

Recommendations

While many positive impacts were derived from the CEC's monarch butterfly conservation work, interviewees pointed to lessons learned that could increase the success of future projects:

- A recurring recommendation is to continue strengthening communications and integrating other sectors in future efforts to broaden perspectives. The private sector has not been engaged in any of the monarch initiatives, and farmers and landowners have been only moderately involved.
- Meeting conservation objectives is a long-term process, therefore projects would be more effective if they spanned more than two years.
- It is important to finance initiatives and activities over the medium- and long-term in order to ensure continued impact on monarch butterfly conservation.
- The involvement of experienced and knowledgeable experts plays a fundamental role in reaching objectives. Flexibility and adjustment to changing conditions are also of key importance, together with other components of adaptive management, such as experience, feedback, and the creation of a network.
- It is important to learn and create “networks of practice,” where groups of people share common objectives and experiences through regular interaction. Developing such methods is essential to replicating successful monarch butterfly conservation models.
- The CEC's role was recognized as key to ensuring a broader regional vision for the development of monarch conservation initiatives. It therefore appeared essential to interviewees to continue strengthening the institution and capitalizing on the CEC's experience for future projects.

References

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Long-term Impact Assessment of the CEC Monarch Butterfly Conservation Work (1996–2016)



Executive Summary

Since 1996, the Commission for Environmental Cooperation has been actively involved in the conservation of the monarch butterfly (*Danaus plexippus*), a symbol of trilateral environmental cooperation between Canada, Mexico, and the United States. Although interrupted for a few years, CEC efforts to conserve the species intensified after population declines were recorded at overwintering sites in Mexico in 2005 (Rendon-Salinas and Galindo-Leal 2005).

Since then, the CEC has implemented five cooperative monarch conservation projects and funded three projects through the North American Partnership for Environmental Community Action (NAPECA) grant program. Through these initiatives, the CEC has renewed its commitment to protect the species by engaging a broad audience in the conservation of the monarch butterfly and its habitat throughout the migratory flyways in Canada, Mexico, and the United States.



In 2018, the CEC began assessing the long-term impact of its work to promote monarch butterfly conservation—examining the objectives and rationale of CEC monarch-related actions, how they were implemented over time, and the results produced—to determine if the expected environmental benefits have been met. The long-term impact assessment combined qualitative and quantitative tools and used information compiled from three sources: a review of project documents, an online questionnaire with CEC collaborators, and

structured interviews with them (survey data consisted of 17 interviews). The documents reviewed included CEC Council resolutions, annual reports, strategic plans, operational plans and project publications, and partner documents, websites and other online media from organizations that have collaborated with the CEC or reported on the CEC's work.

The following two questions are representative of the assessment and describe some of its findings:

Did the projects address the environmental objectives stated in Council resolutions and the activities and tasks specified in the CEC operational plans?

Through its projects, the CEC promoted communication, the creation of synergies and information exchange among partners from the three countries, as well as crosscutting actions for the objectives established in the operational plans. The direct alignment between CEC priorities, objectives, and tasks was reflected in results that addressed environmental objectives in all cases. Activities focused on information exchange and species monitoring were the highlights. It was noted, however, that the reinforcement of laws and the development of financing mechanisms to support capacity building were less visible.

Capacity building was a recurrent objective, which was successfully achieved across multiple audiences, from high-level decision makers to the general public. Some relevant examples are:

- Agreements reached by the three governments and announced publicly leading to follow-up actions and the implementation of concrete conservation actions;
- The creation of several instruments in Mexico such as the collaborative initiative among the Mexican Natural Protected Areas or the RedANP Monarca network to monitor monarchs.

These initiatives addressed the environmental objectives stated in the project descriptions mainly through the coordination of activities such as multi-stakeholder meetings, and outreach/education strategies.

Did the initiatives reach their intended audience and, if so, how did they use the information produced?

Evidence indicated that CEC actions successfully reached multiple audiences, including farmers, landowners and managers, academics, NGOs, and government officials at local, regional, and national levels, as well as the general public. The dominant perception is that the main stakeholders and users were researchers, government authorities, and NGOs. The publication of the North American Monarch Conservation Plan (NAMCP) appears as a relevant example. The number of references to the NAMCP testifies to the interest of the academic/research sector in the CEC's work.

Other initiatives that succeeded in reaching a wide audience and still have the potential for continued growth and positive impact are the Trinational Mayors' Monarch Pledge,¹ and the International Monarch Monitoring Blitz. In 2017, through the Trinational Mayors' Monarch Pledge—initially a US-based initiative—mayors from the three countries committed to take action for monarch conservation. To this date, new cities continue to join the pledge. Moreover, the active collaboration of partners involved guarantees that the audience will expand and benefits gained will continue beyond the CEC's direct involvement.

In 2018, the Monarch Monitoring Blitz—initially a Canadian-based initiative that became a trinational effort—succeeded in promoting awareness and capacity building through citizen science, as well as emphasizing the importance of regional monitoring efforts. The collaborative networks promoted and supported by the CEC, such as the successful MonarchNet,² also reached an extensive audience and will likely last for many years, despite their less visible impact.

In addition, the videos and webinars produced by the CEC and available online have received recognition as successful tools to promote awareness and capacity building. In particular, the CEC's YouTube video, "Ten things you can do to help save monarchs"³ (released in June 2017), was highly praised by interviewees as an effective communications resource.

Successes

The assessment and surveys conducted highlighted the following successes:

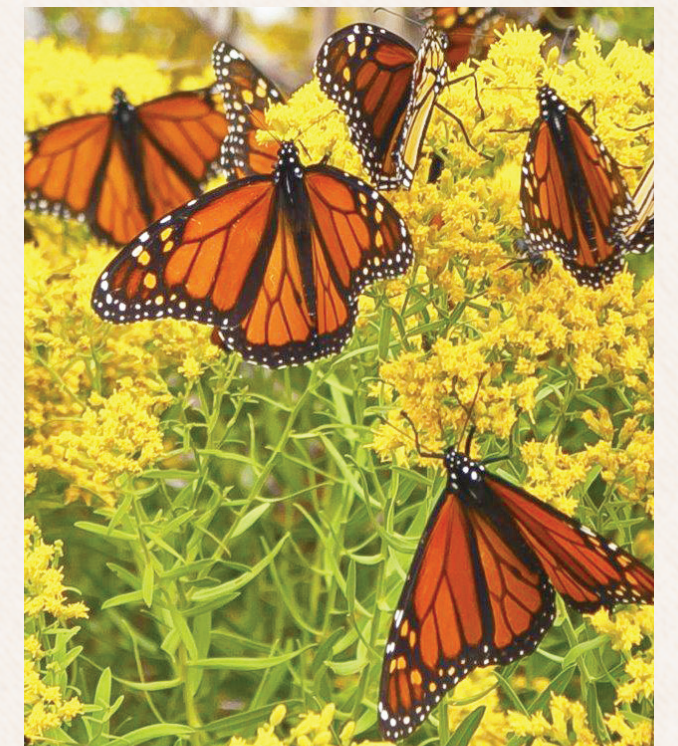
- The projects created opportunities for individuals from different sectors and institutions to meet, discuss, and work together.
- The trilateral meetings helped generate synergies and establish long-lasting collaborations, with positive repercussions for monarch butterfly conservation. These meetings became a platform to showcase the conservation efforts of various sectors of society. They also provided an excellent opportunity to share priorities, needs, and ideas on how best to act to protect the monarch. By highlighting the migratory phenomenon of monarch butterflies and the conservation challenges they face, these gatherings helped enhance awareness of these issues.
- There is general consensus that the six areas most impacted by the CEC's work are research, monitoring and evaluation, education and outreach, information sharing, cooperation between sectors, and best management practices.

- Successful endeavors cited are the Trinational Mayors' Monarch Pledge, the International Monarch Monitoring Blitz, and MonarchNet. The Trinational Mayors' Monarch Pledge also led to the creation of festivals and educational campaigns in schools and other institutions, notably the "Fiesta Monarque." This outreach event, held annually at the Botanical Garden in Montreal, displays various monarch conservation efforts and is an opportunity for sharing knowledge about the species. The CEC was instrumental in helping organize the first edition of this successful event.
- Each country has built on the experiences and information gained through CEC project involvement, and has developed projects of their own, such as the Mexican 2018–2024 Action Plan for Monarch Conservation.
- The CEC's role was also recognized as fundamental in facilitating the sharing of expertise, collaboration between the three countries, and prevention of duplicative efforts.

Challenges

Following are some of the challenges expressed by interviewees:

- Working with institutions and individuals with different visions and priorities.
- Cooperation and coordination between decision makers which requires inter-institutional consistency and continuity. Some additional challenges in that respect included:
 - Ensuring consistency of data collection with the shared protocols;
 - Data storage, information-sharing and use; and
 - Logistics and schedule coordination.
- Limited resources (financial, staff, or time availability).
- Lack of project follow-up due to the difficulty in accessing evidence of results achieved.
- Reluctance toward the use of new technology to promote healthy habitats (among landowners).
- Finding viable sites for habitat restoration.



1. For more information: <https://www.nwf.org/MayorsMonarchPledge/About>

2. Founded in 2009 by 11 monarch butterfly scientists, the North American network of monarch butterfly monitoring programs is an ongoing trinational project dedicated to centralizing monarch butterfly data and making it accessible to everyone.

3. For more information: <http://www.namons.org/take-action/>