Monarch Butterfly Populations Recover Modestly from 2014

Carlos Navarro
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by Carlos Navarro

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Scientists are reporting a small recovery in the populations of monarch butterflies reaching a protected area in Michoacán and México state this winter, but the numbers remain far below the totals for recent years. A US-Mexico study said the protected butterflies covered about 1.13 hectares in the Monarch Butterfly Biosphere Reserve and nearby sites this year, a rebound of about 69% from 0.67 ha last year, the lowest level since records were first kept in 1993 (SourceMex, Feb. 5, 2014). Ironically, last year’s sharp decline coincided with the 40th anniversary of the official discovery of the pine and fir forests where the butterflies spend the winters. This year’s numbers are slightly below those recorded in 2013, when butterflies covered about 1.19 ha in the overwintering grounds.

Numbers still low

The survey of butterfly populations is conducted each winter by the World Wildlife Fund (WWF)-Telcel alliance and the Comisión Nacional de Áreas Naturales Protegidas (CONANP), a division of the Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT). The rebound was considered a slightly encouraging development, but scientists say the factors that have endangered the butterflies in recent years remain a threat.

"Of course it is good news that the forest area occupied by monarchs this season increased," Omar Vidal, WWF-México director general told reporters. "But let’s be crystal clear, 1.13 hectares is very, very low, and it is still the second-smallest forest surface occupied by this butterfly in 22 years of monitoring."

On its Web site, the WWF explained how the populations are measured. "To survey these colonies, biweekly trips were made to colonies with a historic presence of butterflies, and the location and perimeters occupied by monarchs was determined using a spatial analysis software," said the environmental organization, indicating that the study recorded nine monarch butterfly colonies, both inside and outside the Monarch Butterfly Reserve.

Scientists say any coverage below 2 ha is a sign that the butterflies continue under threat. "[At these levels], they will remain in the danger category and I will continue to be concerned," Lincoln Brower, a leading entomologist at Sweet Briar College in Virginia, said in an interview with the Associated Press.

Conversely, Brower noted that a population covering 4 or 5 ha would be a sign of significant recovery. At their peak in 1996, the monarchs covered more than 18 ha in the biosphere, which was designated as a World Heritage site in 2008 (SourceMex, July 9, 2008).

Restoring habitat

The decline of butterfly populations is attributed to the loss of milkweed habitat in the US and Canada, illegal logging in Michoacán and México state, and climate change. "Across their migratory route, monarch butterflies face many threats to their survival," said a WWF report. "In the US, a loss in breeding habitat is linked to a decrease of milkweed—the main food source for monarch larvae—
due to herbicide use and land conversion. In Mexico, monarch hibernation sites are threatened by illegal logging. And extreme climate conditions in Canada, the US, and Mexico all contribute to the dramatic decrease in monarch butterflies that hibernate in Mexico."

The WWF report lauded the efforts by SEMARNAT and the local collective farms (ejidos) to protect the biosphere against logging. The loss of trees in protected areas could damage the forest canopy, leaving the butterflies vulnerable to rainfall. The intensive anti-logging efforts were first launched in 2007 (SourceMex, Dec. 12, 2007).

"Though much must still be done, coordinated efforts in the core zone of the Monarch Butterfly Reserve are making a difference," said the WWF. "Deforestation and forest degradation due to illegal logging in the core zone of the Monarch Reserve drastically decreased thanks to the commitment made by the ejidos and indigenous communities of the Reserve, the surveillance efforts and funding for environmental services from Mexican authorities, and the support of philanthropists and Mexican and international companies such as Telcel, the Carlos Slim Foundation, and the Yves Rocher Foundation of France, which promote sustainable projects for residents."

There are also some efforts in the US to boost the milkweed habitat of the butterflies. In late January, the Illinois Tollway board announced plans to explore adding milkweed to roadsides along Interstate 90, Interstate 88, and Interstate 294 to help encourage an increase of monarch butterflies, which is the state insect.

According to the plan, which would be implemented with the assistance of the Natural Resources Defense Council (NRDC), grass in roadsides targeted for monarch butterfly habitat would be mowed only once a year, instead of the typical two times. The scheme also calls for grass to be cut higher than normal and for herbicide use to be restricted.

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