

Executive Summary: 2023 Program Year

Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands

Background

The *Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands* (the Monarch CCAA) is the first-of-its-kind nationwide, voluntary conservation agreement that aims to sustain 2.3 million acres of habitat for the iconic monarch butterfly. The University of Illinois Chicago's (UIC) Energy Resources Center administers the Monarch CCAA.

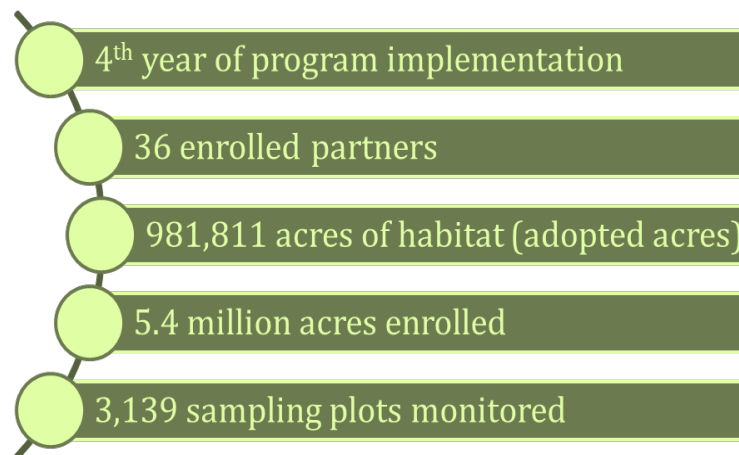
Since its development, the Monarch CCAA continues to play a key role in creating and sustaining monarch butterfly habitat at a large scale. This summary provides a brief overview of the program accomplishments reported to the U.S. Fish & Wildlife Service (USFWS) as part of the program's annual report for the calendar year 2023.



Photo: Green milkweed (*Asclepias viridis*) on Monarch CCAA adopted acres along Oklahoma DOT roadsides. Courtesy of Oklahoma DOT.

Conservation Measures

As of December 2023, 36 energy companies and transportation agencies from across the U.S. had enrolled over 5.4 million acres in the Monarch CCAA. Within these enrolled acres, conservation measures for the monarch butterfly were implemented on over 981,000 acres (Figure 1), or about the size of Rhode Island. This exceeded the minimum target for 2023 of 413,048 adopted acres by more than double.



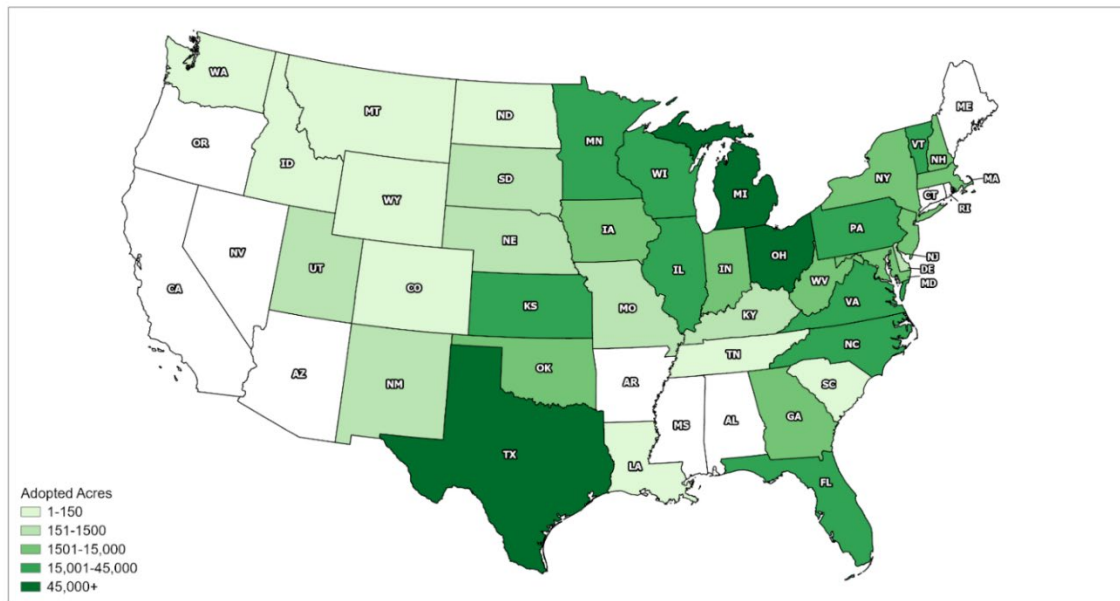


Figure 1. Geographic distribution of adopted acres reported by Monarch CCAA partners in 2023.

Monarch CCAA partners implemented a range of conservation measures on adopted acres in 2023. Setting aside suitable habitat (e.g., idle lands) was the most common conservation measure implemented. Other conservation measures included conservation mowing, seeding and planting, woody brush removal, targeted herbicide applications, prescribed burning, and controlled grazing. Several partners implemented supplemental measures, ranging from using spatial modeling to prioritize habitat areas to implementing invasive species prevention best management practices.

Habitat Monitoring

In 2023, the Monarch CCAA partners conducted habitat monitoring on 3,139 randomly selected sampling plots across their adopted acres. Habitat monitoring recorded the abundance of milkweed stems, extent of nectar-producing plants, and observations of monarch butterflies. Monarch CCAA monitoring is sampled across two broad regions (the Midwest and Eastern U.S. region and the Western and Southern U.S. region) as illustrated in Figure 2. Findings from 2023 monitoring include (summarized in Figure 3):

- Approximately 31% of monitoring plots met or exceeded the regional target of six or more milkweed stems in the Midwest and Eastern U.S. region and 34% of monitoring plots met or exceeded the regional target of two or more milkweed stems in the Western and Southern U.S. region.
- Observations of nectar plant cover in 2023 increased overall from 2022 sampling. In the Midwest and Eastern U.S. region, nearly 79% of plots had greater than 10% cover of nectar plant resources (2,194 of 2,777 plots). In the Western and Southern U.S. region, approximately 77% of monitoring plots had greater than 10% cover of nectar plant resources (277 of 361 plots).

Overall, the monitoring targets for milkweed abundance and nectar plant cover exceeded the targets envisioned by the USFWS in their biological opinion for the Monarch CCAA.

Most partners voluntarily opted to report monarch observations at plots where monitoring occurred. In the Midwest and Eastern region, monarchs were observed on 11% of all monitoring plots (309 of 2810). In the Western and Southern U.S. region, monarchs were observed on 5% of all monitoring plots (19 of 361).

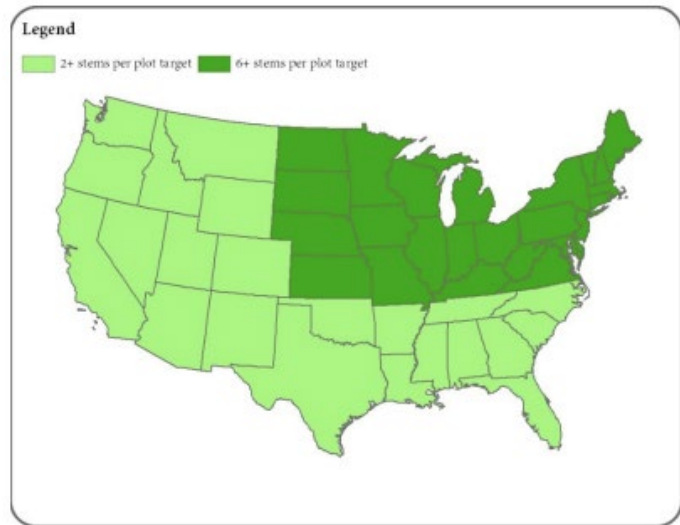
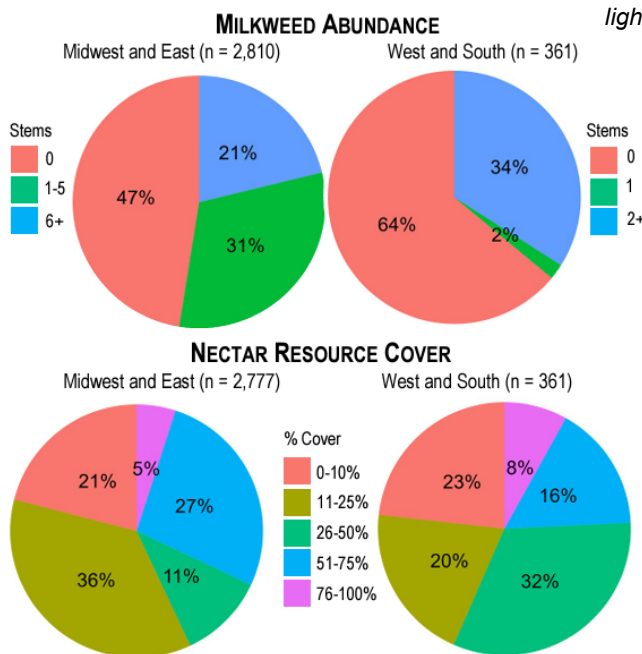


Figure 2. The two Monarch CCAA monitoring regions: Midwest and Eastern U.S. in dark green and Western and Southern U.S. in light green.



In summary, 2023 showed continued growth and learning among Monarch CCAA partners, UIC, and USFWS in terms of the effectiveness of on-the-groundwork to benefit monarchs and other pollinators. The Monarch CCAA is widely recognized as a conservation success for its ability to leverage conservation commitments across multiple industries and demonstrate value-added results for its enrolled partners. This success is only possible through the dedication of USFWS, industry partners, supporting conservation organizations, and the individuals involved who are committed to helping conserve the monarch butterfly and other species.

Figure 3. Aggregated results of 2023 Monarch CCAA habitat monitoring.

For More Information

To learn more about the Monarch CCAA, visit <https://rightofway.erc.uic.edu/national-monarch-ccaa/>