of consultant(s) or firm	Issuing request for proposals, preparation of contract.	Nov-Dec 2008	Selected consultant(s) or firm.	(as above)	none	n/a
3. Background analysis and desk study of result-level achievements and contributions to objectives	Briefings with senior staff, review of relevant background documents, development of analysis matrix, initial populating of matrix.	January-March	Clear understanding of methodology and expected results with all parties, initial review completed.	(as above)	25,000	n/a
4. Key informant interviews, and focus group meetings where possible	Interviews completed, mapping of responses to analysis matrix.	April-May	Key informant interviews and meetings completed.	(as above)	35,000	n/a
5. Completion of preliminary findings	Completion of matrix and analysis. Preliminary report of findings (short	May	Shared understanding of preliminary results.	(as above)	10,000	n/a

PROJECT 2 – Reporting CEC Results and Performance 2005–2010						
Objective – To prepare a comprehensive report on the results and accomplishments of the CEC in fulfillment of its five-year strategic plan 2005–2010.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	report); verification of initial findings.					
6. Conference calls to review preliminary discussion paper	Conference call webex, including preparation of PowerPoint, additional verification of findings, incorporation of results into analysis.	May	Briefing of preliminary results to GSC.	(as above)	5,000	n/a
7. Preparation of high-level results report	Comprehensive high-level report on the key results of the past five years of CEC activity.	May-June	Communicate *results* of 2005–2010. Increase awareness of and support for CEC activities at the level of Council, stakeholders Improved understanding amongst all CEC Parties, partners, and stakeholders of progress in implementing the 2005–2010 strategy.	Council. Stakeholders. Public. Government agencies and partners.	25,000	n/a
8. Preparation and delivery of detailed draft final report of findings	Delivery of draft final report.	June-Nov	Clear understanding of review results, and how this informs preparation and delivery of the next strategic plan.	(as above)	25,000	n/a

PROJECT 2 – Reporting CEC Results and Performance 2005–2010						
Objective – To prepare a comprehensive report on the results and accomplishments of the CEC in fulfillment of its five-year strategic plan 2005–2010.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
9. Development of approach for the next CEC SOE report	Three conference calls and one in-person meeting of SOE experts. SOE guidance document (for internal use) summarizing opportunities and priorities for ongoing SOE reporting and investigating feasibility of North American environmental indicators development.	April (meeting); March, June, October (conference calls) May-September	Evaluation of 2008 Mosaic report; identification of opportunities and priorities for next SOE report. Approach and rationale for ongoing North American SOE reporting, including timeline and responsibilities.	Council. Public. Government agencies and partners.	40,000	Next CEC SOE report (2010–2011)
Total Cost: $165,000						
Performance Measurement Indicators: ▪ Completion of the preliminary results report, June 2009 ▪ Completion of the final assessment document, fall 2009 ▪ Guidance document on future SOE reporting ▪ Next report on state of North American environment, 2010						**Key Partners:** General Standing Committee (GSC) State of the Environment Advisory Group (SOEAG)

Project 3	**Environmental Assessment of NAFTA**	**Responsible Project Manager at the CEC Secretariat** José Carlos Fernández
Planned Allocation	2009: C$200,000 Completion of 2008 Outputs: C$15,000 Total: C$215,000	**Working Group(s) associated with this work** Trade and Environment Working Group

Objectives of Project

The objective of the project is to document, analyze and understand the environmental effects of trade liberalization in North America. In particular, to prepare a comprehensive report that will take stock of findings to date, identify gaps and prioritize data needs to inform the future work of the CEC. This assessment will include identification of opportunities to improve the approach used in assessing the environmental effects of NAFTA, as well as the development and implementation of the CEC's 2010–2015 Strategic Plan.

This project will also support the ongoing collaboration among trade and environment officials of the three countries with a view to improve regional and national coordination, including between the CEC and the NAFTA Free Trade Commission (FTC).

Background

Project History and Foundation

The CEC's work thus far has contributed to better understanding of trade and environment linkages, including the greenhouse gas emissions associated with trade activity; improved and informed environmental reviews of future trade and investment agreements by the Parties; and improved environmental assessments of NAFTA by the CEC and the Parties. These benefits are expected to continue to accrue and to lead to greater policy coherence both at the domestic and regional levels in North America by helping the Parties make better policy choices concerning trade and environment issues. They will also help the CEC direct future work. The project will further provide the CEC and the Parties with improved tools to conduct assessments on the environmental effects of NAFTA.

The findings of a 2008 review[1] highlight the value of the CEC's work to date and the need to assess future work in the context of deeper economic integration and emerging environmental issues and drivers of change that will impact trade and the environment. These include: (1) climate change and energy; (2) environmental standards, competitiveness and the possibility of green protectionism; (3) shifting consumption and production patterns; and (4) accelerating globalization and changing public opinion. As 2009 marks the end of the CEC's current five-year planning cycle, it also represents an opportunity to take stock of the assessment work with a view to address the findings of the 2008 JPAC and Trade and Environment Working Group review.

In terms of process, the review noted that government officials' participation at symposia had dropped significantly, coupled with a generally low level of private sector and international experts' participation. Better targeting of participants and the development of partnerships with other organizations was suggested. In addition, the Symposium in its current form was found to be a limited vehicle in terms of outreach to the broader public. It was suggested that the output of the assessment work could lead to the publication of a new flagship publication such as the CEC's *Taking Stock* report to increase outreach and convey results to new audiences.

Further background on the CEC's ongoing environmental assessment of NAFTA can be found at: http://www.cec.org/symposium.

[1] http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=2256; http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=2257

Key stakeholders, Resource Leveraging, Partnerships (to date)

Stakeholders in this effort are the academic community, nongovernmental organizations (NGOs) inter-governmental organizations (IGOs), and government representatives involved in assessing the environmental effects of trade liberalization.[2] Over the years, the CEC has collaborated with most of the stakeholders in the field of *trade and the environment* in general, and NAFTA in particular. The CEC Secretariat will explore the new partnerships and leverage resources for this project; this could include, initially, the institutions represented in the proposed Panel of Experts (PoE).

Advisory Groups Related to This Project

The Trade and Environment Working Group (TEWG) is expected to continue to provide substantive input and guidance to this project.

Rationale

This project responds directly to the NAAEC Article 10(6)(d),[3] which commits the Parties to consider the environmental effects of NAFTA on an ongoing basis. In this instance, this project aims to accomplish this by addressing the findings of the abovementioned review and to create the foundations for future CEC work in its next planning cycle.

In essence, this project proposes a new approach, beginning in 2009, with a Panel of Experts mandated as a core focus to develop a report of *Environmental Assessment of NAFTA at 15*. This shift from an event-based process to expert-based research will, among other things, allow the CEC to take stock of the work to date, designate upcoming environmental issues, assess cumulative environmental effects and provide recommendations to educate and inform future assessment work. In lieu of broad episodic events, the PoE could constitute a platform to engage with a smaller, but highly relevant set of stakeholders (academic, business, and policy decision-makers in a roundtable format). This format would free up resources to disseminate the results in a wider range of forums, such as roundtables, workshops and conferences.

This approach will result in high quality outputs that will advance and take stock of work to date. This includes a review of the existing analytical framework, addressing the implications of environmental trends in North America, assessing cumulative environmental effects, better engaging partners and audiences for this work, enhancing its utility for trade-policy decision-makers, as well as informing more general and useful information outputs for the CEC's core Trade and Environment activities. In its development this work will consider existing work of environmental assessments on trade, particularly as developed by the CEC, and seek to avoid duplication.

The shift from an event-based approach to an expert-based research process requires consideration of complementary activities to ensure the involvement of the wider public. This issue will be considered by the Trade and Environment Working Group as well as the PoE. Options include open consultations through an online forum, blogs, collaborative platforms, and subgroup meetings.

Fulfillment of Strategic Objectives

This project contributes directly to fulfillment of the CEC's 2004 Puebla Declaration[4] priorities as well as specific Trade and Environment objectives of the CEC's 2005–2010 Strategic Plan.[5]

Information for Decision-making

Ultimately, the findings of this work are intended to support government and trade officials in making better policy choices concerning trade and environment issues.

Capacity Building

N/A

Trade and Environment

The basis of this project addresses directly the assessment of environmental effects of trade.

[2] For previous symposia, the CEC posted on its website lists of all authors and participants: http://www.cec.org/symposium/.
[3] NAAEC: http://www.cec.org/pubs_info_resources/law_treat_agree/naaec/naaec04.cfm

[4] Puebla Declaration: http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1551
[5] Looking to the Future. Strategic Plan of the CEC 2005–2010: http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1761.

North American Scope of the Project and Its Relevance to the Three Parties

The PoE will include members from each Party: Canada, Mexico and the United States. The project will assess the environmental effects of trade within the three countries and for North America as a whole. The recommendations will be relevant for the three Parties.

CEC Niche and Value Added

The NAAEC (Article 10(6)(d)) stipulates that the CEC Council shall, among other things, consider on an ongoing basis the environmental effects of the NAFTA.

Accordingly, over the years, the CEC has developed a significant number of high quality studies on the topic which have earned it regional and international recognition for its work in this area. These include publications on the environmental impacts of trade liberalization in North America and the empirical examination of the most common critical hypotheses concerning the impact of NAFTA on the environment.

The CEC is well positioned to now establish a Panel of Experts that will continue this work and assess the environmental effects of NAFTA at 15. To the best of the CEC's awareness, this work is not being done or proposed by other institutions at this time.

Linkages with other CEC projects

This project will put forward collaborative efforts reflected in the work program (i.e., links with energy, transportation, etc.)

Activities and Outputs

Activities

1. Establish an independent ad hoc Panel of Experts as the lead group responsible to assess the environmental effects of NAFTA at 15 and prepare a report on its key findings. The final structure of the report will be defined during implementation of the project but may include a review of the state of play in relation to environmental assessment of trade in the NAFTA region, identification of emerging issues, and gaps and data needs for this work, together with a set of recommendations.

2. Continue supporting the collaboration among trade and environment officials, particularly through the TEWG.

The TEWG will develop specific terms of reference for the work of this group, expected to include:

- Take stock of current knowledge on environmental effects of NAFTA over the past 15 years and produce a high quality report;
- Identify areas of strength and weakness of current impact assessment in addressing cumulative environmental effects;
- Identify most relevant and outstanding questions for future CEC work; and
- Provide recommendations to the TEWG on how to improve the current process for assessing the environmental impacts of the NAFTA (this could include format of future work, target audience, maximizing utility to trade-policy decision makers, potential participants, design of a criteria-based approach to selecting the issue for future work) and recommendations on the dissemination of findings and ways to improve public feedback.

The TEWG will appoint PoE co-chairs to lead and coordinate the work. The PoE will develop its own work program and procedures to achieve its mandate. It is expected to engage with the stakeholders and assist in conveying results in various fora including partner universities, research institutions and think tanks (e.g., networks, events, conferences, lecture series in universities, etc.). Decisions will be made by consensus and, while the meetings of the PoE will be closed, it is presumed that the outputs of the work will be made public.

While the ultimate output for this work is planned for mid 2010, the PoE is expected to produce an interim report in 2009 that may inform the development or implementation of the CEC's 2010–2015 Strategic Plan.

Target Groups

(The 2009 output is an interim report with limited distribution to the Parties and working groups. Target groups will be defined for the 2010 final report.)

Partners, Stakeholders

The PoE will be an advisory body composed of 9 to 12 multi-stakeholder representatives selected on the basis of expertise and geography. Ideally, the PoE would encompass private, public, academic, NGO and IGO sector members. Each would serve in a personal capacity and not represent an organization or country. The PoE will have a limited time mandate (18 months) and its work will be overseen by the Trade and Environment Working Group (TEWG).

Collaboration with relevant international organizations such as OECD, UNEP, UNCTAD, and the WTO will promote synergies. Many of these organizations have already been identified and have been involved in past CEC activity. The PoE will also map relevant partners.

Leveraging

The Panel of Experts provides an opportunity to build longer-term relationships and partnerships with academic experts and research centers across North America, and to leverage additional resources. The PoE will also explore collaboration opportunities on an on-going basis (e.g. allowing academic institutions in North America to actively participate in areas within their mandate that would require analysis, test –pilots, case studies-, follow-up and scientific or technical discussion).

This project proposal will continue supporting the existing trade and environment collaborative work and seek to take advantage of opportunities to strengthen collaboration with the FTC.

Outputs and Associated Timelines

- By mid-2009, the Panel of Experts will provide an interim report.
- By mid-2010, a master document on the environmental effects of NAFTA at 15 and recommendations to educate and inform future assessment process will be produced.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Improved understanding of the environmental effects of trade liberalization;
- Increased awareness of findings by general public and targeted audiences such as government officials, NGOs, private sector, local communities, scientific and academia;
- Identification of gaps, emerging issues, prioritization of data needs and approaches to inform future work in relation to environmental assessment of NAFTA;
- Production of a seminal work that will provide an indication of the state of play in relation to environmental impacts of trade in the NAFTA region;
- Develop a *roadmap* on how best to address environmental concerns that may be identified during the course of this work; and
- Assessment of whether the environmental provisions of NAFTA continue to reflect best practices in trade agreements.

Performance Indicators

- Completion of 2009 interim report and 2010 final report.

Intermediate Outcomes

- Increased capacity of the Parties and stakeholders to address environmental impacts of trade and to promote synergies between trade and the environment.

Performance Indicators

- Report being used and referenced by the NAFTA Parties and other stakeholders in their development of their policies and actions related to trade and environment, including CEC activities.

Final Outcomes

- Effective actions to ensure trade liberalization contributes to sustainable development, as called for in NAFTA.

Performance Indicators

- Actions being developed and implemented on the basis of the findings from this work.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

The PoE will be assembled within the first quarter of 2009 and is expected to have an initial meeting during the first half of the year. Regular conference calls will be held among TEWG members and at least two face-to-face meetings will be held.

An interim report is scheduled by mid-2009.

Target End Date for CEC Involvement

The CEC's direct support for this project is expected to end mid-2010.

Sustainability Beyond

Depending upon the success of this initiative and the depth of interest in the general topic it is anticipated that PoE partners and associated academic and research centers may continue important aspects of this assessment.

Communications

Communications on this project in 2009 will focus on continuing to disseminate the 2008 symposium results, publishing the proceedings and encouraging awareness and follow-up with key audiences. The 2009 interim report of the PoE will be disseminated to key partners in support of the work of this group.

Materials promoting the symposium will go primarily to policy makers from the three governments' environment and trade agencies, academics (research centers, universities, institutes) and NGOs that have participated over the years in the symposia.

The broad conclusions and lessons learned from this work will be adapted for dissemination to a non-expert audience.

The accumulated knowledge of the CEC takes greater effect when subjected repeatedly to assessment in collaboration with research and study centers of high performance. Materials produced and published by the CEC, including key deliverables by the PoE, are more likely to be updated and disseminated when accessed by scholars. Partnership development with academic networks, in a more systematic manner, will provide ad hoc venues to boost usage of these materials and contents.

It is assumed that the work of the PoE itself will provide the opportunity to engage key audiences or otherwise communicate their work and that of the CEC. To that end, other outreach activities will be decided on the basis of the work plan of the PoE, including the opportunity to promote participation and awareness of PoE activities.

Implementation Plan

Project 3 - Environmental Assessment of NAFTA						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Broaden understanding of trade and environment linkages and thereby promote policy coherence, at both the domestic and regional levels in North America. • Improve regional and national coordination, including coordination between the CEC and NAFTA Free Trade Commission, through ongoing collaboration of trade and environment officials.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Establish an independent panel of experts on the environmental effects of NAFTA at 15, prepare a report on its key findings, and provide recommendations	Master document on the environmental effects of NAFTA at 15 and recommendations to inform future assessment work.	18 months (mid-2010)	Improved understanding of the environmental effects of trade liberalization. Increased awareness of findings by general public and targeted audiences such as government officials, NGOs, private sector, local communities, scientific and academia. Identification of gaps, emerging issues, prioritization of data needs and approaches to inform the future work of the CEC in relation to environmental assessment of NAFTA. Production of a seminal work that will provide an indication of the state of play in relation to environmental impacts of trade in the NAFTA region. Develop a roadmap on how best to address environmental concerns that may be	Trade–policy decision makers, trade and environment officials. Provincial officials. Academic networks, trade and environment research community (universities, NA research centers, etc.). General public.	185,000	Future assessment work will be based on the results and recommendations of the Report from the Panel of Experts in 2010.

Project 3 - Environmental Assessment of NAFTA						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Broaden understanding of trade and environment linkages and thereby promote policy coherence, at both the domestic and regional levels in North America. • Improve regional and national coordination, including coordination between the CEC and NAFTA Free Trade Commission, through ongoing collaboration of trade and environment officials.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
			identified during the course of this work. Assessment of whether the environmental provisions of NAFTA continue to reflect best practice in trade agreements.			
2. Continue supporting the collaboration among Trade and Environment officials through their Working Groups	Regular conference calls. Two face-to-face meetings. Continued sharing of experience amongst the Parties regarding their own work on *ex ante* assessment of trade and investment negotiations.	Ongoing	Improved communication between environment and trade ministries. Improved environmental assessments of NAFTA by the CEC and the Parties. Better informed trade and environmental policies of the three Parties.	Trade ministries. Environment ministries.	15,000	

Project 3 - Environmental Assessment of NAFTA

Strategic Objectives:

- Strengthen North American decision-makers' understanding of continental environmental issues of common concern.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, at both the domestic and regional levels in North America.
- Improve regional and national coordination, including coordination between the CEC and NAFTA Free Trade Commission, through ongoing collaboration of trade and environment officials.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities

Total Cost: $200,000

Performance Measurement Indicators:

- Completion of 2009 interim report and 2010 master document
- Report being used and referenced by the NAFTA Parties and other stakeholders in their development of their policies and actions related to trade and environment., including CEC activities
- Actions being developed and implemented on the basis of the findings from this work

Key Partners:

TEWG, experts on environment and NAFTA, academic and research institutions

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$15,000**

QA #08.23-4th Symposium proceedings

Project 4	**Supporting Sectoral Environmental Sustainability and North American Competitiveness**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández
Planned Allocation	C$125,000	**Working Group(s) associated with this work**	Trade and Environment Working Group

Objective of Project

This project aims to gain further knowledge and policy insights on the link between environmental sustainability and North American competitiveness and to identify specific options that would enhance environmental sustainability and competitiveness in practice.

Background

Project History and Foundation

In 2008, the CEC initiated scoping work in the area of environmental sustainability and competitiveness. Studies were commissioned to better understand the link between environmental sustainability and economic performance and to identify opportunities to promote their mutual supportiveness.

While not directly referred to as *competitiveness*, the CEC has done significant work to promote policies and actions that simultaneously improve environmental and economic performance of the private sector. This includes, for example, work to document pollution prevention activity,[1] exploring drivers for the adoption of environmental management systems,[2] and the link between environmental performance and business value[3] as well as practical explorations such as work on disclosure of environmental information in financial statements.[4] More recently, the CEC has gathered practical experience on these issues with work on the greening of supply chains as well as sector specific work with the auto and electronics sector[5] in North America. This project builds on that work and will also take stock of significant work by other organizations, including the OECD.

In 2008, a number of sectors were explored (chemicals, transportation, electronics and pulp and paper) and a workshop on environmental sustainability and competitiveness was held in the context of a meeting of the CEC's Joint Public Advisory Committee explored the link between environmental sustainability and competitiveness, the key factors affecting that relationship, and assessed empirical evidence to identify opportunities to ensure mutual supportiveness. With this project the CEC will initiate alternative ways to communicate with a wider audience, including blogs and webinars. New channels will be instrumental in ensuring the involvement of a wider audience.

Advisory Groups Related to This Project

The CEC's Trade and Environment Working Group will continue to oversee this work. However, recognizing intense activity by a number of other actors, as well as the need to further involve stakeholders from the sectors of focus, this project proposes to create an Advisory Group.

In terms of composition, the group will include, at a minimum, government officials from areas related to competitiveness and environment; additional

[1] See for example, CEC (1996), Status of Pollution Prevention in North America, http://www.cec.org/files/pdf/POLLUTANTS/pole_EN.pdf, as well as CEC (2004), Moving Forward with Pollution Prevention in North America: A Progress Update, http://www.cec.org/files/PDF/POLLUTANTS/CEC-MovingForward_en.pdf.

[2] CEC (2005), Successful Practices of Environmental Management Systems in Small and Medium-size Enterprises: A North American Perspective, http://www.cec.org/files/PDF/ECONOMY/EMS-Report_en.pdf.

[3] Ganzi, JT, E. Steedman, and S. Quenneville (2004), Linking Environmental Performance to Business Value: A North American Perspective, http://www.cec.org/files/pdf/ECONOMY/Linking-Env-Performance-BP_en.pdf.

[4] CEC (2003), Environmental Disclosures in Financial Statements: New Developments and Emerging Issues, http://www.cec.org/files/pdf/ECONOMY/NYC-cec-unepfi_en.pdf.

[5] See Regular Session 06-01 of the Joint Public Advisory Committee. Workshop on the North American Clean Electronics Pollution Prevention Partnership & SME workshop, 28–29 March 2006, http://www.cec.org/calendar/details/index.cfm?varlan=english&ID=1996.

members could include industry representatives from each country (possibly through the competitiveness councils); as well as representatives from international organizations and environmental NGOs. This is intended to be a small group to advise the project, which will continue to be under the supervision of the TEWG.

This group will assist in refining the project approach, incorporating the findings from the studies and the workshop developed in 2008 and assist in the creation of the task forces for each sector that the Parties select to focus their work. Task forces may include, depending on the subject area, industry experts, NGOs and academics in addition to government representatives. The CEC Secretariat will engage industry early on in the process to ensure that action plans have adequate feedback and involvement from the business community. Webinars, blogs and other communication strategies will be used to ensure that appropriate audiences are engaged at a relatively low cost.

The primary task of the Advisory Group will be to assist in the review of current outputs and in the identification of areas of opportunity to develop specific action plans through the task forces.

Rationale

The environmental challenges of North America are significant and the cost of failing to introduce effective policies can be considerable. At the same time, there is concern that the economic costs of such actions may also be significant, requiring a balance of both objectives. Evidence suggests that opportunities exist to promote both improvements in environmental performance and economic performance. Work in 2008 was aimed at improving our understanding of the nature of the link between environmental and economic performance as well as competitiveness of North American business in order to identify opportunities and barriers to promote such positive synergies.

In 2009, this project aims to consolidate and complement this work and to develop task forces and action plans to act upon its findings in specific sectors or addressing specific cross-sectoral issues (e.g., eco-labeling). Further studies will be developed, as necessary, to provide additional knowledge and policy insights into environmental sustainability and competitiveness.

The project will also produce action plans to translate the findings into action. The plans will identify relevant opportunities which may be implemented through voluntary industry initiatives, policy actions or both.

This project also aims to support the work of the NAFTA Free Trade Commission (FTC) on addressing increasing pressures on North American competitiveness, with particular attention to the trade aspects, including relevant tariff and non-tariff barriers. This project therefore addresses the culmination and achievement of these CEC efforts.

Some of the key questions which will be addressed within the scope of this work are:

- What are the main policy drivers (including, in particular, trade related) to consider in the link between environmental sustainability and competitiveness?
- What do policy drivers include? For example–tariff and non-tariff barriers, standards, etc.
- How are these policy drivers affecting that link?
- What are the key obstacles to achieving mutually supportive outcomes from a competitiveness and environmental perspective?
- What competitiveness concerns do these obstacles create from a firm-level perspective?
- What policy options promote a more mutually supporting relationship?

Fulfillment of Strategic Objectives

This project contributes directly to the fulfillment of the objectives under the Trade and the Environment priority of the 2005–2010 Strategic Plan[6]—also supported by the Puebla Declaration—including:

- enhancing North American trade in green products and services, and
- broadening the understanding of trade and environment linkages and thereby promoting policy coherence, both at the domestic and regional levels in North America.

[6] Looking to the Future. Strategic Plan of the CEC, 2005–2010. http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1761. See section 5.3, page 12.

Information for Decision-making

There is now widespread awareness of the co-dependency between the economy and the environment in North America. Critically missing at the decision/policy-making level, however, is solid, empirically-based and non-anecdotal knowledge on the inter-relationships between the key factors of trade, sustainability, competitiveness in a given area of interest, as well as a good understanding of the trade-offs among various policy tools to promote these key factors. This project will inform NAFTA Parties as well as North American business to identify actions that could advance their environmental sustainability agendas while remaining competitive in the rapidly changing global economy.

Capacity Building

States and provinces across North America also mandate environmental legislation. This can occasionally lead to policies that are inconsistent across the continent. Hence, there is a crucial need to build capacity and outreach with key state and provincial players in order to fully harness the competitiveness agenda.

Trade and Environment

This work is aligned with the CEC Strategic Plan for Trade and Environment, which aims to promote policies and actions that provide mutual benefits for the environment, trade and the economy.[7]

By linking exploration efforts with mechanisms to act upon their findings, the project is also in alignment with the Plan's objectives.

North American Scope of the Project and Its Relevance to the Three Parties

Work is anticipated to focus on critical environmental issues[8] that are transboundary and that lie in areas where competitive pressures are most significant, particularly those related to trade. These include eco-labeling and certification, environmental goods and services, as well as consideration of end-of-life management, automobiles and natural resources scarcity. Sectoral focus will usefully build on CEC experience and could therefore include environmental goods and services, automobiles, plastics, chemicals and electronics. Also to explore are those sectors that provide environmental services to a wide range of businesses and services, for example, recycling, water management, remediation services, de-contamination, etc. This is a burgeoning niche area in North America due to the increase in environmental issues for industry, including the barriers and opportunities to adequately promote end-of-life management industries in the region.

CEC Niche and Value Added

The CEC, as a specialized agency involved in trade, economy and environment has accumulated relevant institutional experience pertinent to these issues and is uniquely positioned to support the development of this activity. At the same time, educational, private and not-for-profit institutions throughout North America are working on issues related to either competitiveness or sustainability or both. As a convener the CEC will seek to involve these organizations in developing a plan of action for competitiveness and sustainability in North America.

Current work on sustainability and competitiveness by other organizations, including the World Resources Institute, World Economic Forum, International Institute for Sustainable Development as well as the work of several academic institutions has to date not focused on the specific challenges at the North American level. The Free Trade Commission is attempting to develop a work plan that will respond to the ever-increasing pressures on North American competitiveness,[9] but the environmental quotient of such work has not been elaborated. Activities under this project aim to fill part of that gap. Increased market coordination and the need to grapple with economies of scale could allow the North American economy to be increasingly competitive. For example, building capacity for recycling installations would involve concerted efforts between players from all three countries.

[7] See http://www.cec.org/files/PDF/ECONOMY/Trade-Env-Plan2005_en.pdf.
[8] Such as climate, energy, biodiversity, human health and water, as identified in CEC (2008), The North American Mosaic: An Overview of Key Environmental Issues. http://www.cec.org/files/PDF//Mosaic-2008_en.pdf

[9] Joint Statement of NAFTA trade ministers, 22 April 2008. http://tradelawyersblog.com/blog/archive/2008/april/article/new-orleans-nafta-summits-ends-on-april-22-2008-with-a-joint-statement-of-nafta-leaders/?tx_ttnews%5Bday%5D=23&cHash=d090571c66.

Activities and Outputs

Key Activities

- In consultation with TEWG, assemble the Advisory Group and select areas for further work in light of findings from funded research and outputs from the JPAC meeting on environmental sustainability and competitiveness.
- As considered appropriate by the TEWG and in consultation with the Advisory Group support the creation of task groups to act upon findings.
- Develop Action Plans to improve environmental sustainability and North American competitiveness, focusing on a number of sectors or issues.

Target Groups

- North American public and private sector decision-makers, along with ENGOs and academia are the target audiences for this project.
- Federal, state and provincial governments.

Partners, Stakeholders

Industry associations, particularly those for the sectors that will be the focus of attention are key stakeholders. Similarly, leading stakeholders, public or private, identified during the scoping studies in 2008.

Leveraging

The expertise of the members of the Advisory Group will be an important in-kind contribution.

While not secured at this point, it is expected that industry representatives will be able to provide support for the work of the Action Plans.

Outputs and Associated Timelines

By fall 2009: Integrated Report on Environmental Sustainability and North American Competitiveness.

Integration of Task Groups to develop Action Plans

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Increased understanding of the relationships between environmental sustainability and competitiveness in North America as well an identified set of policy options to inform NAFTA Parties and in support of work under the FTC.
- Action plans for key sectors or issues, to be implemented by industry or other stakeholders. These action plans may also inform the development of the CEC's 2010–2015 Strategic Plan.

Performance Indicators

- Outputs of the project used by Industry, the NAFTA Parties and the FTC as part of their inputs for deliberation.

Intermediate Outcomes

- Policies and actions being identified to further promote the uptake of environmental services.

Performance Indicators

- Elements of the report being further developed to assess implementation of policies and/or guidelines that drive environmental performance across key industrial sectors.

Final Outcomes

- A concerted attempt to decouple economic growth from environmental impacts while enhancing North American competitiveness.

Performance Indicators

- Policies and actions implemented being assessed as positive for the environment and North American competitiveness.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

The Advisory Group is expected to meet during the first quarter (Q1) of 2009 to determine key sectors and priority environmental issues to start examining. An interim report is expected by Q4 and a final report by Q2 in 2010.

Target End Date for CEC Involvement

This project is expected to end by 2010. However, the issue of sustainability and competitiveness will remain relevant and thus 2009 outputs could inform the content of the 2010–2015 Strategic Plan.

Sustainability Beyond

This project is expected to end in 2010. At this time, the CEC aim is to catalyze further action by the Parties and stakeholders. The principle of subsidiarity will terminate the work of the CEC in this area.

Communications

Project design and implementation will be carried out in consultation with relevant agencies and stakeholders (trade associations and environmental services sector, NGOs, etc.) in the sustainability and competitiveness debate. With this approach, it is expected that the project will provide relevant content that will enhance cooperation among Parties.

This project and its outputs will serve to position the CEC and its Council in relation to NAFTA's governing bodies, with respect to a highly relevant topic for North American industry, government, and policy audiences alike.

Information Management

It is expected that the utilization of alternative ways to communicate with a wider audience, such as blogs and webinars will be supported by the exiting information services and architecture maintained by the CEC Secretariat.

Implementation Plan

Project 4: Supporting Environmental Sustainability and North American Competitiveness						
Strategic Objectives: • Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and regional levels in North America. • Improve regional and national coordination, including coordination between the CEC and NAFTA Free Trade Commission through ongoing collaboration of trade and environment officials.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Develop further studies that complement the 2008 outputs to produce an integrated report on *Environmental Sustainability and North American Competitiveness.*	Integrated report that complements the findings of the sector level studies done in 2008.	Fall 2009	Increased understanding of the relationships between environmental sustainability and competitiveness in North America as well an identified set of policy options to inform NAFTA Parties and the FTC.	Private sector companies that provide environmental services and trade associations/member companies that require those services for waste and water management, etc. Trade organizations. Governments (environmental and industry/ trade departments).	80,000	No further activities are planned beyond this report.
	Quality Assurance Summary *Report*: Integrated report on Environmental Sustainability and North American Competitiveness	Secretariat review: September 2009 Party review–Quality assurance: October 2009 Publication: December 2009				
2. Support the creation of task groups to act upon findings and develop action plans to	Conference calls. Face-to-face meetings. Web communication	Ongoing	Action plans for key sectors or issues.		45,000	While some activity may be needed in 2010 to complete the action plans for some sectors, the project is

Project 4: Supporting Environmental Sustainability and North American Competitiveness						
Strategic Objectives: • Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and regional levels in North America. • Improve regional and national coordination, including coordination between the CEC and NAFTA Free Trade Commission through ongoing collaboration of trade and environment officials.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
improve environmental sustainability and North American competitiveness, focusing on a number of sectors.	platforms.					expected to end by the end of 2010.
Total Cost: $125,000						
Performance Measurement Indicators: Outputs of the project used by the NAFTA Parties and the FTC as part of their inputs for deliberation. Elements of the report being further developed to assess implementation of policies and/or guidelines that drive environmental performance across key industrial sectors. Policies and actions implemented being assessed as positive for the environment and North American competitiveness.						**Key Partners:** FTC, JPAC, trade associations in selected sectors, private industry (for each sector)

Project 5	**Harnessing Market Forces for Sustainability**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández (components A and B) Thomas Hammond (component C)
Planned Allocation	Component A: Supporting the Growth of Green Building: C$90,000 Component B: Supporting the Production and Use of Renewable Energy: C$105,000 Component C: Conserving Biodiversity through Trade: C$105,000 **Total: C$300,000**	**Working Group(s) associated with this work**	Trade and Environment Working Group (TEWG), Biodiversity Conservation Working Group (BCWG)

Objective of Project

To promote policies and actions that will expand the use of market forces as drivers to achieve environmental improvements, with a focus on renewable energy, green building, and biodiversity. This global aim will be furthered in these three component areas by means of the following:

- Promoting policy and actions to enhance the production and use of renewable energy in North America by addressing market barriers and improving regional capacity to enhance the generation, transmission and consumption of renewable energy.
- Accelerating the uptake of green building by examining trade and market barriers to products, technology and financial investment for both new and retrofitted buildings throughout North America.
- Complete analysis of leading green enterprises in North America, particularly those with relevance to biodiversity conservation.
- Assess the potential of market and trade mechanisms to promote conservation and sustainable management of ecosystems and support economic development.

Background

The CEC has a long-standing goal of promoting policies and actions that provide mutual benefits to the environment, trade and the economy. Accordingly, the identification and analysis of opportunities and methods to harness emerging green markets has been a common theme across several CEC projects. Activities under this theme are in part aimed at supporting the Parties in their commitment under NAAEC[1] Article 2.f, which obligates them to promote the use of economic instruments for the efficient achievement of environmental goals.

A commonly cited example of the way in which the CEC has helped to build positive links between environmental goals and trade is the assistance it provided to coffee growers in establishing an international market for shade-grown coffee—whose manner of cultivation conserves the habitat of critical species—thus benefiting both sustainable development and also trade. This commodity-habitat example has also been a reference point for the further exploration of opportunities for CEC market-oriented work in biodiversity.

The work on both renewable energy and green building finds its origin, in part, in two NAAEC Article 13 reports, both of which sought to explore ways to promote greener trade in North America and identify recommendations to address existing market barriers.

In the case of biodiversity and renewable energy, both are explicitly referenced in the Puebla Declaration[2] as well as in the CEC's Strategic Plan, as well as the more specific Strategic Plan on Trade and the Environment.

[1] North American Agreement on Environmental Cooperation, http://www.cec.org/pubs_info_resources/law_treat_agree/naaec/index.cfm?varlan=english.
[2] http://www.cec.org/files/PDF/ABOUTUS/Puebla-Declaration-2004_en.pdf.

The themes under this project have had different types of advisory groups to ensure technical quality and the development of synergies with existing projects. It is proposed that each component will have its own advisory group, with the Trade and Environment Working Group (TEWG) providing general oversight.

Rationale

In recent years, *g*reen markets have experienced significant attention and growth and the three market areas covered under this project are no exception. Energy, the built environment, and biodiversity are areas where important environmental values are at stake and where vibrant, emerging green markets are offering potential to drive significant resources towards conservation of natural resources and the environment. The examples of these emerging markets attest to the growing general relevance of the environmental dimension in the marketplace. While there remain issues regarding the feasibility of some market approaches, the focus is shifting to one of promoting the scalability these emerging markets.

In this context, there is a need to refocus the work of the CEC from assessing financial viability and demonstrating market approaches, such as was undertaken in the renewable energy pilot in the mid-1990s or the shade-grown coffee project in the early 2000s, to promoting a broader application of these approaches and the expansion of green markets. This would include work to further enable green building, renewable energy, or habitat conservation in order to benefit from participation in emerging markets, such as the existing voluntary carbon market, in addition to specific work to address outstanding market barriers.

Renewable energy can help provide for current and future North American energy needs, with multiple environmental benefits. However, the full potential of renewable energy to contribute to energy security and displace other less environmentally desirable forms of energy cannot be fully realized without addressing a number of challenges, including the facilitation of transmission access and the overcoming of other informational and transactional barriers.

The use of green building practices, particularly to improve the environmental performance and impact of the existing building stock, can have significant positive effects, such as the conservation of energy, materials, and water, along with lower resource and waste disposal costs. However, despite significant market growth, green building represents a small fraction of the new construction and renovation of buildings in North America, and a number of barriers may prevent greater market access and faster uptake, including high quality harmonized environmental metrics that may facilitate greater access to new financing options.

Similarly, while the economic benefits of the conservation of biodiversity are significant and there is an increasing number of examples of market-based approaches that recognize the value of biodiversity, access to green markets still involves significant transaction costs. Also, there is a need to facilitate for land owners and custodians the use of existing mechanisms that provide effective incentives to preserve habitat integrity.

Activities and Outputs

This project has three operational components, project descriptions of which follow.

A. Supporting the Growth of Green Building

B. Supporting the Production and Use of Renewable Energy

C. Conserving Biodiversity through Trade

Project 5A	**Supporting the Growth of Green Building**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández
Planned Allocation	C$90,000	**Working Group(s) associated with this work**	Trade and Environment Working Group

Objective of Project

To foster green building markets in North America by identifying barriers and opportunities to accelerate the up-take of green building practices, with particular reference to enhancing the financial and environmental metrics for green building performance.

Background

Project History and Foundation

In 2006 the CEC initiated development of an independent (Article 13) report, *Green Building in North America: Opportunities and Challenges*.[1] Published in 2008, this report and nine detailed background papers[2] identified the major challenges and opportunities for green buildings to play a transformational role in addressing a number of environmental challenges, most prominently greenhouse gas emissions and energy conservation.

The report notes "Green building addresses climate change and other energy-related air emissions in two basic ways: first (and most importantly) by reducing the amount of energy used to light, heat, cool and operate buildings and their appliances, and second, by substituting for what is currently mostly carbon-based energy with alternatives that do not involve the production of greenhouse gases and other harmful air emissions."[3]

The report included recommendations to government and industry to make green building standard practice for all new and existing buildings.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

The CEC's 2006–2008 green building work was guided by an international advisory group of prominent developers, architects, sustainability and energy experts, real estate appraisers and brokers, together with local and national government representatives. Development of the background research engaged a large and representative group of stakeholders: national green building councils, local authorities (responsible for building codes) policy, leasing and housing authorities from Canada, Mexico and the United States, energy, construction, valuation, and finance experts, and certification and labeling bodies. Finally, three public workshops in 2007 in the United States and Mexico brought hundreds of additional participants into the development of this report and related work.

Advisory Groups Related to This Project

The Trade and Environment Working Group (TEWG) will provide oversight. It is not proposed that the Article 13 Advisory Group be formally reconstituted or assembled for the purposes of this project. Rather, to facilitate outreach efforts and to support the highest quality work the CEC will rely upon ad-hoc advisors and experts drawn from the above-described network and other key stakeholders.

Rationale

In Canada, Mexico, and the United States, commercial and residential building operations account for approximately 23, 30, and 40 percent of

[1] http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=2242
[2] http://www.cec.org/greenbuilding/index.cfm?activityId=1&varlan=english
[3] Cf note 1, *supra*, p. 24.

energy consumption, respectively. Every year, the energy used by buildings in North America results in the release of more than 2,200 megatons of CO_2, approximately 35 percent of the continent's total. Recent studies by the Intergovernmental Panel on Climate Change (IPCC), McKinsey & Company, and Vattenfall, indicate that improved building practices are some of the quickest and cheapest ways to reduce significantly greenhouse gas emissions, often with net economic benefit. Accordingly, growing number of organizations, institutions, and government entities in North America are calling for aggressive energy performance improvements in the building sector. In short, green building represents some of the ripest "low-hanging fruit" for achieving significant and cost effective reductions in greenhouse gas emissions. Moreover, in many circumstances green building combines environmental gains with the opportunity for a positive economic return.[4]

Although many efforts are underway to accelerate the market uptake of green building, this activity is still relatively small and focused primarily upon the development of *new* building stock. Maximizing environmental benefits, however, requires accelerating the uptake of green building practices and to scale up the market—particularly with respect to the vast bulk of the 125 million previously constructed commercial, public and residential buildings in North America. This approach would not only provide significant incremental environmental benefits, beyond greenhouse gas mitigation, but also promote "green jobs" and sustainable economic development.

The Article 13 report identified opportunities for the NAFTA countries to work together to improve the building sector. "The building industry is changing rapidly. Product standards are increasingly international, with ongoing efforts to harmonize performance metrics across national boundaries. Building components designed in the United States may be manufactured in Mexico and assembled on-site in Canada." Potential areas of cooperation include:

- share resources and information,
- promote international trade in environmentally-preferable building products and proven-yet-underutilized technologies,
- support eco-labeling programs,
- pursue joint research opportunities, and
- disseminate research and training information.

The report also suggests that some concrete activities may include, for instance, contributing to harmonize Canadian, Mexican, and US building data via existing lifecycle inventory databases, analyze building material trade flows among the countries, support bioregional mapping efforts for use by standards developers in regionalizing national rating systems, develop life-cycle scenario modeling for building products, explore opportunities for reuse and recycling of construction debris among the countries, and promote technology and knowledge transfer among all three countries.

Although the recommendations in the CEC's Article 13 report are directed to government and industry for implementation, this project proposes three specific activities for which the CEC is uniquely suited: first, an analysis of trade flows and identification of trade-related barriers to the development of a North American green building industry (including raw materials, technologies, end of life industries, and investment flows); second, a focus on the potential of regionalizing standards and rating systems, and facilitating their application to promote a North American industry using a life-cycle perspective; and finally—to accelerate the uptake of green building—identify opportunities to encourage the development of and access to financing mechanisms that adequately recognize the environmental value of green buildings, particularly in the realm of existing carbon markets. While some such mechanisms already exist, not all green buildings or building sectors are necessarily eligible and active in this market. Existing voluntary carbon markets (i.e., Chicago Carbon Exchange (CCX), Montreal Climate Exchange) occupy a unique position to help accelerate the greening of the building sector, and to foster green investment flows in the region. The sale of carbon credits under current markets may be expected to produce incremental cash flow for public and private green real estate projects, including a possible wide-spread application of green building features to existing stock in the form of energy-saving retrofits and renovation.

Fulfillment of Strategic Objectives

The Commission's 2005–2010 Strategic Plan calls for the promotion of efforts to improve private sector environmental performance as well as

[4] Green Building in North America: Opportunities and Challenges, p. 5.

through model environmental compliance approaches.[5] The Joint Public Advisory Committee (JPAC), in Advice to Council Resolutions 04-05 and 06-01, has urged the CEC Council to promote aggressively the use of renewable energy to achieve its objectives for environmental protection and improved human health and the well-being of citizens of North America. In more general terms this project supports the following objectives of the 2005–2010 Strategic Plan.

Information for Decision-making

Strengthens the capacity of North American decision-makers to understand continental environmental issues of common concern.

Capacity Building

Improves private sector environmental performance through model environmental compliance approaches

Trade and Environment

Increases the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment by promoting a greater market for green building products and services and improve collaboration among the three countries.

North American Scope of the Project and Its Relevance to the Three Parties

The NAFTA Partners have stated their commitment to promote greener trade in the region and to promote the competitiveness of North American industries. Green building will help ensure North American competitiveness in the global market for products, technologies, and practices essential to North America's future.

Outputs from this project would be relevant to all NAFTA partners.

Ultimately the significant environmental benefits that would accrue from a sustained and larger-scale initiative to retrofit and apply green building technology and standards to existing building stock could, as underlined by the IPCC, greatly assist each country and North America as a whole in accomplishing greenhouse gas-reduction targets with existing and proven technology and practice.

CEC Niche and Value Added

As a result of the work to produce the Article 13 report identified above, and the development of subject matter capacity and an extensive network of Green Building policy and technical experts the CEC is well positioned to address these issues from a North American perspective, linking national of sub national initiatives that are underway in each of the areas of work under this project description. To ensure the non-duplication of efforts, the Secretariat will engage some of the members of the CEC's advisory group composed of internationally recognized green building experts[6] that took part in the Article 13 Green Building report.

Moreover, the project aims to incorporate existing work and create partnerships with relevant actors across North America.

Linkages with other CEC projects

This project is closely linked with the project on renewable energy; first, like renewable energy, this project also seeks to scale the uptake of this industry; second, there is a clear overlap in which promotion of either markets would positively impact the other. It may be possible that the exploration of financing opportunities and prospects within existing voluntary carbon mechanisms could be done in conjunction with that other project.

Activities and Outputs

Key Activities

1. Research trade flows and refined identification of trade-related barriers to the development of a North American green building industry (including raw materials, technologies, end of life industries, and investment flows).

2. Analyze the potential of regional standards and rating systems and codes, or facilitating their application, to promote a North American industry, using a life-cycle perspective. This will include, the analysis of the efficiency of

[5] Strategic Plan, page 11. See http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1761.

[6] See http://www.cec.org/greenbuilding/index.cfm?activityId=2&varlan=english.

different rating systems and environmental metrics to clarify options for harmonization of standards and measurement of environmental benefits (e.g., offsets, energy and resource savings) to facilitate greater participation in the green building market.

3. A study to assess the existing and emerging financial mechanisms available to support the green building market, with a particular focus on opportunities provided by existing carbon financial markets, and that may facilitate greater market access to enable the application of green building technology and approaches to the vast bulk of existing building stock in North America.

The outputs associated with this project are anticipated to be:

- An analysis of trade flows as well as existing barriers and opportunities for greener trade in green building related goods and services in North America;
- A study of the potential benefit and opportunities to develop regional standards, rating systems or codes across North America; and
- A study assessing the financial mechanisms to promote the green building market in North America and identification of ways to scale them up, including models for aggregation of green building environmental benefits.

Target Groups

Green building councils, local authorities (responsible for building codes) and federal governments of the three countries (housing), investment funds (mortgages), certification and labeling bodies (e.g., Green Building Certification Institute).

Partners, Stakeholders

This initiative has greatly benefited from the Advisory Group and other experts that have so far supported the CEC's work on green building, as well as finance, valuation, development, and energy services experts. Other partners for dissemination could include *Green Building Source* and *Environmental Building News*.

Leveraging

It is expected that members of the Advisory Group will provide important in-kind contributions to the project through their advice.

Additional resources have not been secured but will be sought during implementation of the project.

Outputs and Associated Timelines

Commissioned studies will be completed by summer 2009.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Improved understanding of the trade dimension of green building markets.
- Increased understanding of the role of standards and their harmonization to promote market development, innovation and facilitate trade in this industry.
- Improved understanding of the financial mechanisms that support the green building market, including models for aggregation of environmental benefits.

Performance Indicators

- Trade-related barriers to the development of a North American green building industry are identified.
- Opportunities for the potential of regionalizing standards and rating systems are outlined.
- Opportunities to encourage the development of and access to financing mechanisms for the green building market are identified.

Intermediate Outcomes

- Facilitated access to efficient financial mechanisms in the green building market.

Performance Indicators

- Increased trade in green building products and services, including technology and knowledge transfer.

Final Outcomes

- Green building market in North America is growing rapidly.
- Application of green building technology and practice to existing building stock increases significantly.

Performance Indicators

- Increased financial investment in green buildings.
- Increased trade in greener building materials.
- The number of certified Green Buildings is increasing considerably in North America.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

This project is one follow-up to the Article 13 report that identified opportunities for the NAFTA countries to work together to improve the building sector.

Target End Date for CEC Involvement

No further activities are planned beyond 2009.

Sustainability Beyond

The project expects to build the interest and commitment of various stakeholders to act independently upon the findings. Adoption of policy recommendations is a responsibility of government and regulatory entities at all levels; uptake of market-based elements would be the responsibility of the private sector.

Communications

To the extent possible and in line with outreach practices at the CEC, the 2008 Article 13 report will continue to be disseminated, particularly focusing on stakeholders who are responsible for green buildings, such as provinces, municipalities, building associations, realty associations, as well as housing and mortgage corporations.

The target audiences for communication of this initiative are real estate and development professionals (owners, property managers, building contractors) as well as energy and financial services industries and regulators. The CEC will communicate the implementation and results of this project via specialized trade magazines and journals possibly including *Green Building Source*, *Environmental Building News*, and professional associations including Green Building Certification Institute, as well as municipal/local and provincial/state governments.

Information Management

No database is anticipated to be produced from this activity.

Implementation Plan

PROJECT 5A – Supporting the Growth of Green Building

Strategic Objectives:

- Strengthen North American decision-makers' understanding of continental environmental issues of common concern.
- Improve private sector environmental performance through model environmental compliance approaches.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
1. Research trade flows and refined identification of trade-related barriers to the development of a North American green building industry (including raw materials, technologies, end of life industries, and investment flows).	An analysis of trade flows as well as existing barriers and opportunities for greener trade in green building related goods and services in North America.	Summer 2009	Improved understanding of the trade dimension of green building markets.	Trade organizations. Green building associations. Construction industy. Buidling component manufacturers. Trade officials. Government agencies (including state and provincial).	30,000	No further activities planned beyond 2009.
2. Analyze the potential of regional standards and rating systems and codes, or facilitating its application, to promote a North American industry, using a life-cycle perspective. This will include the analysis of the efficiency of different rating systems and environmental metrics to clarify options for harmonization of standards and measurement of environmental benefits (e.g., offsets, energy and resource savings) to facilitate greater	A study of the potential benefit and opportunities to develop regional standards, rating systems or codes across North America.	Fall 2009	Increased understanding of the role of standards and their harmonization to promote market development, innovation and facilitate trade in this industry.	Green Building associations and rating experts. Private sector (real estate developers, owners and appraisers). Energy services industry, experts, and suppliers. Carbon market brokers. Trade organizations. Government agencies (including state/provincial).	30,000	No further activities planned beyond 2009.
	Quality Assurance Summary	Secretariat review: June 2009				

PROJECT 5A – Supporting the Growth of Green Building						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Improve private sector environmental performance through model environmental compliance approaches. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
participation in the green building market.	*Background paper*: Exploration of the efficiency of rating and metrics to promote the green building market	Party review–Quality assurance: August 2009 Publication: September 2009				
3. A study to assess the existing and emerging financial mechanisms available to support the green building market, with a particular focus on opportunities provided by existing carbon financial markets, and that may facilitate greater market access to enable the application of green building technology and approaches to the vast bulk of existing building stock in North America.	A study assessing the financial mechanisms to promote the green building market in North America and identification of ways to scale them up, including models for aggregation of green building environmental benefits.	Summer 2009	Improved understanding of the financial mechanisms that support the green building market, including models for aggregation of environmental benefits.	Private industry. Real estate developers, financers and appraisers. Green building organizations. Carbon market financial organizations and brokers. Energy services industry, experts and suppliers. Government agencies (including state and provincial).	$30,000	
	Quality Assurance Summary *Background paper*: Financial mechanisms to	Secretariat review: June 2009 Party review–Quality assurance: July 2009 Publication: September 2009				

PROJECT 5A – Supporting the Growth of Green Building

Strategic Objectives:

- Strengthen North American decision-makers' understanding of continental environmental issues of common concern.
- Improve private sector environmental performance through model environmental compliance approaches.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	promote the green building market in North America.					

Total Cost: $90,000

Performance Measurement Indicators:

- Trade-related barriers to the development of a North American green building industry are identified.
- Opportunities for the potential of regionalizing standards and rating systems are outlined.
- Opportunities to encourage the development of and access to financing mechanisms for the green building market are identified.
- Increased financial investment in green buildings.
- Increased trade in greener building materials.
- Increased trade in green building products and services, including technology and knowledge transfer.
- The number of certified Green Buildings is increasing in North America.

Key Partners:

Members of the CEC's network of green building experts

Green building associations

Municipalities, states, provinces, Canadian Housing and Mortgage Corporation, etc.

Project 5B	**Enhancing the Production and Use of Renewable Energy**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández
Planned Allocation	C$105,000	**Working Group(s) associated with this work**	Renewable Energy Experts Committee

Objective of Project

To promote policies and actions that provide mutual benefits for the environment, trade and the economy, and encourage sustainable consumption, production and trade in North America, by addressing market barriers and improving regional capacity to enhancing the production, transmission and consumption of renewable energy (RE).

Background

Project History and Foundation

Energy was identified as a key area of activity for the CEC as early as 1995 with work focusing on documenting the cost-effectiveness of renewable energy, exploring cooperation opportunities on voluntary approaches for the promotion of energy efficiency, and assessing the potential for a greenhouse gas (GHG) trading system for North America. Since that early work, the CEC has addressed more generally the opportunities to promote energy efficiency, to take advantage of financing opportunities related to the climate policy agenda, and to foster a continental market for renewable energy.

A significant milestone in this regard was the CEC's 2002 Article 13 report, *Environmental Challenges and Opportunities of the Evolving North American Electricity Market*,[1] which examined the environmental impacts of a growing, continental electricity market. The report spurred significant follow up activity in areas including renewable energy portfolios, renewable energy certificates and tracking systems. In 2003, the opportunities to link renewable energy, energy efficiency and carbon markets were further explored at the CEC.[2]

Other actions to date by the CEC include work to review existing definitions, documenting programs, technologies and policies that could foster RE. It has also compiled best practices and developed several guides, particularly at the community level, for financing and project development. More recently, it has also finalized work on methodologies to evaluate non-air benefits of RE as well as a review of existing literature on the environmental effects of liquid biofuels.

During 2008 the CEC focused its efforts on two areas: completing outstanding research outputs and, exploring the opportunities to finance small-scale renewable energy projects, including through aggregation.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

Stakeholders include: renewable energy project developers, including indigenous and local communities; renewable energy associations, particularly in the wind energy sector; the North American Bird Conservation Initiative; and academic research centers

Advisory Groups Related to this Project

In 2005, the Parties appointed a Renewable Energy Experts Committee (REEC) to guide and ensure the technical robustness of work in this area.

Rationale

By supporting the increased production and trade in RE across North America, the project responds to the objectives of the NAAEC to promote

[1] http://www.cec.org/programs_projects/other_initiatives/electricity/index.cfm?varlan=english.

[2] Patterson, Z., and C.L. Carpentier (CEC 2003), Market-Based Mechanisms for Carbon Sequestration, Energy Efficiency and Renewable Energy in North America—What Are the Options? Background Paper: http://www.cec.org/files/PDF/ECONOMY/Market-Based-Paper_en.pdf.

sustainable development, and to support the environmental goals and objectives of NAFTA. Moreover, RE has multiple environmental benefits, including reduced air pollutants and greenhouse gas emissions. Renewable energy can help address the key challenges of sustainable development, promote energy diversification and security and, most notably, foster economic development while reducing the environmental impact of the production and consumption of fossil-fuel based energy. These activities are also a direct response to the goals of the CEC's 2005–2010 Strategic Plan. Moreover, at the 2008 North American Leaders Summit, the three NAFTA leaders noted that: "Building on the gains in technology over the last five years, we are exchanging information and exploring opportunities for joint collaboration to further reduce barriers to expanding clean energy technologies."

The Joint Public Advisory Committee (JPAC), in its Advice to Council 04-05 and 06-01, urged the Council to promote aggressively the use of renewable energy to achieve environmental protection and improved health and well being for the citizens of North America.

This project proposes to *close the loop* on existing tasks, and complete work intended under the current Strategic Plan in a manner that may also inform the development of the CEC's 2010–2015 Strategic Plan.

Related to the promotion of the renewable energy markets and in view of the active voluntary carbon market as well as the evolving national and international mechanisms, it is proposed that the CEC undertake a *Scoping Analysis* on the opportunities and challenges to promote the development of North American renewable energy markets through carbon financial instruments. This activity would be aimed at improving our understanding of the ways in which the renewable energy markets interact with existing and developing carbon markets, including issues such as the minimum requirements for the recognition of offsets and carbon certificates across borders and regimes. This work will include the views of government, industry and nongovernmental organizations. Its outputs will inform various stakeholders, including the private sector, on ways to foster and participate in existing and emerging market opportunities. This task will build upon existing and ongoing work by various organizations.

To assist the Parties in addressing environmental concerns of RE that may hinder the expansion of RE in North America, the CEC proposes to identify areas and corridors where harnessing wind power may threaten migratory and resident avian and bat populations. The study will build on the data and mapping tools available in North America regarding wind energy potential and avian flyways, including work already undertaken by other agencies such as the American Wind Energy Association. These tasks will be completed in collaboration with CEC's geospartial mapping and biodiversity conservation staff and resources, and the North American Bird Conservation Initiative (NABCI) will be approached as a partner.

In terms of achieving the intended goals of the Strategic Plan, work thus far has been substantive and this project aims to ensure adequate dissemination of the outputs to date, particularly at the community level, the target of a number of outputs. This project proposes to disseminate work outputs, relying on local partners to the greatest extent possible, particularly to reach local and indigenous communities, for whom a number of outputs are designed. In addition, the work on evaluation of benefits from renewable energy will also be one of the key products to disseminate.

Fulfillment of Strategic Objectives

The CEC's 2005–2010 Strategic Plan, called for the promotion of the renewable energy market.[3]

Information for Decision-making

This project will provide input for renewable energy policy makers.

Capacity Building

This project will provide input for organizations interested in developing renewable energy projects, particularly indigenous communities, potential providers of RE across borders as well as indigenous and local communities in areas with RE deployment potential.

Trade and Environment

The Strategic Plan on Trade and Environment identified actions to address informational and transactional barriers that add to the cost of renewable energy. Actions included documenting and sharing best practices on developing a renewable energy market, enhancing the use of available information about renewable energy resources, investigating policies aimed at leveling the playing field related to transmission access, providing guidance for calculating the environmental benefits of renewable sources of

[3] Looking to the Future. Strategic Plan of the CEC, 2005–2010. http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1761, page 13.

energy, promoting purchases of renewable energy, and promoting a North American market for renewable energy certificates. Activities within this project will address some of these objectives.

North American Scope of the Project and Its Relevance to the Three Parties

The Parties have charged the CEC to address the development of renewable energy markets and related environmental issues from the North American perspective. Accordingly, the CEC has accumulated relevant expertise and established networks at the regional scale that makes this an appropriate forum to continue this work as described for 2009.

This is relevant to the three Parties and supports stated goals to promote policies and actions that provide mutual benefits for the environment, trade and the economy—in particular, to enhance North American trade in green products and services and remove trade barriers, utilizing market-based approaches.

In particular, recent changes in Mexican legislation, which call for further promotion of renewable energy, will open new opportunities and relevance for the CEC work in this area.

CEC Niche and Value Added

The CEC's history of work on makets for environmental goods and services, North American carbon markets, as well as barriers and opportunities for North American renewable energy markets, make it a suitable agency to explore the current market opportunities under task 1.

The CEC is also well positioned to undertake the study on risks to birds and bats from wind energy, in particular given the past work under the biodiversity program, which has already created maps for migratory birds and important bird areas as part of the North American Bird Conservation Initiative.

Linkages with Other CEC Projects

Enhancing the deployment of environmentally preferable technologies and practices is also a stated goal of the proposed project on green buildings. In both cases, the barriers and opportunities for adequate financing, including those within the existing voluntary carbon markets, are analyzed.

The project also links with the North American Atlas in its potential to develop and use new geospatial data layers that will support the avian/bat and wind energy component.

Activities and Outputs

Key activities

- Undertake a scoping analysis on the opportunities and challenges to promote development of North American RE capacity through carbon financial instruments.
- Support a scoping study to: (i) document the state of knowledge regarding the magnitude of risk presented by wind turbines, (ii) compile results of environmental assessments on this issue conducted to date, and (iii) identify areas and corridors where harnessing wind power may pose a threat to migratory and resident avian and bat populations, and (iv) convene a meeting of experts in the fall 2009, which will also serve as a meeting of the REEC.
- Disseminate key outputs of the project to target audiences, particularly local and indigenous communities as well as the guides to valuate the benefits from renewable energy.

Partners, Stakeholders

Stakeholders include: renewable energy project developers, including indigenous and local communities; renewable energy associations, particularly in the wind energy sector; the North American Bird Conservation Initiative; and academic research centers. To facilitate outreach efforts, the CEC will rely on the Parties and various partners to identify the government agencies and other stakeholders best positioned to assist in these efforts, in particular, the recently created American Wind Wildlife Institute (AWWI) will be approached.

Leveraging

Significant, valuable in-kind support is continuously provided by REEC members. New leveraging opportunities for the avian/bat mortality task will be examined with both the NABCI and academic research centers.

Outputs and Associated Timelines

The outputs associated with this project are anticipated to be:

- A background paper reviewing the opportunities and challenges to promote renewable energy through carbon financial instruments;
- Scoping study to identify areas and corridors where harnessing wind power might threaten migratory and resident avian and bat populations, validated through a trinational meeting on experts; and
- Dissemination of CEC outputs regarding RE to targeted audiences.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Better understanding of how development of renewable energy can be promoted through carbon markets which will serve as valuable information tools to guide methodology and project selection criteria for renewable energy projects in carbon markets.
- Increased knowledge on the wind power corridors that could pose a threat for migratory and resident birds and bats, as well as potential mitigation policy and practice.
- Better informed communities on how to develop RE projects.

Performance indicators

- Downloads of CEC materials on RE issues above and/or number of references to CEC work by the intended audiences.
- Number of communities having access to the RE guides.

Intermediate Outcomes

- Increased use of existing carbon financial instruments for the promotion of RE.
- Improved assessment of the potential risk of wind farms to avian and bat populations.
- Increased use of the CEC outputs as a guide in support of small-scale projects.

Performance Indicators

- Increased number of projects being designed and implemented.
- Increases in trained personnel in North America (data may be available in aggregated form, possibly difficult to tease out contribution of this project).

Final Outcomes

- Identified opportunities to promote renewable energy through existing and emerging carbon markets at the North American scale.
- Faster and better assessment of the risk of wind farms to avian and bat populations, with an attendant reduction in preventable mortalities.
- Increased number of projects being implemented by local and indigenous communities or in partnerships between communities.

Performance Indicators

- Increased RE projects, funding and capacity, including those formulated by local and indigenous communities or in partnerships between communities.

Timetable, Project Completion and Sustainability Beyond

The activities planned for 2009 will allow the project to have achieved progress on all areas included in the Strategic Plan objectives and no further activity would be expected in this project beyond 2009.

Communications

The anticipated outputs in 2009 will be of interest to the Parties, organizations interested in purchasing renewable energy (particularly in Mexico), educators, renewable energy developers, and community leaders interested in renewable energy development; including indigenous communities.

The cooperation strategy on education and training will be primarily of interest to academia and governments. Strategic outreach efforts and the development of a dissemination strategy will ensure that all associated organisations are informed of our efforts.

Information Management

Following REEC advice, a dissemination strategy for key outputs will be developed. IT support would be provided in-house.

Implementation Plan

PROJECT 5B – Enhancing the Production and Use of Renewable Energy						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Carry out a scoping analysis on the opportunities and challenges to promote North American Renewable Energy through existing and developing carbon financial instruments.	A background paper reviewing the opportunities and barriers to promote Renewable Energy through carbon financial instruments.	Summer 2009	Better understanding of how development of renewable energy can be promoted through carbon markets.	Renewable energy policy makers. Environmental policy makers and air regulators. Project developers. Carbon market brokers.	$35,000	
	Quality Assurance Summary *Background paper*: Opportunities to promote renewable energy through carbon financial instruments	Secretariat review: September 2009 Party review–Quality assurance: October 2009 Publication: December 2009				
2. Support a scoping study to: (i) document the state of knowledge regarding the magnitude of risk presented by wind turbines, (ii) compile results of environmental assessments on this issue conducted to date, and (iii) identify areas and corridors where harnessing wind power may	Scoping study to identify areas and corridors where harnessing wind power might threaten migratory and resident avian and bat populations.	Fall 2009	Increased knowledge of the environmental effects of wind power, especially on migratory and resident avian and bat populations.	Wind power associations. Wildlife biologists and researchers. Wildlife officials. Policy makers. Wind developers and stakeholders.	$50,000	
	Quality Assurance	Secretariat review: October 2009				

PROJECT 5B – Enhancing the Production and Use of Renewable Energy

Strategic Objectives:

- Strengthen North American decision-makers' understanding of continental environmental issues of common concern.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
threaten migratory and resident avian and bat populations. Host a meeting of experts and key stakeholders from the three countries on this issue to present findings. Potential mitigation opportunities will also be explored (last quarter of 2009). Annual REEC meeting will be held back-to-back with this meeting.	Summary *Background paper*: Scoping paper reviewing areas where wind power might pose a risk to migratory birds and bats	Party review–Quality assurance: November 2009 Publication: December 2009				
3. Disseminate key outputs of the project to targeted audiences, particularly local and indigenous communities as well as local governments.	A set of distribution actions for the outputs of the project to date.	Spring 2009	Better informed communities on how to develop RE projects.	Local communities Indigenious communities.	$20,000 Printing costs will take a significant proportion of these resources (15,000) particularly of community guides.	

Total Cost: $105,000

PROJECT 5B – Enhancing the Production and Use of Renewable Energy

Strategic Objectives:

- Strengthen North American decision-makers' understanding of continental environmental issues of common concern.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
Performance Measurement Indicators: Downloads of CEC materials on RE issues above and/or number of references to CEC work in the relevant intended audiences (first indicator relatively easy to access, second indicator is more difficult and it will involve a time lag). Number of communities having access to the RE guides. Increased number of projects being designed and implemented.						Key Partners: Renewable energy association, particularly those on Wind energy or the task on avian risks. North American Bird Conservation Initiative. Renewable energy project developers, including local indigenous communities, REEC members. AWWI.

Project 5C	**Conserving Biodiversity Through Trade**	**Responsible Project Manager at the CEC Secretariat**	Thomas Hammond
Planned Allocation	2009: C$95,000 Completion of 2008 Outputs: C$10,000 Total: C$105,000	**Working Group(s) associated with this work**	Trade and Environment Working Group, Biodiversity Conservation Working Group

Objectives of Project

This project supports the conservation and sustainable use of biodiversity by building on past achievements of the CEC program to:

- Identify opportunities to leverage market instruments to promote conservation and sustainable management of ecosystems and support economic development;
- Complement and improve the analysis of leading green enterprises in North America and the "how-to" guide (tool-kit); and
- Identify proposals that could form the basis of projects for the 2010 operational plan

Background

Project History and Foundation

The CEC was an early proponent of exploring the potential environmental and social benefits from market-based approaches to conservation. Such work includes the successful shade grown coffee initiative beginning in 1999, and scoping emerging carbon markets in Mexico in 2001.[1] More recently, in 2006, a comparable project screened various products that could foster markets promoting species and habitat conservation. Finally, the development of the "how-to" guide for sustainable businesses was delayed due to the inability of the project partner (the International Institute for Sustainable Development—IISD) to secure counterpart funding—an issue resolved in the fourth quarter of 2008.[2]

Proposed activities in 2009 build on the work outlined above. In particular, the project is designed to address new and emerging trends in the area of ecological goods and services. This project will provide information to decision-makers (CEC Parties) on opportunities to use market instruments to support conservation of biodiversity.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

Previous examination of the potential for market-based instruments to promote conservation has occurred with the participation of both the Biodiversity Conservation and the 10(6) Working Groups. Stakeholders associated with this initiative at present include The International Institute for Sustainable Development (IISD), Forest Trends and the Katoomba Group, the *Dirección General de Vida Silvestre* (DGVS) from Semarnat, *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (Conabio), *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), *Instituto Nacional de Ecología* (INE), and the Gund Institute for Ecological Economics at the University of Vermont. Additional leveraged funding for 2009 from IISD has been secured through the SEED Initiative (US$40,000).

The above stakeholders represent the leading edge of a small but growing community of institutions working to better understand and tap into market

[1] CEC (1999), Measuring Consumer Interest in Shade-grown Coffee, http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=267. CEC (2001), Mexico and Emerging Carbon Markets, http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=429.

[2] Every effort was made to complete as much of the planned 2008 activities as possible during the reminder of 2008. However, due to this delay some carry forward into 2009 was necessary to complete work already underway.

potential as a means to support sustainable use of ecological resources. These institutions are active both nationally and internationally, and can best complement the emerging work of North American governments in this area.

Advisory Groups Related to this Project

The principal advisory group for this project is the Trade and Environment Working Group, with participation of the Biodiversity Conservation Working Group.

Rationale

Ecosystems and the natural environment represent an important contribution to the "infrastructure" of healthy economies. At present society derives a wide range of ecological services and products, such as erosion or flood control, waste and nutrient cycling, fish harvested from wild populations, and many others—while at the same time paying very little for these services. An analogy would be spending only a small fraction of the billions currently spent on an annual basis to maintain the road network—considered essential infrastructure for healthy economies.

Conservation approaches which utilize or adapt market forces are emerging in all three countries in North America, offering an ideal opportunity to harmonize these markets where possible and to learn from these experiences. Habitat "banking" and biodiversity offsets are now well established tools in the United States, as are broader ecosystem service models such as the Catskill watershed management scheme in upstate New York, which provides payments to local landowners to modify their land-use practices. The Chicago Climate Carbon Exchange (CCX) now has over five years of experience in providing a viable, voluntary marketplace for North American companies wishing to take tangible action to reduce the CO_2 impacts from their operations, and this voluntary market recently expanded to include the Montreal Climate Exchange. In Mexico, the national forest agency, Conafor, has developed mechanisms of payments to forest landholders for ecosystem services[3] as a means to stimulate conservation of forest lands—while at the same time improving watershed management and biodiversity benefits.

At present, many successful models for green products and markets for ecological services are local in scope. However, as demonstrated by the success of a number of well known products or standards, such as shade grown coffee or certified timber products or seafood, growth and market success may be facilitated through supra-national approaches to market standardization.

This project is designed to scope out these challenges, and develop concrete strategies for regularizing markets for "green products" and ecosystem services that can take advantage of shared approaches within all three countries in North America. This project also speaks to the core objectives of The North American Agreement on Environmental Cooperation (NAAEC)—that is, to create and foster environmental conservation within North America, while at the same time facilitating the development of "mutually supportive environmental and economic policies" throughout the region. Moreover, the project specifically addresses one of three key priorities for action of the CEC's 2005–2010 Strategic Plan, that of identifying successful strategies for balancing trade and economic growth with environmental conservation efforts.

Finally, it is opportune with the initiation of a new strategic planning cycle for the CEC to more closely examine the potential for market-based opportunities that capture benefits for economic growth and environmental conservation, to inform future efforts within the trade and environment program. Through the completion of the activities and tasks outlined below, this project will build on the success of past and recent efforts in this area, and explore potential new trade or market-based approaches to support mutual economic and environmental benefits at a continental scale.

Fulfillment of Strategic Objectives

This project contributes to accomplishment of the CEC's 2005–2010 strategic objectives by representing an important vehicle for the implementation of Objective 9—*Enhancing North American trade in green*

[3] For the purposes of this study we consider ecosystem-based goods and services such as the following:

- Direct goods such as timber (and non-timber products), food, fuel, bio-products (e.g., bio-prospecting and genetic resources), etc.;
- Physical service functions such as carbon storage, nutrient cycling, water cycling, and air purification;
- Biological service functions such as habitats for other species, pollination, biodiversity; and
- Social and cultural values, such as recreation.

products and services. Completion of tasks 1 through 3 will address the issue of emerging markets for environmental or ecosystem-based "services" in North America, while task 4 completes the work initiated in 2008 that addresses the need to improve markets for green products expressed in the CEC's Strategy.

The outputs and activities outlined here mark the culmination of work related to the "Conserving Biodiversity through Trade" component of the "Harnessing Market Forces" project under the current strategy of the Trade and Environment initiative, as well as under the CEC's 2005–2010 Strategy. Delivery of this project in 2009 is expected to support greater integration of the CEC's trade and environment and conservation activities.

North American Scope of the Project and its Relevance to the Three Parties

It is increasingly recognized that business or market forces can complement ecosystem and biodiversity conservation efforts, along with the notion that environmental and social benefits can be explicitly embedded in market transactions. Recognizing this, the G-8 Environment Ministers commissioned a study in 2007 on The Economics of Ecosystems and Biodiversity, the interim report for which was tabled in May 2008.

Improved understanding of favorable and harmonized regulatory environments or emerging markets that could support the growth of the biodiversity sector within a "green economy" in North America will help to propel the development of this market. In addition, improved knowledge of new methods and approaches will assist in improving the competitive position of North American entrepreneurs in this rapidly growing sector of the economy. While there is a growing number of initiatives in North America (as noted above) which adopt/use market forces to support conservation efforts, most are isolated or tend to be comparatively local in scope.

CEC Niche and Value Added

The CEC's catalytic role and value added in this work is founded upon the understanding that the most successful market-based approaches to date which support conservation goals are those which are easily replicable across a variety of national contexts. Given its trinational scope, the CEC is uniquely placed to assess the growing body of experience of biodiversity-related business ventures from the point of view of extracting lessons and increasing efficiencies (i.e., reducing transaction costs), and exploring applications in this rapidly growing sector of importance throughout North America. Moreover, the CEC has led groundbreaking work in North America in the development and marketing of biodiversity-friendly agricultural products, and is thus well placed to leverage this experience in assisting the ongoing growth of this sector.

Linkages with Other CEC Projects

Work envisioned here will assist in providing a coherent framework for the application of market-based approaches within specific tasks proposed under a number of 2009 projects. Examples of such sustainable biodiversity business initiatives include: exploring sustainable economic opportunities for vaquita-friendly fisheries (Recovering the Vaquita and Promoting Sustainable Local Livelihoods), community-based livelihoods initiatives which support conservation of the monarch over-wintering sites (Conserving the Monarch Butterfly and Promoting Sustainable Livelihoods), and examining the ecological and economic impacts of invasive alien species. Inclusion of these examples in the analysis will be consistent with recommendations from BCWG.

Activities and Outputs

The key activities/tasks that will be undertaken are as follows:

- Workshop involving T&EWG and BCWG members, and including key sectoral experts, to consider the most appropriate use of markets, trade, and economic instruments in the conservation of biodiversity in North America.
- Creation of a steering committee to oversee the implementation of the project, commissioned by the T&EWG and BCWG.
- Scoping study, based on directions from the workshop above and led by the steering committee, to identify opportunities and potential projects for leveraging market instruments–including trade in green products and markets for ecological services. The study will also identify tariff and non-tariff trade barriers which may exist.
- Follow-up workshop undertaken between T&EWG and BCWG members, including key sectoral experts, to consider the results of

the scoping study regarding the use of market instruments in biodiversity conservation initiatives.

- "How-to" guide/toolkit of green products and services (currently being implemented under the 2008 Operational Plan) further enhanced, ensuring the coherence, sustainability, and completion of this activity.

Target Groups

The primary target groups for tasks 1 through 3 of this project are the Parties, along with the members of the Trade and Environment Working Group and Biodiversity Conservation Working Group. The primary target group for task 4 of this project are the Parties, BCWG and T&EWG, along with entrepreneurs, NGOs (e.g., Forest Trends, New Ventures-Mexico), academia (such as the University of Vermont's Gund Institute of Environmental Economics), and other interested stakeholders working in the area of emerging markets for green products and services.

Partners, Stakeholders

Stakeholders in this work at present include the International Institute for Sustainable Development (IISD), the SEED Initiative, Forest Trends and the Katoomba Group, and the Gund Institute for Ecological Economics at the University of Vermont, and the *Instituto Nacional de Ecología* (INE).

Leveraging

Leverage funding of US$40,000 from IISD through the SEED Initiative has been negotiated and will be available for the completion of the "how-to" guide and toolkit in 2009.

Outputs and Associated Timelines

Outputs for each task and timelines for completion are outlined in the table below.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Consensus among T&EWG and BCWG members regarding the most viable approach to effectively incorporate market instruments in biodiversity conservation activities.
- Recommendations for potential projects for the CEC, including the Biodiversity and Trade and Environment programs.
- Scoping study regarding North America-wide analysis of successful market-based approaches to management of specific ecosystem services or goods, including identification of opportunities to leverage market instruments to support biodiversity conservation.

Performance Indicators

- Evaluation from the workshop exercises.
- Completion of the scoping paper—noting findings from the scoping study of analysis and assessment of current experience.

Intermediate Outcomes

- Improved understanding of the most likely market-based approaches for ecosystem management (including ecosystem services, specific goods, and other models) that incorporate both biodiversity conservation and economic objectives applicable in the North American context.
- A clear indication of potential market-based activities (products or services) that demonstrate significant potential for widespread uptake and success in the North American context.

Performance Indicators

- Assessment of the quality of the analysis and applicability of recommendations to the North American context within the scoping report.
- Measures of unique website "hits" for the how-to guide.

Final Outcomes

- New methods, approaches and activities that support biodiversity conservation through trade.
- Improved competitive position of North American entrepreneurs in the green product and services sector.

Performance Indicator

- Uptake in recommendations and other outcomes from this project in the evolution of markets for green products and ecosystem services in North America.

Timetable, Project Completion, and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

This project will contribute to improving our understanding of how basic environmental and economic processes are important in providing fundamental services and infrastructure for North American economies, and the ways in which market forces and trade can be employed to more fully reflect the importance of ecosystem services in market transactions.

The culminating steps are: 1) elaboration and completion of the "how-to" guide/tool kit initiated in 2008, and 2) completion of the BCWG and TEWG review and assessment and any recommendations concerning ongoing CEC work.

Target End Date for CEC Involvement

The 2009 tasks and activities outlined here mark the culmination of work related to the "Conserving Biodiversity through Trade" component of the "Harnessing Market Forces" Project under the current strategy of the Trade and Environment Program, as well as under the overall CEC Strategy.

As noted above, however, markets for green products and ecosystem services are expanding in North America. The results of this effort may inform future work of the CEC in support of market-based ecosystem service/conservation action. It is also understood that this approach will facilitate greater program integration in the accomplishment of trade and environment and biodiversity objectives.

Communications

The target audience for the outputs related to tasks 1 through 3 is the Parties. The audience for task 4 will be entrepreneurs in small to medium-size enterprises.

Information Management

The intent of tasks 1 through 3 of this project is to inform the Parties and guide future planning with respect to the CEC Harnessing Market Forces for Sustainability project (Trade and Environment initiative). This work may also inform the CEC Strategic Planning Process 2010–2015. Thus the results of the scoping study will remain an internal working document.

The "how-to" guide/tool kit (task 4) will be published as a website and online resource, with a prototype website on a development server available in early 2009. The website content will include supporting information on new markets from green products and services, business practices, and tools to support entrepreneurs in the development of sustainable enterprises.

Implementation Plan

PROJECT 5C – Conserving Biodiversity Through Trade						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Workshop including T&EWG and BCWG members and key sectoral experts to consider the most appropriate use of markets, trade, and economic instruments in the conservation and sustainable use of biodiversity in North America.	Preparation of background materials as required for workshop. Decision taken on scope, framework for scoping study and potential future CEC investment in this area. Development of framework and/or TORs for scoping study. Creation of Steering Committee.	Feb 2009	Build consensus among T&EWG and BCWG members regarding the most viable approach to effectively incorporate market instruments in biodiversity conservation and sustainable use initiatives.	T&EWG and BCWG members; invited experts.	$20,000	Scoping study (task 2) will follow from the results of task 1 workshop.
2. Scoping study, based on directions from the workshop above and project steering committee, to identify opportunities and potential projects for leveraging market instruments–including trade in green products and	Scoping study report prepared (internal document).	March-June 2009	Improve understanding among Parties of the linkages between markets, trade, economic instruments, and biodiversity conservation in North America. Inform discussions in the follow-up workshop (task	The Parties; T&EWG and BCWG members; agencies responsible for the conservation of biodiversity in North America.	$30,000	Task 3 workshop will be a follow-up to task 2 scoping study.

PROJECT 5C – Conserving Biodiversity Through Trade						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
markets for ecological services, the production of value added goods and services derived from biodiversity–including the identification where possible of tariff and non-tariff trade barriers which may exist.			3)			
3. Follow-up workshop organized by steering committee and undertaken between T&EWG and BCWG members, including invited experts, to consider the results of the scoping study regarding the use of market instruments in biodiversity conservation and sustainable use initiatives.	Recommendation on strategic direction setting with regard to future CEC work in this area.	September 2009	Identify new methods, approaches and activities that support biodiversity conservation through trade.	Parties, T&EWG and BCWG members; invited experts.	$15,000	Future activities, if any, will be outcomes from this task 3 workshop.
4. "How-to" guide/toolkit of green products and services (currently being implemented under the 2008 Operational Plan) further enhanced, ensuring coherence, sustainability,	Additional website content developed through this work, including discussion forum for users.	Jan-August 2009	Contribute to enhancing North American trade in green products and services, and support the competitive position of North American entrepreneurs in the	The Parties, agencies responsible for the conservation of biodiversity in North America, NGOs, academia, interested stakeholders, and the	$30,000	No additional activities planned at this time.

PROJECT 5C – Conserving Biodiversity Through Trade						
Strategic Objectives: • Strengthen North American decision-makers' understanding of continental environmental issues of common concern. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
and completion of this activity.			green product and services sector.	public.		
	Quality Assurance Summary *Background paper (content for a website, discussion forum and wiki)*: Earth Enterprise Tool Kit	Secretariat review: March 2009 Party review–Drafting: March/April 2009 Peer review: March/April 2009 Party review–Quality assurance: April/May 2009 Publication: June 2009				
	Quality Assurance Summary *Ongoing Database*: Earth Enterprise Tool Kit	This is an ongoing database that will be reviewed and updated on a regular basis Internal review of project results will begin in March 2009, with the overall review process completed and publication on line expected by the end of June 2009.				
Total Cost: $95,000						

Performance Measurement Indicators:	**Key Partners:**
• Evaluation from the workshop exercises. • Completion of the scoping paper—noting findings from the scoping study of analysis and assessment of current experience. • Assessment of the quality of the analysis and applicability of recommendations to the North American context within the scoping report. • Measures of unique website "hits" for the how-to guide.	Trade and Environment and Biodiversity Conservation Working Group members; Forest Trends, University of Vermont – Gund Institute; Mexico's National Institute of Ecology (INE)

PROJECT 5C – Conserving Biodiversity Through Trade

Strategic Objectives:

- Strengthen North American decision-makers' understanding of continental environmental issues of common concern.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
• Uptake in recommendations and other outcomes from this project in the evolution of markets for green products and ecosystem services.						

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$10,000**

QA #08.22 – Methodological "how-to" guide for sustainable businesses

Note: The 2008 activity related to development of the "how-to" guide for sustainable businesses was delayed due to the inability of the project partner (IISD) to provide counterpart funding – an issue which has now been resolved. Every effort will be made to complete planned 2008 activities during the reminder of 2008. However, due to this delay some carry forward into 2009 is required in order to complete work already underway.

Project 6A	**Trade, Transportation and the Environment**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández
Planned Allocation	C$100,000	**Working Group(s) associated with this work**	Trade and Environment Working Group

Objective of Project

To develop a framework to assess the environmental performance of trade corridors in North America from a regional and multimodal perspective. The framework will identify drivers of and barriers to environmental improvement, including in energy use and GHG emissions. This project will also produce a *road map* to assist public and private efforts to green trade corridors in North America.

Background

Project History and Foundation

This is a new project that will build upon previous work. It is founded upon an interest in close collaboration with the private sector and regional associations to foster both trade and environment benefits.

Past work by the CEC in trade-transportation-environment linkages began in 2000 with the publication of a report entitled "North American Trade and Transportation Corridors: Environmental Impacts and Mitigation Strategies,"[1] which focused on five binational segments. The report confirmed that increases in cross-border NAFTA-related trade contributed the bulk of increases in trade-related emissions. It estimated that under a baseline scenario to 2020, CO_2 emissions could increase between 2.4–4 times. It also identified that these impacts are largely affected by the modal balance. The set of recommendations focused on changing fleet technology and fuel choice, reducing delays in borders and increasing efficiency. More recently, a report by the US Department of Transport projected that trade will increase almost twofold by 2035.[2]

The report focused on quantifying air impacts, and hence did not address the complexity of the multiple relevant environmental linkages such as invasive species, energy, water resources and hazardous materials.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

A large range of private interests are associated with commercial transportation across North America. Stakeholders represent regional (national, binational and international), modal, and sectoral interests.

At the regulatory and public policy level the issues associated with trade corridors and environment involve multiple government agencies and stakeholders, most notably transportation departments, but also including local, regional and national land planning and urban development agencies, environmental management and enforcement agencies and customs management and inspectors, among others.

For the purposes of this project, the burgeoning trade corridor associations are important stakeholders, with diverse activities and members, both private and public, at regional and continental levels.[3] The agendas of trade-related

[1] See report at http://www.cec.org/pubs_docs/documents/index.cfm?ID=74&varlan=english.

[2] US DOT, "Large and growing demand for freight transportation," http://ops.fhwa.dot.gov/freight/freight_analysis/freight_story/large.htm; Note as well the DOT Freight Analysis Framework, http://ops.fhwa.dot.gov/docs/fafplandraft/fafplandraft.htm.

[3] Trade corridor organizations followed on the footsteps of NAFTA, typically organized by businesses and metropolitan and state government agencies. The most important of these include:CASCADIA (http://www.cascadiaproject.org/); CANAMEX (http://www.canamex.org/index.asp); Plains-to-Plains (http://www.portstoplains.com/); La Entrada al Pacifico (LEAP—http://www.dot.state.tx.us/project_information/projects/la_entrada/overview.htm); NASCO (http://www.nascocorridor.com/); Border Trade Alliance (http://thebta.org/); Gulf of Mexico

transportation corridors include issues related to logistics, regulation, border procedures as well as infrastructure.

Advisory Groups Related to This Project

The Trade and Environment Working Group will be the formal working group providing oversight for the project. As a new initiative, a new consultative/advisory group is proposed to support this work.

Rationale

The increase in trade activity is one of the most direct impacts of trade liberalization and economic integration in North America. Transportation, by its nature, is a sector where the link between trade and environmental impacts is most direct.

Trade between Canada, the United States and Mexico has grown rapidly since the implementation of NAFTA. Efficient trade corridors can fuel economic growth and boost North America's competitiveness in global markets. Projections indicate trade activity will increase significantly in the coming years, with a concomitant impact on the environment and infrastructure, including, prominently, at national borders, a hotspot of attention and activity in addressing environment-trade issues.

The growth of trade among Canada-Mexico and the US has contributed to the development of regional economies around and along main transportation corridors. Accordingly, environmental and energy dimensions of this development have grown in importance. This is evidenced by the growing focus on sustainable transportation at the level of trade corridor associations.[4]

While such corridor-focused activity may portend certain improvements in elements of the transportation and trade systems, the achievement of more fulsome environmental benefits can only be attained from a regional-multimodal analysis that provides elements for the development of smart and integrated strategies to green transportation across North America.

This project proposes to develop a framework to assess the environmental performance in transportation corridors and to identify areas of opportunity as part of a regional plan of action. The framework will look at a range of environmental impacts including air and greenhouse gases emissions, energy, land use, noise, habitat and biodiversity loss. The framework will also consider intermodality (rail/sea, short sea/road). Multimodal analysis has already been a focus of environmental attention.[5] Consideration of energy issues and transportation-related greenhouse gas emissions is also consistent with regional initiatives.[6] Under carbon-constrained conditions, it is pertinent to evaluate modes of transportation (rail, marine, air, trucking) in terms of their environmental impacts versus cost to ship goods/delivery times/existing infrastructures.

In order to test the framework in a simplified environment, the project will focus on a specific trade corridor to be selected based on a set of criteria.

Fulfillment of Strategic Objectives

Information for Decision-making

The framework will provide policy options for all levels of government (national, state, provincial and local). The framework will also be used by commercial interests and stakeholders (ex: shippers) to improve competitiveness and energy efficiency, as well as inform investment decisions and operational practices.

States Accord (http://www.gomsa.org/); Quebec/New-York Corridor (http://www.corridors.ca/index_en.html); CANAM-BTA (http://www.canambta.org/).

[4] In 2008, at the fourth annual Symposium on Trade and the Environment in Phoenix, Arizona, a workshop on Greening the Trade Corridors brought together more than 200 participants representing trade groups, port authorities, think tanks, universities, transportation corridors, government agencies and private companies.
See http://nacts.asu.edu/events/symposium-trade-and-environment. The Quebec/New York Trade Corridor (members include the departments of transportation; rail, trucking, port associations; chambers of commerce; etc.) has a plan to reduce the "cross-border regional carbon footprint." To that end, the Corridor organized the fourth Economic Summit between Quebec and New York State (17th of November 2008, in Montreal) under the "Greening the Corridor" banner (http://www.corridors.ca/index_en.html). The North American SuperCorridor Coalition (NASCO—runs from Manitoba to Nuevo León with the organization based in Texas) has adopted "Greening the NASCO Corridor" activities that include a partnership to promote the EPA's Blue Skyways Collaborative (which is focused on improving air quality on the transportation infrastructures of their corridor, see http://www.nascocorridor.com/commondetail.asp?id=2171).

[5] An example of this is a recent report on the potential of coastal shipping as an alternative: http://www.igms.org/docs/americas_deep_blue_highway_IGMS_report_sept_2008.pdf .

[6] Including GHG reductions in trade and freight movement is in line with the Transportation and Air Quality Action Plan (climate change) that the Conference of New England Governors and Eastern Canada Premiers adopted on 16 September 2008 (http://www.scics.gc.ca/cinfo08/850113004_e.pdf).

Trade and Environment

This project supports the CEC's mandate to increase the capacity of the three countries to identify and address trade-related environmental concerns and achieve mutual benefits for trade and the environment. It also works to facilitate trade and expedite transboundary shipment of merchandise while enhancing environmental compliance and enforcement. The practical focus upon a major trade corridor will serve to inform the CEC's ongoing environmental assessment of NAFTA.

North American Scope of the Project and Its Relevance to the Three Parties

This project will focus on North American Trade Corridors that run from Canada into the United States and down to Mexico. This framework will be relevant for the members of the trade associations from the three countries and for the three governments.

CEC Niche and Value Added

While there are many individual organizations (private and public) that are currently working on different aspects of the environmental dimension of trade corridors there is, at this time, no integrated approach, nor synergy among these groups. For example, the work done by the West Coast Corridor Coalition on the *Intelligent Transportation Systems* has yet to be shared with other trade corridor associations. Given its mandate and institutional expertise, the CEC is uniquely positioned to bring together these various efforts in the development of the Framework. The degree of economic integration as well as the common environmental issues surrounding trade corridors provides a truly trinational activity as opposed to bilateral.

Trade corridors involve multiple actions by a multiplicity of stakeholders along supply chains. The impact of individual decisions, e.g. expand existing infrastructure or improve freight logistics, may reflect across borders, regions and transportation modes, making it increasingly complex to both assess the environmental footprint but also progress towards reducing it. In other words, what may seem as an efficiency improvement in one area may result in increased pressures in another, creating a need to develop a common approach that informs the analysis of individual private and public actions from a systemic, environmental perspective.

Assessing multiple impacts under one single framework requires sound methodologies and approaches. At the CEC, relevant experience has been gained through the work of the Biodiversity Program, which developed such a framework and developed environmental *scorecards* for marine protected areas, which allow integration of the best knowledge and approaches available in each country to develop *ball park*-level assessments that are comparable across the three countries and incorporating multiple environmental attributes, as well as the role of pressures and policy responses. This methodology will provide a robust departure point for addressing the environmental dimension of trade corridors.

Linkages with Other CEC Projects

During the implementation of the project in 2009, synergies will be developed with the CEC's trade and environment program (including the environmental assessment of NAFTA) as well as trade and enforcement project work (including compliance workshops)

Activities and Outputs

The key activities and tasks in 2009 are:

Task 1. Develop a framework to assist the selected trade corridor for the environmental performance in transportation including a consultation process with key stakeholders. The framework will also explore intermodality options (rail/sea, short sea/road) in order to reduce GHG emissions from freight transport.

Task 2. Support the work of the Advisory Group.

Partners, Stakeholders

To develop this project, it is important to secure adequate advice and collaboration from a set of key public and private sector representatives. Therefore, the project proposes to integrate an Advisory Group to assist the CEC in the delivery of the project. It is proposed that the group would involve 24 representatives: nine from government, (environment and transportation officials from the US, Canada and Mexico[7]), three from North American trade corridors, three each from rail, port and trucking industries and three transportation specialists (academic, NGO).

[7] Including some members of the Transport and Air Quality Steering Committee of the NEG/ECP in order to increase information exchange between the work done within the Conference of governors of New England and Eastern Canadian premiers and the CEC.

Leveraging

It should be noted that the project will take advantage of the trade corridor meetings [e.g., annual meeting of North American Super Corridor Organization (NASCO) in Quebec City in June 2009 as well as an associated meeting of trade corridors as part of the concomitant Leaders' Conference (state/provincial elected officials)]. It is expected that this event would also provide an opportunity to host a second meeting of the project's Advisory Committee. The CEC will explore financial or in-kind contribution of the corporate members of the North American trade corridors.

Outputs and associated timelines

By the end of 2009 the basic analytical framework assessing environmental impacts of the trade corridors in North America will be developed, with the refined identification of opportunities and the roadmap to be completed in 2010.

Anticipated Outcomes and Performance Indicators

Direct Outcomes:

- Improved common understanding and awareness among trade corridor stakeholders of their environmental performance from a systemic perspective, allowing them to better take action to improve it.
- Facilitate the dialogue and sharing of information between environment, transport and customs officials in order to facilitate the assessment regarding the environmental challenges posed by increased cross-border trade and transportation related infrastructural developments.
- Provide policy options for all level governments.

Intermediate Outcomes:

- Implementation of the framework to assist the trade and transportation corridors in defining their goals, objectives and outputs related to the Greening the North American Corridors strategy.
- Expedite environmentally sound shipments of merchandise across North American border while assuring environmental governance.

Final Outcomes:

- Reduced environmental impacts in the trade corridors.

Performance Indicators

- The framework methodology is used by trade corridor associations.
- Number of environmentally sound shipments.
- Number of environmental impact assessments done in trade corridors.

Timetable, Project Completion and Sustainability Beyond

Culminating steps in Achievement of Program Objectives

The activities for this project will be completed in 2009. The CEC might consider at a later stage to pursue the work in its 2010 Operational Plan to reach out and implement the framework with other trade corridor Associations and their members.

Target end date for CEC Involvement

End of 2009.

Sustainability Beyond

Governments from all levels (national, state, provincial, local) could support the implementation of the framework developed in this pilot project, which should be applicable to other trade corridors in North America.

Communications

The project will maintain close collaboration and communication with stakeholders involved in trade corridors. In particular, it will develop a process to consult its partners with a view to increase the value, relevance and practicality of the Framework.

Information Management

Data needs and availability will be one of the implicit tasks within the project. It is assumed this work can be accomplished without changes to the CEC's information management capacity and architecture.

Implementation Plan

PROJECT 6A – Trade, Transportation and the Environment						
Strategic Objectives: • Make environmental information more widely available in order to facilitate local, national and regional action. • Improve private sector environmental performance through model environmental compliance approaches. • Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Develop a framework to assess the environmental dimension of trade corridors, including a consultation process and key stakeholders from the selected trade corridor.	A framework assessing environmental impacts for the corridor.	Fall 2009	Assessment of the environmental challenges posed by increased cross-border trade and transportation related infrastructural developments. Facilitate the dialogue and sharing of information between environment, transport and customs officials in order to facilitate the assessment regarding the environmental challenges posed by increased cross-border trade and transportation-related infrastructural developments. Provide policy options for all level governments.	Departments of transportation and environmental ministries (federal/state/provincial). Private sector (members of the trade corridor associations, ex: shippers, cities, etc.).	70,000	Framework for the selected trade corridor could possibly be adapted and implemented in other North American trade corridors.
	Quality Assurance	Secretariat review: September 2009				

PROJECT 6A – Trade, Transportation and the Environment

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Improve private sector environmental performance through model environmental compliance approaches.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	Summary *Background paper*: Framework assessing environmental impacts for the trade corridors	Party review–Quality assurance: October 2009 Publication: December 2009				
2. Support advisory group	Two face-to-face meetings of the advisory group.	Ongoing	Fostering a dialogue between environment, transport, corridors and private sector representatives to properly assess the environmental effects of increased cross-border trade/transportation.	North American Trade & Transportation Corridors. Key stakeholders. Departments of transportation and environmental ministries (federal/state/provincial). Private sector	30,000	Framework for selected trade corridor could possibly be adapted and implemented in other North American trade corridors.
Total Cost: $100,000						

Performance Measurement Indicators:

- The framework methodology is used by the selected trade corridor.
- Number of environmentally sound shipments.
- Number of environmental impact assessments done in trade corridors.

Key Partners:

Stakeholders represented by Advisory Group

Trade corridor associations
Transportation departments

Environmental ministries

Project 6B	**Greening the North American Auto Industry**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández
Planned Allocation	2009: C$85,000 Completion of 2008 Outputs: C$5,000 Total: C$90,000	**Working Group(s) associated with this work**	Trade and Environment Working Group (TEWG)

Objective of Project

To support the creation of a North American Partnership for the Environment in the auto industry to promote policies and actions that provide mutual benefits for the environment, trade and the economy and encourage sustainable consumption, production and trade.

Background

Project History and Foundation

The promotion of pollution prevention policies and practices is a key objective of NAAEC (Article 1(j)). The Commission has over the years documented the status of pollution prevention activity in North America[1] and provided a forum in which the three governments could share their experience, practice, and success in the use of environmental management systems.[2] CEC research has expanded the understanding of effective mechanisms to promote the improvement of environmental performance and compliance of the private sector, particularly in the small and medium-size enterprises.[3]

An important foundation for this applied work is the pilot program to green supply chains in Mexico, concluded in 2008. Almost 150 companies in 14 different supply chains successfully developed eco-efficiency projects, representing direct benefits of millions of dollars in direct costs as well as savings in water, paper and cardboard, hazardous waste, solvent emissions and CO_2 emissions. Most importantly, it proved to be a positive mechanism to encourage the private sector to improve its environmental performance and provided valuable experience for the design and expansion of similar initiatives in North America. The program is being evaluated with a view to derive lessons learned that are expected to be useful for similar initiatives throughout the region. Ongoing delivery of the training program component is being transferred to local partners in Mexico.

This initiative is also a direct response to Council Resolution 06-06.[4] This resolution challenges multinational automotive companies with supply chains that cross North American borders to engage their small and medium-size

[1] For example: *Moving Forward with Pollution Prevention in North America: A Progress Update*. Prepared by the North American Pollution Prevention Partnership, CEC (2004). http://www.cec.org/files/pdf/POLLUTANTS/CEC-MovingForward_en.pdf.

[2] An example of this is the support of the North American dialogue around the national Pollution Prevention Roundtables—see http://www.cec.org/news/details/index.cfm?varlan=english&ID=2504.

[3] For example, see CEC (2000), *Improving Environmental Performance and Compliance: 10 Elements of Effective Environmental Management Systems* (http://www.cec.org/files/PDF/ECONOMY/guide-e_EN.pdf), and CEC (2006), *Successful Practices of Environmental Management Systems in Small and Medium-Size Enterprise: A North American Perspective* (http://www.cec.org/files/PDF/ECONOMY/EMS-Report_en.pdf).

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[4] See http://www.cec.org/files/PDF/ABOUTUS/Res06-06-Auto-SectorFunding_en.pdf.

suppliers in improving business and environmental performance through measures such as pollution prevention, improved management of chemicals, enhanced energy efficiency and adoption of best practices to reduce environmental impact. This project also seeks to develop within the CEC a culture of strategic engagement with the private sector to capitalize on synergies and maximize results.

During 2007/8, the CEC engaged the auto sector, particularly in Mexico and Canada, to promote the creation of business-led initiatives to improve environmental performance of their supply chains. In Mexico a core group of 10 companies is leading the initiative. Issues identified to date include compliance, supply-chain processes, and communications. In Canada, the core group of companies has identified issues of recycling of plastic products and waste, energy management and water consumption, zero waste, and chemicals in products as areas of potential interest. In addition, two "Lean and Clean" manufacturing training sessions are being organized by the CEC in Mexico in 2008.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

Stakeholders include major automotive manufacturers and their suppliers, providers of technical assistance[5] to improve environmental performance of firms, government agencies—encompassing both economic and environmental areas—and trade associations, particularly those with common goals, such as the Green Suppliers Network and the US Suppliers Partnership (SP) for the Environment.

In Canada, Environment Canada initiated the Automotive Parts Manufacturers' Association's Environmental Performance Agreement (EPA). There are some potential synergies between this project and the CEC's initiative, especially with respect to energy and coatings issues. The EPA focused on volatile organic compounds (VOCs) and carbon dioxide (CO_2) reductions. With respect to VOCs and CO_2, there are therefore parallels. The issue is that a limited number of companies participated in the EPA, which expired in 2007. Therefore, the objective is to increase participation in the SP Canada program.

[5] In Mexico this includes, for example, the Clean Production Centers, and in the US, the Manufacturing Extension Partnerships.

Resource leveraging is core to the design of this project, since it has sought to develop an explicit commitment by the companies to take a leadership role to structure and fund these activities. While funding for the work to date has been provided primarily by the CEC, most of the resources for 2009 will be provided by the member companies. In addition, in-kind support—in terms of sharing existing private or public tools—is expected to be significant.

Advisory Groups Related to This Project

No new groups other than the Partnership itself are proposed for this project. Oversight will be performed by the Trade and Environment Working Group.

Rationale

Council Resolution 06-06 identified that gaining the necessary commitment from this industrial sector (and potentially from the Suppliers Partnership [SP] for the Environment) to implement the project would be an essential step.[6] To this end, it instructed the Secretariat to:

- ascertain the interest of potential partners in this collaborative effort;
- gauge the willingness of potential partners to define more-specific goals, objectives and measures for the collaboration and obtain commitments;
- define challenges to the full implementation of this collaboration; and
- utilize steps necessary to build capacity for this collaboration.

Activities to date have concentrated on the first two items, although some advance work has been done with respect to activity 3 through the development of a more specific action plan in Mexico. The development of a North American Roadmap to Green the Auto Supply Chains as proposed under this project will define the challenges to full implementation of this collaboration at the North American level, as mandated by step 3. This Roadmap will also provide the elements to measure the progress of the initiatives at the North American level. Recognizing the need to have a roadmap with the full endorsement of national suppliers, as well as to take

[6] See: http://www.cec.org/pubs_docs/documents/index.cfm?ID=1985&varlan=english.

advantage of existing initiatives, a meeting of the Partnerships and other key stakeholders, including relevant government agencies, will be held to discuss, refine and endorse the Roadmap.

The Resolution also recognizes that many such suppliers may not have access to the technical expertise to pursue *green* manufacturing, and expects the partnership to support capacity building by developing tools and training that combine pollution prevention with accepted business approaches. This project proposes to develop this through the existing partnerships developed though the Greening the Supply Chains project and seeking ways for industry to assist in sharing some of these costs as needed. Two initial Lean and Clean manufacturing train-the-trainers workshops were held in Mexico in 2008, rather than the conducting of individual supplier assessments. Efforts in 2009 will facilitate collaboration among national initiatives, including through exchange of information and tools.

The auto sector is emblematic of the extent of economic integration of North America. This initiative provides an opportunity to bring national efforts by both the private and the public sectors to promote the improvement of their environmental performance into a concerted trinational effort that could serve as a model for other industries. The sharing of relevant national experiences and tools will serve to develop a more efficient platform and avoid duplication of national efforts as well as to maximize their positive impact.

Fulfillment of Strategic Objectives

Within the scope of the Commission's 2005–2010 Strategic Plan, the CEC has sought, over the past four years to expand its engagement with the private sector[7] and has developed a set of activities aimed at improving the environmental performance of the private sector though model compliance approaches.[8]

Information for Decision-making

This project will assist in driving eco-innovation within the auto industry and, as a result, will inform private-sector decision-makers of the need to fully integrate environmental drivers within the scope of future investment decisions. As well, it will provide governmental decision-makers with policy information to promote activities such as pollution prevention, end-of-life management, recycling, and recovery of vehicles.

Capacity Building

While auto sector supply chains are integrated in North America, they have not been involved in coordinated and comprehensive efforts to improve their environmental performance. This project will enable action on a North American scale which had not been possible before and which will improve the North American environment.

Trade and Environment

By reducing the ecological footprint of automotive supply chains in North America, this will also result in greener trade.

North American Scope of the Project and Its Relevance to the Three Parties

The auto industry is truly North American in scope, with both original equipment and supply production facilities located in Canada, Mexico, and the United States. The auto parts industry located in Canada (for example) is intertwined with customers across all three countries. This sector has enormous economic importance and improving its environmental performance is a common goal.

[7] See Council Resolution 05-06, online at http://www.cec.org/files/PDF/ABOUTUS/Resolution-05-06_en.pdf.
[8] See *Looking to the Future: The Strategic Plan of the CEC 2005–2010*, page 11 (http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1761).
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CEC Niche and Value Added

The CEC, with its North American focus on trade and environment issues and its previous work in the forging of regional partnerships in this sector, is uniquely suited to sponsor this initiative. CEC value added is the capacity to link previously disparate and unconnected supply-chain initiatives into an effective and continent-wide partnership.

Linkages with Other CEC Projects

While not explicitly linked, this project could potentially link to other CEC areas, such as the SMOC and Air programs. These links will be more relevant in the implementation of the Roadmap and of the programs' national action plans.

In addition, this project may link to the project on Competitiveness and Environmental Sustainability, by providing practical insights into the drivers and barriers to improving business environmental performance and their impacts on competitiveness.

Activities and Outputs

Key Activities

1. Develop a background paper to serve as the basis for a North American Roadmap to Green the Auto Supply Chains.

2. Host a trinational meeting of key auto sector representatives, including the North American Suppliers Partnerships, to review the Roadmap.

3. Strategic support for further collaboration among the national initiatives.

Target Groups

Auto manufacturers and their suppliers, throughout North America.

Partners, Stakeholders

Government agencies (Semarnat, Profepa, US EPA, Environment Canada).

Business associations, such as the US Suppliers Partnership for the Environment, the *Asociación Mexicana de la Industria Automotriz* (AMIA), *Asociación Nacional de Productores de Autobuses, Camiones y Tractocamiones* (ANPACT) and the *Industria Nacional de Autopartes* (INA), from Mexico.

Core group of auto sector companies in each country.

These actors have actively participated in CEC efforts at the national level, and their participation is expected to continue into 2009.

Leveraging

The various partners will provide significant in-kind support through their efforts to expand the membership of the national partnerships as well as through their expertise. In addition, the operations of the partnerships will be fully funded by the member companies.

Outputs and Associated Timelines

- A report on a North American Roadmap to Green the Auto Supply Chains, assessed and adopted by stakeholders within the Auto Sector.
- A set of tools and relevant information available to all three national initiatives in support of their project objectives and the implementation of the Roadmap.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Commitment of core auto manufacturers and suppliers to green their supply chains (through the adoption of the Roadmap).
- Increased exchange of tools and resources for the Greening the supply chains.

Performance Indicators

- Endorsement of the Roadmap from the three national partnerships.
- Increased relevant materials and information on greening the supply chain, and dissemination among the auto sector companies.

Intermediate Outcomes

- A business-driven, self-supported North American Partnership to promote greening of the supply chains in North America, particularly of small and medium-size enterprises (SMEs).
- Auto sector suppliers, particularly SMEs, taking action to green their manufacturing.

Performance Indicators

- Financial and logistical resources to sustain initiative; membership of companies to the initiatives; number of SMEs outreached and/or using the tools being shared.
- Actions taken to green manufacturing.

Final Outcomes

- Reduction of the environmental impact associated with the auto industry.

Performance Indicators

- Environmental metrics to be developed as part of the Roadmap.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

The activities planned for 2009 will allow the CEC to close the support cycle for the auto sector industry in terms of the objectives of Council Resolution 06-06.

Target End Date for CEC Involvement

This initiative started in 2006, and by supporting the institutional platform and providing a Roadmap for action the CEC will culminate its work in 2009. Full and ongoing implementation of the Roadmap will be the responsibility of private sector stakeholders and partners.

Sustainability Beyond

Success will depend on the continuity of the initiative in the future of the national initiatives. As stated above, it may catalyze further action by the Parties of the CEC in the implementation of the national action plans and the various components of the North American Roadmap.

Communications

Key target audiences for the deliverables of this project include major corporations in the automobile industry with supplier chains that cross North American borders, as well as trade associations, technical assistance centers, and government agencies in the three countries involved in supporting the auto industry and promoting pollution prevention activities.

Results will be communicated at meetings at the national and trinational level as well as through the Web.

Information Management

No specific component is being anticipated in this regard.

Implementation Plan

PROJECT 6B: Greening the North American Auto Industry						
Strategic Objectives: • Improve private sector environmental performance through model environmental compliance approaches. • Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Develop a background paper to serve as the basis for a North American Roadmap to Green the Auto Supply Chains.	A North American Roadmap to Green the Auto Supply Chains.	Spring 2009	Commitment of core auto manufacturers and suppliers to green their supply chains (through the adoption of the Roadmap).	SMEs involved in the auto industry.	$40,000	Initiatives self-sustained at national level after 2009. CEC may decide to keep engaging them to monitor the Roadmap implementation and promote trinational contact (preference is for the project to be entirely self-sustaining by private sector networks).
	Quality Assurance Summary. Background Paper: North American Roadmap to Green the Auto Supply Chain.	Secretariat review: May 2009 Party review–Quality assurance: June 2009 Publication: September 2009				
2. Host a trinational meeting of key auto sector representatives, including the North American Supplier Partnerships to review the Roadmap.	A trinational meeting to review the Roadmap to define challenges to full implementation of this collaboration at the North American scale.	Fall 2009	Commitment of core auto manufacturers and suppliers to green their supply chains (through the adoption of the Roadmap).	Auto sector networks and its members. Government agencies, e.g.: Ontario and Michigan.	$30,000	Completed in 2009.

PROJECT 6B: Greening the North American Auto Industry

Strategic Objectives:

- Improve private sector environmental performance through model environmental compliance approaches.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
3. Strategic support for further collaboration among the national initiatives.	Set of tools and relevant outputs translated and adapted.		Increased exchange of tools and resources for the Greening the supply chains.	Auto Sector manufacturers and suppliers in North America.	$15,000	Completed in 2009.

Total Cost: $85,000

PROJECT 6B: Greening the North American Auto Industry

Strategic Objectives:

- Improve private sector environmental performance through model environmental compliance approaches.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities

Performance Measurement Indicators:

Endorsement of the Roadmap from the three national partnerships.

Increased relevant materials and information on greening the supply chain and dissemination among the auto sector companies.

Financial and logistical resources to sustain initiative, membership of companies to the initiatives, number of SMEs outreached and/or using the tools being shared.

Environmental metrics to be developed as part of the Roadmap.

Actions taken to green manufacturing.

Key Partners:

Green Suppliers Network

US Suppliers Partnership for the Environment

OEMs with supply chains

Auto Parts Manufacturers Association

Environment Canada

US EPA

Semarnat

Profepa

Committed Partners:

Allegiant Global, AP Mexico, Chrysler Mexico, Continental, Ford Motor Company, General Motors Mexico, JCI Mexico, Lear Mexican Operations, Robert Bosch, Visteon Corporation, Suppliers Partnership for the Environment

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$5,000**.

QA # 08.15 : Integrated report on Greening the Supply Project in Mexico.

QA # 08.16 : Executive Summary of integrated report on Greening the Supply Project in Mexico.

Project 7	**Trade Flows of North American Used Electronics**	**Responsible Project Manager at the CEC Secretariat**	José Carlos Fernández
Planned Allocation	2009: C$100,000 Completion of 2008 outputs: C$2,000 Total: $102,000	**Working Groups associated with this work**	Trade and Environment Working Group Experts Committee (of Party-appointed electronic experts)

Objective of Project

General objective:

To characterize and/or quantify the flow of used electronics[1] equipment within North America and between North America and the rest of the world

Specific objectives:

a) To assess opportunities and challenges for an effective characterization of North American used electronics trade flows (2009).

b) To develop a framework and a methodology to characterize and/or quantify used electronics product flows (late 2009)

c) To characterize and/or quantify used electronics product flows, using the framework and methodology previously developed (2010).

Note: A decision to proceed [and in what manner] with b) and c) is contingent upon the outcome of a).

Background

Project History and Foundation

Used electronic components and products, as they become obsolete and are discarded, are a public issue and, in certain instances, an environmental concern. Multiple approaches are being developed to encourage sound end-of-life management at the subregional level where it does not exist. Challenges exist to ensure adequate management of the volume of consumer electronics being discarded each year. In view of this, the Parties have decided to focus the CEC work on used electronics in North America. This work is also supportive of the objectives stated in the 2007 NAFTA Free Trade Commission (FTC) meeting where trade ministers (or their equivalent) from the three countries agreed to "work with the CEC to explore ways to address the environmental impacts of the lifespan and disposal of consumer electronics."

Previously, the CEC has worked on the following electronics projects: the CEC Electronics Challenge to promote the application of the European Union Restriction of Hazardous Substances Directive (RoHS) in North America, a life cycle assessment of small and medium-size recycling enterprises (SMEs) within the North American electronics supply chain, as well as other smaller projects.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

One of the main challenges of characterizing the flow of used electronics equipment is the vast universe of stakeholders that makes the marketplace very complex. Thus, the first activity proposed in this project will identify participants in trade flows of used electronics in North America. Participants include companies which: arrange to export used electronics, auction batches of used electronics, handle used electronics at ports of exit and entry, transport exports, collect used electronics, operate transfer stations, as well as trade associations and government departments such as Customs staff at ports and selected state/provincial governments. It is helpful to map the major types of flows of used electronics including the more common participants involved in the material chain.

Advisory Groups Related to This Project

The CEC's Trade and Environment Working Group (TEWG) will provide general oversight for this project and an experts committee, appointed by the Parties, will continue to assist in the implementation of the project.

Rationale

One of the challenges for the effective management of used electronics relates to the availability of information on trade flows; in particular, concerns are rising about the

[1] The definition of 'used electronics' for the purpose of this project has been agreed by the electronic experts. See Definition section on the following page.

transboundary movement of used electronics equipment, notably from developed to developing countries. However, there is very little data on the exports of used electronics equipment. This equipment includes diverse products that move through complex channels within, and outside, North America. Used electronics include products and components destined for recycling as well as electronic products for reuse or refurbishment. No organization has yet conducted a systematic and relatively complete collection of data on North American flows of used electronics. No widely recognized data exist on these used electronics flows. Thus, there is a lack of a sufficiently specific picture of the flow of materials that might allow North American countries to distinguish whether used electronics are exported for reuse, refurbishment, recycling or disposal.

For example, a recent Arizona State University study of the import and fate of used electronics into Lima, Peru, documents that virtually all used computers shipped into Lima are from the US (sometimes via other countries), and that virtually all of these are reused as opposed to recycled, and are considered ready for reuse when imported (i.e., little is actually refurbished there).

Also, a compilation of existing estimates and more detailed illustrative studies would be of broad value to CEC countries and potentially enable them to decide if there is a need to explore options and take actions related for the ultimate destination of North American used electronics in global commerce.

Better information on imports and exports of used electronics would help inform policy development in the three countries and help identify the most important issues pertaining to the governance of this sector. An example of an important issue includes determining whether a large percentage of North American used electronics are exported to countries that often use primitive recycling practices, necessitating consideration of further action. This information could also contribute to an informed decision about the need and scope for additional CEC work on used electronics.

Recognizing that the complexity and the lack of information on this issue may limit the effective characterization and/or quantification of trade flows, this project will be implemented in using a step-by-step approach. As a first phase, the project will undertake a feasibility study, limited in scope, of used electronic products to assess opportunities and challenges for an effective characterization of trade flows of North American used electronics. On the basis of its findings, the Parties will decide to continue or not in the development of the framework and methodology to characterize and/or quantify used electronics product flows. As a final phase, the project would characterize and/or quantify used electronics product flows, using the framework and methodology developed.

The work undertaken under this project would stay clear of discussions concerning the environmental hazards associated with used electronics as well as regulatory and compliance issues related to these materials since these topics have been discussed in other fora or require expertise different from that needed to assess trade flows.

The outcome of the feasibility study to be undertaken in 2009 would provide an indication of the key challenges to an effective characterization of North American used electronics trade flows. It could also shed some light on the management and information tools that already exist, as well as others to be developed, in a combined effort to better understand this trade sector.

Definition

For the purpose of this project, used electronics refers to the reuse, refurbishment, recycling or final disposal of: computers and peripheral equipment—central processing units (CPUs), monitors, printers, keyboards, scanners, storage devices, servers, networking systems; copiers; fax machines; imaging systems; printing systems; telephones; televisions; video cassette recorders; camcorders; digital cameras; control boxes; stereo systems; compact disc players, radios, cell phones; pagers; personal digital assistants (PDAs); calculators; organizers; and game systems and their accessories.[2]

Fulfillment of Strategic Objectives

The CEC's 2005–2010 Strategic Plan,[3] called for an increase in the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment, and improve collaboration among the three countries in these areas through generation of relevant information.

Information for Decision-making

This project will provide input for decision-makers on used electronics policy and will strengthen the capacity of North American policy makers to understand continental environmental issues of common concern.

Trade and Environment

The project will provide relevant information for policy makers in an area that has a clear trade dimension. By responding to an explicit request from the Free Trade Commission (FTC) to have the CEC assist it in its work on electronics, this project responds to NAAEC Article 10(6)e, which requires the Council to assist the FTC in environment-related matters.

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[2] This is a broad definition and it is understood that the project will concentrate on a subset of products.

[3] *Looking to the Future: Strategic Plan of the CEC, 2005–2010.* http://www.cec.org/files/pdf/ABOUTUS/2005-2010-Strategic-plan_en.pdf, p.12

North American Scope of the Project and Its Relevance to the Three Parties

The exports of used electronics from North America are particularly germane to the CEC because of the significant volume of used electronics generated in our continent and because of potential impacts of North American exports to other countries. Also, the need for collaboration in this area has been noted by NAFTA trade officials as indicated earlier.

CEC Niche and Value Added

The CEC's history of working at the trilateral level and assisting the Parties to integrate comparable environmental information make it an appropriate agency to examine the challenges of looking at sound environmental management of used electronics.

Linkages with Other CEC Projects

Trade and Enforcement Working group (including the Hazardous Waste Task Force) will be kept informed of ongoing activities.

Activities and Outputs

Key Activities

- An assessment of the technical and economic feasibility of the characterization and/or quantification of the flow of used electronics equipment within North America and between North America and the rest of the world, based on clear requirements established by the experts committee.
- Experts committee to re-assess whether sufficient information exists to accurately map used product flows under the CEC.
- Develop a methodology and a framework to characterize and/or quantify used product flows. This task will be contingent upon the assessment in task 2.
- Characterization and or quantification of used electronics product flows in North America, contingent of successful completion of Task 3. In view of that, it will also be subject for approval under the 2010 Operational Plan.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- A better understanding of the different challenges of characterizing the flow of used electronics equipment within North America and between the continent and the rest of the world.
- A methodology and framework to analyze the flows of used electronics (if task #3 is undertaken).

Performance Indicators

- Assessment of the technical and economic feasibility of characterizing and/or quantifying the flow of used electronics equipment within North America is produced and reviewed by the Parties.
- Framework and methodology are developed, finalized and approved by the Parties.

Intermediate Outcomes

- A systematic and relatively complete collection of data on North American flows of used electronics (if task #3 is undertaken).

Performance Indicator

- Reference to this work in different national, regional and international fora.

Final Outcomes

- Contribute to more effective and strategic actions and/or policies through an improved characterization and/or quantification of trade flows of used electronics.

Performance Indicator

- Evidence of the outcomes have effectively guided decisions related to the management of used electronics.

Information Management

No databases will be developed as part of this activity.

Implementation Plan

PROJECT 7- Trade Flows of North American Used Electronics						
Objective – To identify the possibilities of quantifying used electronics product flows.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Undertake a preliminary study to assess opportunities and challenges for an effective characterization of trade flows of North American used electronics.	An assessment of the technical and economic feasibility of the characterization and/or quantification of the flow of used electronics equipment within North America and between North America and the rest of the World.	Fall 2009	A better understanding of the different challenges in characterizing the flow of used electronics equipment within North America and between the continent and the rest of the world.	Regulatory agencies dealing with electronic waste, at both federal and state levels as they will have an improved understanding of the challenges and possibilities of quantifying flows of used electronics in commerce.	Max $30,000	
2. After completion of task 1, the experts committee will re-assess to determine whether sufficient information exists to accurately map used product flows. If decision is positive, the project will continue with task 3.	Analysis by the experts committee to determine whether sufficient information exists to accurately map used product flows under the CEC	Winter 2009	Based on the feasibility study, decision on whether to initiate data collection methodology phase. And, if appropriate, establish parameters for the development of the methodology for further characterization of used electronic trade flows.		$500	
3. Upon decision taken in task 2, develop a methodology and a framework to characterize and/or quantify used electronics product flows.	A study developing a methodology and a framework to characterize and/or quantify trade flows of used electronics. product flows.	Winter 2009–spring 2010	A methodology and a framework to characterize and/or quantify used product flows.	Regulatory agencies dealing with electronic waste, at both federal and state levels as they will be able to apply the methodology for their own assessments.	Max $69,500	4. Upon agreement by the Parties of such a proposal under the 2010 Operational Plan, a study would be commissioned to apply the methodology developed in task 3 and report findings.

PROJECT 7- Trade Flows of North American Used Electronics	
Objective – To identify the possibilities of quantifying used electronics product flows.	
Total Cost: $**100,000**	
Completion of 2008 Outputs: $2,000 QA 07.36 - SMOC links to the Clean Electronics Project – executive summary to be published in 2009 (edit/translation).	
Performance Measurement Indicators: - An assessment of the technical and economic feasibility of characterizing and/or quantifying the flow of used electronics equipment within North America for review by the Parties. - Framework and methodology are developed, finalized and approved by the Parties. - Reference to this work in different national, regional and international fora. - Evidence of the outcomes has effectively guided decisions related to management of used electronics.	**Key Partners:** --

Project 8	**Trade and the Enforcement of Environmental Laws**	**Responsible Project Manager at the CEC Secretariat**	Marco Heredia
Planned Allocation	2009: C$429,000 Completion of 2008 Outputs: C$5,000 Total: C$434,000	**Working Group(s) associated with this work**	North American Working Group on Environmental Enforcement and Compliance Cooperation (EWG), Hazardous Waste Task Force (HWTF), and the North American Wildlife Enforcement Working Group (NAWEG).

Objective of Project

This project has three main objectives:

- Expedite the movement of legal materials across borders. This includes support for the trinational efforts of the Parties to implement the Smart Border plan and related initiatives aimed at facilitating the cross-border movement of goods and services.
- Improve enforcement capacity so that persons or entities illegally shipping or attempting to ship hazardous waste and materials, ozone-depleting substances, protected species and wildlife, or other illegal materials that could threaten human health or the environment in the territories of the NAFTA Parties are stopped from doing so and appropriately penalized.
- Promote better information on North American hazardous waste movements.

Background

Project History and Foundation

The North American Agreement on Environmental Cooperation (NAAEC) underlines the Parties' support for the environmental goals and objectives of NAFTA, including creating an expanded and secure market for goods and services in a manner consistent with environmental protection and conservation, promoting sustainable development, and strengthening the development and enforcement of environmental laws and regulations.

Council Resolution 96-06 established the North American Working Group on Environmental Enforcement and Compliance Cooperation (EWG), composed of senior-level environmental enforcement officials. Since 1996, the EWG has identified the need for improved capacity to track and enforce laws regulating the transboundary movements of hazardous wastes and ozone-depleting substances (ODSs), and for cooperative approaches concerning the enforcement of domestic laws, including those that implement the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), through continuous work with the North American Wildlife Enforcement Working Group (NAWEG).

Council Resolution 03-08 extends cooperation in the area of hazardous waste, directing the Secretariat to work with the Parties on specific measures to promote the environmentally sound management and tracking of hazardous wastes.[1] In response, the EWG established an *ad hoc* Hazardous Waste Task Force (HWTF) to assist with related measures in the CEC's work program. The Hazardous Waste Task Force will assist in the implementation of the hazardous waste components of this project.

The CEC Strategic Plan 2005–2010 aims to improve compliance with existing environmental laws and strengthen the capacities of the three countries to manage environmental issues of common concern.

In this vein, and pursuant to the development of the 2008 operational plan, the CEC has developed several initiatives to date:

[1] http://www.cec.org/pubs_docs/documents/index.cfm?ID=1197&varlan=english.

- A pioneering project for the electronic exchange of information from the export request, or notification, and the consent for importation of hazardous waste among North American governments, to improve data quality, reduce administrative burdens and replace a cumbersome paper-based approach that contributes little to improving enforcement.
- The first online training course aimed to build capacity and disseminate information on regulations and enforcement techniques in the ODS area intended for customs and environmental officials.[2]
- A process for sharing information on non-compliant imports entering North America, from a common approach.
- A workshop on environmental compliance that will reach out to the import-export community and provide input to the CEC-sponsored Compliance Assistance Center.[3]
- A seminar on judicial training aimed at strengthening capabilities and exchanging expertise and best practices among judges, prosecutors and law enforcement officials, held in Mexico City in November 2008.

By completing these activities, the Parties have made progress towards addressing threats from illegal products, non-compliant imports or banned substances entering North America; improving enforcement capacities; and levelling the playing field for business across the three countries by reducing potential advantages from lack of effective enforcement of environmental laws.

Key Stakeholders, Resource Leveraging and Partnerships (to date)

Stakeholders include all the government enforcement and compliance agencies represented in the CEC's Enforcement Working Group and Hazardous Waste Task Force. The Royal Canadian Mounted Police in Canada, the Federal Police and the Attorney General's office (PFP and PGR, respectively) in Mexico, and the Department of Justice in the US are also key stakeholders of the environmental enforcement authorities in the three countries. Customs agencies are also key players that can either benefit from or leverage the project.

[2] See: http://www.cec.org/ods.
[3] See: http://www.bordercenter.org.

More recently, commercial trade corridor associations[4] are starting to play a role in promoting continental trade and will support the CEC to identify and pilot projects to explore and report on the use of cutting edge technology for effective compliance monitoring in North America.

Advisory Groups Related to This Project

This project will benefit from the engagement and oversight of the EWG and affiliated enforcement agencies, as well as the participation of customs officials in specific tasks.

Also, The Hazardous Waste Task Force currently assists in the development of the hazardous waste portions of this project (electronic exchange of data for the import/export of hazardous waste). The HWTF is composed of senior officials and IT specialists in the management area of hazardous wastes.

Rationale

According to the International Crime Threat Assessment conducted by the US government, local and international criminal syndicates worldwide earn about US$22–31 billion annually from hazardous waste dumping, smuggling proscribed hazardous materials, and exploiting and trafficking in protected natural resources. To date, it is estimated that global smuggling of ODSs range from 7,000 tons to 14,000 tons a year, with an economic profit of US$25 to 60 million to the organized crime syndicates. Much of that illegal trade is targeted to enter North America.

By 1 January 2010, all the consumption and production of chlorofluorocarbons (CFCs) will be banned globally, pursuant to the international commitments made under the Montreal Protocol for controlling the trade in ODSs. This global ban represents a challenge for environmental and customs authorities in North America, as large amounts of CFCs are

[4] Trade corridor organizations followed on the footsteps of NAFTA, typically organized by businesses and metropolitan and state government agencies. The most important of these include: Cascadia, http://www.cascadiaproject.org/; Canamex, http://www.canamex.org/index.asp; Plains-to-Plains http://www.portstoplains.com/; La Entrada al Pacifico (LEAP), http://www.dot.state.tx.us/project_information/projects/la_entrada/overview.htm; NASCO, http://www.nascocorridor.com/; Border Trade Alliance http://thebta.org/; Gulf of Mexico States Accord, http://www.gomsa.org/; Quebec/New York Corridor, http://www.corridors.ca/index_en.html; Canam-BTA, http://www.canambta.org/.

likely to continue to be distributed at a global scale after the ban, since countries in Asia and South America are still producing CFCs. Canada and the United States ceased their production of CFCs in 1995 and Mexico did so in 2005, five years before its commitment date under the Montreal Protocol.

By 2009, the CEC will disseminate the training course completed on ODSs and will cooperate with UNEP and the United Nations Industrial Development Organization (UNIDO) to reach out to customs and environmental inspectors, with participation of experts from Canada and the US, and report on the efforts, opportunities and challenges for effective enforcement. The Mexican government, under the framework of its national plan for the elimination of CFCs, administered by UNIDO, will direct $25,000.00 to organize a national workshop for updating and training customs and environmental inspectors in the prevention and identification of illegal shipments of ODSs.

The Parties have identified congestion in the ports of Los Angeles and Long Beach in the United States as the reason that more Asian imports are entering North America through Mexican ports on the Pacific coast, later making their way into the US and Canada. As smugglers could potentially use Mexican ports to introduce non-compliant imports to North America, customs and environmental officials from the three countries will share intelligence data and relevant information to protect the region from the illegal import of ODSs and will be able to also address other global challenges such as illegal greenhouse gas emissions from such substances.

The universe of potential threats posed by illegal and non-compliant imports and by banned substances is rarely viewed as the most critical issue in the environmental arena to be addressed. However, the probability of such shipments arriving at North American ports of entry is extremely high and, as a result, so is the potential for harm to public health, environmental health and the economy.

By developing these activities the Parties also contribute to regional strengthening of border security and global environmental strategies, such as the green customs carried out by UNEP.

Preventing illegal shipments from leaving their point of origin is the best strategy; failing to do that, stopping illegal material at points of entry is often the only effective measure.

Officials and inspectors in our three countries require having access to state-of-the-art information and techniques in order to take effective action against illegal shipments, non-compliant imports or banned substances in North America. In this regard, the CEC will support the Parties by putting together an online training course in the field of hazardous waste, aimed at environmental and customs inspectors, to raise awareness of the regulations and the specific activities for effectively enforcing regulations in the three countries. This will benefit other officials in the three countries, such as transport inspectors. It will assemble information now only available in several different documents. It will also bring a common level of understanding and a common approach to the import and export of hazardous waste and materials.

With mapped information on the facilities exporting and importing hazardous waste and materials across North America boundaries, enforcement agencies will be in a better position to take coordinated action and trace routes and frequency of shipments while directing resources and efforts to promote legal trade.

The electronic exchange of hazardous waste export/import information will assist in providing the best information and best techniques against illegal hazardous waste shipments. Replacing a paper-based approach with an electronic one will improve overall export/import data quality, enhance enforcement capabilities, support border security, facilitate the adoption of more-advanced tracking technologies, and allow governments to reduce administrative burdens. A major limitation of the current paper-based system is that it does not allow for the most efficient and effective sharing of data. Under the current system of exchanging information by fax, mail or cable, the North American governments must enter notice information manually into multiple data systems, which can result in delays and data entry errors. If information is exchanged electronically, the government of the exporting country would send the notice information and consent or objection to the importing country, saving the governments both the time and money of data being entered multiple times, and improving the accuracy of this information.

Each one of the management authorities will allocate resources to build their own part of the information exchange system and the CEC will support and build the framework for such exchange to occur. Once this happens, the CEC will deliver the project for the Parties' use and future development.

In general, a more informed public is in a better position to comply with environmental regulations. In this regard, the CEC is in a good position to

bring together management and enforcement authorities with the private sector from the three countries, to promote and facilitate trade and compliance of environmentally regulated commodities and materials across North America.

The CEC is a conduit for information and understanding of environmental law in North America. It is also in an optimal position to communicate the main features of such law and regulation by presenting and communicating such mandates through its website.

Fulfillment of Strategic Objectives

This project addresses information for decision making, capacity building and trade and environment from the CEC Strategic Plan for 2005–2010.

This is being accomplished largely by ensuring that officials in customs, environment, and law enforcement are informed of environmental laws affecting trade, that exporters and others have easy access to export requirements for environmentally sensitive materials, and by training customs and other law enforcement officials to be better able to expedite legal shipments across borders. The project overall responds to the concerns of a variety of stakeholders: government agencies, trade associations, transporters and nongovernmental organizations who are interested in strengthening cooperation on the development and improvement of environmental laws, regulations, procedures, policies and practices and who are working to enhance compliance with, and enforcement of, environmental laws and regulations.

North American Scope of the Project and Its Relevance to the Three Parties

NAAEC underlines the Parties' support for the environmental goals and objectives of NAFTA, including creating an expanded and secure market for goods and services in a manner consistent with environmental protection and conservation, promoting sustainable development, and strengthening the development and enforcement of environmental laws and regulations.

CEC Niche and Added Value

Environmental enforcement officials need to count on information and intelligence data that can lead to more coordinated action and effectiveness across North America. The CEC is in a unique position to facilitate the exchange of such information among countries. With these activities the CEC will consolidate its efforts to address non-compliant imports entering North America and will reach out to customs and other enforcement agencies in the three countries.

The CEC occupies a niche to support national efforts in the three countries to count on safe and smart borders while fostering trade and environmental compliance. The EWG has also reached out to customs and other enforcement agencies that can add value to its work.

Given its mandate and institutional expertise, the CEC is uniquely positioned to bring together these various efforts. In the field of monitoring environmental compliance, it represents a unique opportunity to engage people directly involved in cross border trade in enhancing compliance with environmental laws. This opens the possibility to create networks and synergies with private enterprises that are using monitoring and Radio Frequency Identification (RFIDs) systems to explore the potential of technology to foster environmental compliance and promote law enforcement. Trade corridor associations are ideal platforms to assess environmental performance from a strategic perspective, while allowing governments to reach out to the enterprises involved in the import/export of merchandise across North America. The results of the workshop and the reports will provide a rationale for further action in this area.

Finally, at its 2008 session, the Council acknowledged the advantages of coordinated work addressing non-compliant imports and expressed its interest in expanding the scope of activities, which could include further collaboration with customs agencies to stop illegal shipments from entering North America and step up intelligence-led enforcement.

Linkages with Other CEC Projects

This project is in line with the CEC's mandate to increase the capacity of the three countries to identify and address trade-related environmental concerns and achieve mutual benefits for trade and the environment, and to facilitate trade and expedite transboundary shipment of merchandise while enhancing environmental compliance and enforcement.

Potential linkage is also feasible with the North American Air Working Group, derived from the outputs of task 3 of this project.

Also, there is a linkage to the proposed CEC project work in the area of trade, transportation and the environment.

Activities and Outputs

Key Activities

Task 1 will facilitate the interchange of expertise and cutting-edge knowledge on pertinent regulations and the *modi operandi* used by smugglers of banned substances, through an International workshop on illegal traffic of ODSs, to be held in Mexico, bringing together enforcement experts from Canada and the US and aimed at environmental, customs and other enforcement officials such as federal police and personnel from the General attorney's office.

The CEC will assist in supporting the participation of experts from Canada and the United States in the workshop. In tandem with this, the CEC will work with the Parties in offering techniques for the identification of banned gases and will publicize the CEC ODS online course already available.

This activity will help foster safer trade and will support North American initiatives to strengthen security and safety across our shared borders, such as the Security and Prosperity Partnership. By 2010, the CEC will also be able to report on the reach and usefulness of the undertaken efforts, while identifying the key challenges and opportunities for enforcement in this field. The participation of Canada and the US is an added value that can bring more organizations/initiatives to leverage this effort. The governments will also assess the need for further action at the CEC or at any other avenue for effectively addressing the illegal trade of ODSs in North America.

Task 2 is directed toward completing the hazardous waste online training course targeted for customs and environmental inspectors in our three countries and having it in full operation by the fall of 2009. This will help customs and environmental inspectors and officials from other law enforcement agencies access state-of-the-art information on regulations and *modi operandi* for smuggling this kind of materials. The general module of the course will be disseminated publicly by the CEC while the second module will be delivered to the countries for further development. This action will conclude in 2009.

Task 3 will provide the opportunity to strengthen the process of exchanging information and intelligence on those products and commodities that are non-compliant with North American environmental regulations, and that could pose health and environment threats. It will allow identification of commodities, mechanisms, routes and patterns for the import of illegal and non-compliant substances, and determination of the extent and the timing of future activities. The Parties will assess completion of the current work on the import of non-compliant goods that exceed air emission regulations and will asses the opportunity to work cooperatively in other areas for 2009 and beyond.

Task 4 is aimed at completing work on the electronic exchange of export request information and the import consent for hazardous waste in North America, and publication of the final edition of *Crossing the Border*—a report that identifies the main areas and opportunities for sound management of transboundary hazardous waste shipments across North America. Both activities will be completed in 2009.

Task 5 will be directed at the determination of the criteria and mapping elements required for constructing a data layer in Google Earth to identify the importing and receiving facilities for hazardous waste involved in transboundary shipments across North America, using information from national pollutant release and transfer registers (PRTRs) and other available sources. With this, enforcement agencies will be in a better position to identify routes, intersections, key crossing points and direct enforcement actions for those areas where needed in order to monitor compliance.

Information sources include the US-Canada agreement concerning the transboundary movement of hazardous waste, the US-Mexico Agreement (La Paz agreement), and the Border 2012 program goals. The Secretariat will conduct a scoping meeting in 2009 to agree on the elements and the approach to making information available for the three countries.

Task 6 will support development and utilization of a report concerning the CEC's judicial training activities undertaken to date under the 2005–2010 Strategic Plan. This report will be a reference for the understanding of the main features of North American legal systems as put into practice. It will provide a rationale and a reference for the institutionalization of environmental training for the judiciary in Mexico. The results will be also useful to determine mechanisms, stakeholders, timing, leveraging and steps forward toward delivering judicial training to Mexican authorities. Canadian and US expertise will add value and will help build a North American perspective for the administration of environmental legislation.

Task 7 includes the development of two environmental compliance workshops in partnership with trade corridor associations and their

membership, one in the Mexico-US border region and another in the Canada-US border region. These will bring together the private sector with government officials to:

1) address the main issues related to effective environmental compliance and deliver a report to the Parties with recommendations and feedback on the main opportunities and challenges to that end; and
2) report on the benefits and potentials of the use of cutting-edge technology and compliance-monitoring systems, such as the Radio Frequency Identification (RFID), in order to review policies and programs to foster and adopt such systems.

Task 8 will facilitate the exchange of information, lessons learned, and best practices in North America through an updated Environmental Law Enforcement and Compliance Cooperation webpage and through outreach activities to share information and best practices on North American enforcement and compliance activities.

Target Groups and Stakeholders

- Enforcement officials from the three countries
- Law enforcement agencies from the three countries
- Prosecutors
- Customs agencies
- National Autonomous University of Mexico and other universities and research institutions
- Trade corridors associations
- Nongovernmental organizations
- Customs brokers associations
- Entrepreneurs and members of the private sector involved in transboundary trade across North America

Leveraging

Partners will add significant in-kind support to accomplish these tasks and activities. Notably, the Mexican Government will contribute US$25,000.00 for the accomplishment of task 1.

The National Autonomous University of Mexico will also partner and leverage in the publication of the 2008 judicial seminar report and path forward.

Outputs and Associated Timelines

Task	Output	Timeline
1	An international workshop on controlling ODS regulations	Spring 2009
	Report on training activities, reach, opportunities and challenges for 2010	Summer 2009
2	Hazardous waste online training course	Fall 2009
3	Enhanced activities of the EWG and report on results to date	summer 2009
4	Electronic exchange of information on the import/export of hazardous wastes	Fully operational by fall 2009
	Release report: *Crossing the Border*	Summer 2009
5	Scoping meeting to identify elements and reach of the activity	February 2009
	Google Earth layer with information on the facilities importing/exporting hazardous waste	November 2009
6	Publication of report on Judicial Seminar	Fall 2009
	Meeting for the adoption of environmental training	Fall 2009
7	Environmental workshops for the North American public and trade corridor associations	Spring and fall 2009
	Report on the benefits and potential of tracking technology	Fall 2009
8	EWG webpage update	Starting early 2009

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Increased awareness and knowledge of the regulations pertaining to controlling the traffic in ODSs, and improved understanding of ODS smuggling activities, in order to better protect our region.
- Consolidation of techniques to identify and combat illegal shipments of non-compliant goods and commodities from outside North America.
- Support for the Parties' efforts to promote regulatory compliance pertaining to environmentally regulated materials and commodities across North American borders, while reaching out to the private sector.
- Identification of the potential and opportunities for using cutting-edge technology to monitor environmental compliance and increase the understanding of illicit activities, in order to effectively address illegal traffic of environmentally regulated materials.
- Support for the Parties in identifying sources/facilities both generating and also receiving hazardous wastes, in order to streamline action and foster environmental compliance and effective law enforcement.
- Identification of the opportunities and key stakeholders in instituting environmental training for Mexican judges and prosecutors, with the support of North American partners.
- Facilitation of the exchange of information on lessons learned and best practices in North America in environmental law enforcement and compliance.
- Exchanging dialogue and information between environment, transport and customs officials in assessing environmental challenges posed by increased cross-border trade and transportation-related developments in infrastructure.
- Reaching out to the public concerned with transboundary shipments of merchandise across North American borders, to facilitate trade and ensure environmental compliance and monitoring.

Intermediate Outcomes

- To combat illegal traffic in ODSs and hazardous wastes, authorities better prepared to stop illegal shipments into North America.
- More awareness and understanding of the trends and activities, sectors, and commodities that do not comply with North American environmental regulations.
- Better coordination between authorities in addressing threats from non-compliant imports and shipments arriving from outside North America.
- Governments that can act effectively, based on the best information available, to enforce compliance with environmental regulations related to the management of hazardous wastes.
- Authorities better prepared to institutionalize environmental training for judges and prosecutors in Mexico, contributing to an application of environmental regulations effective throughout North America.
- North American public better informed about trinational efforts in environmental law enforcement and compliance.
- Trade across borders facilitated but compliance with environmental regulations ensured.
- Assurance that shipments of merchandise across North American borders are environmentally sound.

Final Outcomes

- Environmentally safer and greener borders: authorities better informed on illegal trafficking, trends, source areas, and monitoring challenges posed by ODSs and hazardous waste, in order to ensure effective enforcement in North America.
- Substantive contribution of the Parties to effective enforcement, compliance and application of law by the judiciary throughout North America.
- Effective involvement of senior officials in enhancing cooperation in environmental law enforcement and compliance.
- A better-protected North American environment through better-coordinated enforcement authorities.
- Reduced environmental impacts from harmful substances throughout North America.
- Sustainable trade across North American borders and effective enforcement of environmental regulation in our shared region.

Performance Indicators

Indicators vary according to the task.

Task 1

- Number of trainers trained.
- Customs points of entry strengthened and trade routes more protected against smuggling of ODSs.

Task 2

- Course completed and fully operating.
- Number of trainees in the course and of hits on the course webpage.

Task 3

- Number of commodities identified as potentially suspect.
- Number of intelligence reports produced and shared.
- Number of operational teleconferences, meetings and other communications effectively exchanging information and practices related to this project.
- Number of enforcement cases generated from initial intelligence reports and added value for effective law enforcement practices in the three countries.
- Number of commodities identified as non-compliant in two or three countries.

Task 4

- Capability to electronically exchange information required for the request for export and consent for import of hazardous wastes.
- Number of electronic transactions effectively transmitting hazardous waste export/import data among the Parties.

Task 5

- The identification of the criteria, elements and sources of information for a Google Earth mapping tool of the facilities

generating and receiving hazardous wastes across North America, and a functioning prototype of this tool.

- Number of webpage hits on this tool.

Task 6

- Publication of the November 2008 Judicial Seminar, including recommendations and conclusions for institutionalizing environmental training for judges in Mexico.

Task 7

- Number of enterprises engaged in pilot projects to monitor environmental compliance in North America.
- Number of pilot projects to monitor environmental compliance.

Task 8

- Updated webpage on the environmental law enforcement and compliance program.
- Number of hits on this webpage per month.
- Number of regular users of the webpage.
- Number of activities performed involving information exchange and best practices shared with governmental and nongovernmental organizations and agencies.

Timetable and Project Completion

Task 1 will conclude in 2009. The report on these activities will allow the Parties to consider further action in the future.

Task 2 will be completed in the fall of 2009. The first module will be posted on the CEC website. The second module will be delivered to the Parties for further development/use of this tool.

Task 3 will be strengthened to produce effective action to be pursued in the following years. Enforcement agencies will assess further development of these activities and extend the work to other enforcement agencies or areas depending on global trends of illegal trade. Each government will leverage to this activity in the future.

Task 4 is expected to be completed in 2009 and will be delivered to the Parties for their development and use.

Task 5 will provide the basis for further, more-operational activities, such as identification of patterns, trends, routes, and for potential real-time monitoring and use of cutting-edge technology such as RFID.

Task 6 will be completed in 2009 and will provide a rationale for the institutionalization of environmental training for judges in Mexico, with support from the US and Canada, in order to strengthen a North America perspective on judicial application of the legislation.

Task 7 will be completed in 2009 and the report will give the Parties the rationale for further development of action in this area.

Task 8. The content of the enforcement working group webpage on <www.cec.org> will be kept current by the Secretariat. http://www.cec.org/enforcement.

Sustainability Beyond

Task 1. The global trend of CFC traffic could modify and/or demand further action in this area.

Task 2. Each country will follow up this activity in the future.

Task 3. Each country will follow up this activity in the future.

Task 4. Each country will follow up this activity in the future.

Task 5. Provision of such information on the North American Atlas Framework (NAAF) is a continuing task of the Secretariat.

Task 6. This activity will be accomplished during 2009.

Task 7. With the information made available to the Parties, further action in this area remains to be determined.

Task 8. Webpage maintenance and content will be kept updated by the Secretariat.

Communications

The participating agencies will be responsible for communicating the development and results of the course. The CEC will provide outreach and post the results of its activities via http://www.cec.org/enforcement.

Information Management

The CEC will support the Parties by facilitating the timely exchange of information. To that end, the Secretariat will use CEC Web resources to outreach to Party enforcement agencies and stakeholders.

The CEC will support the Parties in developing the schema and framework for the exchange of electronic information and will support national efforts toward successful transmittal of data. The CEC will develop those processes for the assurance of the quality of the information to be posted at the CEC website.

Also, the CEC will continue to work with the North American Atlas Coordinating group to support a data layer illustrating those facilities which import/export hazardous waste across the borders. Further, the CEC will continue to provide online resources to help facilitate the adoption of the hazardous waste online course, and other online information products, such as the Environmental Law Enforcement and Compliance area of the CEC website.

Implementation Plan

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
Task 1 Catalyze participation of Canadian and US specialists in ODS traffic in an international workshop, to occur in Mexico, in order to exchange expertise and best practices for the identification of illegal shipments of CFCs. Publish a report on the training activities and opportunities to effectively enforce ODS regulations, notably CFCs.	Shared expertise and knowledge of illegal shipments of ODSs, for customs and environmental enforcement inspectors to better identify trends, routes, mechanisms, and techniques of smuggling illegal ODSs, notably CFCs; dissemination of the CEC online training course, and exchange of expertise among officials from the US and Canada.	Spring 2009 Summer 2009	Authorities in the three countries will be better prepared to address the global ban of CFCs in 2010. Increased awareness and understanding of regulations of the Montreal Protocol, to address illegal trafficking of ODSs, notably CFCs. Increased capabilities to identify illegal shipments of ODSs across North America.	Environmental enforcement agencies. Environmental management authorities. Customs agencies in the three countries. Prosecutors and other law enforcement officials and intelligence units in the three countries. North American public.	$17,000 Mexico will contribute US $25,000 to the 2009 international workshop.	These activities will conclude in 2009.
	Quality Assurance	Secretariat review: July 2009				

PROJECT 8–Trade and the Enforcement of Environmental Laws						
Strategic Objectives: • Make environmental information more widely available in order to facilitate local, national and regional action. • Strengthen capacities to improve compliance with wildlife laws. • Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas. • Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Summary *Report:* Training activities and opportunities, to effectively enforce ODS regulations, notably CFCs.	Stakeholder/Expert review: August 2009 Party review–Drafting: September 2009 Public review: October 2009 Peer review: October 2009 Party review–Quality assurance: October–November 2009 Publication: November 2009				
Task 2 Completion of the hazardous waste online training course available at the CEC. Meeting to review operation, including customs inspectors and officials before delivery.	Fully operating course online. Module number one will be available online and module two delivered to the Parties for further development. Meeting of the environmental enforcement, customs and other law enforcement officials and inspectors to	Meeting of the stakeholders to be held in the summer of 2009. Full completion and delivery in fall 2009.	Increased awareness of the international and regional regulations of hazardous waste and techniques and procedures for effective enforcement in North America.	Environmental enforcement agencies. Environmental management authorities. Customs agencies in the three countries. Prosecutors and other law enforcement officials and intelligence units in the three countries. North American public.	$46,000	This activity will conclude with the delivery of the course.

PROJECT 8–Trade and the Enforcement of Environmental Laws						
Strategic Objectives: • Make environmental information more widely available in order to facilitate local, national and regional action. • Strengthen capacities to improve compliance with wildlife laws. • Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas. • Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	ensure that curriculum and course development add value and are accurate for each Party.					
	Quality Assurance Summary. *Database/ Dataset/Online service*: Hazardous waste online training course.	Stakeholder/Expert review: September 2009 Party review–Drafting: October 2009 Party review–Quality assurance: November 2009 Publication: December 2009				
Task 3 Consolidation of the process for identifying and sharing information on noncompliant imports entering North America and	Refining and strengthening the channels and process for the exchange of information leading to the identification of	Summer 2009	Enhanced coordination to address threats from non-compliant imports in a common North American approach. Increased awareness of the trends of non-compliant,	Environmental enforcement agencies. Environmental management authorities. Customs agencies in the three countries. Prosecutors and other	$36,000	Dissemination of the North American successes in environmental enforcement under this initiative will be guided by the outcomes of the initial probes.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
addressing common threats to health and the environment.	key sectors and areas and stakeholders to effective law enforcement of environmental regulations in North America.		environmentally regulated materials, substances, products and byproducts.	law enforcement officials and intelligence units in the three countries North American public.		
Task 4 Delivery and conclusion of the project on the electronic exchange of information on the import/export of hazardous wastes in North America. Publication of the final and updated version of *Crossing the Border*.	Smoothly operating electronic exchange of export notice and consent information, and between the Parties. Publication of the final version of *Crossing the Border*	Fall 2009 Publication available in summer 2009	Parties will be able to quickly provide export notice and consent information on a North American level and apply cutting-edge technology in monitoring environmental compliance.	Environmental enforcement agencies. Environmental management authorities. Customs agencies in the three countries. Prosecutors and other law enforcement officials and intelligence units in the three countries. Customs, transport and environmental inspectors. North American public.	157,000	The Parties will conclude this project with the final delivery of the electronic exchange of information.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	Quality Assurance Summary Report: *Crossing the Border*.	Secretariat review: March 2009 Stakeholder/Expert review: March 2009 Party review–Drafting: April 2009 Public review: June 2009 Peer review: July 2009 Party review–Quality assurance: August 2009 Publication: September 2009				
Task 5 Determination of the criteria and mapping elements to build a layer in Google Earth to identify the importing and receiving facilities of hazardous wastes in transboundary shipments across North America, using information from the pollutant release and transfer programs. Scoping meeting to	Background paper on the criteria, elements and sources of information to present in a prototype layer of the Google Earth platform, on the generating and recipient facilities of hazardous waste shipments across North America.	November 2009 To occur in	Governments that can streamline actions and decide on best information available, towards effective management, compliance and enforcement of environmental regulations related to hazardous waste. This mapping tool can help identify needs for development of infrastructure to diminish risks associated with transportation of	Environmental enforcement agencies. Environmental management authorities. Private-sector stakeholders. Customs agencies in the three countries. Prosecutors and other law enforcement officials and intelligence units in the three countries. Interested public in	$36,000	This activity will be concluded in 2009. It will provide the basis for further development of other mapping elements in 2010.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
agree on the extent of reach with this activity.		February 2009	hazardous waste.	these fields.		
Task 6 Publication of the report of the Judicial Seminar in November 2008, and the process for delivering judicial training to the Mexican judiciary system.	Publication of the paper based on the conclusions from the Judicial Seminar held in 2008. Meeting with Mexican authorities on the adoption of environmental training, with Canadian and US judiciary participating.	Fall 2009 Fall 2009	More awareness of legal aspects on the part of the judiciary and more preparedness in effective law application and enforcement.	Environmental management authorities. Environmental enforcement authorities. Judges. Prosecutors, bar associations, and legal practitioners. Universities and other research and training centers. North American public in general.	$30,000	This activity will conclude in 2009.
	Quality Assurance Summary Report from the judicial seminar for strengthening	Secretariat review: March 2009 Stakeholder/Expert review: April 2009 Party review–Drafting: April 2009 Public review: May 2009 Peer review: June 2009				

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	the application of environmental laws in North America.	Party review–Quality assurance: July 2009 Publication: August 2009				
Task 7 7.1 Address issues related to effective environmental compliance and deliver a report to the Parties with recommendations on the main opportunities and challenges. 7.2 Report on the benefits and potential of cutting-edge	Two environment compliance workshops—one on the Mexico-US border and the other on the Canada-US border—reaching out to the North American public and the membership of the trade corridor associations, to address needs and areas of opportunity to foster trade and compliance with environmental regulations. A publication on	Spring and fall 2009 Fall 2009	Private sector and customs and environmental officials will collaborate to identify a series of specific measures (operational, logistical, and infrastructural) to enhance trade and transboundary movements of goods and environmentally regulated materials and ensure environmental compliance and monitoring.	Private-sector stakeholders interested in transboundary trade in North America. Environmental enforcement agencies. Environmental management authorities. Customs agencies in the three countries. Prosecutors and other law enforcement officials and intelligence units in the three countries. The North American public.	$60,000 $25,000	Workshops and the report on the use of technology for monitoring compliance will be concluded in 2009.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
technology and compliance-monitoring systems, such as the Radio Frequency Identification (RFID), in order to review policies and programs to foster and adopt such systems.	the benefits and potential of cutting-edge technology and compliance-monitoring systems such as RFID in addressing threats to the health and environment from non-compliant imports entering North America.					
Task 8 Final updates to the Enforcement and Compliance Cooperation Working Group webpage, and EWG outreach support to other governmental and nongovernmental agencies.	EWG webpage updated, starting 2009.	The Enforcement and Compliance Cooperation Working Group webpage will be updated in 2009.	The CEC will reaffirm its position as a conduit for information and understanding of environmental law and its enforcement in North America, and is also in a position to communicate the main features of such law and regulation. This will also result in an effective way to	Environmental enforcement agencies. Environmental management authorities. Customs agencies in the three countries. Judges. Prosecutors and other law enforcement officials and	$22,000	The EWG webpage will be updated in 2009.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
			disseminate information on enforcement and compliance activities among the trade and environment community and officials.	intelligence units in the three countries. Universities and research institutions. Law practitioners and private firms. Private-sector entrepreneurs, etc.		

Total Cost: $429,000

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$5,000**.

QA #07.61 Innovative methods for securing compliance with environmental laws

QA #07.62 Finalize Web-based portal on legal mechanisms for exchanging information between countries

QA #07.63 Background paper on the judiciary and environmental law

Performance Measurement Indicators:

Task 1

- Number of trainers trained.
- Number of customs points of entry strengthened and of trade routes more protected against smuggling of ODSs.

Task 2

- Course completed and fully operating.
- Number of trainees in the course and of hits on the course website.

Key Partners:

United Nations Environment Program.

United Nations Industrial Development Organization.

National Autonomous University of Mexico.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
Task 3 • Number of commodities identified as potentially suspect. • Number of intelligence reports produced and shared. • Number of operational teleconferences, meetings and other communications effectively exchanging information and practices related to this project. • Number of enforcement cases generated from initial intelligence reports and added value for effective law enforcement practices in the three countries. • Number of commodities identified in at least two countries as noncompliant. Task 4 • Capability to electronically exchange information on the request for export and consent for import of hazardous wastes. • Number of electronic transactions effectively transmitting hazardous waste export/import data among the Parties. Task 5 • The identification of the criteria, elements and sources of information for a Google Earth mapping tool of the facilities generating and receiving hazardous wastes across North America, and a functioning prototype of this tool. • Number of website hits on this tool. Task 6 • Publication of the November 2008 Judicial Seminar, including recommendations and conclusions for institutionalizing environmental training for judges in Mexico. Task 7 • Number of enterprises engaged in pilot projects to monitor environmental compliance in North America. • Number of pilot projects to monitor environmental compliance. Task 8						Environmental enforcement agencies of the three countries. Environmental management authorities. Trade corridor associations and their membership, including local authorities. Customs agencies in the three countries. Prosecutors and other law enforcement officials and intelligence units in the three countries. Interested public in these fields.

PROJECT 8–Trade and the Enforcement of Environmental Laws

Strategic Objectives:

- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen capacities to improve compliance with wildlife laws.
- Increase the capacity of the three countries to identify and address trade-related environmental concerns, in order to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and the regional level in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
• Updated website on the environmental law enforcement and compliance program. • Number of hits on this website per month. • Number of regular users of the website. • Number of activities performed involving information exchange and best practices shared with governmental and nongovernmental organizations and agencies.						

Project 9	**Sound Management of Chemicals**	**Responsible Project Manager at the CEC Secretariat**	Luke Trip
Planned Allocation	2009: C$487,000 Completion of 2008 Outputs: $C13,000 Total: C$500,000	**Working Group(s) associated with this work**	Sound Management of Chemicals Working Group (SMOC WG)

Objective of Project

The Sound Management of Chemicals (SMOC) initiative provides a framework for "regional cooperation for the sound management of the full range of chemical substances of mutual concern throughout their life cycles, including by pollution prevention, source reduction and pollution control."[1]

The CEC Council mandated a new direction for the initiative in 2008, moving from actions to reduce risks from specific chemicals to an approach that reflects the emerging global nature of chemicals management. This new direction focuses on strategies to catalyze cooperation in the following four areas: reducing risks from chemicals of mutual concern, improving the environmental performance of specific industrial sectors, building an equitable foundation for chemicals management among the three countries, and enhancing regional environmental monitoring and assessment.

These areas are compatible with the Plan of Implementation of the World Summit on Sustainable Development (WSSD) for 2020 and the subsequent Dubai Declaration on a Strategic Approach to International Chemicals Management (SAICM). The new direction puts emphasis on improving outreach to stakeholders as partners, aligning with North American priorities, and establishing stronger linkages with key international initiatives, such as the United Nations Environment Programme (UNEP), and the Organisation for Economic Co-operation and Development (OECD) Chemicals Risk Management Programme.

[1] CEC Council Resolution 95-05: Sound Management of Chemicals, http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=148.

Background

Project History and Foundation

- Council Resolution 95-05 mandated the development of North American Regional Action Plans (NARAPs) for certain persistent and toxic substances as a priority for the CEC. It also established a working group, composed of two senior officials selected by each Party, which is concerned with the regulation or management of toxic substances and is tasked to work with the CEC to implement the decisions and commitments set forth in the Resolution. Over the next several years, work on current NARAPs will continue, as will the role of the SMOC Working Group (WG) in advising the Council and the Parties on NARAP implementation.
- In addition, and as mandated under Council Resolution 08–06, (Instruction to the Sound Management of Chemicals Working Group of the Commission for Environmental Cooperation to Promote the Sustained Sound Management of Chemicals in North America), the CEC has initiated a strategy for developing a North American chemicals management agenda.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

- A major part of the new strategic direction of the SMOC WG is the emphasis on continued input from stakeholders on current and future initiatives. The SMOC WG proposes to engage interested

stakeholders in discussions at the Public meeting through panel sessions and throughout the year by maintaining correspondence and seeking input on specific projects from interested and expert stakeholders. For 2009, the key nongovernmental stakeholders include chemical industry associations of the three countries as well as indigenous communities, NGOs and academia, with a focus on the petroleum sector industry at the annual public meeting. JPAC will participate in the public meeting.

- Long-term capacity building projects, such as the development of a Mexican Chemicals inventory, will be developed with international funding agencies considered as possible resource contributors. The CEC will provide seed monies and the Parties will contribute in-kind expertise and other resources as deemed appropriate.
- This new SMOC strategy includes advancing the Parties' shared international objectives, including those under the Strategic Approach to International Chemicals Management (SAICM) as well as consideration of the August 2007 announcement during the North American Leaders' Summit on a Regulatory Cooperation Framework. Partnerships with other chemicals' related interests such as UNEP, OECD and PAHO will be considered.
- Under the recently signed *Statement of Intent on North American Chemicals Cooperation*, the North American Ministers for the Environment committed to a Framework for Regulatory Cooperation that furthers existing policy commitments under our North American chemicals cooperation, enhances existing activities under the Sound Management of Chemicals (SMOC) initiative of the Commission on Environmental Cooperation (CEC), and enhances informal coordination and cooperation efforts at the bilateral and trilateral levels. The Framework also reflects the goals of North American Montebello Leaders Statement of 21 August 2007.

Advisory Groups Related to This Project

- The SMOC WG and subsidiary task forces responsible for delivering NARAPs and other tasks will continue to provide recommendations to Council for the sound management of chemicals of mutual concern to North Americans. Currently, work under active NARAPs is conducted by implementation task forces. Projects mandated under the new SMOC direction of Resolution 08-06 will depend upon the continued trilateral participation of experts from the Parties, coordinated by the Secretariat.[2]

Rationale

Risks of human and environmental exposure to persistent and toxic chemicals addressed by the CEC SMOC initiative come from individual chemicals, families of such chemicals, and industrial sectors and technologies utilizing or producing these chemicals. In general terms, the SMOC initiative endeavors to reduce risk of exposure to toxic chemicals and minimize long-range atmospheric and aquatic transport of chemicals across borders.

Fulfillment of Strategic Objectives

The SMOC initiative supports the CEC strategic priorities on Information for Decision Making, Capacity Building, and Trade and Environment, as described in the CEC's 2005–2010 Strategic Plan.

Information for Decision-making

Information obtained or derived by the SMOC initiative will help policy-makers prioritize options for managing chemicals of mutual concern as they make decisions relating to risk, from both trilateral and domestic perspectives.

Capacity Building

Capacity will be strengthened by increasing the comparability, reliability, relevance and availability of data and information on toxic chemicals in the North American environment. The new direction will focus on quality assurance and quality control of analytical methodologies and on data management and reporting. The Parties will have access to validated information that will provide a foundation from which to make decisions regarding the sound management of chemicals.

[2] More information can be found on the CEC website at: http://www.cec.org/programs_projects/pollutants_health/project/index.cfm?projectID=25&varlan=english.

Trade and Environment

The SMOC initiative supports work under the CEC's Trade and Environment area, as described in the CEC's 2005–2010 Strategic Plan. It aims to promote the sound management of chemicals while facilitating the movement of chemicals and their products across borders without compromising human health or the environment.

North American Scope of the Project and Its Relevance to the Three Parties

While the new alignment of the SMOC initiative places considerable emphasis on capacity building, all three Parties will benefit from the improvements in environmental quality resulting from the significant reduction in atmospheric loading of chemicals such as DDT, lindane, mercury and, in the future, polybrominated diphenyl ethers (PBDEs).

CEC Niche and Value Added

Cooperation on the management of toxic chemicals continues to be a key initiative of the Parties as described in the Strategic Plan for 2005–2010.The North American approach to sound management of chemicals has been a model for other international fora and provides a mechanism for disseminating and collecting information of importance to the Parties on other domestic and international initiatives.

The SMOC initiative will position the CEC and the SMOC WG to align this important area of work with the CEC's upcoming 2010–2015 Strategic Plan and the global direction of the WSSD Plan of Action to 2020.

Linkages with Other CEC Projects

The SMOC project links directly to the Chemicals aspect of the PRTR exercise by providing a specific set of data on substances identified by the SMOC WG. The proposed chemicals inventory will provide validated information on chemicals traded and processed in North America. The NARAPs on mercury, lindane, and dioxins/furans and HCB will provide specific information, which can be directly ascribed to the North American Atlas.

State of the environment reporting will benefit from detailed data on levels of toxic substances in the environment.

Activities and Outputs

Key Activities

Key activities will be aligned with the new SMOC direction. Ongoing efforts for NARAP implementation of specific chemicals initially required by Council i.e. implementation of the mercury and lindane NARAPs; development and implementation of the dioxins, furans and hexachlorobenzene (D/F/HCB) risk reduction initiative; and strengthening linkages between SMOC and Trade and Environment activities; will be joined by the development and implementation of new strategies for catalyzing cooperation. Here, a priority will be the establishment of a national chemicals inventory for Mexico.

Target Groups

Target audiences include Salud, Health Canada and the US CDC, as well as INE and IMTA of Semarnat, Environment Canada and the US EPA. Nongovernmental target audiences include industry stakeholders such as CCPA, ACC and ANIQ as well as academia, ENGOs, indigenous communities, and the general public.[3]

Partners, Stakeholders

Partners participating in the implementation of the SMOC initiative through membership in the working groups and implementation task forces include Health Canada, Environment Canada, US EPA, USCDC, and Mexico's Semarnat, INE and Salud.[4] Participating stakeholders will be determined on a case-by-case basis as areas of work within SMOC's new direction are established by the working group in 2009. The SMOC program will also foster continuing partnerships with the IJC, the GLBTS and Border 2012.

[3] Salud—*Secretaría de Salud* (Secretariat of Health); US CDC—US Centers for Disease Control; INE—*Instituto Nacional de Ecología* (National Institute of Ecology); IMTA—Mexican Institute of Water Technologies; Semarnat—*Secretaría de Medio Ambiente y Recursos Naturales* (Secretariat of the Environment and Natural Resources); US EPA—US Environmental Protection Agency; CCPA—Canadian Chemical Producers Association; ACC—American Chemicals Council; ANIQ—National Association of Chemical Industries (Mexico)

[4] IJC—International Joint Commission; GLBTS—Great Lakes Binational Toxics Strategy.

Leveraging

The SMOC Project relies on the in-kind contributions of experts from the Parties, as well as guidance from stakeholders, such as JPAC, and interested citizens. Academia contributes expertise on an as-needed basis. Leveraging of significant resources from the World Bank, PAHO and the GEF will be considered with seed money and expertise support to Mexico from the SMOC project. Under SAICM's Quick Start Program, Mexico has accessed funds (UK, DEFRA of US$100K) to promote further development of an electronic database for the chemical inventory project, based on support from the CEC.

Outputs and Associated Timelines

Associated outputs and products include:

- in 2009, the SMOC WG will have two face-to-face meetings, including one with stakeholders, as part of the continued development of a common North American approach to chemicals management by 2020;
- approval and publication of the NARAP assessment document describing the history and current benefits derived from work on DDT, chlordane, PCBs, mercury, lindane, dioxins/furans, and HCB (early 2009);
- a workshop on sources of dioxins/furans and HCB (spring 2009);
- a capacity building workshop for long-range transport modeling in Mexico, focused on dioxins/furans and HCB, or a sector-specific air monitoring exercise (early 2009);
- an advanced capacity building workshop on risk assessment in Mexico, focused on dioxins/furans and HCB, and transferable to other POPs in media such as soil and food (early 2009);
- a North American chemicals conference will be held in 2010 to broaden our stakeholder base, improve linkages with other regional and international chemicals initiatives, and create opportunities for dialogue among experts and decision-makers on specific issues related to chemicals management;
- completion of an analysis of the current legal framework to develop a national in-use chemicals inventory for Mexico, including comparability with ongoing inventory programs in Canada and the United States (2009);
- as a new substance, an inventory of PBDE releases in Mexico will be undertaken and a proposal for reducing risks of PBDEs in North America will be developed (late 2009); and
- other capacity building projects developed as a result of emerging priorities during late 2008 and early 2009.

Work under the SMOC project will be coordinated with the monitoring and assessment aspects of these programs as described in the Environmental Monitoring and Assessment (EM&A) project operational plan.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Government agencies involved in the sound management of chemicals are continuously apprised of developments with their North American partners.
- North Americans will benefit from increased awareness of impacts from toxic substances on human health and the environment.
- The SMOC WG is committed to greater involvement of the public and private sectors to reduce the risk of exposure.
- Information is available for developing risk reduction strategies and decision making on chemicals management.
- Dialogue among technical experts related to chemicals management.

Performance Indicators

- Active involvement of the SMOC Working Group members.
- Stakeholder participation at annual public session and stakeholder support activities of the SMOC Working Group.

- Organization of a North American chemicals conference, to be held in 2010.
- Initiation of a chemicals inventory in Mexico.
- Completion of inventory of PBDE sources in Mexico and recommendations for reducing risk.

Intermediate Outcomes

- In aligning with the new direction proposed for the SMOC initiative, longer-term, fiscally sustainable initiatives will ensure Mexico's capacity to participate in monitoring and assessment of substances deleterious to human health and the environment. The sustainability of Mexico's Proname initiative will benefit from seed financing by the CEC and the in-kind support from Canada and the United States in approaching international funding institutions such as the World Bank and the Global Environment Facility (GEF).
- The chemicals inventory will put Mexico on a more equal footing with similar programs already existing in Canada and the United States. Such information enhances citizens' ability to assess risks and to be adequately prepared for chemical exposure emergencies.
- Workshops on atmospheric modeling will permit scientific dialogue among experts from the three countries, leading to greatly enhanced knowledge of pollutant pathways and exposure potentials.

Performance Indicators

- A comparable North American chemicals inventory.

Final Outcomes

- Reduction in risk of exposure to the priority toxic substances and to substances determined to be of common concern.
- While DDT and lindane are being significantly reduced, new substances, such as PBDE flame retardants, and SMOC Working Group deliberations for new initiatives such as nanotechnology, will benefit from a SMOC assessment.
- Improved infrastructure, nationally and trilaterally, for managing environmental and human health exposures to toxic substances will lead to reduced residues of toxics in traded foodstuffs and other commodities.
- Promotion of regional programs on a more international scale as examples of successful initiatives to reduce risk of exposures.

Performance Indicators

- Indication of whether the various aspects of the SMOC initiative have achieved their desired final result will be known principally through feedback from the Parties and stakeholders, as well as from continuous monitoring and testing. Comparisons of baseline data with current or future values will indicate a measure of success or renewed efforts.
- Workshops and projects will be seen as successful if overall program sustainability is achieved—in other words, if the Parties or stakeholders establish the project or necessary measures for capacity building as a sustainable domestic priority.
- Success will also be manifested in the improved environmental policies that result from scientifically validated information being utilized by decision makers.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

In response to the need to strengthen the Parties' abilities to assess and manage chemicals of concern, as outlined in the 2005–2010 Strategic Plan, the implementation of the approved NARAPs on lindane and mercury, and further development in direction on dioxins/furans and HCB, according to timelines established for these initiatives.

Target End Date for CEC Involvement

The mercury NARAP is proposed for closure as a CEC initiative in 2010, lindane by 2016, and dioxins/furans and HCB by 2014.

The target date for completion of the PBDE work and termination of task force activities is 2011.

The chemicals inventory exercise is slated for completion and transfer to Mexico as a sustainable domestic initiative. A contract is currently in place to examine the legal basis for creating an inventory. Once this analysis is complete (end of 2008/early 2009), the group should be in a better position to determine the scope of the project, the tasks required and associated timelines.

Sustainability Beyond

- The North American chemicals management agenda for the sound management of chemicals encourages creation of new initiatives that will support new work, and with varying timelines.
- The mercury and lindane NARAPs will be turned over to the responsible national agencies according to the timeframe above in anticipation of domestic implementation activities. The dioxins, furans and hexachlorobenzene plan will be implemented according to the current capacity building initiatives being successfully implemented in Mexico.
- Annual stakeholder meetings with the Parties will ensure that dialogue is maintained between the Parties and stakeholders. Best results will come from combining this dialogue with regular meetings and conference calls of the SMOC Working Group and its task forces and teams.
- Sustainability is a key aspect of all projects within SMOC. When a project commences, its objectives are to attain sustainability, as deemed appropriate by the Parties, of the various capacity building aspects.

Communications

All SMOC undertakings contain communication strategies as an integral component of their actions. Recognizing the new direction of the SMOC initiative, the currently available outreach methods and material will be re-examined and redrafted, as necessary. Project implementation groups will work with the Secretariat and its Communications personnel to disseminate information generated from actions of the NARAPs to national decision makers, industry and academia.

The SMOC Working Group has a well-established relationship with its stakeholders and seeks to enhance their engagement in current and future activities. Annual stakeholder meetings will be held in geographic regions where there are facilities or stakeholders with specified interest in the program or where the work to be undertaken can benefit from closer proximity to the area of concern. In 2009, the SMOC Working Group proposes to meet with the petroleum sector interests in Calgary, Alberta, Canada.

Information Management

Most data generated via the NARAPs and the new strategic plans are of a technical nature and require manipulation through statistical analysis and trends development, as applicable. Electronic storage and retrieval mechanisms for items such as an updated inventory of mercury, lindane and other POPs emissions in Mexico will be required. Information products and reports developed through the SMOC initiative will be available in electronic format on the CEC website.

Implementation Plan

PROJECT 9 – Sound Management of Chemicals							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1 SMOC Working Group Operations	1.1 Conduct annual SMOC WG meeting with stakeholders to enable discussion on new strategies. Approximately 40 people will attend and 25 to 30 of them will be supported by the CEC. Includes: Spring face-to-face meeting of SMOC WG, conference calls and general coordination of the SMOC WG.	1) Continued stakeholder engagement in SMOC programs; meeting in Calgary, Alberta. 2) Coordinated trilateral program of cooperation on chemicals management for health and environmental benefit.	Monthly conference calls, February stakeholder meeting, and two WG meetings (Feb. and Sept. 2009).	Active participation of public and stakeholders. Continued engagement with stakeholders including direct involvement in program outcomes and provision of a direction for future program development.	US EPA, Semarnat, Cofepris, EC, HC, SAICM (UNEP), general public and all stakeholders including industry, academia, indigenous communities and NGOs.	$90,000	Two face-to-face meetings between the Parties, including one to engage stakeholders. Implementation of the path forward, as well as monthly conference calls with SMOC WG representatives.
	1.2 Conduct SMOC WG planning session to guide implementation of current program and to continue developing the agenda for the renewed SMOC direction.	Coordinated trilateral program of cooperation on chemicals management for health and environmental benefit.	Monthly conference calls and September meeting.	Collaborative implementation plan for the renewed SMOC initiative.	US EPA, Semarnat, SSA, EC, HC.	$20,000	Continued face-to-face meeting and conference calls to develop path forward for the SMOC and EM&A program to 2020. Implementation of the path forward.
2 Outreach and Engagement	2.1 General coordination with the	Description of path forward	Jan–Dec 2009	Promote sound management of NA	US EPA, Semarnat, Salud, EC, HC, the	$30,000	Continued support for the communications

PROJECT 9 – Sound Management of Chemicals							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Communications team via conference calls, as needed. Development of communications materials based on the four new SCCs.	for the outreach and engagement strategy of the SMOC program. Brochure in printed and electronic format with information on the new direction of the SMOC program.		chemicals of concern, improve outreach and engagement strategies for delivering information to the public and keep industry and the public apprised of North American chemicals management initiatives. Improved visibility of the SMOC program and the CEC. Greater interest and participation of stakeholders in the SMOC program.	Secretariat, general public and all stakeholders.		strategy and distribution of additional information pieces.
	2.2 Preparations for a North American chemicals conference to occur in fall 2010.	Preparations in 2009 will include: - expert logistical support contract - selection of potential venues, and - outline of an agenda	January–December 2009	The chemicals conference will promote sound management of NA chemicals of concern, improve outreach, and develop strategies for delivering information to the public and keeping industry and the public apprised of North American chemicals management initiatives.	US EPA, Semarnat, Salud, EC, HC, indigenous communities, general public including North American and international stakeholders.	$40,000	Hold a North American chemicals conference in fall 2010, leading to greater knowledge and development of sound management practices respecting North American chemicals of concern.
		Quality Assurance	Secretariat review: September/October 2009 Stakeholder/Expert review: September/October 2009				

PROJECT 9 – Sound Management of Chemicals							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
		Summary *Outreach*: Four communications pieces describing new SMOC strategies	Party review–Quality assurance: November 2009 Publication: December 2009				
3.Foundation Development	3.1 Development of a working prototype database for a chemical inventory in Mexico.	Working prototype database for a chemicals inventory in Mexico.	Oct–Dec 2009	Based on the 2008 CEC-sponsored contract, development of an inventory compliant with Mexican domestic regulations and compatible with similar inventories in Canada and the US.	Semarnat, Cofepris, Sagarpa, *Secretaría del Trabajo y Previsión* (STPS), industry and public.	$102,000	Interim support and promotion of a self-sustainable chemicals inventory for Mexico.
4 Reduce Risk of Chemicals	4.0 Based on developments for management of specific chemicals in the EM&A program, the SMOC WG provides general coordination of the program area through conference calls.	Assessment of concerns for managing nominated substances by the SMOC WG.	Jan–Dec 2009	Direction on reduction/elimination of environmental and health risks.	US EPA, Semarnat, Cofepris, EC, HC, general public and all stakeholders including industry, academia and NGOs.	$5,000	Ongoing SMOC WG development of a path forward for reducing risk related to nominated substances.
4.1 Polybrominated diphenyl ethers	4.1.1 Coordination of the PBDE team, including face-to face	Assessment of actions to	Jan–Dec 2009	Information for program development	US EPA, Semarnat, Cofepris, EC, HC, general public and	$20,000	Continued efforts aimed at risk reduction due to

PROJECT 9 – Sound Management of Chemicals							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
(PBDEs)	meeting of the PBDE team.	reduce risk. Proposals for reducing risk associated with PBDE exposure.		Trilateral basis for risk reduction.	all stakeholders including industry, academia and NGOs.		PBDEs. Promotion of further reduction initiatives, leading to elimination of risks.
	4.1.2 Depending on studies currently under way in Mexico, develop inventories, promote alternatives and coordinate reduction initiatives for PBDE.	Inventory of releases of PBDEs in Mexico and comparison of releases in Canada and the US.	Jan–Dec 2009	Contract to develop an inventory in Mexico. Comparability analysis of North American PBDE risks for informed policy development.	Semarnat, Salud, US EPA, EC, HC.	$20,000	Compatibility exercises for trilateral assessment. Pilot studies developing BAT for wastes and residuals management.
4.2 Mercury NARAP Implementation	4.2.1 Coordination of the Hg NARAP implementation task force, including a face-to-face meeting. Award a contract for the preparation of the close-out report.	Implementation of priority mercury reduction initiatives, as outlined in the Council-approved NARAP, and initiate proposed close-out of the NARAP.	Jan–Dec 2009	Setting final CEC priorities for NARAP implementation. Approval of the contractor-prepared draft close-out report in December 2009 in preparation for the Council meeting in 2010.	US EPA, Semarnat, Cofepris, EC, HC, the Secretariat.	$5,000 $15,000	In 2010: Mercury Task Force close-out report will include task force activities and recommendations for outstanding NARAP actions and ongoing successful transfer of mercury-related management options to the respective agencies in each country. Report will highlight the lessons learned through the Hg NARAP and provide

PROJECT 9 – Sound Management of Chemicals							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
							recommendations for any follow-up activities, if required.
	4.2.2 Reduction of Hg in the Health Care Sector	Final report summarizing mercury reduction efforts in Mexican hospitals, with a comparison of work done in Canada and the US.	Jan–June 2009	A report outlining a path forward for further mercury reduction activities in the health care sector in Mexico. Collaboration of methodologies of common interest to this sector in NA.	Semarnat, Salud, US EPA, EC, HC.	$15,000	A consistent and comparable approach to mercury management in the health care sector of North America with potential leadership examples for other GRULAC countries.
		Quality Assurance Summary *Report*: Final report on mercury reduction efforts in Mexican hospitals (*continuation of 2008 item 08.28*)	Secretariat review: Sept 2009 Stakeholder/Expert review: Sept 2009 Party review–Drafting: October 2009 Public review: October 2009 Peer review: November 2009 Party review–Quality assurance: November 2009 Publication: December 2009				
	4.2.3 Based on findings of the 2008 Mercury in Products	In collaboration with US EPA efforts to	Jan–Dec 2009	Stimulate the development of an environmentally sound	Semarnat, Salud, US EPA, EC, HC, UNEP	$25,000	Assessment of the pilot project and recommendations for

PROJECT 9 – Sound Management of Chemicals							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Inventory, undertake a pilot project to create a products management partnership.	coordinate international initiatives on mercury, establish a pilot mercury product management infrastructure in Mexico.		mercury product reduction/recycling/ management infrastructure in Mexico and demonstrate a market for private investment through coordinated participation of existing mercury product initiatives. Provide an updated inventory of mercury in products based on US EPA inventory software.			North American products management opportunities.
4.3 Lindane NARAP Implementation	4.3.1 The Lindane Task Force will implement activities, review and prioritize projects under the NARAP via teleconference.	Continued implementation of Lindane reduction initiatives as outlined in the Council-approved NARAP.	Jan–Dec 2009	Prioritized development of risk reduction strategies and demonstration projects.	US EPA, Semarnat, Cofepris, EC, HC, the Secretariat, GRULAC countries still using lindane.	$5,000	Continued risk reduction activities based on established priorities and a face-to-face to take place in 2010 and every two years thereafter.
	4.3.2 Capacity building under the lindane NARAP through promotion of the recommendations proposed.	Assessment of risk reduction initiatives. Implementation of strategic directions.	Jan–Dec 2009	Development of a North American summary of lindane and other HCH trends over time, in comparison to other regions such as GRULAC.	US EPA, Semarnat, Cofepris, EC, HC, the Secretariat, GRULAC region.	$25,000	Continued assessment of levels of reduction through the national and trilateral programs including the auditing mechanisms of the EM&A SC.

PROJECT 9 – Sound Management of Chemicals							
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2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
4.4 Dioxins/Furans/Hexa-chlorobenzene Activities	4.4.1 The D/F/HCB team will develop the implementation strategy via teleconferences.	Meeting for implementation of the D/F/HCB risk reduction program, integrated with the workshop in 4.4.2.	Jan–Dec 2009	Reduction in environmental and health risks. A path forward for future D/F/HCB implementation team activities will result.	US EPA, Semarnat, Cofepris, EC, HC, the Secretariat.	$5,000	The following years will continue with the pattern of holding a face-to-face meeting every two years. Next face-to-face to take place in 2010.
	4.4.2 Capacity Building for emissions assessment: Conduct a follow-up workshop with North American experts on capacity building in the context of the Stockholm Convention.	Enhanced knowledge of emission sources, reduction technologies and capacity building for control protocols.	Jan–Dec 2009	A workshop on assessment and quantification of emissions from unique sources such as smelters and from pulp-and-paper.	US EPA, Semarnat, Cofepris, EC, HC, the Secretariat. Approximately 30 people will attend, 15–18 of them supported by the CEC.	$40,000	The D/F/HCB TF will determine whether follow up projects or workshops are necessary on the subjects covered. A unique capacity building workshop may be partially sponsored by SMOC to support a Mexican initiative to extend expertise into the GRULAC region.
	4.4.3 Capacity Building for risk assessment/ management: As a follow up to the introductory	Improved capacity to conduct and interpret results of risk assessment initiatives.		Training of personnel in Mexico respecting methodologies and techniques related to risk assessment.	Semarnat, INE, Salud, Mexican officials in other related disciplines and the public.	$15,000	

PROJECT 9 – Sound Management of Chemicals							
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2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	workshop in 2008, Health Canada and Environment Canada experts will conduct an advanced workshop on risk assessment methodologies and techniques.	Quality assurance summary *Background paper*: Risk assessment methodologies (*completion of 2008 item 08.32*)	Secretariat review: February 2009 Stakeholder/Expert review: February 2009 Party review–Drafting: February 2009 Public review: March 2009 Peer review: March 2009 Party review–Quality assurance: March 2009 Party clearance: April 2009 Publication: May 2009				
5 Improved Environmental Performance by Sectors	5.1 Initiate identification of a sector of common concern through collaboration with stakeholders and the SMOC WG.	A proposal to the SMOC WG on a potential sector or industry of mutual concern.	Jan–Dec 2009	Recommendations to undertake and prioritize work under a relevant sector, including an approach to the industry sector organizations for potential funding or in-kind support.	USEPA, HC, EC, Semarnat, Salud, chosen industrial sector.	$10,000	Promotion of horizontal integration with other programs, projects and impacted industrial sectors.
Total Cost: C$487,000 1. SMOC Operations: $110 K 2. Outreach and Engagement: [$70 K] 3. Foundation: $102 K 4. Reducing Risk: $195 K (general: $5K, PBDE: $40 K, Hg: $60 K, Lindane: $30 K, DFH: $60 K) 5. Sectors: $10 K							

PROJECT 9 – Sound Management of Chemicals

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Subtask	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$13,000**

- $5,000 QA #08.29 – Mexico Mercury Market Report

- $8,000 QA #08.34 – Trinational report on first-birth mothers in Canada, Mexico and the US

Performance Measurement Indicators:

- Active involvement of the SMOC WG members.
- Stakeholder participation at annual public session and active engagement in the work of the SMOC WG.
- Organization of a North American chemicals conference, to be held in 2010.
- Completion of inventory of PBDE sources in Mexico and recommendations for reducing risk.
- Initiation of a chemicals inventory in Mexico.
- A comparable North American chemicals inventory.
- Indication of whether the various aspects of the SMOC initiative have achieved their desired final result will be known principally through feedback from the Parties and stakeholders, as well as from continuous monitoring and testing. Comparisons of baseline data with current or future values will indicate a measure of success or renewed efforts.
- Workshops and projects will be seen as successful if overall program sustainability is achieved—in other words, if the Parties or stakeholders establish the project or necessary measures for capacity building as a sustainable domestic priority.
- Success will also be manifested in the improved environmental policies that result from scientifically validated information being utilized by decision makers.

Results will be continually monitored through the EM&A project and feedback from the Parties and stakeholders.

Key Partners:

SMOC Working Group and its task forces (mercury, lindane, dioxins/furans/hexachlorobenzene) and teams (communications, PBDE, chemicals inventory).

Project 10	**Monitoring and Assessing Pollutants across North America**	**Responsible Project Manager at the CEC Secretariat**	Luke Trip
Planned Allocation	C$400,000 Completion of 2008 Outputs: C$5,000 Total: C$405,000	**Working Group(s) associated with this work**	Environmental Monitoring and Assessment Standing Committee

Objective of Project

The purpose of this project is to assist the Parties in increasing the comparability, reliability, relevance and availability of data and information on toxic substances in the North American environment. Specifically, it seeks to improve the generation and management of information needed to identify and assess trends and concerns related to contaminants and stressors that affect the environment and human health. It will also help advance the Parties' shared international objectives, including the Plan of Action of the World Summit on Sustainable Development (WSSD) for 2020 and the subsequent Dubai Declaration on a Strategic Approach to International Chemicals Management (SAICM), as well as consideration of stronger linkages with key international initiatives, such as the United Nations Environment Program (UNEP) and the Organisation for Economic Co-operation and Development (OECD) Chemicals Risk Management Programme.

While considerable emphasis is on the process of capacity building, all three Parties benefit by the improvements in environmental quality resulting from the significant reduction in environmental loading of chemicals such as DDT, lindane, mercury and, in the future, polybrominated diphenyl ethers (PBDEs). Building capacity to reduce significant sources of these substances within one North American country is of considerable benefit to ongoing domestic programs elsewhere in North America.

Background

Project History and Foundation

The project originates in the North American Regional Action Plan (NARAP) on Environmental Monitoring and Assessment (EM&A). This NARAP was created through Council Resolution 02-08 to assist the Sound Management of Chemicals (SMOC) Working Group and its implementation task forces in meeting the environmental monitoring and assessment obligations identified or implied under Council Resolution 95-05, and in substance-specific NARAPs developed pursuant to that Resolution.

Through Council Resolution 08-06, the priority work areas of the SMOC initiative were realigned. The four main areas of work now involve the following:

1. Establishing a foundation for chemicals management in North America.
2. Developing and implementing a sustainable regional approach to monitoring, including environmental and human biomonitoring.
3. Reducing the risk from chemicals of concern to North America.
4. Improving the environmental performance of sectors.

Of these four areas, the second, relating to monitoring, applies in particular, but not exclusively, to the Environmental Monitoring and Assessment project. The other three can be considered to be the focus of the SMOC project. The SMOC Working Group also agreed that communications and

outreach should be a guiding priority of the program and thus allocated part of the operational budget to this important effort.

Co-chaired by representatives of each of the three Parties, a Standing Committee oversees and assists the implementation of the EM&A NARAP and related tasks within the project. Over the next few years, the Standing Committee will not only concentrate on EM&A project implementation but will also assist the SMOC Working Group in developing its information priorities to 2020, cognizant of the direction of the WSSD Plan of Action.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

A major part of the *cooperative strategy* for the sound management of chemicals is an emphasis on the expert input from stakeholders on current or future initiatives. The key stakeholders/organizations who will actively participate in the EM&A work are projected to be those in academia, industry, and environmental NGOs from all three countries. The EM&A Standing Committee will coordinate with the Secretariat to engage other international, regional and national government agencies with relevant expertise.

Advisory Groups Related to This Project

A Standing Committee co-chaired by representatives of each of the three Parties oversees and assists the implementation of the EM&A NARAP and related tasks within the project.[1]

Rationale

This project fosters and encourages cooperation and collective action in planning, conducting and reporting information from baseline surveys, monitoring, modeling and research regarding the status, trends and effects of persistent and toxic substances. It supports the new initiative under the chemicals management project to build a compatible foundation of information from which the Parties can make informed decisions.

Fulfillment of Strategic Objectives

The EM&A project is linked to Information for Decision-making through its mandate for improving monitoring, modeling and research on a North American scale, in order to assess the progress of the CEC's SMOC initiative but also to continuously improve the availability of information for decision-making at many levels. Thus, this project supports and contributes to other priorities of the CEC and the Parties, including the inclusion of environmental data into the North American Atlas, and the assembly of data to develop viable indicators for state-of-the-environment reporting.

Information for Decision-making

Certain persistent, bioaccumulative, toxic chemicals (PBTs) released to the environment as a result of human activity are transported long distances through air and water and pose unacceptably high risks to the environment, to ecosystems and to human health. Convenient and dependable access to and dissemination of relevant, reliable and comparable monitoring information, along with sound interpretive assessments based, in part, on that information, are crucial to the confirmation and quantification of progress made. Regulators will benefit from this validated information in proposing appropriate control mechanisms where applicable. Environment and health agencies at federal and state level will benefit.

Capacity Building

This project develops scientifically sound information by building capacity through regional and international cooperation in efforts to measure, monitor and assess toxic substances across the continent. A major focus will continue to be assurance and control of the quality of both chemical analyses and the resulting data. Specifically, a project to engage the pertinent national laboratories in a QA/QC exercise along with an ongoing validation program will ensure accurate and precise data is generated.

Trade and Environment

The generation of validated data will improve capacity to measure toxics residues in traded goods and foodstuffs.

[1] For more information, please go to the following link: http://www.cec.org/programs_projects/pollutants_health/project/index.cfm?projectID=25&varlan=english.

North American Scope of the Project and Its Relevance to the Three Parties

Mexico identified as a national priority the development and implementation of a domestic monitoring and assessment initiative for chemicals. The availability of such information is important for risk analysis, risk assessment, risk management and the communication of risks to targeted groups and to the general population.

This project will allow North American monitoring of toxic substances through the availability of comparable trinational data. The benefits to Canada and the United States are not only indicated in reductions of PBT air toxics through long-range atmospheric transport but also in reporting, analyzing and comparing data on chemicals in commerce among the three countries to facilitate comparable risk management approaches that would enhance protection of human health and the environment, while providing cost-effectiveness for business and government in facilitating trade.

CEC Niche and Value Added

The CEC's mandate and prior work to foster cooperation among Canada, Mexico and the United States in the pursuit of the sound management of chemicals and related initiatives makes it a unique platform to accomplish the work proposed here. A cooperative regional approach to monitoring is critical to understanding short- and long-range transport mechanisms of chemicals in air and water and to monitoring emissions from chemicals and products in trade throughout their life cycles. Developing and implementing an integrated North American monitoring network will enable decision-makers to identify areas that are the most affected on a regional scale. In addition, a regional approach to monitoring will help link the effects of environmental policies and chemicals management. Short-term local monitoring initiatives can provide limited focused information, while a long-term approach to regional monitoring provides value added in more robust information about long-term trends in substance levels and allows for the detection of changes.

Linkages with Other CEC Projects

Environmental monitoring and assessment activities are directly linked to the SMOC project, as their primary purpose is to guide the SMOC initiative and to help assess progress achieved under substance-specific NARAPs. The EM&A efforts also link directly to the PRTR exercise by providing a chemical-specific set of data. They provide validated information on chemical residues and shipments for the enforcement group and information on chemicals traded and processed in North America. Information generated can be directly ascribed to the North American Atlas through the development and utilization of standardized protocols. State of the Environment reporting will benefit from detailed data on levels of toxic substances in the environment.

Activities and Outputs

Key Activities

Key activities will focus on multiple trilateral monitoring initiatives that will be developed and undertaken, including monitoring for mercury in air and water, lindane in dairy products, dioxin/furans emissions from specified sectors and PBDEs in both humans and the environment. Data from these projects will support decision makers who need information to promote national and trilateral policy directions, as well as support the development of baseline and hotspot maps for persistent toxic substances.

Target Groups

Target audiences include the national and state health and environmental agencies of all three governments, as well as stakeholders in all three countries, including chemical, petroleum and agricultural industry, academia, environmental NGOs, indigenous communities, and the general public. Validated information regarding the North American situation will also be used by international organizations such as GRULAC, SAICM and UNEP.

Partners, Stakeholders

Partners participating in the implementation of the EM&A project include Health Canada, Environment Canada, the US EPA and CDC, and Mexico's Semarnat, INE and Salud as well as other potentially impacted agencies.[2]

[2] EPA—Environmental Protection Agency; CDC—Centers for Disease Control; Semarnat—*Secretaría de Medio Ambiente y Recursos Naturales* (Secretariat of the Environment and Natural Resources); INE—*Instituto Nacional de Ecología* (National Institute of Ecology); Salud—*Secretaría de Salud* (Secretariat of Health).

Participating stakeholders will be invited to contribute expertise on a case-by-case basis as areas of work within SMOC's new direction are established. A stated target of the new direction is to actively solicit participation from affected stakeholders at the SMOC public meeting sessions.

Leveraging

The EM&A project relies on the in-kind contribution of experts from the Parties as well as guidance from Stakeholders such as JPAC, and interested citizens. Academia contributes expertise on an as-needed basis. Leveraging of significant resources from the World Bank, PAHO and GEF will be undertaken with seed money and expertise support to Mexico from the EM&A project.

Outputs and Associated Timelines

Key outputs from this project include further development and implementation of an integrated trinational monitoring network; promotion of sustainable environmental monitoring and a human bio-monitoring infrastructure in Mexico; as well as support for a Mexican funding proposal to an international funding institution (IFI). Specific outputs and approximate timelines are:

- Identification of index sites for establishing baseline data for toxic chemicals and implementation of data collection activities (2009);
- Publication and distribution of the "Monitoring programs in North America" document (early 2009);
- A report on mercury in fish from the Lake Zapotlán watershed and other ecosystems in Mexico (early 2009);
- Follow-up exercise on quality assurance/quality control (QA/QC) for metals and POPs analysis, with an emphasis on Mexico (2009);
- Promotion of a trinational laboratory validation exercise for POPS and heavy metals (Summer 2009);
- Approval and publication of the Guidance document for trilateral bio-monitoring exercises (early 2009);
- Workshop on dioxins/furans atmospheric modeling (summer 2009); and
- Continuation of QA/QC testing and analysis of lindane in Mexican dairy products (2009).

Work under the EM&A project will be coordinated within the Sound Management of Chemicals program as described in the SMOC project operational plan.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

First-level effects of the outputs include: improved understanding of QA/QC requirements for information reporting; an improvement in environmentally beneficial behavior by impacted sectors through presentation of validated data on species and levels of contamination; capacity building to permit analysis and presentation of risks; and international cooperation in efforts to measure, monitor and assess persistent and toxic substances across the continent and allow comparisons to other regions.

Performance Indicators

- Validated information for assessing risks associated with exposure to toxic substances.
- Confidence and validity in data resulting from QA/QC procedures (capacity building).

Intermediate Outcomes

A domestically sustained network of national monitoring sites in Mexico under the Proname initiative which will generate information on the status of environmental and human health trends for decision makers and provide input to the Mexican NIP under the Stockholm Convention.

Information on monitoring initiatives in North America will direct scientists to improved methodologies and data. The potential risk of exposure to selected toxic substances will be clarified for action in North America.

Analytical results will be validated by uniform, consistent and sustained laboratory validation exercises in North America, with Mexico benefiting through demonstration of its capacity as a center of excellence for Latin American countries and others.

Atmospheric modeling will be undertaken and utilized in Mexico to augment similar programs in Canada and the United States, with potential for mapping in the North American Atlas.

Analytical capacity improvements in Mexico will enhance confidence in databases and promote compliance with the Stockholm Convention.

Performance Indicators

- Harmonization of monitoring information collected in the three countries.
- Inclusion of the Proname initiative in Mexico's Stockholm Convention national implementation plan (NIP) report.

Final Outcomes

The information generated through the EM&A project will provide the three national governments and stakeholders with meaningful insight into the levels and impacts of contaminants in North America, thereby assisting policy-developers to focus on priorities for reducing environmental impacts and risks associated with exposure to toxic substances. It will also lead to greater North American policy coherence through the provision of compatible chemical information. A sustainable, long-term environmental monitoring and assessment program for North America will ensure valid trends analysis and promote effective and efficient priority action determination by decision makers, as well as providing an audit mechanism to ensure anticipated actions are realized.

Performance Indicators

- Increased accessibility to and availability of reliable data on toxic substances in North America.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

Promotion of comparable, reliable, relevant and available data and information on toxic substances in the North American environment is an ongoing process. Improving the generation and management of information needed to identify and assess trends and concerns related to contaminants and stressors that affect environmental and human health is also an ongoing process.

Annual stakeholder meetings with the Parties, organized to ensure that an active dialogue is maintained between the Parties and the stakeholders, combined with regular meetings and monthly conference calls by the EM&A Standing Committee and its working groups, will ensure that promotion of new actions is maintained.

Target End Date for CEC Involvement

The objective of the EM&A project is to support the confirmation and quantification of progress made with respect to substances being addressed under the SMOC project. As described in Resolution 08-06, SMOC is a long-term project with no specific target end date for CEC involvement. However, individual activities under the EM&A project that relate to specific substances or areas of capacity building have target end dates for CEC involvement, as follows:

- Develop and validate trilateral laboratory capacity for analysis of samples and comparison of results across North America. The requirements for this activity are determined on an annual basis. In 2009 the group will complete:
  - The development of protocols for sampling analysis and QA/QC.
  - Trilateral laboratory verification through calibration of reference standards and validation of data compatibility from analyses of contaminants in dairy samples.
- Develop capacity for sophisticated atmospheric mercury measurement in Mexico. Expected end date is May 2009.
- Compile baseline data set of lindane levels in dairy products in Mexico. Expected end date is December 2009.
- Establishing a dioxins and furans ambient air monitoring network: The current focus is verifying the data and its interpretation. Expected end date is December 2010, after which Mexico will evaluate the continuation or modification of the network.

- Support the establishment of Proname, Mexico's comprehensive environmental/human monitoring and assessment initiative, as a nationally funded priority.
- Emissions inventory and expertise transfer is being led by the Secretariat. The preliminary work described in the Operational Plan is projected to end in December 2009. Consultations with national experts will determine if a similar project should be recommended for 2010, or if national sustainability of the priority has been achieved.

Sustainability Beyond

Individual projects may have a finite period, to be determined by the SMOC Working Group as authorized under Resolution 08-06. While the mercury NARAP will be closed in 2010, the EM&A activities are envisioned to continue to ensure that the anticipated results are realized. Similar assurances will be developed for the other authorized NARAPs and Strategic Plans as they are implemented.

At the start of a specific initiative, objectives are set to attain sustainability in all aspects of capacity-building projects.

Communications

The SMOC Working Group has a well-established relationship with its stakeholders, which directly benefits the EM&A project. Stakeholder engagement in current and future activities will occur during project implementation and may involve development of outreach materials, organizing public sessions at SMOC meetings, holding joint meetings with other CEC groups and participating in conferences and workshops organized by others. Public consultation events, sponsored by the Standing Committee and the SMOC Working Group, as well as reports submitted to the Council and the CEC's Joint Public Advisory Committee, will provide required levels of accountability.

Information Management

As the information generated by this project may be of a technical nature and require assessment through statistical analysis and trends development, electronic storage and retrieval mechanisms will be required. Much of the data is intended to be amenable to mapping and, thus, comparability and compatibility are of utmost importance. The data will be presented in such a way that mapping and geographic information system (GIS) referencing can be facilitated.

Accessing outside funding may require sharing information with agencies such as the World Bank, the Pan American Health Organization (PAHO), the Global Environment Facility (GEF) and others, in order to fulfill contractual partnership agreements.

Implementation Plan

PROJECT 10 – Monitoring and Assessing Pollutants across North America							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. EM&A Standing Committee operations	1.1 Addressing North American needs for environmental monitoring and assessment (EM&A).	The EM&A Standing Committee will meet once a month via conference call to review projects undertaken and rank projects for future implementation. One face-to-face session will be held every other year (last in 2008).	Jan–Dec	Assessments of work completed and a continuing dialogue for future North American EM&A activities. Will lead to increased awareness and knowledge, optimal use of resources and greater policy coherence.	US EPA, CDC, SFEI, Semarnat, *Instituto Nacional de Ecología* (INE), Cenica, HC, EC.	$20,000	Regular monthly conference call meetings and a face-to-face meeting in 2010.
2. Foundation development	2.1 Finalization of guidance document for trilateral bio-monitoring exercises.	Provide guidance on round-robin QA/QC; analytical data management and other quality assurance issues, including facilitation of customs clearance.	Jan–Dec	Increased knowledge, optimal use of resources and improved validity and reliability of data are expected.	US EPA, CDC, Semarnat, INE, Cenica, EC, HC, including experts in QA/QC validation in Mexico.	$10,000	Continued exercises in improving reporting and comparability of data including trilateral laboratory validation.

PROJECT 10 – Monitoring and Assessing Pollutants across North America							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
		Quality Assurance Summary *Background paper*: Guidance Document for Biomonitoring Initiatives (*continuation of 2008 item 08.36*)	Secretariat review: July/August 2009 Stakeholder/Expert review: July/August 2009 Peer review: September 2009 Party review–Quality assurance: October 2009 Publication: November 2009				

PROJECT 10 – Monitoring and Assessing Pollutants across North America							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	2.2 QA/QC capacity building exercise for metals and POPs analysis (with a focus on Mexico).	Capacity building project among various laboratories and reference standard validation facilities, primarily in Mexico. Two workshops: 1.Development of biomonitoring expertise 2.Sampling and chemical analysis protocols and standards development	Jan–Dec September November	Validation of laboratory capacities through improved comparability and reliability of data, leading to improved precision and accuracy in Proname analysis. Improved capacity to undertake Proname network development, including index and satellite sites and identification of indicator species. Capacity building through initiation and implementation of certified sampling and analysis protocols, such as ISO 17025.	Semarnat, INE, US EPA, CDC, EC, HC	$70,000	Continued improvement in laboratory capacity and results reporting leading to Mexican leadership in this field.

PROJECT 10 – Monitoring and Assessing Pollutants across North America

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Subtask	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	2.3 Support the EM&A capacity building approach to regional environmental monitoring through a Trilateral Lab Validation project.	Sustained production of validated data on chemicals of concern for enhanced decision-making.	Jan–Dec	Program for ensuring chemicals of trilateral concern are analyzed, reported and compared in a consistent and comparable manner. Support for Mexico's Proname focused on 2009.	Semarnat, Cofepris US EPA, EC, HC, the Secretariat, general public and all stakeholders through validated data reporting.	$25,000 (link to EM&A 3.2)	Long-term, sustainable monitoring of toxics in North America, availability of consistently comparable data.
	2.4 Mercury measurement workshop.	Capacity-building project on measurement techniques using specialized equipment for mercury measurements in the air.	May	Trainers to provide expertise and guidance in the use of sophisticated mercury monitoring equipment.	Semarnat, INE, Cenica	$10,000	Specialized training in accurate measurement of mercury species.

PROJECT 10 – Monitoring and Assessing Pollutants across North America							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
3. Reduce Risk of Chemicals	3.1 Pilot project: *Assessing mercury exposure risk in the Lake Zapotlán watershed, Mexico.* The Mercury Implementation Task Force will work with the EM&A SC to implement trilateral monitoring and assessment projects related to mercury.	A translated report, including a small database on available information on mercury in fish tissue in Mexico, will be provided following review and acceptance of the contractor submission in Dec 2008. Fish tissue studies will be consolidated and data assessed for gaps in knowledge of mercury in fish.	Jan–June	This report will provide information about the levels of mercury in various media, in the Lake Zapotlan region of Mexico, giving decision-makers baseline information from which to develop corrective actions. Development of a baseline dataset for mercury in fish in Mexico.	US EPA, CDC, Semarnat, INE, Cenica, EC, HC, academia and fish-consuming public.	$10,000	The CEC will continue to seek to benefit from externally supported, pertinent projects with additional funding. A baseline report for further fish tissue contamination awareness.
		Quality Assurance Summary *Report:* Ecosystem evaluation of Lake Zapotlan and mercury impacts, including a database of mercury in fish tissue in selected ecosystems in Mexico (*continuation of 2008 item 08.37*)	Secretariat review: Dec 2008 Stakeholder/Expert review: Jan 2009 Peer review: Feb 2009 Party review–Quality assurance: Feb 2009 Publication: April 2009				

PROJECT 10 – Monitoring and Assessing Pollutants across North America							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	3.2 Dioxins and furans: *air monitoring project.* Support the interpretation of information developed from the established network.	Assessment of the quality of data and interpretation of the results from the Mexican D/F network in the context of similar data for US and Canada.	Jan–Dec	Data generated from the 9 Mexican sites and the networks in Canada and the United States will be assembled for potential application in the North American Environmental Atlas and for use in GIS platform.	US EPA, CDC, Semarnat, INE, Cenica, EC, HC	$15,000	Integration of a sustainable D/F monitoring into Mexico's priorities and the NA Atlas.
	3.3 Lindane monitoring project: dairy products.	A follow-up report on lindane levels in dairy products including QA/QC protocols will be provided. Dairy products targeted as an indicator of children's environmental health.	Jan–Dec	Increased awareness and knowledge; improved understanding of priorities for lindane elimination.	INE, Semarnat, Cofepris, UNEP, WHO	$40,000	Information to be developed for use by Mexico in its submission for lindane inclusion in the Stockholm Convention.
		Quality Assurance Summary *Report*: Based on 2008 pilot project on lindane in dairy products, a report will summarize findings of a study to determine risk of exposure to lindane in whole milk, with an emphasis on	Secretariat review: Sept 2009 Stakeholder/Expert review: Oct 2009 Peer review: Nov 2009 Party review–Quality assurance: Nov 2009 Publication: Dec 2009				

PROJECT 10 – Monitoring and Assessing Pollutants across North America							
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Strengthen the Parties' abilities to assess and manage chemicals of concern.							
2009 Tasks	**Subtask**	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
		children					
	3.4 Emissions modeling workshop.	Initiate trilateral modeling exercises for POPs contaminants of concern, including a workshop in Mexico, based on the results of a fact finding exercise in 2008 with North American experts on long-range atmospheric transport modeling of POPs.	June–Sept	This project will enhance Mexican capacity in regional and long-range atmospheric transport modeling of toxic air contaminants (Hg, D/F, lindane, PBDE, and DDT).	US EPA, CDC, Semarnat, Cenica, EC, HC.	$40,000	Modeled emissions of toxics from Mexico, Canada and the United States to form part of the North American mapping report. Potential for application to criteria air contaminants could be explored (OP-09, Project 10).
	3.5 Contract for updating atmospheric emission inventory and trilateral comparison.	Contract for emissions inventory quantification.	Jan–Dec	Atmospheric data compatible for trilateral emissions modeling, for future use with EM&A 3.4.	US EPA, Semarnat, EC, HC, CEC Secretariat, and North American public.	$20,000	Parties to share modeling information, fate and transport algorithms.
	3.6 Follow-up to closed DDT and PCB NARAPs.	As required by Council Resolutions 07-06 and 07-07 and, in preparation for 2010 reporting to Council, prepare a report on domestic implementation of the DDT	June–Dec	a) A collaborative analysis of any domestic or international DDT and DDT residues' monitoring and	US EPA, CDC, Semarnat, Salud, HC, EC	$40,000	Two reports to Council in 2010 on the subsequent domestic implementation of NARAP actions

PROJECT 10 – Monitoring and Assessing Pollutants across North America

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Subtask	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
		and PCB NARAPs, which may alert or inform Council on their success.		assessment initiatives, which may alert or inform Council on the success of the DDT NARAP. b) A collaborative analysis on domestic implementation of PCB NARAP action items and an analysis of domestic PCB inventory/domestic annual report information.			on DDT and PCBs, including an assessment of the success of the NARAPs and follow-up, if deemed appropriate.

PROJECT 10 – Monitoring and Assessing Pollutants across North America

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Subtask	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
4. Regional monitoring Development and implementation of an integrated North American contaminants monitoring network to produce comparable and	4.1 Analysis of data comparability	Collection and harmonization of emissions data from NA index sites and monitoring programs in a format compatible with the NA Environmental Atlas and use in standard GIS platforms. Data from Canada, Mexico and the United States will be assembled and compared.	Jan–Dec	Increased awareness and knowledge; environmental improvements; optimal use of resources and greater policy coherence are expected. Comparability of emissions inventory data will be improved.	US EPA, CDC, Semarnat, INE, Cenica, EC, HC	$30,000	Continued work on this project as a resource to the NA Atlas and CEC SOE report.

PROJECT 10 – Monitoring and Assessing Pollutants across North America

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Subtask	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
compatible data.	4.2 *Proname* development	Following on the 2008 Council Resolution, North American monitoring and assessment experts will collaborate with Mexican counterparts to refine and elaborate the developing national Proname initiative.	April–Dec	The project will result the continued development and implementation of the Mexican *Proname* initiative, to be sustained nationally.	US EPA, CDC, Semarnat, INE, Cenica, EC, HC	$70,000	Collaboration to combine and assess data from the perspective of North American comparability, and highlighting the leadership role of Mexico to its Latin American counterparts. Mexico will establish Proname as a nationally funded priority.

Total Cost: C$400,000

1. EM&A Operations: $20K

2.Foundation: $115K

3. Reducing Risk: $165K

4. Monitoring: $100K

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$5,000**

QA #08.37 – Report on mercury levels in fish in Lake Zapotlán

PROJECT 10 – Monitoring and Assessing Pollutants across North America

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Subtask	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities

Performance Measurement Indicators:

- Validated information for assessing risks associated with exposure to toxic substances.
- Confidence and validity in data resulting from QA/QC procedures (capacity building).
- Harmonization of monitoring information collected in the three countries.
- Inclusion of the *Proname* initiative in Mexico's Stockholm Convention national implementation plan (NIP) report.
- Increased accessibility to and availability of reliable data on toxic substances in North America.

Results will be continually monitored through the EM&A Standing committee

Key Partners:

SMOC Working Group and its Task Forces

EM&A Standing committee and its subcommittee members

Project 11	**Enhancing North America Air Quality Management**	**Responsible Project Manager at the CEC Secretariat**	Orlando Cabrera-Rivera
Planned Allocation	C$405,000	**Working Group(s) associated with this work**	North American Air Working Group

Objective of Project

The objective of this project is to provide a more complete North American picture of air quality and air emissions to support decision-making on air quality management.

This will be accomplished by:

- identifying air quality-related information and capacity needs of the Parties;
- helping to ensure that the capacity exists to develop comparable air quality-related information and programs for North America;
- developing information products to identify emerging trends and issues; and
- informing decisions relevant to the shared environmental interests of the Parties.

Background

Project History and Foundation

In 2001, under Resolution 01-05, the CEC Council agreed to work towards promoting comparability of air emissions inventory information in North America. Since then, the CEC has pursued two goals in this regard:

1) Facilitating the development of comparable air emissions data for use in transborder air quality planning, and

2) Enhancing the public availability of air emissions information in North America.

The CEC carried out extensive work in 2003–2004 promoting the development of North American air emissions inventories, supporting Mexico's first national air emissions inventory in a manner that directly aids transborder air quality planning, as well as meeting Mexico's planning needs. The first Mexican National Emissions Inventory was completed in October 2006, and included emissions of criteria air pollutants for the year 1999.

In 2007, the Parties charged the North American Air Working Group (NAAWG) to review the current air quality work and to formulate a comprehensive vision for enhancing North American Air Quality Management for 2010–2015. The Council directed the NAAWG to develop an implementation strategy for cooperation on air quality (Air Strategy) as outlined in the 2010–2015 North American Vision, which had five fundamental objectives:

1) Developing capacity for self-sustaining inventories and ambient monitoring;

2) Achieving comparability and synchronicity of inventories and monitoring capabilities;

3) Developing meaningful and comparable data and analyses;

4) Mapping air quality trends, impacts and air quality strategies; and

5) Facilitating coordination and effectiveness of air quality policies, strategies and voluntary programs.

Consequently, in 2008 the CEC Secretariat completed a comprehensive assessment of North American air emissions inventories and air quality monitoring networks. This assessment provides a basis for the development of the Air Strategy document. In addition, with CEC support, portions of the on-road mobile, point, and biogenic source components of the Mexican National Emissions Inventory have been updated for the data year 2005, resulting in significant progress towards the comparability and synchronicity of North American emissions inventories.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

Partners involved in related air quality work include US EPA, Semarnat, Environment Canada, Mexico's INE, CEC, Western Governors' Association, the Great Lakes Commission, and individual states and provinces.

The work being done through the CEC program for North America complements ongoing efforts of these various partners in the area of air quality management, and addresses the need for comparability and compatibility of information, policies and programs across the continent.

Advisory Groups Related to This Project

The North American Air Working Group (NAAWG) is the main advisory group on this project. Frequent communications between the CEC and the NAAWG, and partner organizations ensures complementarity of efforts and quality project outcomes.

Rationale

It is recognized that emissions monitoring and inventories are high priority areas for cooperative work, to provide a more complete picture of North American air quality and air emissions, and thus protect and enhance the North American environment. However, differences in capacity to collect air emissions information can hinder the development of sound North American air quality assessment and management activities. Consequently, the momentum is strong for developing common methods, techniques and capacities for estimating air emissions, collecting ambient emissions data, and for managing the collected information in a manner that improves its accessibility for the Parties and the public.

Fulfillment of Strategic Objectives

The activities involved in this project are consistent with the specific priorities linked to fulfilling the 2005–2010 Strategic Plan, and with the Council's directive on air quality.

Information for Decision-making

Air emissions inventory information is fundamental to identifying and estimating the contribution of key source sectors to local, regional and global air quality, thus helping decision-makers design and prioritize their air quality management options. Similarly, ambient air monitoring provides air quality conditions data to inform decision-makers of reduction steps necessary in a specific region. Coupled with air quality modeling, emissions inventories and ambient air quality monitoring can help identify important source regions that affect air quality in downwind and cross border locations, making this project relevant to decision-makers in all three countries. They also provide the public with basic information on local air quality and the environmental performance of emission sources located in their communities.

Capacity Building

Comparable emissions inventories and reporting efforts, and relevant scientific information, are essential for the creation of comprehensive and coherent North American air quality management initiatives. Working with Mexico to develop the updated inventories must focus on building capacity for Mexico to provide comparable inventory updates in 2010–2012 and beyond. Another objective is to provide a forum to bring together North American air quality experts from the scientific and government communities to exchange current information that can impact public policy.

North American Scope of the Project and Its Relevance to the Three Parties

The CEC project is consistent with the Strategic Plan developed by the Parties and with the Council's directive on air quality. Furthermore, the project activities complement the Parties' other trilateral and international commitments to share air emissions information and to collaboratively reduce air pollution, including the US-Canada Air Quality Agreement, Mexico-US La Paz Agreement (currently being implemented via the Border

2012 Program), and certain activities pursuant to the Security and Prosperity Partnership.

Under the Border 2012 Program, the Western Governors Association is involved in supporting the development and improvement of air pollutant emissions inventories along the US-Mexico border. The results of these efforts, along with the CEC's will contribute to the successful completion of the 2005 Mexico's National Emissions Inventory.

The US EPA, Environment Canada, Semarnat and Mexico's Federal Electric Power Commission are involved in several projects looking to improve the characterization of emissions from Mexico's electric power sector. The resulting information will contribute to improvements in Mexico's national inventory and will provide the Parties with quality information for use in addressing air quality issues associated with long-range transport of air pollutants.

CEC Niche and Value Added

The CEC provides the framework that permits the Parties to exchange information and work cooperatively in addressing issues related to emissions inventories and ambient monitoring, which will inform air management strategies. At this time, there is no similar project that addresses the air quality management needs of all three countries. In collaboration with its partners at the national and state-province levels, and by leveraging work taking place in border areas of certain regions, the CEC is well-placed to bring together the expertise and methodologies for developing consistent techniques and capacities to improve air quality management across North America.

Linkages with Other CEC Projects

Updating the *North American Power Plant Emissions* database and report will provide supplemental information for Mexico's mercury emissions inventory being developed with the CEC's Sound Management of Chemicals (SMOC) initiative, the North American Atlas Project, and the Trade and Enforcement of Environmental Laws Project.

The project also has linkages with work being done under the CEC's North American PRTR project, particularly in the area of air releases from sources not required to report under the national PRTR programs.

Activities and Outputs

Key Activities

- Draft and present to Council the North American Air Quality Management Strategy for 2010–2015, based on the Air Vision approved by the Council in 2007, and the Comprehensive Assessment of North American Air Emissions Inventories and Ambient Air Monitoring Networks completed in 2008.
- Update components of the 2005 Mexico National Emissions Inventory (MNEI), using comparable tools and methodologies to those used in the United States and Canada, and build capacity to ensure Mexico's ability to update its inventory. The updated inventory will be completed in 2009 and includes the following components:
  - Completion of point and mobile source components, including Mobile6 adaptation, and study design for $PM_{2.5}$ emission factors development, and
  - Update of selected point and area sources.

  The resulting products of this effort will be: 1) the establishment of a process to gather the base-level activity data necessary to estimate air emissions, 2) a quality assurance/quality control plan for emissions inventory development, and 3) an emissions inventory database.
- Update the CEC's Power Plant Emissions database and report for the 2005 data year. This will allow tracking of changes in emissions, the assessment of comparability of emission estimates for pollutants of special interest (criteria, GHG, and mercury), and the provision of base level information for binational and trinational air quality management initiatives of the Parties. It will also supplement the mercury emissions inventory for Mexico under the SMOC initiative.
- Explore use of AIRNow International to make North American air quality information available to the public in a comparable manner.
- Support trinational capacity building workshops in Mexico to exchange information about scientific findings that can impact public

policy on air quality issues. Topic areas include developments on methodologies for emissions inventory preparation, new ambient monitoring and modeling techniques, and impact on air quality from importation of non-compliant non-road motor vehicles.

Target Groups

The main target groups include national, regional, and state/provincial agencies working on related efforts.

Partners, Stakeholders

The North American Air Work Group (NAAWG) and the Secretariat will collaborate, through regular meetings and conference calls, to review and monitor the progress of the projects, discuss and assess current and future project needs and priorities, offer guidance and strategies for improvement, and review relevant documents and deliverables.

The NAAWG and the CEC Secretariat will conduct discussions with the three countries, including specific partners mentioned above (US EPA, Semarnat, Environment Canada, Mexico's INE, the CEC, states and provinces), to determine ways to improve adequacy and comparability of air quality monitoring networks, and enhance data compilation, analyses, and data/information dissemination.

Leveraging

In conducting the main activities of this project, the CEC has secured the cost-effective collaborations with key partners that will contribute information and expertise necessary to enhance and successfully complete the project.

The Western Governors Association support for air pollutant emissions inventory development along the US-Mexico border will provide supplemental information to Mexico's National Emissions Inventory, especially for source categories under state jurisdiction not covered by federal reporting requirements.

Cooperative work with Environment Canada and US EPA mobile sources research laboratories to establish the study design for $PM_{2.5}$ emission factor development for on-road mobile sources in Mexico. This collaboration will reduce the cost of the study design, provide consistent methodologies across the region, and allow the use of data already developed by recent efforts in Canada and the US.

The Great Lakes Commission's sponsored emissions inventory development work conducted by the Great Lakes states and the Province of Ontario will provide vital quality information for updating the North American Power Plant Emissions database and report. Approximately one third of the sources included in the 2002 report are located in the Great Lakes region.

In addition, Projects focusing on the characterization of emissions from Mexico's electric power sector, such as Canada-Mexico work under the Security and Prosperity Partnership, and US EPA-Mexico will result in improvements to Mexico's NEI, and will provide supplementary information for use in updating the North American Power Plant Emissions database and report.

Co-sponsors of the trinational capacity building workshop on scientific findings that impact public policy on air quality issues include INE, the Molina Center for Energy and Environment, Semarnat, and Mexican state environmental protection agencies. In-kind support from US EPA, Environment Canada, and other North American academic institutions is also expected.

Outputs and Associated Timelines

- North American Air Quality Management Strategy for 2010–2015 (April 2009)
- Updated components of the 2005 Mexico National Emissions Inventory (MNEI), with the following resulting products (December 2009):
    1. the establishment of a process to gather the base-level activity data necessary to estimate air emissions;
    2. a quality assurance/quality control plan for emissions inventory development;
    3. an emissions inventory database;[1]

[1] **Note**: this activity incorporates work to complete mobile sources data collection that was planned but not completed in 2008.

- Updated CEC Power Plant Emissions database and report for the 2005 data year (December 2009);
- Workshop to address and prioritize action items identified in the North American Air Quality Management Strategy related to ambient air quality monitoring (December 2009); and
- Conduct trinational capacity building workshop in Mexico to exchange information about scientific findings that can impact public policy on air quality issues (October-November 2009).

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Preparation of a strategy for enhancing North American air quality management: defining objectives, tasks, infrastructure and associated resources necessary to achieve comparability among the three countries' emissions inventories and air quality monitoring systems.
- Completion of major components of the updated MNEI, as specified under "Activities and Outputs" above.
- Updated key information on emissions from the electricity generating sector for use in advancing air quality initiatives, climate change mitigation strategies, and determination of environmental performance.
- Consistent information to facilitate sound air quality management decisions in all three countries.
- Improved understanding of scientific issues affecting air quality management policy.

Performance Indicators

- Completion of the key components of Mexico's 2005 NEI
- Updated North American Power Plants Emissions database and report.
- Completion of the North American Air Quality Management Strategy, 2010–2015, and presentation to Council for adoption.
- Effective exchange of information between the academic community, air quality planners, and stakeholders on recent advances in air pollution research.

Intermediate Outcomes

- Infrastructure that allows the three Parties to exchange information and work cooperatively in addressing issues related to emissions inventories and ambient monitoring, which will inform air management strategies.
- Increased capacity to enhance the comparability and synchronicity of ambient air monitoring and emissions inventory information collection and analyses by following agreed upon standards, protocols, and procedures across the three countries.

Performance Indicators

- Trinational agreement on monitoring network and related data improvement plan; at least one aspect of planned modifications begun.

Final Outcomes

- Development of, and access to, comparable air quality management information.
- A more complete North American picture of air quality and air emissions that will support decision-making on air quality management.

Performance Indicators

- Comparable emissions inventory development schedules.
- Increased reliability and accessibility of emissions and ambient air quality data.

Timetable, Project Completion and Sustainability Beyond

The key activities under this project will be completed in 2009. The work for 2009 will provide a foundation for the efforts to be taken under a North American Air Quality Management Strategy for 2010–2015.

Culminating Steps in Achievement of Program Objectives

The CEC completed a comprehensive assessment of North American air emissions inventories and air quality monitoring networks. This assessment provides a basis for the development of the Air Strategy document that will be presented to Council in 2009. In addition, with CEC support, portions of the on-road mobile, point, and biogenic source components of the Mexican National Emissions Inventory have been updated for the data year 2005, resulting in significant progress towards the comparability and synchronicity of North American emissions inventories.

Target End Date for CEC Involvement

All tasks described in this project are slated for completion in 2009. Subsequent collaboration pursuant to the Air Strategy is subject to the determination of the CEC Council.

Sustainability Beyond

The sustainability of the work will depend upon the strength of the links and infrastructure that will allow the Parties and stakeholders to continue their cooperative work on air quality related issues.

Communications

Communications and outreach will depend on progress in updating the emissions inventories and will be complemented by the Parties' air experts as part of their overall strategy for air quality activities.

The North American Air Quality Management Strategy, 2010–2015 will be submitted to Council for approval at its 2009 meeting.

The workshop summary will be posted on the CEC website.

Information Management

This project will require the coordination and exchange of information on existing air quality and emissions reporting systems managed by the three Parties.

The project also involves the development of electronic databases that will allow the efficient storage of, and access to, air pollutant emissions information. The databases will also support web mapping applications, and be used in other CEC initiatives.

Reports developed through this project will be available in electronic format on the CEC's website.

Additional details related to information management will be developed following discussions of NAAWG.

Implementation Plan

PROJECT 11 – Enhancing North America Air Quality Management						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Develop the information needed to describe the state of the North American environment and to identify emerging trends and issues.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Prepare North American Air Quality Management Strategy, 2010–2015	A strategy for Council consideration and approval.	April 2009	Strategy for enhancing North American air quality management.	US EPA, Environment Canada, Semarnat, states and provinces.	$40,000	Future work under the 2010–2015 Air Strategy will depend upon Council approval.
	Quality Assurance Summary *Council Document*: North American Air Quality Management Strategy, 2010–2015	Secretariat review: January-February Party review–Drafting: Two-week review in February by North American Air Working Group (NAAWG) Party review–Quality assurance: March 2009 Publication: N/A				
2. Complete specified portions of the update of Mexico's 2005 National Emissions Inventory: • Collection of on-road mobile sources vehicle activity data for key cities lacking the information	Updated MNEI for: • Availability of vehicle activity data for use in Mobile6-Mexico, and completion of inventory for mobile sources. • Study design for development of $PM_{2.5}$ emission	July 2009	Comparable emissions inventories for a common base year for use in national and regional North American air quality initiatives.	US EPA, Semarnat, Environment Canada, INE, academic and research institutions, North American local, state and regional environmental protection agencies, indigenous/ tribal/first nation governments or agencies.	$200,000	The inventory compilation work will be completed in 2009, and the final inventory released in 2010. Future work may include assistance in development of the inventory for the 2008 data year.

PROJECT 11 – Enhancing North America Air Quality Management						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Develop the information needed to describe the state of the North American environment and to identify emerging trends and issues.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
• Completion of point and on-road mobiles sources inventory • Cooperative work with Environment Canada and US EPA mobile sources research laboratories to establish study design for $PM_{2.5}$ emission factor development	factors. • Completion of selected point, mobile and area sources emissions inventory. • Note: this activity incorporates work to complete mobile sources data collection that was planned but not completed in 2008.					
3. Information collection for Power Plant Emissions database and report update	• Updated Power Plant Emissions database report with 2005 data. • Complementary information for US-Mexico, and Canada-Mexico work on the electricity sector. • Supplementary	December 2009	Updated key information on emissions from the electricity-generating sector for use in advancing air quality initiatives, climate change mitigation strategies, and determination of environmental performance.	US EPA, Semarnat, Environment Canada, states and provinces.	$80,000	2008 data update will be considered in 2010 or 2011.

PROJECT 11 – Enhancing North America Air Quality Management						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Develop the information needed to describe the state of the North American environment and to identify emerging trends and issues.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	information for Mexico's mercury inventory. • Improved characterization of emissions from electric power sector.					
	Quality Assurance Summary *Report*: North American Power Plants Emissions Report	Stakeholder/Expert review: Selected stakeholders/ experts for three-week review (First half 2009) Party review–Drafting: Three-week review (July, 2009) Party review–Quality assurance: August 2009 Publication: December 2009				
	Quality Assurance Summary *Project Database*: Database of Atmospheric Emissions from North American Power Plants	First half of 2009 - Data compilation from publicly available information from the Parties				
4. Conduct trinational workshop to address and	• Trinational decisions on networks, data,	December 2009	Significant progress toward adequate and comparable networks, along with	US EPA; Semarnat; INE; Environment Canada; CEC; state/provincial,	$70,000	Carrying out the various levels of work, based on decisions reached via

PROJECT 11 – Enhancing North America Air Quality Management						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Develop the information needed to describe the state of the North American environment and to identify emerging trends and issues.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
prioritize action items identified on the North American Air Quality Management Strategy related to monitoring networks data gathering, analyses, and dissemination efforts. Explore the use of AIRNow - International for dissemination of comparable ambient air quality index data.	analyses, and AIRNow. • As agreed, institute modifications		comparable and synchronized data management and dissemination.	local and indigenous/tribal/first nation governments; regulated entities; NGOs; academia; research organizations international organizations, and general public interested in air quality issues.		trinational discussions, will flow into 2010 and possibly 2011
5. North American Air Working Group (NAAWG) and Secretariat collaborate, through regular meetings and conference calls, in reviewing and monitoring the progress of the	Efficient and effective implementation of Air Vision and related projects.		Efficient and effective achievement of CEC/Parties' air quality objectives.	Environment Canada, Semarnat, US EPA, states and provinces.	$5,000	Continue collaboration between the Secretariat and NAAWG on the implementation of air quality projects.

PROJECT 11 – Enhancing North America Air Quality Management						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Develop the information needed to describe the state of the North American environment and to identify emerging trends and issues.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
projects, assessing current and future project needs and priorities, suggestions for improvement, and reviewing relevant project documents and deliverables.						
6. Support trinational capacity building workshop in Mexico to exchange information about scientific findings that can impact public policy on air quality issues.	Effective exchange of information between the academic community, air quality planners, and stakeholders on recent advances in air pollution research.	October 2009	Improved understanding of scientific issues affecting air quality management policy. Provide bases for informed and sound public policy air quality initiatives.	US EPA, Semarnat, Environment Canada, academic institutions, state/provincial/local environmental management agencies, and industry.	$10,000	To be determined based on workshop outcomes and feedback from participants and the Parties.
Total Cost: $405,000						
Performance Measurement Indicators: • Completion of components of Mexico's NEI 2005. • Updated North American Power Plants Emissions database and report. • Completion for Council consideration of the North American Air Quality Management Strategy.						***Key Partners:*** US EPA, Semarnat, Environment Canada, INE, CEC, States and provinces, Great Lakes Commission, Western Governors

PROJECT 11 – Enhancing North America Air Quality Management						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Develop the information needed to describe the state of the North American environment and to identify emerging trends and issues.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
• Effective exchange of information between the academic community, air quality planners, and stakeholders on recent advances in air pollution research. • Trinational agreement on monitoring network and related data improvement plan; at least one aspect of planned modifications begun. • Comparable emissions inventory development schedules. • Increased reliability and accessibility of emissions and ambient air quality data.						Association

Project 12	**Tracking Pollutant Releases and Transfers in North America**	**Responsible Project Manager at the CEC Secretariat**	Orlando Cabrera-Rivera
Planned Allocation	C$451,000	**Working Group(s) associated with this work**	North American PRTR Officials

Objective of Project

The main objectives of the project are:

- to compile and disseminate information on the amounts, sources, and management of toxic contaminants from industrial activities in North America; and
- to promote the use of this information for the development of sound initiatives that will result in the reduction of industrial releases and transfers of pollutants of concern across the region.

Background

Project History and Foundation

Begun in 1996, the CEC's North American Pollutant Release and Transfer Register (NAPRTR) project has been a key component of the CEC's ongoing work on pollutants and environmental health. The NAPRTR project collects and analyzes information from the PRTR programs of Canada, Mexico and the United States on the amounts, sources, and handling of toxic chemicals released or transferred from industrial facilities. Where pertinent, additional sources of data and information might also be used to supplement PRTR data and enhance understanding.

This information is made available to a spectrum of users, including local governments, industry, nongovernmental organizations, and the general public, through the CEC's flagship publication, *Taking Stock*, and the *Taking Stock Online* web pages and searchable database, at http://www.cec.org/takingstock. Together with the PRTR officials of the three countries, the NAPRTR project team works on the implementation of the *Action Plan to Enhance the Comparability of Pollutant Release and Transfer Registers in North America*.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

A key element in the provision of information to stakeholders from the three countries is the annual NAPRTR Consultative Group meeting. This event brings together stakeholders such as: government PRTR officials and state, provincial, and municipal representatives working on PRTR or similar inventory initiatives; representatives of reporting industries; international PRTR organizations, nongovernmental organizations working on pollution prevention and health; and any other stakeholder wishing to learn about and have input in the work of the NAPRTR project.

The nature of this project is one that uses existing resources and adds value to the individual national PRTR programs.

Advisory Groups Related to this Project

The CEC's NAPRTR Consultative Group is an ad hoc advisory group consisting of a variety of stakeholders, including the PRTR officials of the three countries. Many of the CG members are regular participants of the annual CG meeting, providing input for the NAPRTR project and the *Taking Stock* report and website.

Rationale

Fulfillment of Strategic Objectives

Activities under the NAPRTR project support specific objectives and priorities stated in the CEC's 2005–2010 Strategic Plan:

Information for Decision-making

The NAPRTR Project provides information relating to the sources, amounts and handling of toxic chemicals released or transferred by industrial facilities in Canada, the United States, and Mexico. The *Taking Stock* report brings together this information in a format that allows stakeholders to understand the context and limitations of PRTR data, as well as areas for further improvement. The report also features special analyses of releases and transfers from specific sectors, or of certain chemicals, which can provide additional insights for decision-making.

This project aims to provide information to support sustainable environmental policies and practices throughout North America that promote reductions in pollutant releases from industrial activities. It seeks to encourage relevant decision-making activities by governments, industry, and non-governmental organizations, as well as to equip the general public with information concerning environmental issues. Examples of how the *Taking Stock* report and database have been useful to decision-makers include:

- analyses of releases and transfers from specific sectors, providing information to the Parties about inconsistencies in data from the three countries;
- analyses of data submitted and identification of "outliers," or suspect data and communication of this information to the Parties, leading to improved data quality;
- use by NGOs such as Environmental Defence (Canada) for their reports on releases and transfers from facilities in the Great Lakes region;
- increased awareness and use of national PRTR data, due to outreach efforts (informal survey) about PRTR data in indigenous communities in Canada-US and US-Mexico border regions; and
- anecdotal evidence of use, by PRTR reporting facilities, of the comparisons and rankings in the *Taking Stock* report to improve their environmental performance.

Capacity Building

Through this project, the three Parties work together on the identification of needs and corrective actions for consistent data collection, comparability, and quality across the PRTR systems in North America. The trilateral data analyses conducted under the NAPRTR project also provide the Parties with baseline information necessary to identify suspect data; validate the information collected; and improve the overall quality of the data. Capacity building is especially relevant for Mexico's *Registro de Emisiones y Transferencia de Contaminantes* (RETC) program, which became mandatory only in 2004. Current challenges include a 30-percent increase in reporting facilities between 2004 and 2005, with a correspondingly steep learning curve for Mexican administrators and the facilities required to report.

The following capacity-building initiatives will promote increased comparability and consistency in the areas of data reporting, collection and quality assurance:

- Support for Mexico's efforts to improve efficiencies in the flow of PRTR data from Mexican states to the federal government; and identification and communication of data "outliers," through data compilation and analysis in the *Taking Stock* report.
- Exchanging information among PRTR officials on current data quality and industrial sector characterization efforts undertaken by the Canadian and US PRTR programs. This will result in improvements to the individual PRTR programs and promote increased comparability of PRTR data across North America. The NAPRTR project's compilation, comparison and analysis of releases and transfers from certain sectors (e.g., steel and iron, cement, electricity) complement and provide additional information to national efforts in this regard.

Trade and Environment

The information developed through this project provides base-level information to assess the environmental performance of certain industrial

sectors and the implementation of pollution prevention efforts resulting in cost reductions and increased competitiveness. Certain activities under the NAPRTR Project (e.g., examining releases and transfers from the electronics, electric generation, and other sectors) have synergies with the Trade and Environment program.

North American Scope of the Project and Its Relevance to the Three Parties

By virtue of its North America-wide scope, the NAPRTR project allows for comparisons of industrial pollution, particularly within industrial sectors common to the three countries. Through analyses of reported PRTR data from Canada, Mexico and the United States, governments, industry representatives, and citizens can better understand the sources and types of industrial pollution with potential impacts on the health and environment of North Americans. The analysis provided by *Taking Stock* also describes changes in the pattern and trends of releases and transfers of toxic chemicals over time, by media, sector and country. This understanding is the first step in the decision-making process.

CEC Niche and Value Added

The importance of this project stems from the fact that it adds value and relevance to the goals of the national PRTR efforts, and provides information and analysis beyond that available through individual PRTR programs. The North American analysis of pollutant releases and transfers over time, through the *Taking Stock* report, is a unique contribution to public understanding of pollution sources and a leading example of the fulfillment of the public's right-to-know concerning pollution management. Through published analyses and online mapping of reporting facilities across North America, it offers enhanced access to important information for all stakeholders, for use in addressing environmental issues of concern at local, regional, national, and trinational levels.

Tracking pollutant releases and transfers at the continental scale recognizes that pollution reduction efforts require collaboration across borders. This project also fosters communication and cooperation among the three Parties in working toward institutionalizing and improving their own PRTR programs. The creation of Mexico's RETC and its incorporation into the NAPRTR is one of the success stories associated with this project.

Through the publication of *Taking Stock* and other outreach efforts, the CEC helps to increase visibility of individual programs. The CEC's North American PRTR project's annual Consultative Group meeting also provides a forum for stakeholders across North America to obtain information and provide feedback on the uses of PRTR data, data quality, data presentation, and outreach. Moreover, Canadian, Mexican and US officials also participate in this annual meeting, providing updates and information about their individual programs, while at the same time benefitting from stakeholder feedback within a regional context.

Linkages with Other CEC Projects

The NAPRTR project has linkages with the CEC's Sound Management of Chemicals (SMOC) initiative. Certain chemicals, or groups of chemicals (such as mercury and PBTs), are of concern and targeted for prioritization under both initiatives.

Similarly, there are inherent synergies between the NAPRTR project and the Enhancing Air Quality in North America efforts. For example, PRTR data from coal- and oil-fired power plants can be combined with other sources of information for use in specific air quality studies of this sector.

The data collected and analyzed under the NAPRTR project can provide information and potentially serve as indicators for the Trade and Environment project, "Assessment of the Linkages between Environmental Sustainability and Competitiveness in Selected Sectors for North America."

This project has linkages with the North American Atlas project, linkages which are being constantly developed through increased mapping of PRTR data used for a variety of analyses in the report and on the website.

Activities and Outputs

Key Activities

The specific activities or tasks that will be undertaken within the NAPRTR project include the following:

- NAPRTR Officials Working Group: Organize regular conference calls with PRTR officials to review the progress of the project (including relevant documents and deliverables), discuss and assess

the project's needs, offer guidance and strategies for improvement, and assist in setting priorities.

- Capacity Building: Work with officials on developing and implementing ways to increase comparability and consistency in the areas of data reporting, collection, and quality assurance. Activities will include the exchange of information for the development of industry-sector profiles, and promoting efficiencies and exchange of information about quality assurance and control mechanisms to promote improved data quality, particularly with respect to RETC state-federal data flows.
- Data Collection and Analysis: Collect information from the PRTRs and, where pertinent, other data repositories of the three Parties; address data inconsistencies and incorporate results of relevance and use to the Parties and stakeholders in the *Taking Stock* report. One goal is to provide the data in a format suitable for use in Web and mapping applications (e.g., in accordance with North American Atlas Framework guidelines).
- Information Management Infrastructure: Explore innovative ways to improve the process of gathering, storing, and accessing the NAPRTR data in order to increase their usefulness in existing or future projects or applications (e.g., *Taking Stock Online*, Atlas Mapping, Trade and Environment projects, and ad hoc reporting for CEC programs).
- Outreach: Organize the annual PRTR Consultative Group meeting, which provides feedback on *Taking Stock* and the NAPRTR project, and offers input into areas of focus and analysis for future reports; participate in national and international PRTR efforts; and increase outreach via enhanced access to the *Taking Stock Online* website and tools.

Target Groups

The NAPRTR Project's target groups include the universe of possible stakeholders, but more particularly, governments, nongovernmental organizations working on pollution issues, industry, academics involved in related studies, and the average citizen looking for information about local, national or continent-wide pollution sources.

Partners, Stakeholders

The US EPA (Toxics Release Inventory), Environment Canada (National Pollutant Release Inventory), and Mexico's Semarnat (RETC program) provide the information and data for this project. Academics and industry experts also participate by reviewing the *Taking Stock* special feature chapter.

Leveraging

Data from the three Parties are used for the compilation and production of reports and associated products of the NAPRTR project.

Outputs and Associated Timelines

The *Taking Stock 2006* report and *Taking Stock Online* (website and searchable database): May 2009

Anticipated Outcomes and Performance Indicators

Direct Outcomes:

The direct outcome of the NAPRTR project is the creation of infrastructure that allows the three Parties to exchange information, reach a common vision, and work cooperatively in addressing issues related to the comparability, consistency and improvement of their respective PRTR programs.

Performance Indicators

- Reduced time lapse between data collection and final report distribution.

Intermediate Outcomes*:*

This infrastructure permits the Parties to build capacity and seek policy changes that ultimately make possible the integration, relevance, and usefulness of the PRTR databases across North America.

Performance Indicators

- Consistency in reporting requirements across PRTR programs, including reporting of priority pollutants, as recommended in the

Action Plan to Enhance the Comparability of Pollutant Release and Transfer Registers in North America.

Final Outcomes

The final outcome of this project is the creation of an integrated North American PRTR project that supports the compilation and dissemination of quality, unbiased and comparable information. The ultimate goal of this project is that the use of this information will result in positive actions, such as informed policy decisions, industry evaluation of efficiency and environmental performance, cost-effective pollution prevention practices, and citizen awareness about hazardous substances released to the environment.

Performance Indicators

- Level of information use in decision-making by stakeholders.

Timetable, Project Completion and Sustainability Beyond

The NAPRTR project expects to achieve some major goals in the next couple of years, particularly in relation to:

- streamlining PRTR data collection, compilation and exchange processes for the three countries;
- increased automation of many elements of the online searchable PRTR database; and
- standardization of those elements of *Taking Stock* that are regular features of the annual publication.

The sustainability of this project is possible due to its ability to demonstrate the relevance and usefulness of the information it provides, the success in the institutionalization of the RETC, the establishment of innovative ways to exchange information, and the continuing cooperation of the PRTR officials. With a solid infrastructure in place, the project costs and related CEC workload can be significantly reduced. However, given the trinational scope of the project, the coordinating role of the CEC will need to continue. The work envisioned over the next two to three years should focus on:

- Continuing the effort to increase the comparability and consistency of the PRTR data. This may include the use of supplemental information collected by the Parties outside their PRTR programs.
- Expediting the data collection and analysis process to provide timely information.
- Improving the *Taking Stock* report, in terms of adding context, and user-friendliness of outreach products to increase relevance and usefulness of the information for the Parties and stakeholders.
- Developing performance measures to gauge the effectiveness of the project.

Culminating Steps in Achievement of Program Objectives

- Mandatory RETC in Mexico
- Integrated PRTR database for North America

Target End Date for CEC Involvement

Due to the trinational nature of the project and coordinating role of the organization, it is anticipated that the CEC will continue to be involved, but that the level of effort will decrease over the years.

Sustainability Beyond

With the establishment of Mexico's mandatory RETC and recent public access to RETC data, ongoing collaboration between the CEC and the Parties focuses on data quality and promoting efficiencies in the state/provincial-federal exchange of information. Over the next few years, work will continue in these areas and the three Parties will have gained experience working together. This collaboration on increased efficiencies and data quality, along with improvements in terms of the scope and analyses of data in the *Taking Stock* report, will lend more weight to the specific actions recommended in the *Action Plan to Enhance the Comparability of PRTRs in North America* – including the promotion of additional industry sectors and priority chemicals for PRTR reporting.

The CEC can catalyze further action on the part of the Parties through regular communication and collaboration on the specific areas mentioned above. Analyses of data in *Taking Stock* are also catalysts for further action because

they point out areas where attention is needed (e.g., significant differences in chemical or sector reporting). Through the annual NAPRTR Consultative Group meetings, stakeholders have the opportunity to provide feedback on the content and presentation of information and data in the *Taking Stock* report and website. In addition, the three government PRTR officials and other stakeholders exchange information about the national PRTR programs and establish reliable channels of communication.

Communications

The target audiences for NAPRTR products and information are governments, nongovernmental organizations working on pollution issues, industry, academics involved in related studies, environmental news reporters, and the average citizen looking for information about local, national or continent-wide pollution sources. Communication occurs through the CEC *Taking Stock Online* web pages and searchable database, through the *Taking Stock* report, and at the annual NAPRTR Consultative Group meeting, where all stakeholders can have input into the CEC's NAPRTR project process.

Information Management

Improved, integrated PRTR database: Data collection will initially be manual, but with greatly expanded ease of integration—in the future, possibly automated data collection. Users will have access to all reported data, as well as data subsets used for specific *Taking Stock* analyses.

A consultant has been charged with verifying, developing and documenting the integrated database for future use and maintenance by CEC staff. This contract includes the development of data outputs, such as maps and graphics, to enhance access and understanding by users. The improved database will enable better data access by users and, through standardization of certain elements (e.g., geographic coordinates conforming to the North American Atlas Framework), access for purposes of other CEC programs.

Implementation Plan

PROJECT 12 – Tracking Pollutant Releases and Transfers in North America

Strategic Objectives:

- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
1. Complete data collection, analysis and interpretation for *Taking Stock 2006.* Review specific data elements (e.g., pollutant characterization, CAS numbers) for accuracy and consistency across the three databases.	An integrated data set using the 2006 reporting year PRTR data from the Parties, and data from other programs as needed. This data set will become the basis for the *Taking Stock* report. A strategy for supplementing the NAPRTR data with additional information already collected by the Parties under other programs Planning for *Taking Stock* 2006 report structure	Nov 2008–Jan 2009 for data collection (contingent upon timely reception of Mexico's data).	A quality-assured data set to support the *Taking Stock* report and other products. Assessment of and recommendations of cost-effective actions to achieve data consistency. Provide improved context for data interpretation.	This information will assist Mexico's RETC, the US TRI program, and Canada's NPRI program in the evaluation of their data-reporting activities. Other beneficiaries include users of the information; NGOs, academics, industry, and citizens looking for information on toxic pollutants from industrial facilities.	$115,000	Collection and analysis of 2007 PRTR data
2. Complete and publish *Taking Stock 2006*	A North American comparative analysis of PRTR	Late May 2009	Dissemination of information for decision-making. Increase the	Citizens of the general public looking for information about	$100,000	This task will be completed in 2009. Publication of 2007 data is

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2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	data to inform decision makers about the status, trends, and management of industrial pollutants. This information is available in printed form and online. Six-week advanced electronic copy of final report to the Parties.		public right-to-know about pollution sources. Assist local pollution control agencies in assessing areas of concern. Provide industry with information that could be used in adopting cost-effective pollution control measures. Lead time for Parties to prepare for final publication.	pollutants from industry, local and state/provincial governments, industry, academics, and NGOs working on health and pollution issues.		expected in 2010.
	Quality Assurance Summary *Report*: *Taking Stock 2006*	*Secretariat review*: Process begins with data collection from the Parties (Nov 2008-January 2009). Consultants analyze the data, identify suspect data and establish integrated data set (and subsets, where pertinent). Follows review and corrections of key data elements (involving input from Parties). Writing (especially of the feature chapter) begins in November. Target publication release date: late May 2009. *Stakeholder/Expert review*: The special feature chapter is circulated to selected stakeholders/experts for a three-week review (Feb-March 2009). *Party review—Drafting*: Three-week Party review of the Special Feature chapter (Feb-March 2009); and of the 2006 trilateral data chapter (March 2009). *Public review*: The PRTR Consultative Group met in the fall of 2008 to discuss *Taking Stock* and advise on PRTR project priorities. *Party clearance*: Four-week advance copy of the *TS06* News Release.					

PROJECT 12 – Tracking Pollutant Releases and Transfers in North America						
Strategic Objectives: • Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern. • Make environmental information more widely available in order to facilitate local, national and regional action. • Strengthen the Parties' abilities to assess and manage chemicals of concern.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
		Publication: Late May 2009				
3. Upgrade and enhance *Taking Stock Online* (Web application)	Incorporate data into *Taking Stock Online* to support electronic access and customized searches of the database, and enhance the information from the report by integrating graphics and mapping capabilities.	Ongoing	Value-added information for the users, more efficient access to the data, and cost reductions associated with reduced need for printed materials.	Citizens looking for information about pollutants from industry, local and state/provincial governments, industry, academics, NGOs working on health and pollution issues.	$45,000	Future upgrades will also focus on providing value added information and in streamlining the *Taking Stock* report.
	Quality Assurance Summary *Ongoing Database/Online service*: *Taking Stock Online* (2006 data)	• Extract data, prepare integrated database and datasets for analyses (January-March 2009). • Prepare data for online search tool, including latitudes/longitudes amenable to mapping applications (March-May 2009). • Release data with publication of the *Taking Stock 2006* report (late May 2009).				
4. Begin data collection and interpretation data for *Taking Stock 2007*	Development of a database of 2007 PRTR data from the Parties	July 2009	A quality-assured data set to support the *Taking Stock* report and other products		$20,000	Work with the PRTR

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- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	Planning for *Taking Stock 2007* report structure.		Recommendations of cost-effective actions to achieve data consistency.			programs to expedite and synchronize data availability for *Taking Stock* report.
5. Work collaboratively with the Parties' PRTR programs on their efforts to develop industrial sector profiles to characterize and improve data quality and reporting. Work with Mexico to support and ensure data quality improvements and expedite electronic RETC data transfer between state and federal agencies.	Improve data quality, reporting and consistency of PRTR programs. Improve timeliness, availability, completeness, and quality of data for analysis.	Ongoing	Provide timely, quality information to stakeholders and decision makers.	PRTR programs in Canada, Mexico, and the US, industrial sectors, and stakeholders	$75,000	Continue work with the national PRTR programs in improving characterizations for industrial sectors of interest.
6. Present the NAPRTR efforts at OECD, IPRTR Coordinating Council, and US EPA International Emissions Inventory Conference,	Increasing visibility of the CEC and enhancing outreach efforts of the NAPRTR.	March 2009	Information exchange, beneficial to all Parties: to improve NAPRTR data presentation and provide information and experience to related	Environmental professionals, industry representatives, policy-makers, government representatives, and international	$6,000	Increase outreach efforts with other regional PRTR efforts.

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- Strengthen the capacity of North American decision-makers to understand continental environmental issues of common concern.
- Make environmental information more widely available in order to facilitate local, national and regional action.
- Strengthen the Parties' abilities to assess and manage chemicals of concern.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
to promote the North American approach to PRTRs.			initiatives, as well as to recently-established regional or international PRTRs.	organizations (including NGOs).		
7. Conduct stakeholder consultations through the annual PRTR Consultative Group meeting, which will be held in Mexico in 2009.	Present project results and receive input on potential focus area of *Taking Stock 2008* and direction of PRTR project.	Fall 2009	Information exchange among all stakeholder levels. Promotion of national PRTR programs. Provide opportunity for input in program developments.	PRTR programs in Canada, Mexico, and the US; state/ provincial/municipal representatives; industrial representatives; NGOs; concerned citizens.	$90,000	Increase stakeholder outreach and involvement, and promote greater use of PRTR information.

Total Cost: $451,000

Performance Measurement Indicators:

- Reduced time lapse between data collection and final report distribution.
- Consistency in reporting requirements across PRTR programs, including reporting of priority pollutants, as recommended in the *Action Plan to Enhance the Comparability of Pollutant Release and Transfer Registers in North America*.
- Increased level of information use in decision-making by stakeholders.

Key Partners:

Key partners include PRTR officials from the three countries: Environment Canada, Mexico's Semarnat, US EPA.

Project 13	**Conserving Marine Species and Spaces of Common Concern**	**Responsible Project Manager at the CEC Secretariat**	Hans Herrmann
Planned Allocation	2009: C$**$351,000** Completion of 2008 Outputs: C$32,000 Total: C$383,000	**Working Group(s) associated with this work**	Biodiversity Conservation Working Group

Objective of Project

The purpose of this project is to assist the Parties in fulfilling their commitment to better conserve, protect and enhance the North American environment,[1] specifically by implementing pilot projects that effectively demonstrate the benefits of trinational collaboration, and that can be replicated in other regions.[2]

With the completion of the first five years of the 15-year biodiversity strategic plan, many of the CEC's species and spaces projects will be phased out in 2009—providing an opportunity to either conclude these initiatives or to foster their continuation in other venues.

Background

Project History and Foundation

The Strategic Plan for North American Cooperation in the Conservation of Biodiversity (the Biodiversity Strategy) was endorsed by the CEC Council in 2003. Holistic in design, the Biodiversity Strategy is intended to steward trinational efforts to conserve species and spaces and deal with common threats by strengthening local capacity, and using economic and market instruments in regions of ecological significance and conservation sites, like the Baja California to Bering (B2B) marine region.

The B2B initiative and the related marine North American Conservation Action Plans (NACAPs) have demonstrated pilot implementation of the Biodiversity Strategy and a framework for cooperation. The year 2008 marked the completion of the Strategy's first five-year cycle. Accordingly, and as prescribed in the Strategy, 2008 also marked its first comprehensive review. It is expected that this review will form the basis for adjustment and renewal of the ongoing Strategy.

Important milestones:

- June 1997—*Ecological Regions of North America: Toward a Common Perspective* was published.
- October 1999—17 terrestrial species were chosen as species of common conservation concern.
- July 2002—16 marine species of common conservation concern agreed upon by the three countries.
- April 2003—priority conservation areas (PCAs) for the Baja California to Bering Sea (B2B) region were identified.

[1] Under the North American Agreement on Environmental Cooperation (NAAEC); see: http://www.cec.org/pubs_info_resources/law_treat_agree/naaec/index.cfm?varlan=english.

[2] Council Resolution 08-05: *The CEC Council will: "Consider expanding the strategic approach of the NAMPAN to embrace the Atlantic, the Gulf of Mexico and Caribbean, and the Arctic coasts of North America."* See: http://www.cec.org/files/PDF/ABOUTUS/08-05RES_en.pdf.

- June 2003—Council adopted the Strategic Plan for North American Cooperation in the Conservation of Biodiversity.[3]
- June 2004—six marine and terrestrial species were selected for NACAP implementation.
- April 2005—implementation of a network of monitoring sister sites in the B2B region began.
- 2005–2007—establishment of the B2B scorecards, a common framework to assess the ecological conditions of and understand the underlying pressures on biodiversity in selected marine protected areas (MPAs) throughout the B2B region.
- 2007–2008—the CEC implemented several training workshops for fishermen in support of Mexico's decentralization initiative.
- May 2008—the Biodiversity Conservation Working Group (BCWG) endorsed the current project and recommended the continuation of work on NAMPAN and the NACAPs in 2009.
- June 2008—CEC Council decided to consider expanding the NAMPAN strategic approach into other shared ocean ecosystems (e.g., Atlantic, Arctic, Gulf of Mexico).[4]

Key Stakeholders, Resource Leveraging, Partnerships

Implementation of this project will continue to be in partnership with government agencies:

Tasks 1–4: National Oceanic and Atmospheric Administration (NOAA-National Marine Sanctuaries, Estuarine Reserves, Fisheries), Interior (National Park Service, Fish and Wildlife Service) Fisheries and Oceans Canada (DFO), Environment Canada (EC), Parks Canada, the *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), *Instituto Nacional de Pesca* (Inapesca).

Task 5: NOAA (National Marine Sanctuaries, Estuarine Reserves, Fisheries), Interior (National Park Service, Fish and Wildlife Service) Fisheries and Oceans Canada (DFO), Environment Canada (EC), Parks Canada, Conanp, Inapesca, including region's NGOs, research centers, universities and local environmental agencies.

Task 6: NOAA-NMFS, DFO, Conanp, and fishing communities.[5]

Task 7: SPLASH partnership (government agencies contributing 90% of resources).

Task 8: OIKONOS in-kind services (salaries and website), and NOAA, contributing 50% of resources), in-kind services from Canada's PFSW recovery team.

Advisory Groups Related to this Project

Biodiversity Conservation Working Group (BCWG); NAMPAN steering committee; and the NACAP ad hoc technical and scientific teams.

Rationale

This project has assisted the Parties in strengthening their continental capacities and baseline knowledge conserving priority species and habitats in a region of high ecological significance in North America.[6]

It has done so by:

- assisting the Parties in identifying, assessing and addressing the underlying causes of decline of three marine species of common conservation concern;
- helping fill capacity gaps required for monitoring species and habitats of common interest;
- supporting the establishment of a functional network of MPAs, to assess and monitor the ecological integrity of key marine spaces; and

[3] Council Resolution 03-07: http://www.cec.org/files/PDF/ABOUTUS/Res-07-Biodiversity_en.pdf.
[4] Council Resolution 08-05, http://www.cec.org/files/PDF/ABOUTUS/08-05RES_en.pdf.

[5] Fishing communities to partner in the training workshops will depend upon the results of the characterization of index beaches
[6] See: http://www.cec.org/programs_projects/conserv_biodiv/priority_regions/index.cfm?varlan=english.

- promoting the project experience as a replicable model valid for application to other ecological significant regions in North America (monarch sister sites network, grasslands, etc.).

Fulfillment of Strategic Objectives

This project is linked to the fulfilment of the 2005–2010 Strategic Plan through the following[7]:

- Strengthening capacity, establishing a framework, and filling information gaps, in order for decision-makers to understand the underlying pressures on key habitats and priority species, and ways to promote sustainable development activities for a region of shared interest, as it has been achieved by the B2B scorecard framework (**Objective 7**).
- Training activities, as outlined in the NACAPs, that promote species conservation, by addressing underlying stressors (incidental bycatch and vessel collisions), and the scoping of potential market approaches to support protection, conservation, and sustainable local economies (**Objective 6**).
- Scoping of potential market approaches to support marine conservation and sustainable local economies, through (among others) the development of sustainable biodiversity business opportunities which incorporate marine conservation goals (**Objective 10**).
- The sharing of scientific information and expertise to support and increase knowledge of key habitats and priority species, sustainable activities, and the prevention and reduction of destructive practices (**Objective 4**).

One of the most comprehensive projects of NAMPAN to date has been the establishment of the NAMPAN Condition Assessment Scorecard, which distils large amounts of complex technical and traditional/local ecological knowledge about MPA conditions for the west coast (B2B) of North America.

[7] Refer to CEC's Strategic Plan objectives (http://www.cec.org/files/PDF/ABOUTUS/2005-2010-Strategic-plan_en.pdf).

The year 2009 represents the culmination of the B2B pilot and related marine NACAPs under the auspices of the CEC, having achieved:

- a common environmental information baseline, based on a *pressure-state-response* model;
- an operational trinational network of experts and managers that will continue to address issues of concern;
- increased capacities of key stakeholders (fishermen, and tourist operators) to deal with the challenges of protecting endangered species while continuing their economic activities;
- a cadre of MPA managers that will steward a continental perspective in the management and monitoring of MPAs in the B2B region; and
- a common reporting approach (B2B scorecards) for MPAs, which can be replicated in other marine or terrestrial regions.

North American Scope of the Project and its Relevance to the Three Parties

This project will implement pilot projects to conserve species and spaces of common concern that effectively demonstrate the benefits of trinational collaboration, and that can be replicated in other regions of ecological significance to North America.

In order to maintain ecological integrity, protect migratory species, transboundary habitat, and deal with common threats to marine ecoregions, a continental approach to marine conservation has been developed under the stewardship of the CEC. The North American Marine Protected Areas Network (NAMPAN) represents a trinational network of MPA managers and other relevant experts and is intended to enhance and strengthen the conservation of biodiversity in critical marine habitats and help foster a comprehensive network of MPAs in North America by the responsible agencies in the three countries.

The leatherback turtle, the humpback whale, and the pink-footed shearwater are among the 33 North American Species of Common Conservation Concern (SCCC) because of the opportunity to address incidental bycatch in the three countries. The designation by the CEC of North American Species of Common Conservation Concern was determined by considering and weighing various criteria, such as level of risk of extinction, common

threats in the three countries, and the need for collaboration among Canada, Mexico, and the United States.

International cooperation among the three countries has played a major role in the recovery of marine mammals (such as gray whales) and more recently in dealing with incidental bycatch. With this in mind, the primary role of this project is to address the need and opportunity to enhance—through coordination—the effectiveness of measures undertaken to conserve these species of shared continental concern.

There is now widespread recognition of the need for an integrated, continental strategy to protect and maintain key habitat along the species' ranges, while addressing the root causes of habitat deterioration.

All of the leatherback turtle, humpback whale, and pink-footed shearwater tasks and activities outlined here are drawn from the North American Conservation Action Plans (as approved by the Parties) and are of unique trinational importance, as proposed by the trinational project task groups.

CEC Niche and Value Added

During the last three years, the CEC has acquired considerable experience in training fishermen on disentanglement and on the use of new fishing gear. Assessments done by Conanp and Inapesca officials suggest that the adoption of new gear and disentanglement techniques in those communities targeted by the 2005–2008 pilot efforts is increasing.

The CEC's catalytic role and value-added contribution to this work is founded on the need to develop complementary conservation approaches for species and habitats of common trinational concern on shared marine ecoregions, which are replicable across a variety of national contexts and provide a level playing field among stakeholders. The CEC is uniquely placed to lead this work, given its trinational scope and mandate to "conserve, protect and enhance the environment, including wild flora and fauna" (NAAEC 1993).

Linkages with Other CEC projects

- Habitat conservation (link to the Upper Gulf of California Biosphere Reserve which is a member of the B2B NAMPAN network), and sustainable fishing practices: *Recovering the vaquita and promoting sustainable livelihoods.*
- If marine biome selected is B2B: *Protecting priority conservation areas from alien invasive species.*
- MPA maps: *Mapping North American Environmental Issues.*

Activities and Outputs

Key Activities

- Continued implementation of the shared trilateral monitoring program for marine protected areas situated along the Pacific coast (Information for Decision-making).
- Support for the above implementation with training of practitioners on the use and implementation of the scorecard reporting process for a new set of MPAs in the B2B region (Capacity Building).
- Identification and description of priority conservation areas in the newly selected marine region(s)[8] (Information for Decision-making: protected area agencies and regional NGOs).
- Following the fisheries characterization that will be completed in 2008, develop and implement activities that will build capacity among regional stakeholders to reduce bycatch (Capacity Building: local fishers).
- Support for the SPLASH[9] symposium that will develop a long-term strategy for trinational humpback work, building on past CEC

[8] CEC Council Resolution 08-05 calls for an expansion of NAMPAN into other shared ocean ecosystems (e.g., Atlantic, Arctic Oceans). At its December 2008 meeting, the NAMPAN ad hoc group proposed to the BCWG the new marine region(s) to focus future NAMPAN work

[9] SPLASH (Structure of Populations, Levels of Abundance and Status of Humpbacks) represents one of the largest international collaborative studies ever conducted on any whale population. It was designed to determine the abundance, trends, movements, and population structure of humpback whales throughout the North Pacific and examine human impacts on

initiatives, including support for scientists from Canada, Mexico and the United states. (Capacity Building: scientists and government. experts).

- Training in survey methodologies to estimate seabird abundance and distribution in Mexico, including retrospective analyses of satellite and at-sea survey data (2005–2008) of PFSW (Capacity building: scientists and government experts).
- Continuing support of the sharing of information and expertise concerning preventing and managing human impacts (incidental bycatch, entanglement, etc.) on NACAP species (Information for Decision-making: fishery authorities and fishers).
- Development of a five-year action plan to support the second phase of the biodiversity strategy (Information for Decision-making: CEC Council of Ministers).

Target Groups

MPA managers, fishing communities, local fishery authorities

Partners, Stakeholders

Implementation of this project will continue to be in partnership with government agencies, i.e., NOAA (Marine Sanctuaries, Estuarine Reserves, Fisheries), Interior (US National Park Service, US Fish and Wildlife Service) Fisheries and Oceans Canada (DFO), Environment Canada (EC), Parks Canada, the *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), Inapesca and various NGOs.

Leveraging

The following resources are to be used for the MPA training workshops in the B2B region:

- NOAA: US$11,000
- Parks Canada: US$15,000[10]

Outputs and Associated Timelines

Associated outputs/products include the following:

- A new set of MPAs[11] implementing the B2B scorecard approach;
- Report on the Priority Conservation Areas (PCAs) of the newly selected marine region (e.g., Atlantic and South Florida/Maya Reef or the Arctic;
- Incorporation of NAMPAN's clearinghouse and online database into CEC and partner websites (Parks Canada, NOAA, and Conanp). The clearinghouse is a distributed system that allows visualization and analysis of North American monitoring data collected at sister sites, including—whenever possible—NACAP species; and
- New data layers for inclusion in the CEC's North American Environmental Atlas.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- A common continental approach on environmental monitoring and reporting on spaces of common interest.
- A new marine region (Atlantic and south Florida/Maya Reef or the Arctic) and PCAs on which to focus trilateral collaboration.
- Training of fishers to ensure a measurable reduction of bycatch in four index beaches of the Mexican Pacific (Mexiquillo, Tierra Colorada, Cahuitán, and Barra de la Cruz)
- Proceedings of the SPLASH symposium, including recommendations to wildlife and fisheries agencies in Canada, Mexico, and the United States based on a collective scientific assessment of the

this population. SPLASH is an initiative supported by a number of agencies and organizations, including the National Marine Fisheries Service, the National Marine Sanctuary Program, National Fish and Wildlife Foundation, Pacific Life Foundation, Department of Fisheries and Oceans Canada, and the Commission for Environmental Cooperation.

[10] Parks Canada funds may be used to support the B2B condition report.

[11] The NAMPAN ad hoc group in 2008 identified a trinational set of remaining (and willing) MPAs in the B2B, which will have their staff trained on the scorecard methodology.

results of population status, the genetic structure of populations, habitat condition, and human impacts analyzed from 2004–2008

- Support for the Canadian Recovery Strategy for the PFSW that calls for the identification of marine habitats of importance; to promote, support, and augment international initiatives contributing to the recovery throughout their range; and to develop and implement educational activities; and address knowledge gaps concerning threats to the pink-footed shearwater.

Intermediate Outcomes

- Increased awareness and understanding of the condition of marine biodiversity and the underlying pressures it faces in the B2B.
- Implementation and adoption of strategies to address pressures to NACAP species (in particular, the negative effects of bycatch).

Final Outcomes

- A permanent, MPA-based monitoring system for the B2B region.
- Adoption by fishermen and local and state governments of effective strategies and programs to eliminate bycatch.
- Effective incentives for local fishermen in Mexico to reduce the use of unsustainable fishing gear.
- Increased capacity for local Mexican fisheries stakeholders to implement actions to reduce bycatch.
- Greater policy coherence in and increased effectiveness of bycatch programs.
- Improved understanding of each of the NACAP species' migratory patterns and use of habitat, and the impact of human activities on these, including recommendations on conservation and management policies.
- Increased trinational collaboration and outreach to protect NACAP species in the B2B region.

Performance Indicators

- Number of MPAs in the B2B adopting the NAMPAN monitoring system (a suite of biophysical and socio-economic indicators) or adapting it to meet their own requirements.
- Number of MPA staff (including species' experts) trained in the scorecard methodology.
- Frequency with which the sister MPAs (beyond the current 10) in the B2B report use the NAMPAN monitoring indicators and protocols.
- Completion of the first report on the environmental state of marine habitats and NACAP species in the B2B.
- Use of B2B website, measured by number of visitors, location and time spent on website; scientific and public referrals and citations; who is linking to specific pages on the site and frequency of use by MPA managers and other government agencies.
- Development of conservation strategies for sea turtles based on the characterization initiative
- Planning and completion of at-sea seabird survey methods workshop.
- Number of observers trained in survey methods.
- Number of days of seabird surveys conducted in focal region.

Timetable, Project Completion and Sustainability Beyond

- The 2008 review of current biodiversity strategic plan.
- The CEC's strategic planning process (2010–2015) will guide and direct the any further implementation of biodiversity-related initiatives.

Culminating Steps in Achievement of Program Objectives

- In 2009, NAMPAN will begin its transition from the B2B to another region of high continental significance as directed by Council.
- Staff from participating MPAs from B2B have been identified and will champion the continuation and periodic reporting on the

conservation conditions of the B2B region. A training course on the scorecard methodology will engage the remaining clusters of MPAs. Arrangements for its maintenance and sustained financing will be made with partner agencies in 2009.

Target End Date for CEC Involvement

2009[12]

Sustainability Beyond

Beyond the collaborative achievements described above, their continued implementation and replication will have to be addressed by each Party, according to their own priorities and socio-economic realities

In 2008, the BCWG—with the support of CEC's Secretariat—is reviewing the progress and outcomes of all initiatives carried out under this and other biodiversity related projects for the previous 10 years. This assessment will support the deliberation of the CEC Council on emerging biodiversity issues, as well as on other ecologically significant regions and species on which to focus its cooperative work under the auspices of the CEC.

Communications

The main target audiences of this project are: government agencies (Conanp, Parks Canada, and NOAA-MPA Center), fishery authorities and other state/provincial and local wildlife authorities, local fishing communities, scientists, NGOs.[13] In keeping with the overall goal of improving information for decision makers and stakeholders at all levels, the products generated in this project will be made publically availably through electronic and print means—once these products have been approved by the quality assurance process, where required.

Information Management

The B2B website, which will act as a knowledge base for species and spaces of common concern in the B2B. This site will have an application that will collect, visualize, and analyze monitoring data from species (NACAPs) and spaces (MPAs) in the B2B.

[12] 2009 except as otherwise directed by Council.
[13] Participating NGOs will depend upon the region(s) selected for NAMPAN future implementation.

Implementation Plan

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern						
Strategic Objectives: • Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers, and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
NAMPAN						
1. Completed Workshop to "Train the Trainers"[14] for MPAs in B2B.	"Train the Trainers Program"initiated with those practicioners from sister sites who participated during the 2007–2008 scorecard initiative (2 from Gulf of California; 2from Southern California Pacific; 2 from Montereyan Pacific transition; 2 from Columbian Pacific; 2 from Alaskan & Bering).	Spring-summer 2009	A cadre of 9–12 instructors trained to teach other practitioners from remaining B2B MPAs, and champion further NAMPAN implementation in the region, in particular, the scorecard periodic implementation.	MPA agencies, and practitioners from the following marine ecoregions: Gulf of California; Southern California Pacific; Montereyan Pacific transition; Columbian Pacific; Alaskan & Bering).	$18,000	NA
2. Training workshop(s) completed for B2B MPA managers.	The cadre of trainers (described above) will implement training workshops for practitioners	Summer 2009	Improved skills and tools to monitor and report on the condition of marine resources in an expanded cluster of MPAs in B2B.	MPA managers, superintendents, local and state/provincial resource managers from the three countries.	$30,000	NA

[14] This 2008 activity is carried over to 2009.

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern

Strategic Objectives:

- Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers, and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	responsible for the implementation of monitoring programs in new set[15] of MPAs in B2B.			Marine Protected Areas and biosphere reserves in Mexico, including sites that were not part of the 2008 scorecard report.		
3.Workshops completed to develop scorecards in new cluster of MPAs.	Scorecards from the new cluster of MPAs, to cover a larger percentage of the B2B region.	Summer-fall 2009	A new deck of completed scorecards for participating MPAs in the B2B aimed at informing on the conservation status, and threats to selected MPAs (see above) in the B2B region.	Parks and Environment official, wildlife agencies, universities, research centers, MPAs involved, and the general public.	$35,000	NA
4. User-ready B2B website developed to house and display the compiled scorecard information of the B2B MPAs.	An application within the website that will collect, visualize, and analyze monitoring data from species (NACAPs) and spaces (MPAs) in the B2B. Integration of new scorecards from	Fall 2009	Improved trinational collaboration on assessment and continuous environmental monitoring and reporting in the B2B. Increased public awareness and understanding of the condition of marine biodiversity and underlying pressures it faces in the B2B.	General public, wildlife agencies, universities, research centers, and the MPAs involved.	$25,000	The system is planned on adoption by the three MPA agencies; its future within the CEC website will be determined consistent with CEC's information management strategies and capacity.

[15] These managers belong to a new set of MPAs that were not part of the scorecard pilot of 2008.

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern						
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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	NACAPs and new MPAs.					
	Quality Assurance Summary *Ongoing Database/Dataset*: Online application to collect, visualize, and analyze monitoring data from species and spaces in the B2B.	Availability online: Winter 2009				
5. Priority Conservation Areas identified and described for the new selected marine region.	Workshop to identify Priority Conservation Areas in new marine region. Using the already-proven methodology of selecting PCAs.[16]	Fall-winter 2009	Science-based selection of sites based on their ecological value, the threats faced, and the opportunities for North American cooperation. This cluster of Priority Conservation Areas will become the foundation of a network of sites to protect and maintain regional ecological integrity.	General public, wildlife agencies, universities, research centers, and federal and state/provincial agencies of the selected region.	$65,000	Further work in this region may be expected after 2009, based on the NAMPAN implementation framework. However, 2009 outcomes will assist the Parties in defining the future of this initiative under the CEC Strategic Plan, 2010–2015.

[16] The *Consensus Mapper* has been used by CEC in the selection of: 14 Regions of Ecological Significance in North America; Priority Conservation Areas of the B2B; and, Priority Conservation Areas of the North American Grasslands

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern						
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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	Report that identifies and describes Priority Conservation Areas.	Winter 2009	New blueprint of sites to focus North American collaboration, through NAMPAN.	Idem.	$25,000[17]	
	Quality Assurance Summary *Report*: report that identifies and describes Priority Conservation Areas.	Secretariat review: January 2010 Stakeholder/Expert review: February 2010 Party review–Quality assurance: March 2010 Publication: May 2010				
NACAPs						
6. Fishermen trained to address incidental bycatch with emphasis as called for by the leatherback sea turtle NACAP.	Measurable reduction of bycatch in selected[18] index beaches as assessed by Conanp (4 index beaches of the Mexican Pacific (Mexiquillo, Tierra Colorada, Cahuitán,	Spring 2009	60 fishermen trained (15 from each index beach) in sustainable fishing practices. Exchange of best fishing-practices among "key[19]" North American fishing communities. In index beaches, a	Leaders from fishing communities in or adjacent to index beaches, selected fishermen from US and CN, decision makers, fishery managers.	$30,000	NA

[17] Budget includes, editing-proofing, translation and design, it is expected that partner agencies will contribute to the publication of the book, as it was the case of B2B and Grasslands Priority Conservation Areas, and Marine Ecoregions reports.

[18] Based on the fisheries characterization study of 2008, the leatherback NACAP ad hoc group will define the appropriate training methodologies for alternative gears and practices for the 4 index beaches

[19] Key communities: In Mexico will be those that are considered index beaches or critical sites of leatherback nesting, and those in Canada and US where there are lessons that can be replicated

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2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	and Barra de la Cruz). Mexican fishers acquire experience from US and CN fishermen on gear and practices that prevent and reduce incidental bycatch in artisanal fisheries.		measurable increase in *de facto* protection for non-targeted species.			
7. SPLASH symposium,[20] undertaken to share scientific data collected on North American waters during the NACAP[21] implementation years (2005–2008).	A collective scientific assessment and recommendations to Canada, the US, and Mexico, based on the results of population status, the genetic structure of populations, habitat condition,	Winter 2009	Proceedings of the symposium, which will include a suite of recommendations to wildlife and fisheries agencies in Canada, the US and Mexico. A self-sustaining (beyond CEC), long-term strategy on the next phases of SPLASH project,	Policy makers and resource managers from DFO, CWS, NOAA, Conanp, Inapesca. SPLASH scientists	53,000[22]	This symposium will conclude in 2009.

[20] SPLASH (Structure of Populations, Levels of Abundance and Status of Humpbacks) represents one of the largest international collaborative studies of any whale population ever conducted. It was designed to determine the abundance, trends, movements, and population structure of humpback whales throughout the North Pacific and to examine human impacts on this population.
[21] SPLASH is an initiative supported by a number of agencies and organizations including the National Marine Fisheries Service, the National Marine Sanctuary Program, National Fish and Wildlife Foundation, Pacific Life Foundation, Department of Fisheries and Oceans Canada, and Commission for Environmental Cooperation.
[22] Includes C$13,000 to compile data and develop communication materials for the symposium, from a 2008 carry-over.

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern

Strategic Objectives:

- Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers, and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
	and human impacts analyzed from 2004–2008.		development of new trilateral partnerships that build from previous CEC work.			
8. Retrospective analyses conducted of at-sea survey data.[23] Training undertaken to enable at-sea seabird research in México.	Identification of marine areas of importance to Pink-footed Shearwaters within North American waters. Training workshop on survey methodologies to estimate seabird abundance and distribution in México, including likely areas for pink-footed shearwaters.	Migration season	Support the Canadian Recovery Strategy for the PFSW[24] that calls for identifying marine habitats of importance; promote, support and augment international initiatives contributing to the recovery throughout their range; develop and implement educational activities;[25] and address knowledge gaps concerning threats to the pink-footed shearwater. Local agencies and NGOs will gain capacity to conduct at-sea seabird surveys in Mexico. Invited	Wildlife and Fisheries Agencies of the three countries, as well as Chile; members of the Canadian recovery team; fishing and local communities along the distribution ranges in North America of the species; local/regional decision makers; resource managers; MPAs; and general public.	$35,000	NA

[23] The PFSW monitoring project is co-financed by NOAA, and is complementary to the PFSW Canadian recovery strategy

[24] See http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs_short_tailed_albatross_and_pink_footed_shearwater_final_0408_e.pdf.
[25] For example: http://www.fardela.org/conservation.html.

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern

Strategic Objectives:

- Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers, and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
			participants will include members of the Canadian recovery team, and Mexico's NABCI's[26] coordinator. Increased local participation in at-sea seabird surveys.			
9. Support meetings, and working papers as required by the BCWG, to develop a five-year action plan and a revised Biodiversity Strategy.	Document for Council: Development of five-year action plan to support the second implementation phase of the Biodiversity Strategy.	January-June	Advice from the BCWG to the CEC Council on emerging opportunities and priorities for cooperation to conserve and sustainably use biodiversity in North America, under the auspices of CEC.		$35,000[27]	Work will culminate in development of a five-year action plan in 2009. Future CEC work informed by this plan will be as determined by the Parties.

Total Cost: $351,000

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$32,000**

QA # 08.43 - First report[28] on state of marine biodiversity in MPAs in B2B.

[26] NABCI: North American Bird Conservation Initiative.
[27] This task and budget include $15,000 from the December BCWG meeting that was scheduled for early 2009.
[28] The publication of this report is carried over to 2009.

PROJECT 13 – Conserving Marine Species and Spaces of Common Concern

Strategic Objectives:

- Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management.
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers, and utilizing market-based approaches.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
(Publication of a comprehensive and science-based assessement of MPAs, which allows local and federal decision makers for its use as an environmental baseline of the 10 pilot sites. Expected to be published spring 2009. Target audience includes MPA agencies, practitioners from B2B, and MPA agencies at the federal, state/provincial levels.)						

Performance Measurement Indicators:

- Number of MPAs in the B2B adopting the NAMPAN monitoring system, a suite of biophysical, and socio-economic indicators or adapting it to meet their own requirements.
- Number of MPA staff (including species' experts) trained on the scorecard methodology.
- Frequency with which the *sister* MPAs (beyond the existing 10) in the B2B report use the NAMPAN monitoring indicators and protocols.
- Use of B2B website, measured by number of visitors, location and time spent on website; scientific and public referrals and citations; who is linking to specific pages on the site and frequency of use by MPA managers and other government agencies.
    - Development of conservation strategies for sea turtles based on the characterization initiative
    - Planning and completion of at-sea seabird survey methods workshop
    - Number of observers trained in survey methods
    - Number of days of seabird surveys conducted in focal region

Key Partners:

NOAA (Marine Sanctuaries, Estuarine Reserves, Fisheries), Interior (National Park Service, Fish and Wildlife Service) Fisheries and Oceans Canada (DFO), Environment Canada (EC), Parks Canada, Canada's PFSW recovery team, OIKONOS, the *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), Inapesca and various NGOs.

Project 14	**Conserving the Monarch Butterfly and Promoting Sustainable Livelihoods**	**Responsible Project Manager at the CEC Secretariat**	Thomas Hammond
Planned Allocation	2009: C$145,000 Completion of 2008 Outputs: C$20,000 Total: C$165,000	**Working Group(s) associated with this work**	Biodiversity Conservation Working Group (BCWG)

Objective of Project

The objective of this project is to support and facilitate ongoing implementation of the North American Monarch Conservation Plan (NAMCP).[1] The fundamental goal of the NAMCP is to maintain healthy monarch populations and intact habitats throughout the migration flyway in North America. This effort is supported by a trilateral monarch butterfly protected-area network, monitoring efforts along the flyway in Mexico, the United States, and Canada, and where possible sustainable development activities that support the use of market forces to promote conservation of over-wintering and flyway habitat, supporting improved livelihoods in conjunction with local communities.

Background

Project History and Foundation

The development of the North American Monarch Conservation Plan was initiated in December 2006 at the Monarch Flyway Conservation Workshop in Mission, Texas, and further developed at the March 2007 *Foro Regional Mariposa Monarca* in Morelia, Mexico. This initiative—endorsed by the Trilateral Committee for Wildlife and Ecosystem Conservation and Management in 2007—is focused on conservation of the monarch butterfly and its migratory phenomenon throughout the trinational flyway.

Following CEC's Council Resolution 07-09[2] directing support to the existing multi-stakeholder collaborative effort to develop a North American Monarch Conservation Plan, the CEC hosted a trinational workshop and obtained input from an extensive list of experts from diverse backgrounds. In June 2008, the NAMCP was completed and delivered to Council.

This plan provides an updated account of the species and its current situation, identifies the main risk factors affecting it and its habitat throughout the flyway, and summarizes the current conservation actions taken in each country. It offers a list of key trinational collaborative conservation actions, priorities and targets to be considered for implementation by the three countries. Moreover, the NAMCP provides an agreed-upon comprehensive framework for leveraging and coordinating the diverse conservation actions taking place across all three countries of the flyway beyond the completion of this project in 2009.

The activities described here build on the Council resolution and delivery and completion of activities undertaken or currently underway in 2008, specifically:

- the completion of the North American Monarch Conservation Plan, and in particular the Table of Specific Actions contained within the Plan;
- delivery of the socio-economic study examining root causes of habitat pressure throughout the monarch flyway (final draft expected late Oct. 2008);
- training workshop to support ongoing monarch-monitoring efforts, and improve exchanges of monitoring data and information trinationally; and
- scoping community-based activities in the Mexican overwintering sites, where sustainable economic approaches could assist in

[1] http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=2300.
[2] http://www.cec.org/pubs_docs/documents/index.cfm?ID=2140&varlan=english.

improving sustainable livelihoods while at the same time supporting conservation goals.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

Key stakeholders in the implementation of this project include:

- government agencies: *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), US Fish and Wildlife Service (USFWS), and Canadian Wildlife Service (CWS);
- local and state/provincial authorities;
- *Reserva de la Mariposa Monarca*—World Heritage Site, including local communities in the region of the over-wintering sites;
- Trilateral Committee for Wildlife and Ecosystem Conservation and Management;
- *Foro Regional Mariposa Monarca*;
- local and regional conservation groups; and
- scientists, schools and citizen conservation groups in all three countries.

Rationale

The monarch butterfly (*Danaus plexippus*), along with its migratory pattern unparalleled in nature, is an iconic species with considerable trinational significance—emblematic of the interdependence of North American ecosystems. The exceptional monarch migration phenomenon has attracted significant conservation effort and scientific attention, and was inscribed in 1983 on the IUCN Red List of Endangered Species. In July 2008, the UNESCO World Heritage Committee recognized the montane protected areas in Mexico, comprising the over-wintering sites of the monarch butterfly, as a World Heritage Site for precisely the same reasons—joining a distinctive list of 174 natural sites around the world of outstanding universal value.

Today, the migration phenomenon of the monarch butterfly is threatened by destruction, degradation, and fragmentation of breeding and migration habitat in Canada, the United States, and Mexico, due to land conversion, herbicides, pesticides, and exotic plant invasion, and to deforestation of wintering habitat in Mexico. There is an urgent need for additional ecological and socio-economic information to better protect the monarch butterfly and its habitats, while supporting local socio-economic development.

Fulfillment of Strategic Objectives

Efforts in 2009 are designed to support ongoing implementation of the NAMCP through support to trinational monitoring efforts, and addressing the socio-economic imperatives driving habitat degradation in the over-wintering areas as priorities. Concomitantly, this project supports culmination of the CEC's ongoing efforts in this project and fulfillment of the CEC's 2005–2010 Strategic Plan through:

Capacity Building

- supporting coordination and building capacity among local, national and international agencies and NGOs involved in the conservation of monarch butterfly habitat and its migratory phenomenon (Objective 7);
- training and developing capacities at local and regional levels to assess the status of the monarch population, its habitat, and the environmental stressors, based upon long-term trinational monitoring and assessment protocols (Objective 7);

Information for Decision Making

- addressing information gaps in the understanding of North American decision-makers (particularly Conanp, USFWS, and CWS) regarding the underlying pressures on the monarch and its habitat throughout the entire flyway, and of the means to address them (Objective 2); and

Trade and Environment

- promoting market-based activities that will reduce pressure on key monarch habitat, particularly in over-wintering areas, while at the same time improving livelihoods in local communities in the vicinity of these sites (Objective 9).

North American Scope of the Project and Its Relevance to the Three Parties

As noted above, the monarch butterfly is an iconic migratory species of unique trinational significance. All project tasks and activities outlined here are drawn from the North American Monarch Conservation Plan (as approved by the Parties) and are of unique trinational importance, as proposed by the trinational project task group.

Conserving the monarch over-wintering sites in Mexico, as well as working to improve foraging/breeding success along the entire length of the flyway, is of critical importance to maintaining viable monarch populations in North America. This project will support ongoing trilateral collaboration towards improving monarch-monitoring efforts, sharing of data from these efforts, and contributing towards critical habitat conservation in the Mexican over-wintering sites.

Since the initiation of monarch butterfly conservation activities within the CEC in 1996, interest in conservation, education, and monitoring efforts has grown rapidly in North America—particularly among nongovernmental organizations (NGOs) and academia. There is now widespread recognition of the need for an integrated, continental strategy to protect and maintain key habitat along the monarch's flyway, while addressing the root causes of habitat deterioration.

CEC Niche and Value Added

The CEC's role in this project over the long term is to build consensus around a shared conservation strategy for the monarch butterfly (i.e., the North American Monarch Conservation Plan) and assist in implementing those aspects of the plan that specifically benefit from coordinated, trinational effort. The trinational task group for this project has identified standardized monarch-monitoring efforts across North America, sharing of data from these efforts, and trinational collaboration towards critical habitat conservation in the Mexican over-wintering sites as the key areas for cooperation.

Linkages with Other CEC Projects

This project, particularly task 2, is linked to the work being undertaken in the Harnessing Market Forces (Conserving Biodiversity through Trade) project 5C—insofar as results from this task may be used as a case study example.

Activities and Outputs

Key Activities

Based on the priority actions identified in the North American Monarch Conservation Plan (NAMCP),[3] key activities and outputs for 2009 are as proposed below.

- Analysis completed of existing (and past) projects in the area of the overwintering reserves that demonstrate success in linking sustainable development and livelihoods improvements to biodiversity conservation.
- Subset of existing projects selected from the above analysis for further investment.
- Ongoing training in standardized monarch-monitoring techniques undertaken, following from the results of the October 2008 monitoring training workshop.
- Needs assessment and system requirements analysis conducted—to support a collaborative, online approach to sharing and integrating monarch-monitoring data throughout North America.

Note: a final decision on these tasks will be made in early 2009 once results from the socio-economic survey, the *Foro Monarca*, and other inputs have been assessed.

Target Groups

Principle target groups for the 2009 tasks are federal and state/provincial governments, NGOs, and academic organizations involved in monarch butterfly monitoring initiatives, as well as community-based organizations involved in habitat conservation and socio-economic activities around key protected areas along the North American flyway.

Partners, Stakeholders

Project stakeholders include the *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), the US Fish and Wildlife Service, the Canadian Wildlife Service (i.e., the CEC Project Task Group), along with relevant state/provincial authorities. Also included are local/regional community

[3] As instructed by Council Resolution 07-09, the Secretariat coordinated stakeholder and expert meetings in December 2007 to facilitate the development of the North American Monarch Conservation Plan. A wide array of experts, government agencies, NGOs and local and federal authorities participated in its development.

groups and conservation organizations, as well as academia and citizen science groups in all three countries. The later are primarily involved in scientific, monitoring and data collection efforts, as well as in habitat conservation activities.

Leveraging

All proposed 2009 activities are designed to build on existing trinational networks and initiatives in monarch conservation—whether in ongoing monitoring efforts across all three countries or in linking directly with community-based projects designed to link conservation of key protected areas to sustainable development. In this way, implementation of 2009 activities leverages (and is leveraged by) ongoing activities, and will contribute to overall sustainability of outcomes.

Outputs and Associated Timelines

The table below provides detail on the specific tasks, outputs, and timelines for this project in 2009.

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Increased knowledge of the socio-economic drivers affecting habitat of importance for the monarch butterfly and market-based opportunities that benefit conservation and economic development.
- Consensus developed among key stakeholders regarding the most viable existing socio-economic activities that can support both species/habitat conservation goals and improved sustainable livelihoods.
- Support for targeted monarch-monitoring training activities, as identified in the Trinational Monarch Butterfly Monitoring Workshop—October 2008.
- Increased participation of local communities in promoting local economic (sustainable development) initiatives that support conservation of critical monarch habitat.
- Improved understanding of needs and requirements to support collaborative sharing and integration of monarch-monitoring data.

Performance Indicators

- Identification of projects/activities that best support the objectives and planned actions of the NAMCP.
- Adoption of a North American monitoring framework and "toolkit" by monarch sister sites, NGOs, citizen conservation groups and local communities.

Intermediate Outcomes

- Improved trinational collaboration on the assessment and continuous monitoring of the species, its habitat, and its stressors, throughout the flyway.
- Improved understanding among parties and other stakeholders re best practices supporting sustainable economic activities which promote both habitat conservation and improved livelihoods, including improved local understanding and involvement to take advantage of existing trade mechanisms in North

Performance Indicators

- Number of protected areas and monarch conservation organizations in North America adopting the NAMCP to guide their conservation actions.
- Success of trinational monitoring efforts in improving overall understanding the status of monarch populations and the migration pattern.
- Ongoing success of sustainable development projects.

Final Outcomes

- Adoption of effective trinational strategies and programs to address monarch habitat loss and degradation.
- Healthy monarch populations and conserved habitats throughout the North American migration flyway.

Performance Indicators

- Tracking of land use/land cover changes over time in key monarch migration and overwintering habitat.
- Monitoring results of monarch butterfly populations along the flyway.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

The action plan of the NAMCP represents a long-term conservation undertaking across all three countries in North America. Through "trainer of trainers" in monarch-monitoring techniques and in working with community-based organizations in developing business plans for sustainable, monarch-friendly enterprises during the final year of implementation, however, project results will provide support for ongoing trilateral implementation of the action plan.

Target End Date for CEC Involvement

The year 2009 represents the conclusion of CEC coordinated activities in support of the North American Monarch Conservation Plan (NAMCP). Any future CEC coordinated work in this area may result from priority setting during the 2010–2015 strategic planning cycle.

Sustainability Beyond

The activities outlined here are designed to build on achievements of the Conserving the Monarch Butterfly Project over the past four years. Canada, the United States, and Mexico are already investing in a variety of monarch conservation initiatives across the flyway. It is expected that the lessons learned by the implementation of the NAMCP will allow the Parties and other relevant stakeholders to continue working together and using the NAMCP as a framework for targeted collaborative actions for the conservation of this species within North America.

In addition, the accumulated achievements of this project will both contribute to and inform the development of the next five-year strategy of the CEC and the Biodiversity Conservation Program—providing guidance for focusing continued Secretariat action in this area (if required), which effectively leverages the unique niche and value added of the CEC.

Communications

The main target audiences of this project are: key government agencies (federal and state/provincial) involved in protected area and wildlife management, local communities, scientists, citizen conservation groups, and the interested public.

Information Management

All outputs planned for 2009 relate to building capacity with key project stakeholders. No print or electronic outputs designed for broad public consumption are planned for this implementation period.

Implementation Plan

PROJECT 14 – Conserving the monarch butterfly and promoting sustainable livelihoods						
Strategic Objectives: • Strengthen capacities to conserve species and habitat of common concern, by building stakeholder capacity for planning, monitoring and management • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Analysis completed of existing (and past) projects in the area of the overwintering reserves that demonstrate success in linking sustainable development and livelihoods improvements to biodiversity conservation.	Project comparative analysis (matrix of projects/activities) and final report.	June 2009	Consensus developed among key stakeholders regarding the most viable existing socio-economic activities that can support both species/habitat conservation goals and improved sustainable livelihoods.	Working Group members, BCWG members.	$20,000	Completion of all tasks outlined here represents the culmination of effort in this project within the current CEC Strategic Plan. Future effort in delivery of the NAMCP assisted by the CEC will be predicated on the results of the development of the CEC Strategic Plan 2010–2015.
2. Subset of existing projects selected from the above analysis for further investment. Develop a plan of action to address key issues arising from socio-economic study of the monarch flyway and issues	Consensus/decision on selection of projects for further investment agreement on conditions for distribution of resources. Development of action plan review results of socio-	May 2009	Understanding among parties improved, re: best practices supporting sustainable economic activities that promote both habitat conservation and improved livelihoods, including improved local understanding and involvement to take advantage of existing trade	Local communities neighboring monarch over-wintering sites in Mexico, including government and local agencies involved in monarch conservation.	$40,000	

PROJECT 14 – Conserving the monarch butterfly and promoting sustainable livelihoods						
Strategic Objectives: • Strengthen capacities to conserve species and habitat of common concern, by building stakeholder capacity for planning, monitoring and management • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
arising from the 5th *Foro Monarca*, with respect to identifying sustainable economic approaches to support conservation efforts and the improvement of local livelihoods—through, for example, campesino-to-campesino capacity-building activities.	economic survey and preliminary results from study to develop business plans to support market-based approaches (see next task below).		mechanisms in North America.			
3. Needs assessment and system requirements analysis conducted—to support a collaborative, online approach to sharing and integrating monarch-monitoring data within North America.	Needs assessment analysis and final report business plan(s) for alternative, community-based enterprises that support improved livelihoods and conservation.	Jan–Aug 2009	Clarity, consensus achieved regarding needs and requirements to support collaborative sharing (including integration) of monarch-monitoring data. Improve local understanding to identify and take advantage of trade-related activities that achieve mutual benefits for local economies and the environment/biodiversity.	Field-based offices of national and (where appropriate) state/provincial–level wildlife agencies, as well as citizen science groups and relevant academic institutions in all three countries.	$20,000	As determined by success of any such business plans and activity. To the extent such enterprise may be market-based, it is not assumed that the CEC would be involved in any ongoing commercial manner. Other future engagement would follow the parameters under consideration by the BCWG and TEWG, pursuant to the

PROJECT 14 – Conserving the monarch butterfly and promoting sustainable livelihoods

Strategic Objectives:

- Strengthen capacities to conserve species and habitat of common concern, by building stakeholder capacity for planning, monitoring and management
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
						project, "Conserving Biodiversity through Trade."
4. Training workshop undertaken utilizing "campesino-to-campesino" approaches to promote alternative sustainable economic activities, as identified in task 2 above.	Local "landowners" from pilot communities trained via participants from neighboring communities on the use of sustainable land-use practices.	Jun–Dec	Increased number of "land owners" from pilot communities participating in sustainable practices.	Local communities neighboring monarch over-wintering sites in Mexico, including government and local agencies involved in monarch conservation. Local authorities, local communities, conservation groups.	$35,000	T.b.c., as per the North American Monarch Conservation Plan. Note: Task carried over from 2008 (as previously approved). Results of the recently completed 5th *Foro Monarca* and socio-economic survey will guide implementation of this task.
5. Ongoing training in standardized monarch-monitoring techniques undertaken, following the results of the October 2008 monitoring training workshop. Targeted support where necessary to local training efforts stemming from the	Local training and capacity building workshops organized by relevant agencies of Canada, the US, and Mexico—including trinational cooperation where required.	Jan–Dec 2009	Local capacity for planning and implementing standardized monitoring techniques improved, including overall management of this species of trinational concern.	Field-based offices of national and (where appropriate) state/provincial–level wildlife agencies, as well as citizen science groups in all three countries.	$30,000	Follow-up monitoring training workshops are tentatively planned in all three countries during 2009. No further activities are planned after the conclusion of this project in December 2009.

PROJECT 14 – Conserving the monarch butterfly and promoting sustainable livelihoods

Strategic Objectives:

- Strengthen capacities to conserve species and habitat of common concern, by building stakeholder capacity for planning, monitoring and management
- Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
October 2008 Trinational Monarch Monitoring Workshop.						

Total Cost: $145,000

Completion of 2008 Outputs (publishing, translation, editing, layout of document/information products submitted for QAPP review prior to 31 December 2008): **$20,000**.

QA#08.48 – Socio-economic assessment of the underlying trade-related pressures on the monarch and its habitat and means to address them.

Note: Approximately $20,000 was reserved in 2008 to support the Quality Assurance Process (QAP), translation, and eventual publication of the Socio-Economic Survey. The draft report of the Survey will be reviewed by the monarch task group, appointed by the BCWG in late 2008, and a recommendation will be made by this group whether to submit this document for QAP. Should a decision be made not to submit this report for QAP, the allocated budget will be rolled into task 2 above.

Performance Measurement Indicators:

- Number of protected areas and monarch conservation organizations in North America adopting the NAMCP to guide their conservation actions.
- Adoption of a North American monitoring framework and "toolkit" by monarch sister sites, NGOs, citizen conservation groups and local communities.
- Number of business plans initiated (or developed) to support sustainable development projects, as above.
- Success of trinational monitoring efforts in improving overall understanding the status of monarch populations and the migration pattern.
- Tracking of land use/land cover changes over time in key monarch migration and overwintering habitat.
- Monitoring results of monarch butterfly populations along the flyway.

Key Partners:
Government protected-area and wildlife agencies, local NGOs, citizen science organizations.

Project 15	**Protecting Priority Conservation Areas from Invasive Alien Species**	**Responsible Project Manager at the CEC Secretariat**	Thomas Hammond
Planned Allocation	C$125,000	**Working Group(s) associated with this work**	Biodiversity Conservation Working Group (BCWG)

Objective of Project

The objective of this project is to contribute to the protection of Priority Conservation Regions (PCRs)[1] in North America from the harmful effects of invasive alien species (IAS).

The project will take stock of current work on IAS risk assessment with a view to identifying new areas of trinational cooperation, specifically with respect to early warning and prevention of invasive species associated with trade and economic process in North America. In addition, the project will assist in establishing a framework of potential future trinational engagement on this issue to inform development of the 2010–2015 CEC Strategic Plan.

Implementation of the 2009 project activities described here will draw to a close the CEC's efforts with regard to alien invasive species under the current Biodiversity Strategy. A reassessment of the CEC's strategic plan will begin in early 2009, and any future work on IAS will be drawn from this priority setting exercise.

Background

Project History and Foundation

Canada, Mexico and the United States have a long history of regulatory and non-regulatory action to address invasive alien species within the CEC work program. In 2001, the CEC convened a North American workshop to identify opportunities for trilateral cooperation.[2] In 2003, the Biodiversity Program, in partnership with the CEC's Joint Public Advisory Committee (JPAC), organized a public meeting to further define issues of priority: "An Unwelcome Dimension of Trade: The Impact of Invasive Species in North America."[3]

Based on earlier results and recommendations of JPAC, in 2004, the CEC developed a directory of projects, institutions and experts working on aquatic IAS in Canada, Mexico and the United States. In 2005, the CEC partnered with the *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (Conabio) to develop the Mexican Information System on Aquatic Invasive Species. The resultant database includes taxonomic information, geographic distributions, and other scientific information. In 2005, the CEC developed a resource guide aimed at providing the governments and other stakeholders with background information to understanding the causes and consequences (as well as status and trends) of biological invasion in North America's aquatic and marine systems. These achievements have contributed directly to the development of domestic IAS management strategies in North America.

Other milestones of recent CEC engagement include:

- In 2005 the CEC identified two groups of fishes within the aquarium trade pathway to develop the Risk Analysis Guidelines for field-testing under the CEC. This work builds upon the United States' Aquatic Nuisance Species Task Force Generic Non-indigenous Aquatic Organisms Risk Analysis Review Process. The two groups selected were: Snakeheads (*Channidae*) and Plecostomus (suckermouth catfishes).
- In 2006, the CEC supported the creation of a database on Canadian imports of freshwater live-fish as part of its efforts to raise the capacity of its country members to gather, systematize, and analyze information on aquatic IAS.

[1] Strategic Plan for North American Cooperation in the Conservation of Biodiversity http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1088.

[2] http://www.cec.org/files/PDF/BIODIVERSITY/aquatic-invasives_en.pdf

[3] http://www.cec.org/files/pdf/ABOUTUS/SR-Invasive-Species-4-Dec-2003_en.pdf

- In 2007, the CEC undertook two test case study risk assessments for the Snakehead and Plecostomus. These risk assessment guidelines, currently in print, are applicable to aquatic and terrestrial pathways of introduction of high-risk species and meet the NAFTA requirements for risk assessment (Chapter 7, Section B: Sanitary and Phytosanitary Measures).
- In that year the CEC undertook a socio-economic study on the impact of invasive species, particularly Plecostomus, in the Infiernillo Dam (Mexico) along with a Loricariid taxonomic analysis. This work, currently in print, directly addressed two key CEC priorities—specifically improved availability of information and increased capability to prevent and control freshwater aquatic invasive species.
- Also in 2007, the CEC supported the strengthening of the Mexican IAS system, and contracted NatureServe to assess the interoperability of information systems, and develop a prototype that could be used on priority areas.
- In 2008, CEC identified a cluster of "hotspots"—areas of high ecological value where the ecological integrity may be at risk from biological invasions.
- Much of the anticipated 2008 project work will not be accomplished by the end of this year due to delays in establishing a project advisory group to guide implementation. These tasks have been carried forward to 2009 and are included in the implementation plan below.

Key Stakeholders, Resource Leveraging, Partnerships (to date)

Including the Parties, the primary stakeholders in this initiative have been The Nature Conservancy and NatureServe. The project has benefited from the experience of both organizations in addressing invasive alien species issues, particularly in the context of IAS pathways and information management strategies.

Advisory Groups Related to this Project

An advisory group for this project, with representatives from Canada, the United States, and Mexico, was formed in October 2008 under the auspices of the Biodiversity Conservation Working Group.

Rationale

Fulfillment of Strategic Objectives

This project is focused on strengthening capacity and addressing key information gaps, particularly at a trinational level. This will contribute to a coherent and focused approach to addressing the impact of trade-related biological invasions in North America. In addition, this project contributes to the improving border safety and security more generally within North America.

This project contributes to the fulfillment of CEC's 2005–2010 Strategic Plan through:

- Strengthening capacity and addressing information gaps for North American decision-makers to address the risk of biological invasions, particularly at sites of high ecological significance and vulnerability (Objectives 1, 7).
- Enhance trinational information sharing and use among field-level control agents to gather, analyze and systematize information on invasive alien species from other countries, to assist relevant decision making processes to prevent biological invasions (Objective 2).
- Further support a trinational framework for IAS information sharing and capacity building within key government agencies and organizations in North America (Objective 4).

Implementation of this project will complement other efforts during 2009 to inform development of the CEC 2010–2015 Strategic Plan—as well as future efforts with respect to address trade-related impacts upon biodiversity.

In addition, implementation of the above during 2009 will draw to a close the CEC's efforts with regard to alien invasive species under the current five-year work program of the Biodiversity Strategy and within the context of the 2005–2010 CEC Strategic Plan. The project has heightened awareness within North America and amongst the Parties of the regional trade-related and environmental concerns posed by invasive alien species, and contributed to improving trinational capacity to manage IAS pathways and improve information management.

Trade and Environment

The economic impact of invasive alien species is one of the most tangible and unintended effects of market integration and globalization, largely wrought through regional or international trade mechanisms as well as tourism. Experience has shown that while some invasive species can have little or no environmental or economic impact, other species can have devastating environmental effects[4] and impact multiple sectors of the economy through lost production or eradication costs. This project will contribute to improving understanding of trade-related pathways, and helping to coordinate trinational control efforts.

North American Scope of the Project and its Relevance to the Three Parties

As invasive species routinely cross borders, often linked to trade and transportation corridors, the NAFTA governments have recognized that it is imperative that international cooperation represent a key component of their domestic IAS management strategies. This cooperation is well established in the agricultural and forestry sectors, including significant bilateral collaboration in ecoregions such as the Great Lakes. These and similar inter-governmental processes will help to ensure the sustainability and ongoing usefulness of project results.

There remains significant scope to help foster trinational cooperation on the management of invasive alien species within North America in sectors or ecoregions where trinational management efforts currently do not exist or are not well developed. These include, for example, marine invasive species in coastal ecological regions of trinational significance or in improved data and information sharing across all three countries.

CEC Niche and Value Added

While there is significant trinational cooperation on IAS in some sectors in North America, as noted above, there are significant sectoral or ecoregional gaps. The CEC is well positioned to address these gaps and add value, through facilitated trinational collaboration, in priority ecoregions of shared concern with Mexico, Canada, and the United States.

[4] The International Union for the Conservation of Nature (IUCN) rates invasive species as the second greatest threat to biodiversity behind habitat loss.

Linkages with Other CEC Projects

Opportunities for effective interaction exist with a number of existing CEC projects, particularly project 6A addressing transportation corridors, as well as activities coordinated by the CEC's Law Enforcement and Wildlife Enforcement Working Groups. Numerous external links exist as well, such as the regional IAS management initiatives under the North American Plant Protection Organization. Agreement amongst the Parties on a specific priority ecoregion (or sector) within which the CEC will concentrate efforts within this project will contribute substantially to defining the specific nature and direction of these interactions.[5]

Activities and Outputs

Key Activities

Key activities and outputs of this project in 2009 include:

- Agreed criteria will be developed and utilized for the selection of priority areas (hotspots) highly susceptible to biological invasions (including issues/sectors of common concern in these areas).[6] Prior to this, each country should undertake internal consultations in order to define the area of interest, and the criteria by which those regions/sectors should be selected.
- The Secretariat will facilitate review to assist the Parties in assessing progress and merit of the Priority Conservation Region approach to inform future strategic direction of IAS collaborative efforts, including the development of mitigation strategies.[7]
- Evaluate the work products from 2006–2008 on aquatic risk assessments to determine whether the guidelines are useful to government inspection and customs services as well as for

[5] **Note**: The completion of the review of IAS risk assessment guidelines completed over the past three years (second task, below) will contribute to the overall review of CEC activities outlined in Project 2.

[6] **Note:** This task has been carried over from 2008, as agreed at that time, due to delay in establishing a working group to guide project implementation.

[7] See footnote 6.

addressing risks along other pathways—and to determine the impact of these guidelines.[8]

- Identify common priorities, gaps, and opportunities for ongoing trinational cooperation on IAS.
- Undertake field-level capacity building (where identified and necessary) on best management practices for the detection and control of new introductions of IAS.

Target Groups

The primary target group for this project continues to be decision-makers and resource managers, particularly with federal and state/provincial level authorities with responsibility for management of invasive species linked to trade.

Partners, Stakeholders

Key partners that will participate in the implementation of this project include US and Canadian government agencies with responsibilities for detection and prevention of invasive species (re domestic national strategies) as well as Conabio and other Mexican agencies involved in the detection and prevention of invasive species, and the Global Invasive Species Programme (GISP).

Leveraging

This project has benefited significantly from the extensive research and data collection work on invasive alien species within North America, particularly in the agricultural, marine, freshwater, and forestry sectors. Direct financial leverage from sector partners is not assumed for the completion of this project.

Outputs and Associated Timelines

The timetable for the delivery of project outputs for 2009 is outlined in the table below.

Anticipated Outcomes and Performance Indicators

The expected outcomes and performance indicators of the project include:

Direct Outcomes

- Increased understanding of risks of potential biological invasions in North American priority conservation regions.

Performance Indicator

- Identification of priority issues or regions of common concern to North American, including definition of an approach for future trinational cooperation on invasive species work.

Intermediate Outcomes

- Improved trinational strategies to reduce bio-invasion risks originating from trade-related pathways in selected priority areas of common concern.
- Strengthened institutional capabilities of response and prevention in selected priority areas and at along key pathways.

Performance Indicators

- Number of priority areas (within the selected PCRs) that are of high conservation significance, and are particularly susceptible to biological invasions, that have strategies to prevent, control and eradicate IAS.
- Engagement of key participants or organizations in the process of identifying priority issues and approaches for future CEC work on invasive species.
- Specific strategies to control or respond to bio-invasion risks originating from trade-related pathways.

Final Outcomes

- Strengthened capacity to address IAS issues in North America that will benefit directly from coordinated trinational cooperation.

Performance Indicators

- Degree of active participation of key stakeholders, particularly among the three North American governments, that can be engaged in future invasive species work.

[8] See footnote 6.

Timetable, Project Completion and Sustainability Beyond

A timetable for the completion of outputs and project deliverables is provided in the table below.

Culminating Steps in Achievement of Program Objectives

The project will have contributed to improving understanding within North America of trade-related and environmental impacts resulting from invasive alien species, and helped to improve capacity to address this issue.

Target End Date for CEC Involvement

This project is scheduled to end in 2009. Future work in this area, however, may be proposed within next CEC Strategic Plan (2010–2015), at the discretion of the Parties.

Sustainability Beyond

To address the significant economic and environmental threats posed by invasive alien species, both the United States and Canada have developed detailed inter-agency management strategies within the past five years. Mexico is in the process of completing a similar strategy. As noted above, numerous sectoral or bilateral ecoregional initiatives also exist which incorporate IAS into ongoing workplans. Given the diversity of efforts across the continent, it is expected that project outputs will be able to be readily incorporated into these ongoing efforts.

Communications

The primary target group for this project includes decision-makers and resource managers, particularly with federal and state/provincial level authorities with responsibility for management of invasive species linked to trade. Project outputs will be communicated to the participants in this project through print and electronic means.

Information Management

Outputs from this project in 2009 are currently anticipated for internal use by the Parties only.

Implementation Plan

PROJECT 15 – Protecting Priority Conservation Areas from Alien Invasive Species

Strategic Objectives:

- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and regional levels in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
1.1 Agreed criteria developed and utilized for the selection of priority areas (hotspots) highly susceptible to biological invasions (including issues/sectors of common concern in these areas). Prior to this meeting, each country should undertake internal consultations in order to define the area of interest, and the criteria by which those regions/sectors should be selected.	A consensus-based working paper feeding into a workshop identifying priority areas (within the selected PCRs) that are of high conservation significance, and are particularly susceptible to biological invasions to focus cooperation action, to the extent possible identify specific tasks to undertake within those priority areas.	March/April 2009	Increased awareness and understanding of the risks of potential biological invasions in North America Improved trinational collaboration to reduce new introductions of IAS PCRs in North America.	Government agencies dealing with invasive species in each of the three NAFTA countries, e.g., US Department of Agriculture, Conabio, EC, scientists and resource managers, local and state authorities.	$45,000 **Note**: This task has been carried over from 2008 (as agreed at that time) due to delay in establishing a project working group to guide implementation.	Completion of all tasks outlined here represents the culmination of effort in this project within the current CEC Strategic Plan. Future effort in delivery of the IAS Project assisted by the CEC will be predicated on the results of the development of the CEC Strategic Plan.
1.2 Review facilitated by Secretariat to assist Parties in assessing progress and merit of the Priority Conservation Region approach to inform future strategic direction of IAS collaborative efforts, including the development of mitigation strategies.	Agreed trinational framework for ongoing collaborative effort addressing IAS.	January/February 2009	Identify gaps, reaffirm direction and priorities for action with respect to the Priority Conservation Region approach.			None

PROJECT 15 – Protecting Priority Conservation Areas from Alien Invasive Species

Strategic Objectives:

- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and regional levels in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
2. Assessment undertaken of the work products from 2006 to 2008 on aquatic risk assessments, to determine whether the guidelines are useful to government inspection and customs services as well as for addressing risks along other pathways—and to determine the impact of these guidelines.	Report from the assessment of the CEC's work on invasive alien species from 2006 to 2008.	June 2009	Improved methods for ensuring best available information for IAS control and rapid response to non-specialists (border officials, customs inspectors, etc.).	Key partners: Conabio, Environment Canada, Canadian Border Services Agency and other relevant govt. Departments/agencies US Environmental Protection Agency, various offices, US Department of Homeland Security/Office of Customs and Border Patrol; US Department of Interior and its agencies; US Department of Agriculture/various inspection services; law enforcement and environmental protection agencies, inspection services and custom agencies personnel in Mexico.	$45,000 **Note**: This task has been carried over from 2008 (as agreed at that time) due to the delay in establishing a project working group to guide implementation.	Pending the Parties decision on future strategic directions for the CEC work program, a series of capacity building activities for government staff, such as border customs and inspection services, that enhance access to scientific information on IAS or that result in shared experiences on best management practices for rapid response.
3. Common priorities, gaps, and opportunities for ongoing trinational cooperation on IAS identified.	Workshop comprising IAS Task Group members and BCWG members.	April 2009	Contribution to consultation among Parties, and potentially informing the development of the CEC Strategic Plan 2010–2015.	IAS ad hoc Advisory group members, BCWG members.	$20,000	None

PROJECT 15 – Protecting Priority Conservation Areas from Alien Invasive Species

Strategic Objectives:

- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas.
- Broaden understanding of trade and environment linkages and thereby promote policy coherence, both at the domestic and regional levels in North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
4. Field-level capacity building undertaken (where identified and necessary) on best management practices for the detection and control of new introductions of IAS.	Harmonized protocols on best management practices for the detection and prevention of new introductions of IAS, strengthened trilateral capacities at field level.	June 2009	Improved methods for ensuring best available information for IAS control and rapid response to non-specialists (border officials, customs inspectors, etc.).	Field staff at key border and trade entry points.	$15,000	Pending the Parties decision on future strategic directions of the CEC work program, ongoing trinational capacity building activities.

Total Cost: $125,000

Performance Measurement Indicators:

- Identification of priority issues or regions of common concern to North American, including definition of an approach for future trinational cooperation on invasive species work.
- Number of priority areas (within the selected Priority Conservation Regions) that are of high conservation significance, and are particularly susceptible to biological invasions, that have strategies to prevent, control and eradicate IAS.
- Engagement of key participants or organizations, including through participation of the JPAC, in the process of identifying priority issues and approaches for future CEC work on invasive species.
- Degree of active participation of key stakeholders, particularly among the three North American national governments, that can be engaged in future invasive species work of the CEC.

Key Partners:

Government wildlife management agencies and departments responsible for invasive species.

Project 16	**Recovering the Vaquita and Promoting Sustainable Local Livelihoods**	**Responsible Project Manager at the CEC Secretariat**	Hans Herrmann
Planned Allocation	$125,000	**Working Group(s) associated with this work**	Biodiversity Conservation Working Group (BCWG)

Objective of Project

The purpose of this project is to support Mexico's recovery strategy for the vaquita (*Phocoena sinus)* by facilitating implementation of the CEC's North American Conservation Action Plan (NACAP) for this species.

Implementation of the NACAP by CEC partners will support Mexico's recovery efforts, forge a regional alliance to effectively eliminate vaquita bycatch, and promote sustainable livelihoods in the region.

Background

Project History and Foundation

Although the vaquita is found only in Mexican waters, it is listed by the CEC as a species of common conservation concern in North America. In 2007, the CEC Council[1] instructed its Secretariat to initiate collaborative actions to support Mexico's efforts to recover the vaquita and promote sustainable local livelihoods.

The vaquita is regarded as the most critically endangered of all of the world's small cetacean species. Its current distribution is the most limited of all cetaceans and its total population is estimated to number only about 150. It has been scientifically demonstrated that the vaquita is in critical danger of extinction, primarily as a result of incidental mortality in entangling nets used to catch fish and shrimp. North American cooperation, both technical and economic, is urgently needed to deal with incidental bycatch and prevent the vaquita's extinction.

The vaquita has been identified by Mexico as a high priority for conservation and multiple agencies [e.g., the Secretariat of Agriculture and Fisheries (Sagarpa), the Secretariat of Environment and Natural Resources (Semarnat), and local governments] are working to address the threats facing the species while ensuring the well-being of local fishermen.

Where such conservation needs exist, it is useful to utilize regional expertise and well-established relationships so that conservation goals and objectives may be achieved as efficiently as possible. The CEC is well placed to support the recovery program and to address the main threat to the vaquita, by: i) harnessing the expertise and lessons learned from Canada and the United States in species recovery and the development of new technologies, and ii) increasing the availability and use of alternative fishing gear that does not cause vaquita bycatch.

By engaging the other two North American countries, through the CEC, Mexican wildlife and fisheries agencies[2] will take advantage of their established know-how in the recovery of species, elimination of bycatch, and new technological developments, enhancing the effectiveness of the recovery actions that the Mexican government has begun to implement.

Important milestones of CEC engagement include:

- In May 2007, the Biodiversity Conservation Working Group (BCWG) analyzed Mexico's proposal to develop a trinational initiative in support of the Mexican strategy to conserve the vaquita.
- In May 2007, the Mexican government and *Alto Golfo Sustentable* (AGS) hosted a meeting in Mexicali, Baja California, with local stakeholders and members of the BCWG, to scope the potential of developing a NACAP for the vaquita.

[1] Council Resolution 07-13: http://www.cec.org/files/PDF/ABOUTUS/Res-07-13-vaquita_en.pdf.

[2] Conanp, Inapesca, *Dirección de Vida Silvestre.*

- In June 2007, the CEC Council (under Resolution 07-13) instructed the Secretariat to initiate collaborative actions to recover the vaquita and promote sustainable livelihoods.
- In June 2007, Sagarpa and Semarnat announced a multi-stakeholder, integrated plan to recover the vaquita and to ensure the management and sustainable use of marine resources in the Upper Gulf of California.
- In July 2007, a trinational vaquita task force was established to guide the implementation of the Council Resolution and develop a North American Conservation Action Plan for the recovery of the vaquita, which would identify trinational conservation priority actions and targets.
- In February 2008, the CEC completed the development of the vaquita NACAP.
- In March 2008 the BCWG recommended the CEC act as a catalyst for the sharing of information, explore new market opportunities for vaquita-friendly fisheries and services and support capacity building activities in the region.
- In October 2008, the CEC published the vaquita NACAP and held a trinational experts meeting to develop an implementation map of the NACAP, considering CEC's phase-out of this project by the end of 2009.
- Pursuant to the 2008 Operational Plan, the CEC initiated implementation of NACAP activities, in particular the experimental evaluation of alternative fishing gear.
- In October 2008, a trinational team of scientists[3] participated in the largest effort ever held to test acoustic equipment for monitoring the presence of vaquitas and assess the species' population status.

The CEC's 2008 Vaquita NACAP[4] provides a trinational outlook on the species. It gives an updated account of the species and its current situation, identifies the main risk factors causing the species to suffer an unsustainable level of mortality, and summarizes the current management and actions taken in each country, as well as public and commercial perception of the species and the threats it faces. Against this background, it then offers a list of key trinational collaborative conservation actions, priorities and targets to be considered for adoption by the three countries. The actions identified address the following main objectives: i) threats prevention, control and mitigation; ii) use of innovative approaches to developing sustainable livelihoods in the communities; iii) research, monitoring and evaluation on the state of the vaquita population; and iv) increasing awareness of the vaquita, its plight, and importance within its ecosystem.

Key Stakeholders, Resource Leveraging, Partnerships

Implementation of this project will continue to be in partnership:

- Government partners: *Comisión Nacional de Áreas Naturales Protegidas* (Conanp), *Comisión Nacional de Acuacultura y Pesca* (Conapesca); *Instituto Nacional de Ecología* (INE); *Dirección General de Vida Silvestre* (DGVS), *Procuraduría Federal de Protección al Ambiente* (Profepa), *Reserva de la Biosfera del Alto Golfo de California*, NOAA /NMFS, Department of Fisheries and Oceans Canada (DFO).
- NGO partners: *Iniciativa Alto Golfo Sustentable* (AGS); *Noroeste Sustentable* (Nos), WWF México, The Nature Conservancy, Pronatura; Vaquita.org, Conservation International (CI), Natural Resources Defense Council (NRDC), among others.
- Academics/Scientists: CIRVA; *Centro de Investigación Cientifica y de Educación Superior de Ensenada* (CICESE), *Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora* (DICTUS-UNISON), Scripps Institution of Oceanography, IUCN SSC.
- Industry: Ocean Garden; Marine Stewardship Council.
- Others: *Órgano de Evaluación y Seguimiento del Programa de Protección de la Vaquita*, a consultative forum officially constituted to advise the federal government on the implementation of the recovery plan for the vaquita.

Advisory Groups Related to This Project

Biodiversity Conservation Working Group (BCWG); and the vaquita NACAP ad hoc technical and scientific team.

[3] NOAA's Star Jordan scientific cruise engages scientists from the three CEC Parties.
[4] The vaquita NACAP was officially launched in Mexicali, Mexico, on 28 October 2008.

Rationale

The designation by the CEC of North American species of common conservation concern (SCCC) was determined by considering and weighing various criteria, such as level of risk of extinction, common threats in the three countries, and the need for collaboration among Canada, US, and Mexico. Not all SCCCs need be migratory or transboundary to meet these criteria and to be considered species of continental concern. The vaquita is one of the most endangered marine mammals in the world. It listed as one of the CEC's 33 North American SCCC, with a limited habitat range that falls within CEC's Priority Conservation Area 25—the Upper Gulf of California.

The CEC has served as a catalyst for concerted, strategic action through the development of a North American Conservation Action Plan for the vaquita. This complements efforts being made by the Mexican government and other stakeholders to protect and promote the recovery of this critically endangered species.

International cooperation among Canada, Mexico and the United States has played a major role in the recovery of other marine mammals (such as gray whales) and more recently in dealing with incidental bycatch. With this in mind, the primary role of this project is to address the need and opportunity to enhance—through coordination—the effectiveness of measures undertaken to conserve this species of shared continental concern.

Fulfillment of Strategic Objectives

- Strengthening capacity, establishing a framework, and filling information gaps, for North American decision-makers to understand ways to promote sustainable development activities for the region, by the use of the Upper Gulf scorecard, as well as by exploring alternative "vaquita friendly" fishing gear and practices (Objective 7).
- Training activities for fishermen, as outlined in the vaquita NACAP, which will promote alternative and sustainable fishing gear and practices in the Upper Gulf of California (Objective 6).
- Sharing of scientific information and expertise on porpoises in order to support and increase knowledge about the vaquita and its habitat, as well as on the use of new technologies that allow for sustainable fishing practices and/or help prevent and reduce incidental bycatch, particularly of porpoises (Objective 4).
- Exploring new vocational opportunities for local fisheries, incorporating sustainable-use approaches which minimize impact on vaquita populations (Objective 9).

In 2008, the BCWG—with the support of the Secretariat—reviewed the progress and outcomes of all initiatives carried out under this and other biodiversity related projects. The resulting assessment will inform future consideration by the CEC Council concerning emerging biodiversity issues, as well as on other ecologically significant regions and species on which to focus its cooperative work.

CEC Niche and Value Added

The CEC Council in 2007 directed the Secretariat to prepare a North American Action Plan to assist Mexico's efforts to recover the Vaquita. Since that time the highest levels of the Government of Mexico have expressed an interest in CEC involvement in this issue. As noted during the 2007 Council meeting, the CEC is a unique venue where the environment and fisheries authorities of the three countries cooperate on tangible conservation-driven projects.

The CEC's catalytic role and value-added contribution is founded on the need to share the expertise and scientific knowledge acquired in Canada and the United States on marine mammal incidental bycatch, and on the practical implementation of sustainable fishing gear and practices, as well as on examples of compensation and buy-out schemes in fishing communities across North America.

The DFO in Canada[5] and NOAA in the US, have a wealth of experience in dealing with incidental bycatch, development of smart gear, technological transfers, fishery regulations, and economic incentives to artisanal fishers. These agencies have worked under CEC's auspices on a number of marine initiatives that include the reduction of incidental bycatch, fisheries management and marine mammal conservation.[6]

[5] See: http://www.gulfofmaine.org/times/spring2006/smarter.html.
[6] NAMPAN and the three marine NACAPs

This exchange of experiences and information will be achieved through expert workshops, fishermen exchanges and short-time visits to the local communities.

North American Scope

The vaquita is one of the most endangered marine mammals in the world, with a limited habitat range that falls (only) within CEC's Priority Conservation Area 25—the Upper Gulf of California (one of 10 MPAs of the NAMPAN pilot initiative).

Linkages with Other CEC Projects

- Conserving Marine Species and Spaces of Common Concern: habitat conservation (link to the Upper Gulf of California Biosphere Reserve which is member of the B2B NAMPAN network), sustainable fishing practices, and fisher training.

Activities and Outputs

Activities in 2009, the final year of the current CEC Strategic Plan and Biodiversity Strategy, are important to the phasing out of CEC's engagement on this and other NACAP species.

Activities under this project are guided by the vaquita NACAP, in particular its capacity-building, and information and technology sharing components. All aspects of this project are focused on and designed to be completed in 2009. Specific activities include:

- Support the trilateral exchange of information on matters such as, but not limited to: best fishing practices and alternative fishing gear to eliminate bycatch, acoustic monitoring of small mammals, and the potential use of economic instruments (switch-out, buyouts and compensation schemes).
- Facilitate the trilateral exchange of researchers, including resource and fishery economists, which will help in assessing the vaquita population health and status through scientific and acoustic monitoring surveys, as well as in having a better understanding of the intensity and trends of key socio-economic stressors affecting the vaquita and its habitat.
- Support the development and testing of alternative fishing gear to reduce incidental bycatch incorporating potential technological and knowledge transfers from successful case studies in Canada and the United States.
- Increase awareness: Highlight need for continued international support for the vaquita recovery strategy; create waterproof information poster and/or brochures for tour boats, owners, crew and passengers in all three countries; promote the vaquita as a national cause célèbre; conduct workshops involving scientists and fishermen in communities; conduct workshops for training in use of alternative gear (scientists, fishermen, government representatives to talk about experiences).
- The Secretariat will document, in a working paper (in-house), the process and lessons learned (that can be applied elsewhere) from this international collaboration on the conservation of marine biodiversity and engagement of local communities in sustainable practices.[7]

Target Groups

The main targets of this project are local fishing communities (in particular, those in the Gulf of Santa Clara, San Felipe and Puerto Peñasco); local fishery authorities; local and state governments; industry representatives and MPA managers.

Partners, Stakeholders

For the main partners in the implementation of this project see *Key Stakeholders, Resource Leveraging, Partnerships* above.

The Task Force comprises the following government agencies: Conanp, Conabio and INE from Mexico; NOAA-NMFS from the United States; and DFO from Canada.

Leveraging

Financial and in-kind contributions in support of the vaquita NACAP implementation are from:

- Conanp
- Conabio

[7] This activity will be done in house by the program manager at no expense to the project.

- Inapesca
- Profepa
- NOAA and NMFS
- DFO

Associated outputs/products

- Development and testing of alternative fishing gear.
- US and Canadian participation in the design and implementation of monitoring cruises.
- Workshops pertaining to the implementation of the capacity-building component of the NACAP, in particular:
    - Training workshops on the use of alternative fishing gear and other sustainable fishing practices.
- Working paper: Lessons learned from international collaboration on the conservation of marine biodiversity and engagement of local communities in sustainable practices.

Anticipated Outcomes and Performance Indicators

The desired outcomes of the project include:

Direct Outcomes

- Increased knowledge and information about the health and status of the vaquita population;
- Increased knowledge of the ecological condition within the Upper Gulf of California Biosphere Reserve through the implementation of the scorecard methodology;
- Improved trinational collaboration on the prevention and reduction of incidental bycatch; and,
- Knowledge on the potential use of enabling approaches to conserve the vaquita, and promote sustainable livelihoods.

Intermediate Outcomes

- Implementation and adoption of strategies to eliminate incidental bycatch by relevant stakeholders.
- Increased participation of local communities in the use of sustainable fishing gear.
- Improved trinational collaboration on the assessment and monitoring of the vaquita population and its stressors.

Final Outcomes

- Reduction of bycatch to zero vaquitas.
- Recovery and conservation of the vaquita and its habitat.
- Effective incentives for local fishermen to eliminate the use of unsustainable fishing gear.
- Effective incentives for stakeholders to support and maintain zero bycatch efforts.
- Working paper: Case study on lessons learned from international collaboration on the conservation of marine biodiversity and engagement of local communities in sustainable practices

Performance Indicators

- Development and testing of alternative fishing gear.
- Use of new alternative gear and best practices
- No more vaquitas death detected by incidental bycatch.
- Implementation of monitoring cruises in the Upper Gulf.
- Number of fisherman participating in sustainable fishing practices.
- Frequency with which the Upper Gulf of California Biosphere Reserve and other MPAs report using the NAMPAN monitoring indicators and protocols.

Timetable, Project Completion and Sustainability Beyond

Culminating Steps in Achievement of Program Objectives

- In 2009, all CEC NACAP-related activities will be concluded.
- In October 2008, the vaquita ad hoc technical experts group will meet to define a tactical plan to implement the NACAP, and maintain the trinational interest and cooperation beyond CEC's involvement.

Target End Date for CEC Involvement

2009

Sustainability Beyond

The year 2009 represents the conclusion of all marine NACAPs under the auspices of the CEC. It is expected that the lessons learned by the implementation of this and other marine NACAPs will allow the Parties and other relevant stakeholders to continue working together and using the vaquita NACAP as a framework for targeted collaborative actions.

Communications

The target audiences of this project are: local fishing communities (in particular, those in the Gulf of Santa Clara, Puerto Peñasco and San Felipe), fisheries authorities, fishing industry stakeholders; local and state governments, conservation organizations, the general public in the communities cited above, and public audiences throughout North America with an interest in the conservation of endangered species.

Implementation Plan

PROJECT 16 – Recovering the Vaquita and Promoting Sustainable Local Livelihoods						
Strategic Objectives: • Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Meeting of the Alternative Fishing Gear Working Group[8] to: 1) analyze results of 2008–2009 pilot testing of gear; 2) propose gear for testing and experimentation for the 2009 season. Field visits of the working groups, in particular the Alternative Fishing Gear Working Group. Lessons learned report on the NACAP development and implementation process.	Support the trilateral exchange and scoping of information on: best fishing practices and alternative fishing gear, monitoring of small mammals. Secretariat[9] (in-house) working paper: lessons learned from international collaboration on the conservation of marine biodiversity and engagement of	Summer-fall 2009	An assessment of the environmental and capture effectiveness of tested gear. Increased sharing of scientific data, and information on the conservation status of the vaquita and its habitat. Secretariat working paper describes the trinational experience of the NACAP implementation, which will also identify benefits to Canada, and US on the potential application of this experience (dealing with incidental bycatch of	Government agencies of the three NAFTA countries, local fishing communities (in particular those in the Gulf of Santa Clara, Puerto Peñasco, and San Felipe), Reserve authorities, local and regional NGOs (TNC, WWF, AGS, NOS EDC, NRDC, Pronatura).	$50,000	NA

[8] Trinational group established at the Vaquita NACAP experts meeting in Mexicali, Mexico. October 2008. The group is led by the director of Inapesca and includes officials from DFO, NOAA, and other organizations.

[9] The report will be produced by the program manager with the co-authorship of the vaquita ad hoc team members at no expense to the project budget.

PROJECT 16 – Recovering the Vaquita and Promoting Sustainable Local Livelihoods						
Strategic Objectives: • Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	local communities in sustainable practices (including, but not limited to, compensation mechanisms, community engagement, gear development). [**Note**: This activity will be done in-house by the program manager at no expense to the project.]		endangered species from small artisanal fisheries).			
2. Development and testing of alternative fishing gear for shrimp (e.g., suriperas, chango nets, trawls, traps) and finfish (e.g., longlines, handlines, pots).	Based on existing fisheries research and field experience from CAN and US, facilitate the development and testing of alternative fishing gear, with the possibility of conducting	Fall 2009	Local fishermen and authorities adopting strategies (gear and practices) to address vaquita bycatch.	Local fishing communities (in particular those in the Gulf of Santa Clara, Puerto Peñasco, and San Felipe); Reserve authorities.	$75,000	NA

PROJECT 16 – Recovering the Vaquita and Promoting Sustainable Local Livelihoods						
Strategic Objectives: • Strengthen capacities to conserve species and habitat of common concern by building stakeholder capacity for planning, monitoring and management. • Enhance North American trade in green products and services, with a view to improving environmental protection, promoting sustainable use of biodiversity, removing trade barriers and utilizing market-based approaches.						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
Fisher-to-fisher exchanges to test, and experiment on smart fishing gear. Testing of potential gear at flume tank of the Marine Research Institute, Memorial University, Newfoundland, Canada.	comparative fishing gear trials. Share lessons learned (bycatch and shifting gear) from Canadian and American local artisanal fisheries. Assessments of capture effectiveness and comparative analysis of gear.					
Total Cost: $125,000						

Performance Measurement Indicators:	**Key Partners**:
• Development and testing of alternative fishing gear • Use of new alternative gear and best practices • No vaquitas in bycatch nets • Monitoring cruises implemented in the Upper Gulf • Number of fisherman participating in sustainable fishing practices • Frequency with which the Upper Gulf of California Biosphere Reserve and other MPAs report using the NAMPAN monitoring indicators and protocols	Government partners: *Comisión Nacional de Áreas Naturales Protegidas* (Conanp); *Comisión Nacional de Acuacultura y Pesca* (Conapesca); *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (Conabio); *Instituto Nacional de Ecología* (INE); *Reserva de la Biosfera del Alto Golfo de California*; Profepa; NOAA /NMFS; Department of Fisheries and Oceans Canada (DFO). NGO partners: *Iniciativa Alto Golfo Sustentable* (AGS); *Noroeste Sustentable* (Nos); WWF México; The Nature Conservancy, Pronatura; Vaquita.org; Conservation International (CI), among others. Academics/Scientists: CIRVA; *Centro de Investigación Cientifica y de Educación Superior de Ensenada* (CICESE); *Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora* (Dictus-Unison); Scripps Institution of Oceanography, IUCN SSC. Industry: Ocean Garden; Marine Stewardship Council.

Project 17	**Conserving North American Grasslands: Building Capacity for Grasslands Biodiversity Conservation in Northern Mexico**	**Responsible Project Manager at the CEC Secretariat**	Thomas Hammond
Planned Allocation	C$150,000	**Working Group(s) associated with this work**	Biodiversity Conservation Working Group

Objectives of Project

This project builds on past CEC-sponsored work that established the North American Bird Conservation Initiative (NABCI), and is committed to the conservation of North America's birds and the associated biodiversity making up their habitat. It also supports the goals outlined in the CEC's *Grasslands, Toward a North American Conservation Strategy* (2003),[1] specifically to:

1. Support establishment of a Northern Mexico Regional Grassland Conservation Alliance (the Regional Alliance);
2. Support comprehensive grassland bird monitoring and inventory programs; and
3. Contribute to ensuring the long-term protection and management of key grassland tracts across North America.

Globally, grasslands are one of the most threatened habitat types and generally one of the most under-represented in protected area systems. The grasslands of North America are no exception and their loss through habitat conversion has led to equally severe declines in the bird species and other biota that are found there, and their conservation will depend significantly on integrated and coordinated conservation action in Mexico, the United States, and Canada. Research carried out by TNC, CEC and others with migratory birds such as the Ferruginous Hawk, illustrate how the large remaining natural grasslands are "stepping stones" for migratory birds throughout the Central Grasslands.[2]

Proposed work within this project directly complements long existing tri-national partnership activities focused on training, technical assistance, and protection and enhancement of grassland habitat by local and national governments, nongovernmental partners and international organizations. The foundations of these partnerships are well reflected in various conservation vehicles such as the North American Conservation Action Plans (NACAPs), conservation strategies for species of common concern identified and agreed upon by the three North American countries. However, due to still limited conservation investments in northern Mexico, and its acknowledged importance for grassland birds from the entire continent, the proposal, as an initial phase, concentrates much of its actions in Mexico.

It is important to note that while bird conservation may appear to be the focus of this project, the actual target is to enhance grassland biodiversity in general so many more species are expected to benefit from the proposed actions. It is widely accepted that birds are perhaps the best indicator of the state of natural systems because they occupy most ecological niches, their well-being depends on healthy ecosystems, and in general are easily monitored so that when natural balances shift they can be detected through the response of bird populations.

Background

The central grasslands of North America represent one of the continent's largest biomes and harbor a rich biological diversity as well as many endemic species. Human-dominated disturbances have endangered this ecosystem across its entire range to the point that it is currently considered to be among North America's most endangered ecosystems, a category shared by grasslands worldwide. While grasslands have been under pressure from human disturbance for over 150 years (e.g., livestock grazing, agricultural

[1] http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1246.
[2] See www.ferruginoushawk.org.

conversion), other threats are now becoming more pervasive across the biome (e.g., invasive species, urban sprawl/residential development, energy extraction, and wind-power development). These threats are not only resulting in the conversion of native grasslands to other land cover types, but are also degrading the condition of the grasslands that remain. In spite of their importance and level of threat, grasslands as an ecosystem are poorly represented in protected areas compared to other North American ecosystems. The case for concentrating cooperative conservation efforts in the grasslands is further supported by recent studies which single out this North American ecosystem, both in a worldwide comparison of the loss of species, and for its potentially high species turn-over (sum of colonizations and extinctions) under climate change.

The central short- and mixed-grass prairies are the only contiguous terrestrial ecological system to span Canada, the United States, and Mexico. To date, the majority of conservation planning and action has been at local or regional scales and thus has mostly occurred within one nation or around the borders. Increasingly, conservationists are recognizing that bi- or tri-national cooperation, planning, and action is necessary to conserve the full range of the central grassland's biota and ecological processes at all scales.

Recent trend analyses from the North American Breeding Bird Survey show that, as a group, populations of grassland-dependent bird species have declined more dramatically, more consistently, and over a more geographically widespread area than any other group of North American birds in the last 40 years. This group of grassland-dependent birds contains numerous species of high conservation concern, as determined by a number of partners in North America including Partners in Flight (PIF), the Canadian and US Shorebird Conservation Plans (CSCP/USSCP), Joint Ventures, CWS, USFWS, USFS and the NABCI Trinational Committee. These include the near-endemic grassland obligates who have most or all of both their breeding and wintering ranges in the western Great Plains (e.g., ferruginous hawk, mountain plover, lesser prairie-chicken, long-billed curlew, burrowing owl, Sprague's pipit, Baird's sparrow, Cassin's sparrow, lark bunting, McCown's longspur, and chestnut-collared longspur). Ornithologists and bird conservationists are just beginning to unravel the causative factors behind these population declines. However, most research on causation is conducted on the breeding grounds; with relatively little focused on the wintering grounds, and even less at migratory stopover sites.

It is estimated the Great Plains and desert grasslands once covered 4 million square kilometers within North America. The prairie dog, considered a keystone species by many, is estimated to have occupied at least half of this area. Associated with the prairie dog and its grassland habitat are nearly 200 wildlife species. However, due to numerous impacts and such threats as control efforts, habitat loss due to conversion to agriculture, habitat fragmentation from other forms of development, and disease impacts, prairie dog occupancy on the landscape has been reduced to only about three to four percent of historical estimates. In addition, many species dependent upon the prairie dog and the open grasslands, such as black-footed ferret, swift and kit foxes, lesser prairie chicken, mountain plover, burrowing owl, ferruginous and Swainson's hawks, and loggerhead shrike, have declined as well. Actions identified in this project will address many of the conservation strategies (population and habitat surveys for identifying areas for conservation easements, translocation, reintroductions, and other conservation actions) or emerging issues (ecosystem management, climate change) for these species, which will support conservation efforts more broadly.

Some of the most expansive remnants of desert grassland habitat are found in the Janos Valley, Chihuahua, Mexico—scientists have mapped nearly 400,000 contiguous acres. The valley harbors the largest complex of black-tailed prairie dog colonies remaining in the world and over 250 species of birds have been recorded in the area. The economy of the region is closely tied to cattle ranching and irrigated agriculture, on both private and communally controlled lands. In an area this large with a complex social reality, effective conservation requires a suite of strategies.

To promote conservation throughout areas such as the Janos Valley and other critical sites, a community-focused outreach campaign is strengthening the relationship between the conservation organizations and local communities and building advocates for the environment. As a result of this work, communities throughout the valley have a new understanding of the importance of their grasslands and are actively supporting the decree of a new Biosphere Reserve. The region hosts the largest burrowing owl population known to breed in native grasslands and significant numbers of mountain plovers. Other species of some degree of conservation concern that commonly occur in the Janos area include long-billed curlew, scaled quail, the ferruginous hawk and burrowing owl (previously identified species of common conservation concern), Sprague's pipit, Cassin's sparrow, Baird's

sparrow, chestnut-collared longspur, McCown's longspur, lark bunting, and the northern aplomado falcon.

The Janos Valley has several serious linked threats, such as the effect of unsustainable grazing from more than 150 years of intensive livestock production, and more recently the conversion of grazing lands into agricultural production. A third threat is overuse of the aquifer from extraction for irrigation purposes. The effects are noted in the drying out of water wells for cattle, the growing scarcity of water for use in local communities, and the general lowering of the water table.

Another important area is the Saltillo Grasslands region in the states of Coahuila and Nuevo Leon, Mexico, which provides some of the most important remaining breeding, migration and wintering habitat for many declining grassland bird species, including mountain plover, long-billed curlew, and burrowing owl. Based upon data gathered at the site, as much as 25% of the entire population of Mountain Plover and 25% of the most threatened Long-billed Curlew population winter on these grasslands. They also harbor an endangered species—the Mexican prairie dog. In fact, the Saltillo Grasslands are the last place on earth that this mammal is found, but the area is rapidly being converted to irrigated agriculture—primarily for potato production to supply Mexico's potato chip market. Soil degradation from this industry is so rapid and complete that there is little chance for grassland restoration as old fields are abandoned when the farmers move on to clear new ones. The pace of destruction, coupled with the biological importance of the Saltillo Grasslands, make it among the most important grassland landscapes in North America.

In the Mexican state of Sonora, northern and central grasslands provide critically important habitat for North American grassland birds. The Sky Island Region of northeastern Sonora and southeastern Arizona was once dominated by 9 million acres of grassland habitat. Despite losses due to agricultural conversion, over-grazing, disruption of natural fire regimes, and an invasion of non-native grasses, the region still supports over 2 million acres of quality grassland habitat and another 4 million acres of restorable grasslands. Partners in Flight, Watch List Species utilizing these grasslands include; the scaled quail, Swainson's hawk, long-billed curlew, rufous-winged sparrow, Sprague's pipit, Baird's sparrow, and McCown's longspur. These continuous desert grasslands straddle the United States-Mexico border and create a north-south corridor critical to the migratory movements of large mammals, including the jaguar.

Central Sonora includes approximately 8.5 million acres referred to as the Plains of Sonora, which historically was dominated by savannah grassland that has been compromised by the same activities threatening the Sky Island grasslands. The most severe threat is the introduction and spread of the non-native buffelgrass (*Pennisetum ciliare*), to enhance cattle production. This invasive plant is drought tolerant, grows year-round, out-competes native grasses and transforms habitat by changing fire frequency and intensity. These savannah grasslands provide suitable habitat and support the last wild population of the endangered masked bobwhite quail and its protection and restoration is critical to the survival of this sub-species. In Mexico, both these grassland regions are predominantly private lands and receive no protective management. A program to provide incentives to private landowners to protect, conserve, and restore these grasslands should be a priority action.

These sites are closely linked through grassland bird species to an extensive network of existing and proposed conservation areas throughout the Great Plains, including the United States and Canada. The North American Grassland Priority Conservation Areas report identified a total of 55 grassland priority conservation areas in the three countries. These areas ranged in size from 206,000 acres to 3,650,000 acres, with an average size of 1,200,000 acres. These priority areas, if completely conserved, would protect over 10% of the entire area of the North American Great Plains. They were identified primarily for their importance in conserving high priority migratory grassland birds, though some resident species (e.g., Worthen's sparrow) and mammals (e.g., pronghorn) were also included in the selection process. Although no comprehensive estimate is yet available of the total cost of protecting this amount of habitat in the three countries, The Nature Conservancy estimates that at least US$200,000,000 would be required to adequately protect about 3,600,000 acres as a selected subset of these sites through acquisition, easements, and appropriate management on both private and public lands.

The North American grasslands are also linked to their counterparts in the southern hemisphere through shared habitat types, species of migratory birds, and current and traditional land use. The grasslands of the Southern Cone of South America, also known as the "pampas," cover an area of approximately 386,000 square miles, shared by four nations: Paraguay, Uruguay, Brazil, and

Argentina. The Southern Cone grasslands sustain a human population of 35 million inhabitants. The richest and most economically active areas are in the central-south of the region, where soils are most adapted for the development of agriculture. Poorer and more marginal soils found in the northern regions are used almost exclusively for extensive cattle ranching. The conservation of the pampas grasslands is in the hands of private owners: more than 98 percent of the grasslands are in private hands. Shared species between the Southern Cone and North American grasslands include upland sandpiper, buff-breasted sandpiper, and bobolink.

Key Stakeholders and Priority Areas

The importance of North America's grasslands has long been recognized by numerous conservation organizations and partners. These efforts have been focused on identifying critically important areas that need to be conserved by a wide array of conservation mechanisms through private and governmental organizations. Some of these efforts include the Important Bird Areas program, implemented by different partners in Canada, Mexico, and the United States, using a methodology developed by Birdlife International; the Ecoregional Planning Program of The Nature Conservancy; and a comprehensive effort led by the CEC and The Nature Conservancy (TNC) to identify Grassland Priority Conservation Areas (GPCAs) across North America. Other important stakeholders include the World Wildlife Fund, the Rocky Mountain Bird Observatory (RMBO), and Pronatura.

The latter effort is perhaps the most synthetic effort yet to capture diverse priorities for grassland conservation in North America, partly because it incorporates the results of many prior planning and site identification efforts, including the ones mentioned above. A workshop held by CEC and TNC in November 2004 identified a set of GPCAs that are of trinational importance due to their ecological significance and threatened nature and which are in need of bi- and trinational cooperative action for their successful conservation. This site identification effort, plus the recognition that critical conservation attention needs to be paid to grassland bird wintering areas, suggests that efforts focused on two high priority areas of the northern Chihuahuan Desert grasslands, Janos Valley and Saltillo Grasslands, will yield large conservation benefits for most of North America.

Rationale

The foundation for the work outlined in this proposal is the trinational *Declaration of Intent for the Conservation of North American Birds and their Habitat* in which the governments of Canada, the United States and Mexico recognize the importance of collaborative conservation achievements such as those supported by the NABCI. While this document is motivated by the desire to conserve birds in North America, it is understood that sufficient high quality habitat is key to the success of this effort and that healthy habitat will in turn support the full spectrum of biodiversity. In this effort, bird conservation can be seen as a method of focusing on a key indicator that is more easily measured to determine if conservation actions have been effective.

Within the NABCI program, several projects have been initiated to address key conservation needs including one for grasslands. The Grassland Project of Continental Importance aims to conserve and restore grassland ecosystems in the Janos Valley and Saltillo Grasslands regions, in order to guarantee the continuity, connectivity, composition, structure, and ecological processes (migratory, hydraulic, and natural fire regimes, among others) guaranteeing their health and viability.

Key Conservation Needs in the Grasslands

Need for partnership building and coordination: The proposal is directly connected to long existing trinational partnership activities focused on training, technical assistance, and enhancement of grassland habitat by local and international partners. Mexican partners involved with the conservation work in both Janos Valley and Saltillo Grasslands have been integral participants in these trinational partnerships from the beginning of the various projects. However, despite this solid foundation, there is a need for an established partnership in Mexico where stakeholders can come together to ensure that actions taken in the region are directed to priorities and that communication among partners ensures that duplicated or conflicting actions are not initiated. Models to establish such a partnership or Regional Alliance have begun to form in other regions in Mexico and it is expected that a Regional Alliance will build from their experience.

Regional Alliance partners will use existing projects to expand the conservation activities in Mexico to be funded by this proposal into a fully trinational project over the next five years by expanding efforts at habitat conservation, implementing an integrated grassland bird monitoring project

in the three countries, and launching an outreach and education process to highlight the importance of this disappearing habitat type. The successful Rio Grande and Sonoran Desert Joint Ventures will be used as a model for developing these stakeholder processes, and will also be important partners as this effort moves forward.

North American Scope of the Project and its Relevance to the Parties

Need for engaging key sectors in conservation: The project proposes to bring together key sectors in society to develop more positive attitudes towards conservation. Perhaps the largest and therefore the most influential sector is the ranching community along with local farmers whose day-to-day decisions can drastically affect the biodiversity on the lands they manage. Information on the value of biodiversity both intrinsically and in relation to their ability to produce livestock and crops will be essential if conservation in the grasslands is to be achieved; however, the Regional Alliance will involve all relevant stakeholders including local and federal authorities.

Need for common approaches to bird monitoring: In winter, the Chihuahuan desert grasslands support virtually the entire population of many North American grassland bird species. This region is therefore of global importance to the conservation of most North American grassland birds. Wintering grassland bird populations may shift their distribution annually, probably in response to differential grass seed production that depends on the quantity and distribution of rainfall during the preceding summer, complicating habitat conservation efforts for these species. A regional winter bird monitoring program is needed to understand the full extent of wintering distributions for priority grassland species, identify regions or epicenters of high abundance for these species, identify areas or regions of elevated importance during drought years, identify habitat relationships, biological corridors and contribute to determine population trends at various scales to guide management and conservation in this region.

Since 2006 in cooperation with The Nature Conservancy, Pronatura and other organizations, RMBO has led a binational effort to develop and implement a wintering grassland bird survey and monitoring program in eight Grassland Priority Conservation Areas (GPCAs) in the Chihuahuan desert region of Mexico and its extension into the United States.[3] It is expected that the monitoring activities supported by this project will benefit from the current efforts to expand the Breeding Bird Survey the northern border States of México, coordinated by Conabio/NABCI.

Monitoring of species during the breeding season and on migration has lead to a greater understanding of grassland bird abundance, distribution and habitat associations compared to the winter. However, there is a need to review and assess existing approaches from a landscape perspective to ensure that the data collected is supplying the right information at the right level of resolution to support conservation activities. This proposal aims to do this by bringing together those that are currently involved in monitoring birds in the region to discuss current capacity and develop a path forward to ensure biome-wide capability to provide the information needed to inform and evaluate conservation actions.

Need for identification of priority habitats: As with any ecoregional approach, success in conserving grassland biodiversity will require an understanding of which areas are more important to direct action towards. The heterogeneity of the landscape makes certain areas more important than others based on the diversity of species present, the level of protection, the level of development and the likelihood of disturbance. Given limited resource availability, it is critical to understand where on the landscape these funds are best applied. The aim of this section of the proposal is to build on existing information to finalize a list of priority conservation areas for North American grasslands designated using sound interdisciplinary criteria

Activities and Outputs

I. Develop a shared regional ecosystem management and conservation Master Plan.

The scoping exercise to develop the conservation and management Master Plan includes the following action lines:

1. Identify critical habitat for birds and other grasslands species;
2. Identify and assess ecosystem conservation tools, such as ecological easements, usufructs, ejido reserves, land acquisition and water concessions;
3. The establishment of a Regional Alliance of organizations working in a coordinated fashion towards implementation of a long term management and conservation Master Plan.

[3] See www.rmbo.org/v2/web/International/cdg.aspx.

II. Develop strategy for sustainable livestock production.

1. Build consensus with ranchers and other private landowners regarding the viability of ranching practices which incorporate benefits for biodiversity conservation;
2. Identify potential viable sustainable livestock rearing techniques to restore degraded grasslands, and other areas of technology transfer and information sharing.

III. Support extended and improved monitoring of grassland migratory birds.

1. Coordinate and standardize where necessary migratory bird monitoring protocols for key species in Canada, the US, and Mexico;
2. Support for ongoing bird monitoring efforts.

IV. Establish a list of priority conservation areas for North American Grasslands

1. Revise and finalize (as necessary) the list of key priority conservation areas, including the relevant metadata;
2. Publish a map of key priority conservation areas, including map descriptions and translations.

Target Groups

The primary target groups for this project are local landowners and resource managers in the grasslands states of northern Mexico, including federal level authorities.

Partners, Stakeholders

Key partners that will participate in the implementation of this project include US and Canadian government agencies, at both state and federal levels, with responsibilities for grasslands conservation. In addition, this initiative will work closely with the numerous nongovernmental organizations involved in grasslands conservation in Mexico, including national and international NGOs and academic institutions involved in grasslands research, management and conservation.

Leveraging

As this initiative is primarily intended to assist in the coordination of ongoing grasslands conservation efforts in the project focal areas, numerous opportunities exist for leveraging existing CEC resources. These opportunities will be identified, and subsequently developed, once the initial scoping work (outlined above) has been completed.

Outputs and Associated Timelines

Please refer to the Implementation Plan table below.

Anticipated Outcomes and Performance Indicators

Expected benefits span more than 400,000 hectares sheltering more than 250 grassland bird species, including almost entire over wintering populations in the Chihuahuan Desert. It also provides ample benefits to endemic species such as Worthen's sparrow and black-tailed prairie dog, along with recovery efforts for the black-footed ferret.

1. Shared Regional Ecosystem Management Approaches and Conservation Master Plan

Expected Direct Outcomes:

- A formally established Regional Alliance with a steering group with representatives of all relevant stakeholders, institutions and organizations; A Master Plan agreed by consensus on shared conservation priorities, goals and strategies to reach these goals.

Performance Indicators:

- Consensus amongst key conservation actors on conservation goals and strategies;
- Drafting of formal terms of agreement encompassing these goals.

Intermediate to long-term performance indicators:

- Goals and priority actions addressed through the implementation of the RA's Master Plan
- National and international funds available to address conservation goals
- Improved coordination, communication and efficiency among stakeholders
- Number of hectares under protection, management, enhancement or restoration

2. Strategy for Sustainable Livestock Production

Expected Direct Outcome:

- Consensus reached with local ranchers and landowners regarding a vision and goals of the RA's Master Plan for conservation and sustainable land management in target areas.

Performance Indicator:

- Agreed vision and goal statement.

Intermediate to long-term performance indicators:

- Livestock and farming production levels maintained through land management practices which support biodiversity conservation;
- Number of producers that have been trained in the implementation of sustainable livestock operations;
- Infrastructure and capacities in place to operate a seed bank for the production of seeds for grassland restoration purposes.

3. Improved Monitoring of Grasslands Migratory Birds

Expected Direct Outcome:

- Monitoring protocols for migratory birds are coordinated and standardized.

Performance Indicator:

- Monitoring protocols agreed to by the principle government, scientific, and nongovernmental organizations involved in the monitoring of grassland migratory bird populations

Intermediate to long-term performance indicators:

Long-term monitoring has been implemented at the Chihuahuan Desert scale and there is available information to support management decision making, including:

- Annual distribution and abundance maps depicting the differential abundance of dozens of grassland species throughout their actual non-breeding range in the seven-state Chihuahuan desert region.
- Identification of reliable "hotspots" for priority grassland bird species, during both "normal" and drought conditions, for targeting future habitat conservation efforts.
- Species-specific density estimates for several levels of interest (e.g., states, habitats) to aid in managing bird populations at various scales.
- Insight into local and regional population trends of wintering grassland birds to guide management and conservation efforts at various scales.
- A better understanding of habitat requirements of grassland species both locally and regionally.
- A regional network of cooperators in the seven state region of the Chihuahuan desert in Mexico that could also serve as a platform for other regional efforts related to bird conservation, such as monitoring of over-winter survival and monitoring of breeding species and BBS.

4. Priority Conservation Areas for North American Grasslands

Expected Direct Outcome:

- Publish map, including descriptions and metadata, of key priority grasslands conservation areas in North America

Performance Indicator:

- Publication of map and inclusion in the North American Environmental Atlas.

Timetable, Project Completion and Sustainability Beyond

A timetable for the completion of outputs and project deliverables is provided in the table below.

Culminating Steps in Achievement of Program Objectives

The project will have contributed to improving understanding within North America of the conservation of grassland habitat and its associated species, and helped to improve capacity to address this issue.

Target End Date for CEC Involvement

Project implementation is not anticipated beyond December 2009. Some production and distribution of project related materials may occur in the first weeks of 2010. Future work in this area, however, may be proposed within the next CEC Strategic Plan (2010–2015), at the discretion of the Parties.

Sustainability Beyond

Support for the initiation of a Regional Alliance in northern Mexico will be developed in such as way as to ensure that continuation of the Alliance does not depend on ongoing CEC contributions. Numerous governmental and

nongovernmental conservation actors and stakeholders from other sectors are currently involved in on-the-ground work in this area. It is expected that the initiation of the Regional Alliance will add significant value to ongoing conservation efforts in the grasslands of northern Mexico, and a variety of potential mechanisms exist which could support the continued development of the Regional Alliance.

Projected activities are designed in such a way, therefore, as to ensure that expected results would not depend on implementation beyond the end of 2009. Sustainability of project outcomes over the long term, particularly with respect to the actions of the Regional Alliance and involvement of local ranchers in conservation efforts, will be improved through follow-up activities in 2010 and beyond.

Communications

One communications product from this initiative within the 2009 program year is expected, specifically the publication of a map of priority conservation areas of the North American Grasslands. This product will be subjected to normal quality assessment and review procedures.

Information Management

The map of priority conservation areas will be available in both print and electronic versions. Once the quality review process is complete, map shape files and metadata will be available though download via the North American Environmental Atlas.

Implementation Plan

PROJECT 17 – Conserving North American Grasslands

Objectives

1. Support establishment of a Northern Mexico Regional Grassland Conservation Alliance to engage all partners in support of coordinated conservation efforts;
2. Support implementation of a comprehensive grassland bird monitoring and inventory program across the North American grasslands;
3. Contribute to the long-term protection of key grassland tracts across North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries	Budget (C$)	Future Activities
1. Conduct scoping exercise to develop a shared, regional conservation Master Plan. Convene meeting of stakeholders, lay groundwork to establish a regional alliance of organizations working together to meet shared conservation goals.	Scoping exercise completed and draft conservation strategy prepared. Regional Alliance of key stakeholders established.	July–Dec	Regional Alliance membership developed and agreement is reached to work towards cooperative approaches that meet shared conservation goals.	State and federal land managers, environmental non-governmental organizations, private landowners.	$60,000	It is expected that once the Regional Alliance is established, including a shared strategy and goals, activities will be ongoing.
2. Convene meeting of landowners; initiate scoping work and develop strategy for working with local ranchers and farmers to develop land use practices which share/incorporate conservation objectives.	Consensus reached with landowners regarding ranching practices which share/incorporate conservation practices.	Sept–Nov	Livestock production maintained through land management practices that support biodiversity conservation.	Land managers (ranchers, farmers).	$30,000	Activities continued to engage a broader proportion of land managers.
3. Support extended and improved monitoring of grasslands migratory birds.	Protocols of existing bird monitoring programs harmonized. Ongoing monitoring efforts supported.	Aug–Dec	A plan to develop a comprehensive approach to for continental grasslands monitoring in place, developed in part through support from this initiative.	Federal/sub-federal wildlife agencies; environmental non-governmental orgs; academia, UMAs and volunteers.	$40,000	Activities ongoing to finish developing and implementing a continental approach to monitoring.

PROJECT 17 – Conserving North American Grasslands

Objectives

1. Support establishment of a Northern Mexico Regional Grassland Conservation Alliance to engage all partners in support of coordinated conservation efforts;
2. Support implementation of a comprehensive grassland bird monitoring and inventory program across the North American grasslands;
3. Contribute to the long-term protection of key grassland tracts across North America.

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries	Budget (C$)	Future Activities
4. Finalize the list of priority conservation areas for North American Grasslands.	Publish map and descriptions of key priority conservation areas in the North American Grasslands; translate.	July–Dec	Improved understanding of critical habitat for conservation in the North American Grasslands ecoregion.	Project stakeholders, relevant government agencies in all three countries at federal and sub-federal levels, and the general public.	$20,000	This marks the completion of previously initiated work; no future activities planned.
	Quality Assurance Summary *Publication of map*	Secretariat review – September 2009 Peer review – October 2009 Party review – November 2009 Publication – January 2010				

Total Cost: C$150,000

Performance Measurement Indicators:

- Consensus among key conservation actors on conservation goals and strategies;
- Draft formal terms of agreement encompassing above goals;
- Agreed vision and goal statement for conservation and sustainable land management in target areas, in conjunction with local ranchers and landowners;
- Coordination and standardization of monitoring protocols for migratory birds; and
- Publication of priority conservation areas map and inclusion in the North American Environmental Atlas.

Key Partners: Conabio, Conanp, CWS, Association of Fish and Wildlife Agencies, Sonora Joint Venture, Rio Grande Joint Venture, Arizona Game and Fish Dept., WWF, Pronatura, Rocky Mountain Bird Observatory

Project 18	**Strengthening Wildlife Enforcement in North America**	**Responsible Project Manager at the CEC Secretariat**	Marco Heredia
Planned Allocation	C$75,000	**Working Group(s) associated with this work**	Environmental Enforcement and Compliance Working Group (EWG). North American Wildlife Enforcement Working Group (NAWEG).

Objectives

This project has three main objectives:

- Stop illegal shipments of wildlife, in advance and at borders, and improve enforcement capacity to ensure that persons or entities that ship or attempt to ship such illegal materials are appropriately penalized.
- Develop training materials and exchange programs on topics such as wildlife inspection and investigative and identification techniques.
- Conclude CEC support for Mexico's efforts to institute a domestic capacity-building program on wildlife enforcement, and assess the current training activities.

Background

Project History and Foundation

The North American Wildlife Enforcement Group (NAWEG) was created in 1994, when representatives of the *Procuraduría Federal de Protección al Ambiente* (Profepa—in Mexico), the Canadian Wildlife Service (CWF) and the United States Fish and Wildlife Service (USFWS) agreed to formalize the exchange of intelligence information and training related to wildlife regulations enforcement.

NAAEC Article 1 directs the Parties to support the environmental goals and objectives of NAFTA. These include creating an expanded and secure market for goods and services in a manner consistent with environmental protection and conservation, promoting sustainable development, and strengthening the development and enforcement of environmental laws and regulations. In this vein, the North American Working Group on Environmental Enforcement and Compliance Cooperation (EWG), created by Council Resolution 96-06,[1] recognized the NAWEG as necessary to:

- assist in the implementation of the wildlife enforcement portions of the CEC program;
- serve as a contact with the Trilateral Committee for Wildlife and Ecosystems Management and Conservation (Trilateral Committee); and
- act as the North American representative to Interpol on wildlife enforcement.

Key Stakeholders, Resource Leveraging and Partnerships (to date)

CEC activity in this area has engaged stakeholders in the enforcement community in each of our three countries responsible for wildlife and environmental law enforcement. Work to date has brought them together to determine needs for coordinated action against illegal trade of wildlife and its products across North America.[2] This work has also engaged the Federal Police (PFP) and the General Attorney's Office (PGR) in Mexico and the USFWS and the Department of Justice (DOJ) in the United States.

Rationale

The international trade in wildlife is a multibillion-dollar business. The two major categories of traded items are live specimens of wildlife species and

[1] See: http://www.cec.org/pubs_docs/documents/index.cfm?ID=168&varlan=english.
[2] See: http://www.usdoj.gov/opa/pr/2008/October/08-enrd-916.html.

products derived from wildlife species. North America is a central player in the international wildlife market as both a consumer and supplier of products.

Canada, Mexico and the United States not only engage in direct cross-border commerce in various endemic North American species, but also serve as trade conduits for wildlife products from other regions and continents. The increase in trade among the three countries in North America requires close cooperation to manage the legal wildlife trade, including legal products and byproducts, as well as to combat illegal trade for the sound management and conservation of the our region's wildlife resources.

From 1992 through 2002, listings of species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) increased from 723 to 1,264 (up 75 percent) and the number of CITES member nations rose from 115 to more than 160.[3] In this context, North America is required to enhance enforcement of wildlife regulations, including the CITES convention, and to share expertise and best practices to use investigative, intelligence and forensic information-gathering resources to detect, disrupt, and deter wildlife trafficking.

Fulfillment of Strategic Objectives

Capacity Building

This project directly supports the Capacity Building priority of the Strategic Plan 2005–2010, namely the delivery of one of three specified multi-year initiatives in Mexico: "training wildlife enforcement officers and other stakeholders, as appropriate." Training of wildlife officers of the environmental attorney's office in Mexico (Profepa) is being accomplished with support and advice from the wildlife enforcement agencies of Canada (Environment Canada, wildlife branch, and the US Fish and Wildlife Service). Under the 2007 Operational plan, the CEC conducted a Capacity Building Needs Assessment for the Enforcement of Mexican Wildlife Laws. In early 2008, and *w*ith the results of such assessment, Canada and the US supported Mexico in selecting training curriculum objectives, approach and course elements. The CEC Secretariat supported the scope and approach for the training initiative; Profepa identified the Mexican National Institute for Penal Sciences (*Instituto Nacional de Ciencias Penales*—Inacipe) to give official recognition to the studies undertaken; and the Mexican Secretariat for Public Service (*Secretaría de la Función Pública*) included the course in the general formation curricula for wildlife inspectors in Mexico.

Trade and Environment

This project also supports the Trade and Environment priority of the CEC Strategic Plan. North America is a central player in the international wildlife market as both consumer and supplier of wildlife products and it is a natural target for Asian and South American wildlife and related products and byproducts.

North American Scope of the Project

Collaboration at an operational level among Canadian, US and Mexican authorities has proven to be indispensible when considering both legal and illegal trade in wildlife and genetic resources. The United States is recognized as one of the most important centers of the wildlife trade, and Canada and Mexico are sometimes used to import and re-export shipments of wildlife intended to reach that market. Both Canada and Mexico represent high-potential exporters of legally traded wildlife and genetic resources. Wildlife trade in all three countries is regulated by national laws and through the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a treaty signed by all three countries. North American countries are then a potential target for illegal shipments of wildlife and its products.

In the operative field there have been major successes in combat illegal traffic of protected species. NAWEG-coordinated operations have lead to imprisonment of smugglers and more protection of our borders and shared region, by combating syndicates and criminal organizations exporting wildlife resources not only across North America but through our borders to Asian and European markets as well.[4]

The EWG has recognized the need for further actions under NAWEG and recognized the opportunity to catalyze the support and expertise of Canadian and US experts and senior enforcement officials to enrich and share best practices and knowledge combating wildlife smuggling across the borders.

[3] See: http://www.fws.gov/le/AboutLE/OLEStrategicPlanDec2005.pdf.

[4] See: http://www.usdoj.gov/opa/pr/2008/October/08-enrd-916.html.

CEC Niche and Added Value

The NAWEG, with the support of the CEC Secretariat, has been a vehicle to convey resources in support of effective wildlife enforcement across the region.

As a result of this focus and the continued engagement of senior enforcement officials, via NAWEG and EWG, the CEC is well suited to support fulfillment of NAAEC objective 1 (g), to "enhance compliance with, and enforcement of, environmental laws and regulations." Moreover, this project represents specific fulfillment of the CEC's 2005–2010 Strategic Plan (5.2): "Specifically, the CEC's goal is to strengthen the capacities of the three countries to manage environmental issues of common concern. Its objectives over the next five years—focusing on Mexico—are to cooperate to: 1. Strengthen capacities, where needed, to improve compliance with wildlife laws…" Thus, this project "will benefit all three countries: more effective Mexican enforcement of its wildlife laws, for example, will help protect migratory species that the three countries share…"[5]

Linkage with Other CEC Projects

Potential cross-references and linkages are with the Trade and the Enforcement of Environmental Laws initiative, not only because in Canada and in Mexico two of the key agencies are involved in those initiatives, but also because intelligence-led work can bring benefits to the other project and vice-versa.

Activities and Outputs

Key Activities

The activities under this t project are intended to facilitate the exchange of information, expertise and best practices on wildlife enforcement and build capacity, most notably in Mexico by supporting its efforts to institutionalize training for wildlife inspectors and officials. The project will also facilitate exchange of information for effective and coordinated wildlife enforcement across North America.

Under **Task 1**, The Secretariat will follow up on the development of the multi-module stages of the training courses in order to conclude this three-year initiative.

Officials from Canada and the US will provide feedback to their Mexican counterparts in order to adjust the subject matter and materials from the early stages of the multi-module training sessions, as necessary.

The Secretariat will support the Parties to assess the training activities in the first year of effective training and will adjust the course contents as appropriate and directed from the parties. The Secretariat will also disseminate the training model and lessons learned from it in order to replicate the training model where necessary.

Under **Task 2**, the CEC will support an *ad hoc* group to foster improved understanding of illegal activities to combat and prevent wildlife smuggling among North American countries. This group will bring together environmental administrative authorities and law enforcement officials from federal enforcement agencies in the three countries for the exchange of information on species, trends, patterns, *modi operandi* and routes commonly used for wildlife smuggling across North America.

Under **Task 3**, the CEC will update the North American public on NAWEG activities and accomplishments and facilitate outreach to other international agencies, nongovernmental organizations, academia, research institutes, forensic laboratories and local enforcement agencies to exchange information, expertise and data gained on the efforts and success of the Parties to effectively enforce wildlife regulations in North America through NAWEG. The material contained at the CEC website will be available for future training/reference to officials of each country.

Target Groups and Stakeholders

- Enforcement officials from the three countries
- Law enforcement agencies from the three countries
  - National Institute for Penal Sciences (Mexico)
  - Prosecutors
  - Customs agencies

[5] CEC 2005–2010 Strategic Plan, available at: http://www.cec.org/files/PDF/ABOUTUS/2005-2010-Strategic-plan_en.pdf.

- Forensic laboratories
- Universities and research institutions
- Nongovernmental organizations

Leveraging

Each public institution will leverage resources for the completion of the training course. Leverage is also to occur in the conformation of the *ad hoc* group for addressing wildlife smuggling across North America.

Outputs and Associated Timelines

Task	Output	Timeline
1	Conclude the three-year North American training initiative for wildlife enforcement.	Starting January 2009
	Report on training reach, lessons learned, opportunities and challenges.	Fall 2009
2	Scoping meeting for the conformation of an *ad hoc* group to foster improved understanding of illegal activities to combat and prevent wildlife smuggling among North American countries.	Spring 2009
3	Website update.	To be under continuous development, starting 2009

Anticipated Outcomes and Performance Indicators

Direct Outcomes

- Increased awareness and knowledge of the regulations, best practices and expertise pertaining to controlling the traffic of wildlife, including products and byproducts.
- Increased capacity to stop, in advance and at borders and crossing points, illegal shipments of wildlife, including products or byproducts.
- A North American approach to address the threats to biodiversity conservation and wildlife from the import/export of illegal shipments, including products and byproducts.
- Authorities and officials better prepared and coordinated to address from a North American perspective, threats to biodiversity conservation and wildlife, including its products and byproducts, that could potentially jeopardize North American endemic, protected and endangered species.

Intermediate Outcomes

- The Parties better prepared to combat illegal traffic of wildlife across borders, and better supplied with information on the patterns, trends and *modi operandi* of syndicates and criminal organizations that threaten the viability of endemic, protected and endangered species of wildlife across North America.
- Better and more efficiently coordinated enforcement of wildlife regulations across North America.
- More information available to decision makers and public on the achievements of enforcement personnel and a more unified approach across North America in the enforcement of wildlife regulations.

Final Outcomes

- Fewer illegal shipments of wildlife across North American borders.
- Increased understanding on the trends, areas and patterns of illegal activity in violation of CITES regulations.
- Reduction in the rate of wildlife criminal offenses and activity in North America.

- Coordinated action across North America to guarantee environmental governance and effective wildlife enforcement.

Performance Indicators

- Number of trained enforcement officers in Mexico.
- Number of institutions participating in the training efforts.
- Number of institutions participating in information- and intelligence-sharing.
- Number of potential areas/species identified in a common North American approach to coordinated actions pertaining to wildlife.
- Number of hits on/consultations of the CEC-NAWEG website.
- Number of illegal shipments stopped.
- Number of offences punished through cooperative work.

Timetable, Project Completion and Sustainability Beyond

The current project will conclude the CEC's involvement in implementing the training initiative with the transfer to Mexican authorities of the ongoing responsibility to maintain this activity as they determine. Profepa in Mexico will take over the training activities at its website once the collaborative work at the CEC is delivered to Mexico.

Task 1 will develop the training sessions in three multi-module stages throughout the year. The first stage will be undertaken in late winter 2008–early spring 2009; the second will be completed by late summer, and the third in fall 2009. The Secretariat will conduct a review and will present it to the Parties by fall 2009.

Target End for CEC Involvement

This activity will conclude this year.

Sustainability Beyond

Profepa in Mexico will be responsible for using and updating the training course as per its own needs.

Task 2 will occur by spring 2009. The CEC will bring together key stakeholders to identify and address regional concerns and will determine a plan of action to address such concerns during the year and to define a North American action approach to more coordinated wildlife enforcement in the region. Continuous work is to be determined by the parties according to the results and findings of the *ad hoc* group.

Task 3 will be developed continuously throughout the year. By early 2009, the CEC–NAWEG website will be restructured and the Secretariat will update it as necessary. This activity is to be continued beyond 2009.

Communications

The participating agencies will be responsible for communicating the development and results of the course. The CEC will provide outreach through its website to the North American public, the private sector, academia and research institutions.

The Secretariat will provide information on the completion of activities and agreements among the Parties and provide results of its activities on the CEC website.

Information Management

The CEC-NAWEG website will undergo a redesign to update the information presented on the site. It will be updated as necessary throughout the year.

Implementation Plan

PROJECT 18 – Strengthening Wildlife Enforcement in North America						
Strategic Objectives: • Strengthen capacities to improve compliance with wildlife laws • Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
1. Conclude the three-year North American training initiative for wildlife enforcement, and report on training reach, lessons learned, opportunities and challenges.	By the end of the first multi-module training session, in mid-February, 2009, there will be 50 trainees under Profepa/Inacipe. Updated material and activities of the multi-module training sessions and information on the execution of this initiative. A report will be produced to document the activities and the lessons learned from the training.	Jan to Fall 2009	This project contributed to the achievement of the capacity building pillar of the Strategic Plan 2005–2010. By mid-February 2009, there will be 50 trained officials. Similar numbers will be obtained in further multi-module training sessions between February and September 2009. The Parties will be able to present these training efforts as a model of international cooperation for capacity building and will be able to document and disseminate lessons learned from the development of these activities. The report will be used by Mexico to follow up and complete institutionalization of wildlife training.	Wildlife enforcement agencies in the three countries. Local environmental law enforcement agencies. Prosecutors and other law enforcement officials who participate in the effort.	$30,000	Full delivery of the training initiative to the Mexican authorities for their further development by fall 2009.
	Quality Assurance Summary. Report: Report on	Stakeholder/expert review: July 2009 Party review: August 2009				

PROJECT 18 – Strengthening Wildlife Enforcement in North America						
Strategic Objectives: • Strengthen capacities to improve compliance with wildlife laws • Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas						
2009 Tasks	**Key Outputs**	**Timing**	**Expected Outcomes**	**Beneficiaries (Reach)**	**Budget (C$)**	**Future Activities**
	training reach, lessons learned, opportunities and challenges for wildlife training.	Party review–Quality assurance: October 2009 Publication: November 2009				
2. Formation of an *ad hoc* group to foster improved understanding of illegal activities to combat and prevent wildlife smuggling among North American countries.	Scoping meeting for the conformation of an *ad hoc* group to foster improved understanding of illegal activities to combat and prevent wildlife smuggling among North American countries and continuous activities to that end.	Spring 2009	This project will improve the understanding of illegal shipments of wildlife across North America and will ensure the identification of the key stakeholders at a regional level to interchange information and intelligence about trends, routes, species and relevant data pertaining to wildlife smuggling. In this regard, the project helps the Parties to address regional concerns about illegal traffic of wildlife in North America.	Wildlife enforcement agencies. Wildlife prosecutors and law enforcement agencies. Federal police corporations. General attorneys' offices. Local environmental and law enforcement agencies.	$25,000	Future CEC activity will be based on the initial scoping effort undertaken in 2009.
3. Facilitate the information exchange and cooperation among North American wildlife	Update to materials for the CEC website, support of outreach and networking with the trilateral committee for	Early 2009	This project will help to build capacity in the knowledge and enforcement of Mexican domestic legislation and regulations as mandated by the 2005–2010 Strategic Plan.	Enforcement officials from the three countries. Law enforcement agencies from the three countries.	$20,000	The CEC website will be updated in 2009.

PROJECT 18 – Strengthening Wildlife Enforcement in North America

Strategic Objectives:

- Strengthen capacities to improve compliance with wildlife laws
- Increase the capacity of the three countries to identify and address trade-related environmental concerns to achieve mutual benefits for trade and the environment and improve collaboration among the three countries in these areas

2009 Tasks	Key Outputs	Timing	Expected Outcomes	Beneficiaries (Reach)	Budget (C$)	Future Activities
enforcement agencies.	wildlife conservation and management.		This will also help interested individuals and organizations to know and benefit from the work of the CEC-EWG-NAWEG. This will promote intergovernmental cooperation and will also support greater policy coherence and more efficient use of government resources.	Prosecutors. Customs agencies. Forensic laboratories. Universities and research institutions. Nongovernmental organizations.		

Total Cost: $75,000

Performance Measurement Indicators:

- Number of trained enforcement officers in Mexico.
- Number of institutions participating in the training efforts.
- Number of institutions participating in information- and intelligence-sharing.
- Number of potential areas/species identified in a common North American approach to coordinated actions pertaining to wildlife.
- Number of hits on/consultations of the CEC-NAWEG website.
- Number of illegal shipments stopped.
- Number of offences punished through cooperative work.

Key Partners:

Wildlife Enforcement branches of the three countries, United Nations Environment Program and World Customs Organization, the CITES Secretariat, prosecutors and Customs agencies, prosecutors and local enforcement agencies.