

Miles of Lines, Miles of Monarch Habitat



Utilities are “powering” habitat, not just homes through a ground-breaking collaborative.

By **Stephanie Crawford**, National Rural Electric Cooperative Association; **Iris Caldwell**, University of Illinois-Chicago

There is a new and urgent focus among electric and gas utilities to reconsider their land management practices in light of declining insect populations worldwide. This includes the iconic orange-and-black monarch butterfly, which may be listed under the Endangered Species Act (ESA) as soon as next year. Given its extensive range across the entire lower 48 states, a protected status for the monarch butterfly could lead to new restrictions, project delays, and increased costs from regulatory consultations. However, it also represents an opportunity for utilities to adapt their vegetation management practices, provide valuable habitat for the monarch butterfly and other pollinators on their lands, and potentially even preclude the need for a federal listing.

The Plight of Pollinators

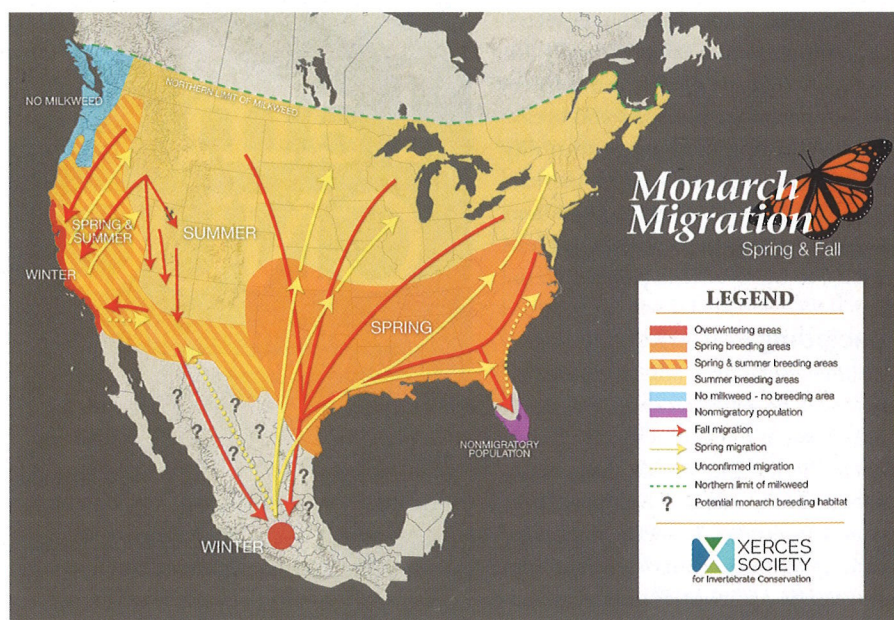
Despite Hollywood’s depictions of killer bees and ant invasions, imagining a world without insects is downright catastrophic. Insects are vital components of the world around us. They cycle nutrients into the soil; keep pest populations in check; serve as the sole food source for many birds, reptiles, and other animals; and pollinate our favorite flowers and foods (think: strawberries, or coffee!). At least 25% of North America’s native bumble bee species have experienced rapid population declines and an estimated 17% of butterflies are at risk of extinction. The loss of pollinating insects has particularly devastating implications on the global economy and food security.

The monarch butterfly has become an ambassador of sorts for the many pollinator species in decline, partly because of its broad geographic range. It has also experienced significant population losses:

The Eastern population, which overwinters in central Mexico and spends the rest of the year east of the Rocky Mountains in the U.S. and Canada, has dropped as much as 80%; the Western population, which overwinters along the California coast, has experienced a staggering 99% decline since the 1980s.

“Monarchs are a flagship species. Like a canary in the coal mine, monarchs’ dramatic population declines have caught the public’s attention and focused efforts on providing pollinator habitat in our communities,” said Alison Cariveau, science coordinator at Monarch Joint Venture, a national partnership working to conserve the monarch migration.

In August 2014, the U.S. Fish and Wildlife Service was petitioned to list the monarch butterfly as threatened under the ESA, potentially joining more than 40 bees, butterflies, and other insect pollinators that have been listed already. The USFWS is expected to make a listing recommendation



The monarch butterfly migration range in North America is depicted on the above map. In the fall, monarchs from the northeastern U.S. and southern Canada journey up to 3,000 miles to the overwintering grounds in southwestern Mexico. Map created by the Xerces Society for Invertebrate Conservation.

on the monarch butterfly later this month. If listed, landowners and land managers could expect additional requirements or restrictions on vegetation management, maintenance, and construction activities in areas of suitable habitat.

Rights-of-Way as Habitat Assets

There are tens of millions of miles of roads, highways, railroads, electric lines, and gas pipelines in the U.S. alone. Across this network of energy and transportation lands exists a huge opportunity to create and connect habitats for the monarch butterfly and other pollinators. Much of this habitat conservation potential is grounded in existing vegetation management practices that favor low-growing vegetation on ROWs.

Practices such as integrated vegetation management help electric utilities prevent tree and power line interactions, maintain compliance with FERC/NERC regulations, and increase service reliability. Similarly, promoting low-growing vegetation using IVM improves the ease of inspections, maintenance and safety access, and line of sight across all types of utility and transportation ROWs. With fairly minor modifications, such as adjusting the timing of vegetation management, moving from broadcast to targeted herbicide treatments, or introducing alternative biological or cultural controls, IVM can both create pollinator habitat and ensure safe, reliable, and cost-effective operations.

Conservation experts recognize that energy and transportation lands are pieces in the collective puzzle to address habitat needs for the monarch butterfly and other pollinators. The National Strategy to Promote the Health of Honey Bees and Other Pollinators, published by the White House Pollinator Health Task Force in May 2015, prioritized working with industry to expand pollinator habitat on ROWs. Regional monarch butterfly conservation plans, namely the Mid-America Monarch Conservation Strategy and the Western Monarch Butterfly Conservation Plan, also recognize the value of ROWs for monarch butterfly habitat.

"Monarchs benefit from habitat created, restored, and managed in all sectors of society, from farms to parks. Rights-of-way are particularly brilliant places for pollinator conservation, because they are managed long-term for open, non-woody vegetation," said Cariveau.

Due to the scale of conservation required to reverse population declines and support pollinator species into the future, the national and regional plans call for an "all hands on deck" approach that brings together landowners and managers from across the public and private sectors. An increasing number of energy companies and transportation agencies are stepping up to do their part.

An Unprecedented Industry Collaboration

Over the past year and a half, more than 40 organizations representing energy companies and state departments of transportation have come together under the leadership of the University of Illinois-Chicago and the Rights-of-Way as Habitat Working Group to develop a voluntary conservation agreement for the monarch butterfly in partnership with the

USFWS. The agreement, known as the National Monarch Butterfly Candidate Conservation Agreement with Assurances (CCAA) for Energy and Transportation Lands, is a regulatory mechanism that encourages non-federal landowners and managers to voluntarily adopt measures that create a net benefit for the monarch butterfly.

In turn, landowners and managers are provided assurances (in the form of a permit) that no additional requirements beyond the activities in the CCAA will be mandated if the monarch butterfly is listed. The CCAA functions much like an insurance policy for organizations that enroll in the agreement, providing certainty in the face of litigation that may occur surrounding the species listing and safeguarding against swift changes in policy if enacted by the USFWS or a court decision. However, this insurance policy also yields incredible benefits to monarchs by creating and sustaining much-needed habitat across the country.

American Electric Power was an early supporter of the CCAA's development. AEP manages more than 40,000 miles of transmission lines, which significantly overlap with the monarch butterfly's migration routes.

"We are very concerned about the wellbeing of the butterfly as well as the impact any endangered species listing could have on our vegetation maintenance activities," said John McManus, senior vice president, Environmental Services, at AEP. "The University of Illinois-Chicago's collaborative monarch CCAA program is the best path forward for protecting, not only the butterfly, but our ability to provide an important service to our customers in the most cost-effective manner possible. The regulatory certainty provided by such an assurance would protect our multi-billion-dollar investment in new transmission infrastructure."

The CCAA recognizes the important work that organizations are already doing for the monarch butterfly and other pollinators, and it provides an incentive to both institutionalize beneficial vegetation management practices such as IVM and further expand and enhance their implementation. East Central Energy, a distribution cooperative serving nearly 61,000 members in east central Minnesota and northwestern Wisconsin, sees the CCAA as an opportunity to advance a number of habitat-oriented initiatives.

"Some of our projects to prepare for the CCAA include updating our IVM tracking software to include habitat monitoring, converting 2.5 acres at an operations facility to pollinator-friendly habitat and looking at future habitat projects such as at substations and solar sites," said Alicia Kroll, member account analyst at ECE.

Organizations enrolling in the CCAA commit to implementing conservation measures that address the key threats under their control and to promote diverse breeding and foraging habitat for the monarch butterfly. These measures include seeding and planting, setting aside undisturbed areas for habitat, or adjusting IVM practices to minimize impacts to the monarch butterfly. One or more of the conservation measures included in the CCAA must be implemented on a portion of an organization's enrolled lands, known as the

“adopted acres” target. This ranges from one percent to 18% depending on land type. Following an initial 5-year ramp-up period, the adopted acres target must be satisfied annually (though it is not cumulative).

An organization may choose to enroll its entire network of owned and managed lands (including those that cross federal, leased or easement properties), or just a portion of its operational area. The enrolled lands include lands where conservation measures are implemented and those where they are not. The CCAA maximizes operational flexibility by providing allowances for common maintenance and modernization activities to occur on enrolled lands without additional restrictions.

In the event the monarch butterfly is listed (either now or in the future), these allowances come in the form of an Enhancement of Survival permit and associated incidental take coverage (only granted on non-federal lands, though consultation on federal lands, if required, is expected to be streamlined). These allowances are available through the CCAA because of its “net conservation benefit” that yields habitat benefits over-and-above these types of impacts. This can help avoid costly delays and last-minute disruptions to construction and maintenance activities.

Preliminary cost-benefit analyses have shown net positive returns on investment for organizations that enroll in the CCAA, including costs associated with the annual administrative fee, implementation of conservation measures, and ongoing monitoring and reporting.

The CCAA is the largest agreement of its kind ever developed, representing an unprecedented cross-sector collaboration between industries and the USFWS. It also demonstrates the energy and transportation sectors’ significant interest in and commitment to conserving habitat.

“This conservation agreement could potentially provide millions of acres of prime habitat for the monarch butterfly,” said Charlie Wooley, acting midwest regional director at the USFWS. “It’s one part of an ‘all hands on deck’ approach to conserving this iconic species. If we can find ways to conserve these areas for monarchs, while providing predictability for industry, we all win.”

Joining the Monarch Movement

Small steps at home or in one’s community, like planting milkweed and nectar plants, can make a big difference for local pollinators and migrating monarch butterflies.



American Electric Power has collaborated on a research project with the Electric Power Research Institute on a transmission line at the Dawes Arboretum in Newark, Ohio, to assess the feasibility of incorporating native plants and pollinator habitat into utility ROW sites. Photo by Tim Lohner.

“There is a role for everyone to play in monarch conservation by creating habitat, spreading the word, or collecting key information about monarchs through citizen science. Native plantings also have far reaching benefits, from pollinator conservation to stormwater mitigation,” said Cariveau.

At a larger scale, organizations that own or manage energy or transportation lands can enroll in the CCAA beginning in late June. Timing is important. If the USFWS proposes to list the monarch butterfly, applications to the CCAA are only accepted up until the effective listing date. In the event the USFWS does not propose an immediate listing, active participation in the CCAA may contribute to (or preclude the need for) a future listing decision.

Not only do the measures implemented under the CCAA contribute meaningful habitat across the U.S., but the CCAA itself serves as an innovative and proactive model for large-scale collaborative conservation that could hopefully be replicated for other at-risk species and in other sectors.

The Rights-of-Way as Habitat Working Group provides a forum for such cross-sector collaboration and works with industry leaders to identify and implement more effective habitat strategies through workshops, webinars, and interactive online tools and resources. Learn more about the CCAA and related efforts at the Rights-of-Way as Habitat Working Group’s website: <http://rightofway.erc.uic.edu/>. **TDW**

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Stephanie Crawford manages NRECA’s advocacy regarding the monarch butterfly’s potential listing under the Endangered Species Act. Before joining NRECA, she was an ORISE fellow in the Department of Energy’s Office of European and Eurasian Affairs and advised international clients on U.S. energy policy and regulation at a consulting firm. Crawford earned a Master of Public Policy degree from the University of Maryland and a Bachelor of Science in Engineering degree from the University of Michigan.