



PRESS RELEASE
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Monarch Butterfly Population Appears to Be Recovering from Last Winter's Devastating Die-Off

Illegal logging continues to be an increasing threat to butterflies

Washington – Researchers have found that North America's monarch butterflies have at least partially recovered from last year's devastating mass die-off in their overwintering sites, which killed approximately 80 percent of the wintering population in Mexico.

Tens of millions of the butterflies were killed as the result of an unusually cold and wet storm in January 2002. For years, scientists have argued that monarchs are more vulnerable to severe weather if the forest canopy in the sanctuaries is thinned, leaving them exposed to the elements.

Data collected this winter by researchers in the Monarch Butterfly Biosphere Reserve show that the monarch colonies at their overwintering sites occupied an area of approximately 8 hectares, or nearly 20 acres. The average area occupied by the monarchs every year from 1993 to 2001 has been approximately 9.6 hectares, according to a team of scientists who study the monarch colonies.

Monarch colony sizes are determined by measuring the perimeter and calculating the area occupied by the butterflies in their overwintering habitat. Before last year's storm, in December 2001, reserve biologist Eligio García reported an occupation of 9.35 hectares. Given the estimated mortality of 75 to 80 percent that occurred on Jan. 14, 2002, the area occupied by the survivors after the storm would have been approximately 1.9 to 2.3 hectares. Thus, this year's reported 8 hectares may be considered a recovery in the mid range in comparison to annual averages in past years.

"The data this winter indicate that the monarchs are moving back toward their average population size, which is very encouraging news," said Dr. Lincoln Brower, monarch butterfly biologist at Sweet Briar College in Virginia. "But until illegal logging is halted in Mexico's butterfly sanctuaries, the monarchs remain increasingly vulnerable from exposure to storms and loss of habitat."

The researchers who measured the colonies this year witnessed illegal logging activities in the core zone of the reserve, in addition to heavy cutting in parts of the buffer zone.

"Despite increased government efforts to improve law enforcement in the reserve, including shutting down illegal wood mills and jailing offenders, illegal logging has not been eradicated," said Ernesto Enkerlin, president of the Mexican National Commission for Protected Areas (CONANP). "We expect to have an evaluation on the extent of such illegal logging by the end of March."

In a wildlife phenomenon still not fully understood by scientists, hundreds of millions of North American monarchs migrate each year – up to 3,000 miles – to Mexico. In their winter colonies,

they mass together in clusters on fir trees. The butterfly sanctuaries and the spectacle, which is considered an endangered migratory phenomenon, have become a popular ecotourism destination.

The Monarch Butterfly Biosphere Reserve has monitored and mapped the butterfly colonies for several years. In the current 2002-03 season, Mexican Reserve Director Marco Antonio Bernal and biologist José María Suárez led the monitoring project. The reserve counted on the assistance from a team of researchers and students headed by Dr. William Calvert from Texas Monarch Watch, Dr. Isabel Ramirez from the National Autonomous University of Mexico and Dr. Brower.

This international research collaboration is supported by the Monarch Butterfly Sanctuary Foundation and World Wildlife Fund's Mexico Program. The data gathered jointly by the reserve and the team of researchers show that both the El Rosario and Chincua colonies – the two most affected by last year's die-off – have a healthy number of monarch butterflies this year.

Monarch Butterfly Biosphere Reserve Director Marco Antonio Bernal explained that the reserve seeks to protect the habitat of the monarch butterfly with help from the local landowners.

"With great enthusiasm, rural communities with monarch butterfly colonies are supporting the biological monitoring in order to learn more about the population dynamics of this insect," Bernal said. "The reserve is able to ensure that landowners benefit from the conservation activities through the Temporary Employment Program, in which local people are hired to work on various conservation projects including ecological restoration, protection of the wildlife and prevention of forest fires."

This year, the Monarch Butterfly Sanctuary Foundation and the World Wildlife Fund are supporting the design and implementation of the reserve's monitoring program. The Monarch Butterfly Sanctuary Foundation, WWF and Dr. Isabel Ramirez are jointly working with the reserve to refine the methodologies used to measure the colonies. Throughout the current season, local landowners and the reserve biological staff will continue to measure the colonies, monitor their movement, record climatological data and estimate mortality caused by storms and other natural factors.

On Monday, Feb. 10, World Wildlife Fund officials met with Mexican President Vicente Fox and the Mexican environment minister and urged them to continue an initiative to stem illegal logging in the 56,259-hectare Monarch Butterfly Biosphere Reserve, which encompasses the major monarch overwintering colonies visited by the public. Illegal logging has devastated the *oyamel* firs that provide overwintering habitat to all monarchs that breed east of the Rocky Mountains. WWF is working with the Monarch Butterfly Biosphere Reserve staff to improve forest management and was instrumental in creating the \$6.5 million Monarch Butterfly Conservation Fund, which provides an economic incentive local communities to protect the forest habitat of the monarch butterfly.

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