Monarch Population Increases by 144% in 2018-2019

During the past overwintering season, experts from the Monarch Butterfly Biosphere Reserve (MBBR) and the Natural Protected Areas Commission (CONANP), in collaboration with the WWF Mexico-Telmex-Telcel partnership, reported a 144% increase of the surface covered by monarch butterfly colonies. Although this increase to approximately 6 hectares (12 acres) was very good news, it will be several years before we know if the population has stabilized. Our continued work to increase the abundance of native milkweeds in the monarch breeding range and the continued protection of closed forests for monarchs in Mexico will help to ensure long-term sustainability of monarch numbers.

This summer MBF will support Alternare and the communities to plant 24,000 trees from 30 school and community nurseries on 20 hectares. As we have in previous years, we are leaving undisturbed forest to continue learning about natural regeneration. Having observed that natural regeneration has not occurred, we plan to disperse pine and oyamel seeds on the land lacking trees and monitor whether this increases the number of new trees growing in the area.

MBF at the 6th International Symposium on Monarchs

MBF board members, Dr. Karen Oberhauser, Dr. Isabel Ramirez, & Dr. Alfonso Alonso, gave oral presentations at the 6th International Symposium on Research and Conservation of the Monarch Butterfly. This symposium was held in Toluca, Mexico, from March 7 to 9, 2019, and organized by the National Commission of Protected Areas (CONANP), the governments of the states of Michoacán and Mexico, and by the WWF-Telmex-Telcel Foundation Partnership.

Thirty speakers presented recent findings on monarch research and conservation, with an audience of about 300 people. Participants included representatives of the federal, state, and municipal governments of the states of Michoacán and Mexico, members of the Ejidos (land owners), as well as researchers from several academic institutions and non-governmental organizations from Mexico and the U.S.
MBF at Monarch Symposium in Mexico, cont.

Dr. Oberhauser’s keynote presentation highlighted the need for ongoing conservation action throughout North America, and the dangers of feeling that our job is complete because we reached the conservation goal of 6 hectares of forest covered with overwintering monarchs. Dr. Ramírez presented her latest results on land use in the monarch butterfly region, showing positive directions towards the transition of impacted land to forest. Dr. Alonso also gave a keynote presentation on applied monitoring and challenged the audience to find a way to estimate the numbers the monarchs that migrate to Mexico each autumn.

During the symposium, special recognition was given to Lincoln Brower (past MBF board member) for his great contributions to the research and conservation of the monarch butterfly as well as to Eduardo Rendon (WWF-Mexico), one of his former students.

Map of Vegetation and Land cover

MBF funded the update and publication of the “Monarch Cartographic Series: Vegetation and Land Cover 2018”. Developed by board member Isabel Ramírez, working with Jairo G. López-Sánchez and Sara Barrasa from UNAM’s Center for Research in Environmental Geography (CIGA), this update is part of the long-term monitoring of land cover in the MBBR and its surrounding areas. This process began in 2000 and is one of the research actions of the North American Monarch Conservation Plan (2008) and the updated Monarch Joint Venture Implementation Plan (2018).

During the process of developing the map, Isabel and her collaborators observed that the MBBR and its surrounding (influence) area are undergoing a “forest transition”. In other words, there was a turnaround in land-use trends from a period of net forest area loss (i.e., deforestation) to a period of net forest area gain. In the last six years, forest cover recovery areas in the Reserve have been greater than the losses, although forest loss is still occurring outside the Reserve.

Additionally, agriculture in the surrounding areas of the MBBR has undergone an intensification process, and crops are changing from corn to fruit plantations (mainly avocado, guava, and berries for export). MBF is promoting monitoring activities to help the Reserve’s managers evaluate the effectiveness of their conservation efforts and to support farmers seeking production practices that are more sustainable.

The map has been peer-reviewed and is going to be distributed among all the local stakeholders. It includes graphs showing forest cover gains and losses as can be seen below.

Evaluation of Restoration

MBF is funding undergraduate environmental sciences student Salvador Huitrón from the Autonomous University of the State of Mexico, to evaluate ecological restoration activities in the monarch butterfly overwintering sites during 2012-2017. Salvador identified 766 records, taken during 40 years of monitoring the overwintering sites by several scientists and institutions. He entered the records into a database, including ten micro-watersheds that he analyzed to identify the main impacts of forest degradation in priority watersheds for overwintering monarchs. Among the main threats, in order of prevalence, were wind blowing trees down, environmental sanitation (removing branches and debris), fires, illegal logging, grazing, tourism, and landslides. Salvador is currently analyzing all the information to identify conservation, restoration, and protection measures that can restore forests and prevent degradation in the priority micro-watersheds of the overwintering sites. MBF is happy to support this research, which will provide solid, research-based input for the development of the “Best Practices for Ecological Restoration Plan” for the MBBR.
Alternare Enthusiastically Welcomes 2019

As they do every year, Alternare and the local communities started the year with meetings, workshops, and projects. Evaluation meetings were held to assess their 2018 activities and plan ahead for 2019. Encouraged by the results obtained during the past year, men and women heartily committed to continue working with Alternare. A total of 15 workshops on the production of organic vegetables, organic fertilizer, fruit, and forest trees were held, as well as on community savings and loans, construction of fuel-efficient stoves, and cisterns to capture rain-water. As a result, 20 fuel-efficient stoves and one cistern were built. Thirty school and four community tree nurseries in which 20,152 pines, oaks, alders, and ashes are growing continue being maintained. MBF applauds Alternare and the hard-working people who participate!

Correo Real’s Citizen Science Project

MBF, along with several other organizations, provided funding to PROFAUNA, A.C. in support of the Correo Real program “My Municipality with the Monarch (Mayor’s Monarch Pledge - http://mimunicipioconlamanarca.org). The funding resulted in several accomplishments, including the creation of ten pollinator gardens in local schools. There were five training workshops for personnel from the municipalities participating in the Pledge, and participants included professors and citizens interested in monarchs. Ten metal plaques were installed in the pollinator gardens to mark the dedication of each garden as a site to feed and shelter butterflies, bees, hummingbirds, and other pollinators. Additionally, Correo Real participated in three events to promote the initiative with different stakeholders and interested citizens and printed 1,000 copies of the fact sheets describing the Pledge. Other outreach activities included the publication of 22 newsletters in Spanish, out of which seven were translated into English, and 42 Facebook postings that reached 128,306 people. Finally, Correo Real held a workshop from November 28-29, 2018, at Alternare’s Training Center. Key topics addressed were environmental education, citizen science, pollinator gardens, forestry culture, and outreach.
Red Monarca

Thanks to funding from MBF, two of the organizations in the Monarch Network (Red Monarca continue making progress with current projects. Razonatura is incorporating information from the Community Water Monitoring Network of the MBBR and the Phenological Network in the monarch region into the Red Monarca’s website (redmonarca.org). Including these two key networks on the website as part of the Monarch Network will strengthen the Network, and increase the visibility of all the organizations, allowing for further cooperation and outreach with all the stakeholders working in the monarch area.

Cielo Rojo is working on a film titled “Biodiversity: Beyond the Monarch”, which explores the value of other species in the Reserve that maintain the overwintering ecosystem of the monarchs. The film includes the biodiversity monitoring that MBF funded last year and will contain images from the wildlife cameras collected by several NGOs. This film will document the work done and improve the Red Monarca’s outreach efforts. We look forward to seeing the final version of this film!

Monarch Joint Venture

During 2018, MBF partially funded two Monarch Joint Venture (MJV) programs: the “Integrated Monarch Monitoring Program” (IMMP) and the “Educational Resources for Teachers to Accelerate Monarch Recovery”, implemented with the Sand County Foundation (SCF), an MJV partner organization. In 2018, MJV kicked off widespread implementation of the IMMP Program, a national initiative to monitor monarch populations and habitat (see http://tinyurl.com/y2k4wzjz). Additionally, with financial support from MBF, MJV supported SCF and Earth Partnership at the University of Wisconsin to develop the Pollinator Habitat Curriculum Guide released in 2018. The guide aligns with Common Core and Next Generation Science Standards, and provides activities for establishing, managing, and monitoring prairie habitat for monarch butterflies, other insect pollinators and grassland birds. The guide can be found at http://bit.ly/SCFPHCG

Wendy Caldwell, Monarch Joint Venture Director, said it best, “From citizen science to habitat education resources for teachers, MBF’s support is making a difference for monarchs.”

Monarch Butterfly Flight Challenge

In 2017, the Monarch Butterfly Fund issued a formal challenge for the development of a system to track the flight paths of individual monarch butterflies. Information about flight paths will help us better protect monarch migration by learning how flight is affected by calendar date, geographic location, topography, and weather. MBF recently awarded $5000 to Dr. David Blaauw’s lab at the University of Michigan for their efforts in developing a sensor that can record such data. We are encouraged that in the future, we’ll understand much more about monarch migratory flight.

First Two Students Receive “Lincoln P. Brower Award”

Thanks to the support of our generous donors, who contributed over $17,000 during 2018 and 2019, we have granted Lincoln P. Brower Awards to two deserving students. Anna Skye Harnsberger, from the University of Wisconsin in Madison, submitted a proposal titled “Monarch Butterfly Landscape Ecology: Optimizing Habitat Restoration Spatial Configuration,” and Cody Prouty, from the University of Georgia, submitted “Sub-Lethal Effects of Neonicotinoids on Butterfly Behavior and Physiology.” These studies will help us understand how landscape components and exposure to neonicotinoids affect monarch behavior and population size. Lincoln would have been pleased to support this relevant scientific research. He frequently expressed his concern about the changing North American landscape and the effects of insecticides on monarchs. Thanks to all of you for supporting these projects and for keeping Lincoln’s legacy alive!

Another option to support MBF’s community projects in Mexico is to donate through GlobalGiving. Thanks to your generosity we are still part of this global community that helps raise funds for meaningful causes. MBF currently ranks 185 out of 5,181 organizations. http://www.globalgiving.org/projects/reforestation-monarch-butterfly-conservation-mexico/

GlobalGiving is an online fundraising platform that gives social entrepreneurs and nonprofits from anywhere in the world a chance to raise the money they need to improve their communities. Since 2002, GlobalGiving has raised $385 million dollars from 901,146 people like you who have supported 22,779 projects in 170 countries.
MBF Supporters

Over 150 individuals, schools and organizations donated funds to MBF in 2018 allowing us to continue making a difference for monarchs. Every single contribution counts, and we are deeply grateful. Just as monarchs depend on milkweed, flowers with nectar, and trees we depend on our generous donors. A special thanks to those who have contributed $100 or more in 2018!

Our gratitude also to those who donated to the “Lincoln P. Bower Award” in 2018 and 2019.

2018 Donors

**Milkweed ($20,000+)***
The only plants that monarch larvae can eat
Anonymous
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Photo: Mary Holland ©
Late season composites that are often the last blooms left in northern prairies

Photo: Lisa A.Serda - Astin ©
2018 Donors

Photo: David Astin ©
Important nectar sources for late summer breeding monarchs

Photo: Harlen Aschen ©

Thank You!!
**MBF Mission:** To foster the conservation of North American monarch butterflies and their migration through habitat restoration, research, monitoring, education and support for sustainable community development in and near the monarch overwintering areas in México.

**MBF Vision:** Healthy ecosystems and sustainable communities that preserve North American monarch butterflies and their spectacular migration in perpetuity.

Thank you for considering a gift to MBF

**MBF is a 501(c)(3) tax exempt organization and all donations are tax deductible to the full extent of the law**

Donations to MBF support reforestation, research that is directly related to monarch and monarch habitat conservation, and sustainable economic development activities in México. Please consider donating today through our secure on-line site:

[www.monarchbutterflyfund.org](http://www.monarchbutterflyfund.org)

or by sending a check to the following address:

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c/o Karen Oberhauser  
4013 Yuma Drive  
Madison WI 53711

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