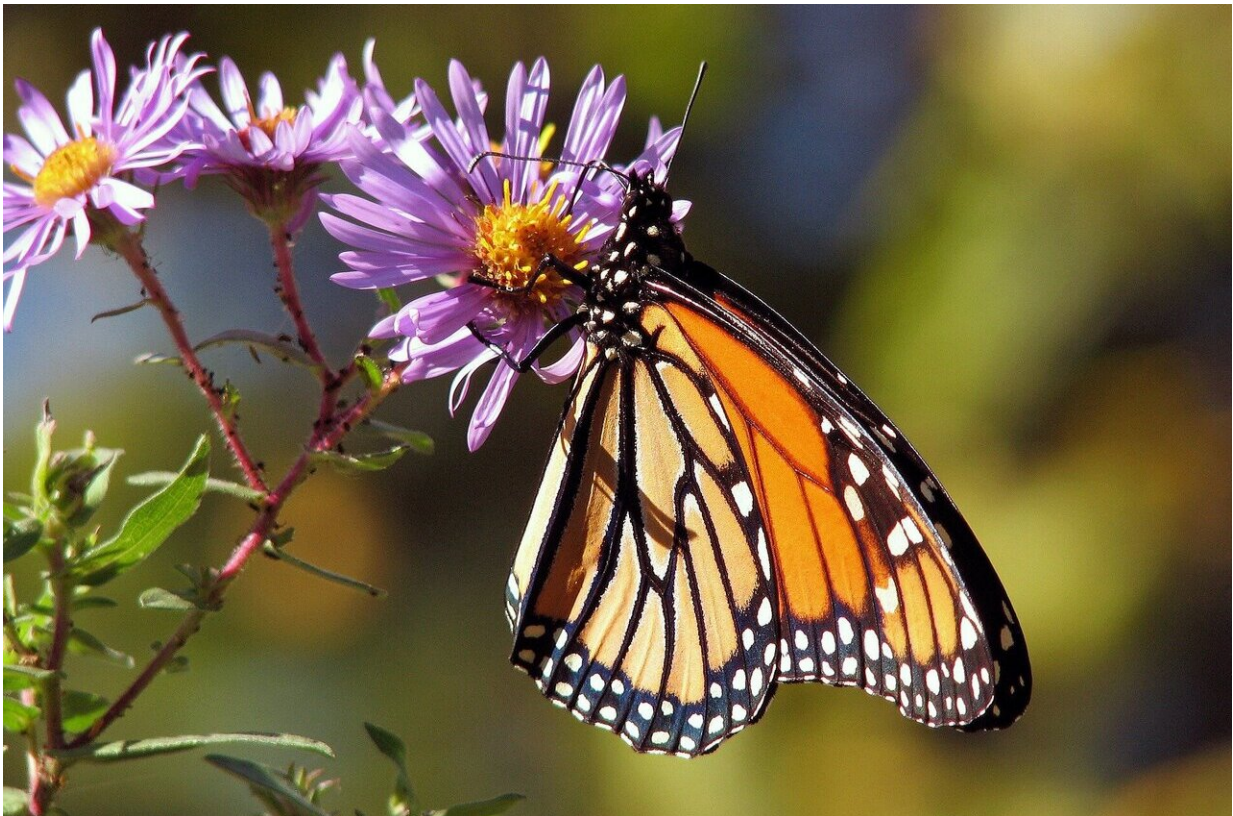


Monarch protections across states aim to prevent federal rules

April 11 2022, by Kristian Hernández



Credit: CC0 Public Domain

Each spring, millions of monarch butterflies leave their overwintering sites in the Sierra Madre mountains of central Mexico and begin their annual migration north across the United States.

The exodus and return of the iconic orange and black butterfly is one of the grandest spectacles of the natural world. But that sight is becoming increasingly rare as the monarch's population has shrunk by nearly 90% in the past two decades, according to federal scientists.

The monarch faces many threats, including the loss of milkweed and other flowering plants across its range, degradation and loss of overwintering groves in both coastal California and Mexico, and the widespread use of herbicides and pesticides. Many of these stressors are worsened by climate change, according to advocates.

In the past two years, some state transportation departments, local governments and [energy companies](#) across 23 states have committed to preserving monarch habitat in hopes of protecting the species and preventing it from being added to the federal endangered species list.

Nearly three dozen organizations have agreed to preserve some 815,000 acres of monarch habitat along energy and highway corridors since the initiative launched.

The unusual conservation effort sprang from a 2020 agreement between the U.S. Fish and Wildlife Service and the Energy Resources Center at the University of Illinois, Chicago, which led a group of experts in developing a butterfly protection plan.

Under the so-called Monarch Candidate Conservation Agreement with Assurances, or CCAA, public and [private landowners](#) voluntarily commit to certain conservation actions, including pest and vegetation management to protect the monarch and its habitat. The agreement also requires companies to reduce or remove threats related to the butterflies' survival. In return, the feds guarantee the landowners will not be required to implement additional conservation measures even if the species is listed.

"The effort is unprecedented in terms of its cross-sector participation and geographic extent," said Iris Caldwell, program manager of sustainable landscapes for the Energy Resources Center. "This is not only the first CCAA for the monarch butterfly. This is the first nationwide CCAA for any species."

The group's goal is to conserve 2.3 million acres across the continental United States.

"The monarch is such an iconic species that it provides us a rallying point that brings people together. That's important as we're looking at wide-scale conservation of pollinators," Caldwell said. "If we can create and conserve monarch habitats it will benefit so many other species."

But some conservationists are wary of the agreement. Jeffrey Glassberg, president and founder of the North American Butterfly Association, an advocacy group, said while conservation agreements can be effective tools for advancing environmental goals, the most important way to save these butterflies is through large-scale and intensive efforts to re-create prairies in the northern plains that will support their populations.

"The main factors affecting Monarch populations appear to be the degradation of the overwintering sites in Mexico, [climate change](#), and the continued and increasing use of neonicotinoids [insecticides]," Glassberg wrote in an email. "This project will not help with any of those problems."

The eastern monarch population, which overwinters in Mexico and travels east of the Rocky Mountains, dropped about 88% from 1996 to 2020, from an estimated 383 million to just under 45 million, according to the Fish and Wildlife Service. The western population, which overwinters in California, has dropped more than 99% since the 1980s, from 4.5 million to fewer than 2,000 monarchs, the agency said.

In 2014, conservationists petitioned the Fish and Wildlife Service to place the butterfly on the endangered species list. In December 2020, the agency ruled that monarchs deserve federal protections but that it first must prioritize other species pending for the list.

The petition alone sparked major interest in conservation across the country, in part because a listing of the monarch would bring regulations on agriculture and other activities. Natural resource departments in Arkansas, Indiana, Iowa, Kentucky, Missouri, Nebraska, New Jersey, North Dakota, Texas and Wisconsin have adopted monarch preservation plans in the past six years, according to Stateline research.

Most of these plans expand or establish efforts to increase pollinator plant habitats in [state parks](#), state natural areas and wildlife management areas.

The federal agreement expands on another previous effort to protect monarchs: the creation of a cross-state Monarch Highway to establish and maintain roadside habitats for the monarch.

In 2016, state departments of transportation in Iowa, Kansas, Minnesota, Missouri, Oklahoma and Texas created the Monarch Highway. It starts at the U.S.-Mexico border in Laredo, Texas, and follows the monarch's migratory path along the Interstate 35 corridor north to Duluth, Minnesota.

In Texas, the state Department of Transportation has been promoting pollinator habitats for nearly a century, according to Samuel Glinsky, vegetation specialist with the department.

He said the state established a directive in the 1930s to mow most roadsides only twice a year to allow wildflowers to set seed. The department oversees more than 1 million acres of land across the state.

"It's important that we provided that suitable habitat on that land just because of how much land it is," Glinsky said. "Pollinators such as the monarch butterfly pollinate a very large percentage of our food crops, so they are a very important resource to protect because their extinction could have a huge economic impact."

Texas signed on to the CCAA agreement, as did the departments of transportation in Georgia, Minnesota, Ohio, Oklahoma, Vermont and Virginia. The Texas department did not have to change how it operates as a result, except for some monitoring and collection of evidence that shows the habitats it is maintaining are suitable for monarchs, Glinsky said.

Roadside habitats alone are not the answer to saving the monarch, said Marianna Treviño-Wright, head of the National Butterfly Center in South Texas.

"It's forcing the butterflies to run a gauntlet," Treviño-Wright said. "Why would you want to create a habitat next to a highway with speeding cars?"

A 2020 study by Texas A&M, sponsored by the Texas Department of Transportation, found that 2% to 4% of the total migrating monarch population headed south towards Mexico die on Texas roads.

Over the past five years, researchers at the University of Minnesota have been studying the viability of habitats along roads across the state. Roadsides offer potential opportunities as habitat for monarchs, but they also come with risks, said Emilie Snell-Rood, University of Minnesota associate professor of ecology, evolution and behavior, during a webinar hosted last month by the Monarch Joint Venture, an advocacy group.

Researchers found a minor mortality rate increase for caterpillars that

ingested zinc, but for the most part monarchs seemed unharmed by heavy metals, salt and other chemicals found at high levels by roads, according to Snell-Rood. Still, she said more studies need to be conducted to ensure roadside habitats are suitable for monarch preservation.

Caldwell of the Energy Resources Center said roadsides are an important part of the federal agreement's conservation efforts, but officials are trying to incorporate other rights-of-way that could provide less risky habitats. Using a GIS mapping tool, the group identified some 21 million acres of electric transmission and pipeline corridors that could serve as butterfly travel corridors, she said.

Northern Natural Gas owns a 14,500-mile pipeline that stretches from Texas to Minnesota in the middle of the eastern monarch migratory path. The company has committed to conserve some 112,000 acres of monarch habitat along the pipeline, according to spokesperson Mike Loeffler. He said the company was very interested in being a part of the CCAA because a listing of the monarch as an endangered species could affect operations.

While at least 45 entities expressed interest in the CCAA agreement in 2020, only 33 have applied to join. As of March 25, 19 applications had been approved, and 14 were pending, according to Caldwell.

Caldwell said several organizations have chosen not to enroll or to delay enrollment in part because of the Fish and Wildlife Service's decision not to immediately protect the species.

"I think they perceived the Fish and Wildlife Service decision as giving them some additional time and kind of it took the pressure off to some extent for them to feel like they needed to enroll right away," Caldwell said.

"But it's in this interim before a listing is finalized that we really have the opportunity to demonstrate the value of the voluntary conservation that's happening," she added, "and hopefully help inform or maybe avoid that listing."

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