



Illinois Monarch Action Plan



ILLINOIS
MONARCH
PROJECT



September 24, 2020

Over the past 20 years, the population of the iconic monarch butterfly, Illinois's state insect, has declined. Given the importance of Illinois to the monarch's migration route, regional and statewide efforts to support monarch butterflies and the habitat they rely on have been under way for several years, and the State of Illinois has long been a committed partner and collaborator in those efforts.

As part of a regional goal to add 1.3 billion new milkweed stems and other diverse nectar-producing plants to the landscape by the year 2038, Illinois has pledged to contribute 150 million of those new stems. Illinois's agencies, and our many partners in the natural lands, agriculture, rights-of-way, and urban sectors, are collaborating to achieve this goal.

In 2016, the Illinois Monarch Project was founded to help coordinate and further work to accomplish this state goal. In 2018, four Illinois agencies signed an agreement to commit our collective state resources to contribute to Illinois's milkweed stem and pollinator habitat goals. We have appreciated serving on the Executive Committee of the Illinois Monarch Project. We are also proud of our staff's active participation and achievements in various committees of the Illinois Monarch Project. Our staff have also promoted agency-directed habitat enhancement, creation, and protection strategies as identified in the Illinois Monarch Action Plan.

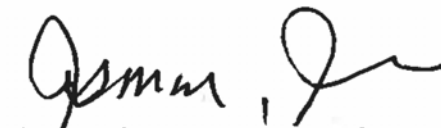
Across Illinois we have made terrific strides in monarch conservation, but there is still much work to do. We congratulate all those who have assisted in the development of this Action Plan. We enthusiastically approve this Plan and are eager to continue working across our agencies and with our conservation and industry partners to carry out the strategies and actions herein.

We hope that this plan will inspire all Illinoisans to help add 150 million milkweed stems for the monarch butterfly and become conservation stewards for the monarch butterfly and other native pollinators.



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Contents



Note from the Technical Steering Committee	4
About This Action Plan	8
Monarch Butterfly Background	12
About the Illinois Monarch Project	18
Goals, Strategies, and Actions	30
Next Steps	78
Endnotes and Resources	80





Note from the Technical Steering Committee



On behalf of the Illinois Monarch Project (IMP), a coalition of agencies, organizations, and individuals committed to helping monarch butterflies thrive throughout Illinois, the IMP Technical Steering Committee is pleased to present the Illinois Monarch Action Plan.

Members of the Technical Steering Committee represent the four sectors contributing strategies and actions to this plan: Agriculture, Rights-of-Way, Urban, and Natural Lands. Since 2016, the Technical Steering Committee has been working to develop this action plan to promote the addition of 150 million milkweed stems and other nectar sources across the varied landscapes of our state. In determining the best courses of action to achieve this goal, we collaborated with and sought input from a diversity of sector leaders and stakeholders, all of whom are working to support monarch butterfly habitat.

In our work to develop this plan, and also to coordinate activities and programs related to it, we have consistently met on a monthly basis, culminating in more than 36 meetings and over 1,300 hours of collaborative work. The resulting plan is a dynamic, living document that reflects the input we received from our many collaborators. The Illinois Monarch Action Plan is an achievement in itself, and we are proud that the goals and strategies it presents have been developed by some of the very stakeholders who are committed to implementing conservation actions to support monarch butterfly habitat across the state.

Since 2014, we have already witnessed several important successes and achievements across the state that provide solid momentum for continuing our work to promote monarch butterfly habitat. A few of the highlights are noted below.

- More than 85 people representing a wide variety of sectors attended the **inaugural Illinois Monarch Summit** in 2016.
- The **IMP formed around a common mission and vision** and with the purpose of developing cross-sector strategies to promote monarch butterfly conservation across Illinois.
- The IMP Community Engagement Committee developed an **Education and Outreach Strategy** for use by educators and outreach specialists in developing IMP programming.
- The **IMP Science Committee has convened experts** to address pressing needs, such as recommended mowing guidance for use across a variety of landscape types in Illinois

IN THE AGRICULTURE SECTOR

- As of 2019, over **850,000 acres** of Illinois's farmland are enrolled in some form of the Conservation Reserve Program (CRP), with more than **100,000 acres** enrolled in the Pollinator Habitat Program (CP-42).
- On Earth Day 2019, the Agriculture Sector released an organizational report titled Illinois Monarch Project: Agricultural Action Plan. Over **335 copies** of the report have been distributed, which highlight programs such as Ag in the Classroom that have provided pollinator-specific education to over **106,700 students** and nearly **5,000 teachers** over the past three years.

IN THE RIGHTS-OF-WAY SECTOR

- Beginning in 2017, the Illinois Department of Transportation adjusted its mowing practices to limit mowing beyond the roadway edge; as of 2019, this policy has resulted in the addition of more than **100,000 acres** of monarch butterfly and pollinator habitat.
- Utilities and highway agencies across the state actively participate in the **Rights-of-Way as Habitat Working Group**, coordinated by the University of Illinois at Chicago, to promote pollinator habitat on rights-of-way and other utility and transportation landscapes. In addition, several are participants in the **Candidate Conservation Agreement with Assurances** for the monarch butterfly, which is a nationwide voluntary conservation agreement with the U.S. Fish & Wildlife Service that incentivizes habitat management.

IN THE URBAN SECTOR

- The Keller Science Action Center at the Field Museum partnered with the U.S. Fish & Wildlife Service to develop the **Urban Monarch Conservation Guidebook** and tools to address concerns and questions related to monarch conservation in urban areas along the monarch's annual migration flyway.
- As of 2019, **42 mayors** in Illinois have signed on to the Mayors' Monarch Pledge, an initiative across three countries that encourages local officials to pledge support for monarch conservation. In addition, **17 Illinois cities** have adopted the DuPage Monarch Project Resolution to protect monarchs.

IN THE NATURAL LANDS SECTOR

- Since 2014, the Natural Lands Sector has added **19,800 acres** into Illinois's protected land network, which translates to an estimated **1.48 million milkweed stems**.
- Since 2014, at least **3,000 acres** of new monarch butterfly habitat has been planted in the protected lands network, providing an estimated **1.32 million milkweed stems**.

The Technical Steering Committee is proud of these achievements and deeply committed to monarch conservation and the vision of the IMP: inspired Illinoisans fostering a culture of conservation and ensuring future biodiversity through engagement in monarch butterfly and pollinator habitat initiatives.

These past few years have been exciting and fulfilling as we helped to develop the Illinois Monarch Action Plan and to promote monarch butterfly habitat across the Illinois landscape. We look forward to helping implement and coordinate the actions found in this plan. We will continue to work together across the State of Illinois and across our diverse sectors to support monarch butterflies, and we invite you to join us.

Mike Budd

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Pheasants Forever & Quail Forever, Route 66 Corridor Committee Chair and Informational Packets Committee Chair

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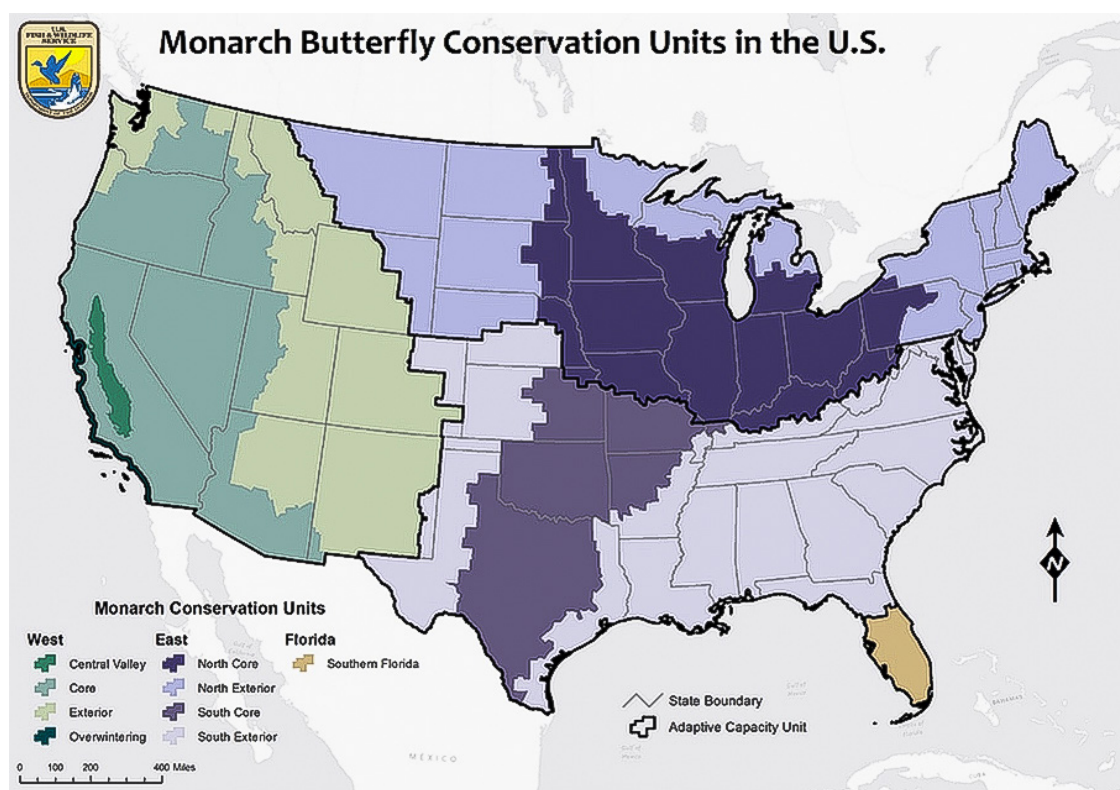
About This Action Plan



SETTING A REGIONAL HABITAT GOAL FOR THE MIDWEST

In 2017 and 2018, representatives from across Illinois served as experts in the Midwest Association of Fish and Wildlife Agencies' (MAFWA) collaborations with state, federal, private, and nongovernmental partners to develop the Mid-America Monarch Conservation Strategy—a regional initiative to identify conservation targets, programs, and coordinated strategies for habitat restoration and monarch butterfly population enhancement across the 16 states at the heart of the eastern monarch butterfly migration flyway. Because milkweed is a primary determinant of monarch butterfly habitat, the strategy established a regional habitat goal of 1.3 billion additional milkweed stems between 2014 and 2038 across the priority North Core region of the Midwest (i.e., including all or portions of Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Wisconsin, and West Virginia) (fig. 1). The strategy helped serve as the basis for individual state efforts and plans across the region to coordinate monarch conservation on the ground.

FIGURE 1. MONARCH BUTTERFLY CONSERVATION UNITS IN THE UNITED STATES



SOURCE: U.S. FISH AND WILDLIFE SERVICE.


WORKING TOGETHER TOWARD THE STATE GOAL

In support of the Mid-America Monarch Conservation Strategy, the Illinois Monarch Project (IMP)—a coalition of agencies, organizations, and individuals—established a statewide goal of 150 million additional milkweed stems between 2014 and 2038 across agriculture, rights-of-way, urban, and natural lands landscapes in Illinois.

The Illinois Monarch Action Plan presents the results of years of collaborative work—across diverse sectors and geographies—to support Illinoisans in this important goal. The Illinois Monarch Action Plan identifies significant achievements made toward that goal since 2014 and lays out current and future strategies and actions that can be undertaken to achieve this goal.

This Illinois Monarch Action Plan draws on expertise and input from various Illinois state agencies as well as leaders and professionals in the agriculture, rights-of-way, urban, and natural lands sectors. The Illinois Monarch Action Plan is meant to serve a broad audience of Illinoisans—scientists, educators, public and private landowners, elected officials, and the larger public—as they all work to foster a culture of conservation and help monarch butterflies thrive across the diverse urban and rural landscapes of Illinois. The plan is also intended to help inform planning efforts and assessments carried out by other Midwestern states and by the U.S. Fish and Wildlife Service.

The strategies and actions presented in this plan are intended to guide the implementation and advancement of a voluntary, statewide conservation effort based on the best available science. Moreover, this action plan is a living, working document, because particular strategies and other elements of this plan may be altered and adjusted as state- and region-wide conservation efforts and monarch conservation evolve over time.



“The IMP has established a goal of 150 million additional milkweed stems between 2014 and 2038 across landscapes in Illinois.”

Numerous states throughout the monarch butterfly range have engaged in similar efforts to develop targeted plans and strategies to conserve the monarch butterfly. These initiatives have not only shaped and informed the IMP and this action plan but also provided a model for and inspiration in our work going forward. We are grateful to all of these states for doing their part to conserve monarchs and monarch habitat.

BRIEF OVERVIEW OF THE ILLINOIS MONARCH ACTION PLAN

The Illinois Monarch Action Plan presents five goals along with specific objectives and accompanying strategies for achieving them, in addition to actions that can be taken to support implementation. In this plan, the following definitions are in use:

- **Goals** (the direction we will proceed in) are generalized directional statements toward an intended purpose; goals are qualitative and usually not quantified.
- **Objectives** (what we will accomplish) are concise statements of what, more specifically, will be accomplished.
- **Strategies** (how we will accomplish the objective and goal) incorporate statements of an approach to achieve an objective(s).
- **Action items** (ways we will implement the strategy) are specific items that must be done by any number of stakeholders in order to accomplish a strategy.

For the most part, these goals and strategies are framed as collaborative, cross-sector approaches to support monarch conservation in Illinois; where relevant, the Illinois Monarch Action Plan also presents sector-specific actions that have emerged throughout the development of this plan. In short, the five goals are as follows:

- **Goal 1**—Create an active collaborative of diverse stakeholders
- **Goal 2**—Use best available science
- **Goal 3**—Engage in targeted outreach and education
- **Goal 4**—Protect, enhance, and restore habitat
- **Goal 5**—Standardize monitoring and data collection

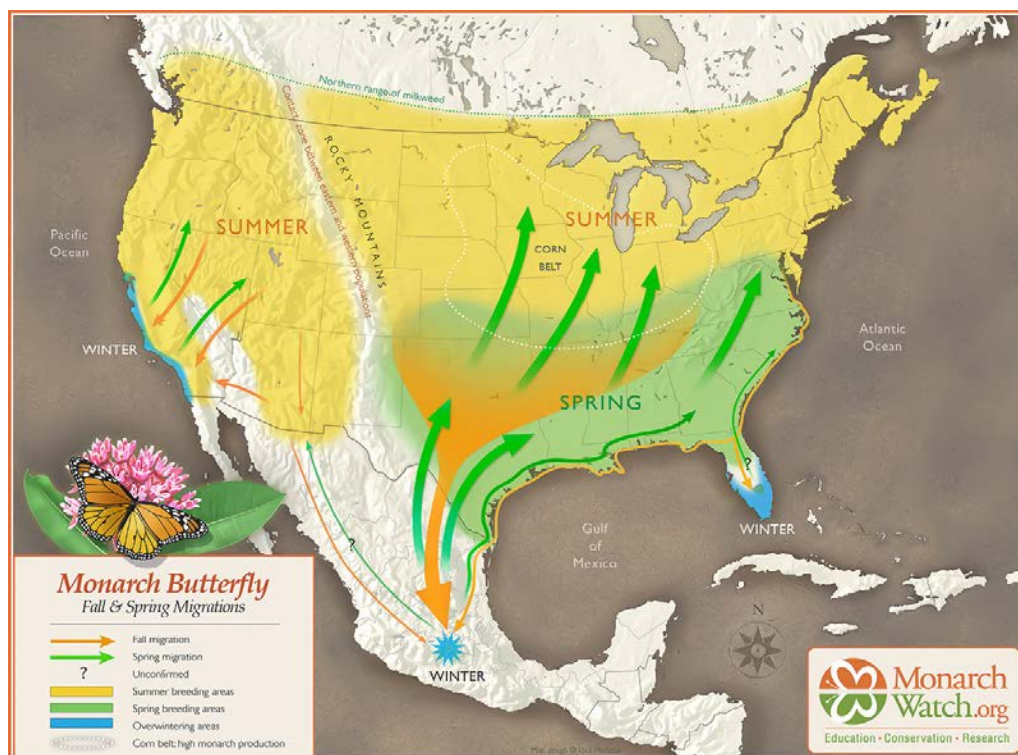
Monarch Butterfly Background

The beautiful orange-and-black monarch butterfly (*Danaus plexippus*) is an iconic pollinator species. Every fall, millions of monarchs from Canada and the eastern and central United States journey to their overwintering grounds in the high-altitude fir forests of central Mexico. The monarch's transformation from caterpillar to butterfly and its subsequent spectacular migration, sometimes thousands of miles long, resonate with people across North America.

Illinois lies directly along the migration flyway of eastern monarch butterfly populations (fig. 2). Along the flyway in Illinois, monarchs use suitable habitat for nectar and to lay eggs. Monarch caterpillars raised in Illinois then join the journey along the flyway to populate habitat farther north. Across the entire state, monarch butterflies can find the milkweed and other nectar plants they depend on: in grasslands and pastures, on farms, along roadsides and utility corridors, in state parks and preserves, and in gardens and backyards.

Over the past two decades, the population of eastern monarch butterflies has declined by more than 80 percent.¹ The Illinois Monarch Project is committed to help monarch butterflies—the Illinois State Insect since 1975—thrive across the state. To do this, the IMP will work to support the establishment of additional habitat, providing 150 million new milkweed stems and associated nectar resources in Illinois between 2014 and 2038.

FIGURE 2. MONARCH BUTTERFLY MIGRATIONS



SOURCE: MONARCH WATCH.

MONARCH BIOLOGY

The monarch butterfly can be found around the world, but it is the eastern monarch butterfly that is best known for its spectacular migration every fall in North America. Monarch butterflies from the eastern and central United States journey south to the high-altitude fir forests of central Mexico. In these overwintering grounds, millions of monarchs congregate on fewer than 16 acres of forest.² In March they begin their return migration, and by summer, new generations of monarchs will have reached Canada.

Monarchs make this annual migration north from Mexico over three or four generations. Most monarchs live just three to four weeks and travel a few hundred miles at the most, but those that emerge in late August are part of a “super generation” that will live for up to eight months and migrate thousands of miles to the overwintering grounds.

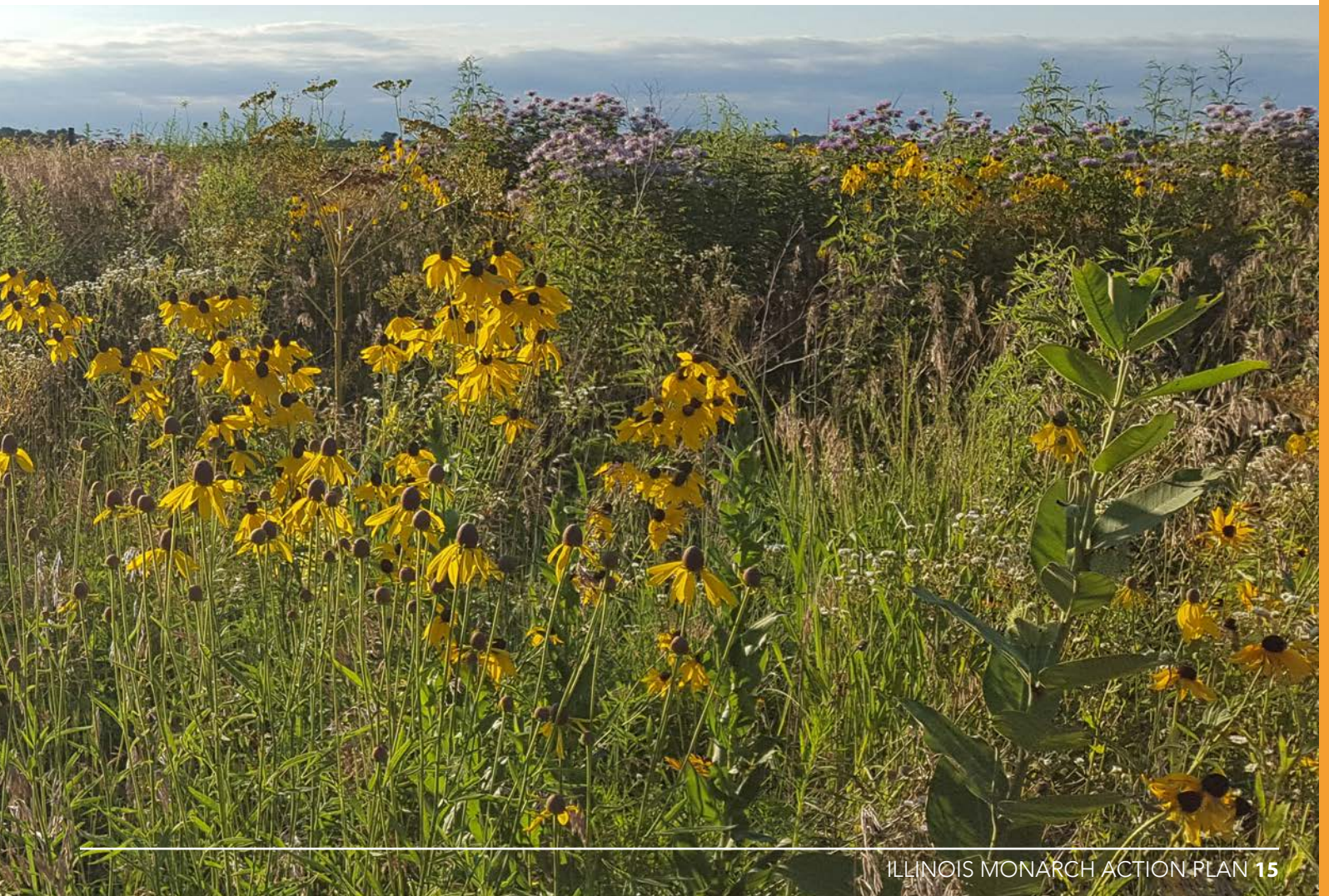
Monarchs lay their eggs exclusively on milkweed plants, and emergent caterpillars feed only on milkweed as they grow into adults. A few weeks later the caterpillars enter the pupa stage and create a chrysalis, emerging days later as stunning monarch butterflies. These new adult monarchs continue the migratory journey, feeding on a variety of flowering nectar plants for sustenance.



ILLINOIS LANDSCAPE AND MONARCH BUTTERFLY HABITAT

Illinois provides crucial breeding habitat for monarch butterflies, which live and migrate all across the state. Because of its landscape, Illinois plays a significant role in monarch conservation, as Illinois is the second-largest area in the region that has been prioritized by the U.S. Fish & Wildlife Service.³ During the summer months, Illinois is home to up to three generations of monarchs, including the “super generation” that will migrate to Mexico for the winter.⁴

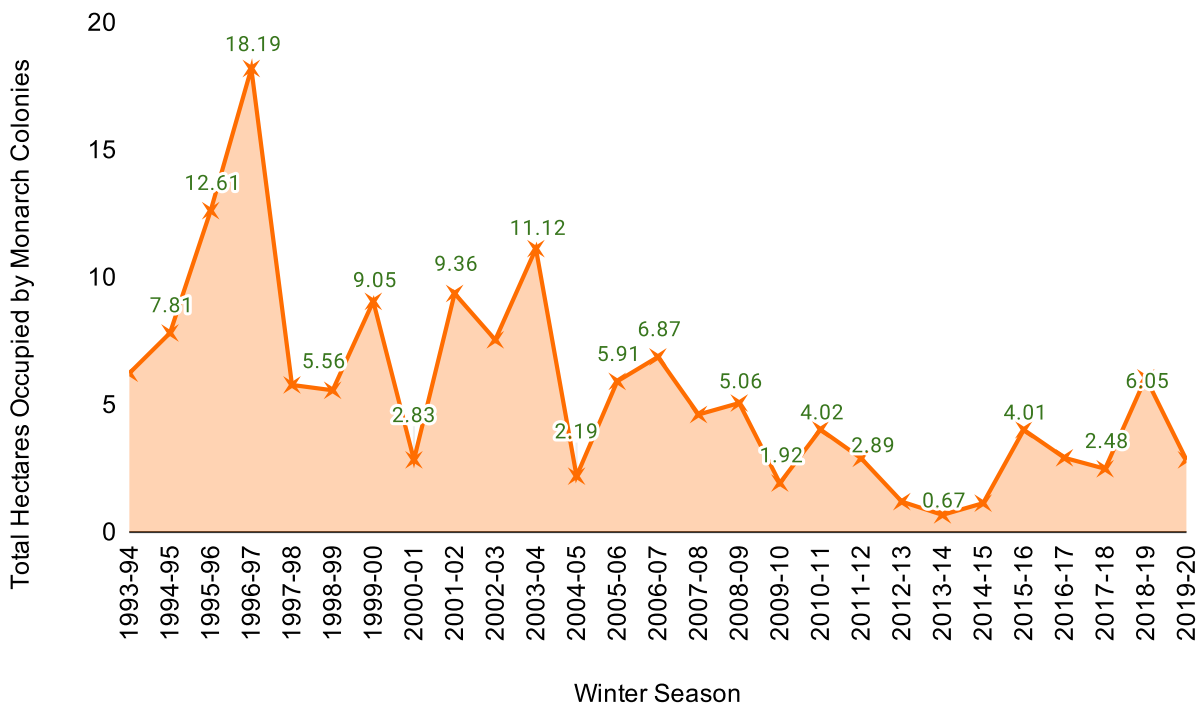
Milkweed can grow in almost any landscape. In Illinois alone, there are 24 species of milkweed, most of which benefit monarch butterflies. Some species are quite common, and five are rare enough to be listed as threatened or endangered. Adult monarchs also rely on diverse flowering plants for food throughout the seasons. Illinois’s prairies and other natural lands provide prime sources for the milkweed and nectar plants that monarchs need, as do farmers’ pastures and field edges; grassy areas along utility lines, rail, and roads and rest stops; as well as home gardens, urban parks, and many other kinds of open spaces.⁵



MONARCH IN NEED

Many pollinators have seen dramatic population declines across the United States and around the world, threatening the animals and humans who rely on pollinator activity for survival.⁶ The eastern migratory population of monarch butterflies declined more than 80% from its peak abundance in the mid-1990s (fig. 3).⁷ Several factors may be contributing to this decline. In the Midwest, a major driver of monarch decline is thought to be the loss of 70% of the milkweed resources essential to monarch breeding since 1999.⁸ In addition, prior to the tracking of monarch populations, there was a drastic loss of prairie habitat and its abundant milkweed and nectar resources. By the 1970s there were fewer than 2,300 acres of quality prairie in Illinois, compared to 22 million acres of prairie around the time that Illinois became a state.⁹ Other factors contributing to the decline include the loss of migratory and overwintering habitat, decreasing habitat quality, intensifying land management and changes in land-use practices, and climate change.¹⁰ These threats are not particular to monarchs alone, and conservation efforts to establish habitat for monarchs can help many other species in need.

FIGURE 3. TOTAL AREA OCCUPIED BY MONARCH COLONIES AT OVERWINTERING SITES IN MEXICO, 1994–2020



SOURCE: DATA FROM 1994 TO 2003 WERE COLLECTED BY PERSONNEL OF THE MONARCH BUTTERFLY BIOSPHERE RESERVE (MBBR) OF THE NATIONAL COMMISSION OF PROTECTED NATURAL AREAS (CONANP) IN MEXICO. DATA FROM 2004 TO 2020 WERE COLLECTED BY THE WWF-TELCEL ALLIANCE, IN COORDINATION WITH THE DIRECTORATE OF THE MBBR. THE 2000–2001 POPULATION NUMBER WAS REPORTED BY GARCIA-SERRANO ET AL. (THE MONARCH BUTTERFLY: BIOLOGY AND CONSERVATION, 2004).

MONARCH AS A SYMBOL OF POLLINATORS AND OF ILLINOIS

The monarch butterfly has become a singular symbol of the importance of pollinators and the need to help pollinators thrive. Given this status, the monarch butterfly provides a unique opportunity to educate and engage people of all ages and backgrounds about the importance of pollinators and habitat conservation.

Illinoisans have been working to engage people through the monarch butterfly since 1975, when schoolchildren across the state chose the monarch to represent Illinois as the state insect. Six other states have also adopted the monarch as a state symbol. Also in support of monarchs and their habitat, in 2017, Illinois passed a bill into law adopting milkweed as the official Illinois state wildflower.

Illinoisans from all walks of life—children and adults alike—have been inspired to engage in conservation efforts because of the monarch, from citizen science programs to schoolyard pollinator gardens, in the classroom and at home and in their communities.



About the Illinois Monarch Project



ILLINOIS
MONARCH
PROJECT



Inspired Illinoisans fostering a culture of conservation and ensuring future biodiversity through engagement in monarch butterfly and pollinator habitat initiatives.

Vision



Mission

Helping monarch butterflies thrive throughout Illinois by collaborating on conservation activities and encouraging engagement by public and private landowners across diverse urban and rural landscapes.



Foundational Tenets

- Establishing a long-term action plan to enhance monarch butterfly reproduction and survival in Illinois
- Engaging all hands on deck by partnering within the Agriculture, Rights-of-Way, Urban, and Natural Lands Sectors
- Promoting and supporting voluntary conservation action by private landowners
- Supporting regional, national, and international monarch butterfly conservation strategies

ESTABLISHING THE ILLINOIS MONARCH PROJECT

In June 2014, the White House issued a presidential memorandum establishing the federal Pollinator Health Task Force, co-chaired by the Secretary of Agriculture and the Administrator of the Environmental Protection Agency. In May 2015, the task force published the National Strategy to Promote the Health of Honey Bees and Other Pollinators. This strategy sought to engage all segments of society to make meaningful and important steps to reverse pollinator decline by focusing on immediate changes that can influence pollinator health as well as efforts to improve pollinator health over the long term. The strategy emphasized conservation through public-private partnerships.

With the release of this groundbreaking national strategy, actors across the country began ramping up pollinator conservation efforts. In early 2016, the Illinois Department of Natural Resources identified the need to coordinate monarch butterfly conservation activities across Illinois and to engage stakeholders in the development of a variety of strategies to support monarch habitat. An initial survey collected information from individuals and organizations on existing monarch butterfly conservation activities in Illinois. In September 2016, the Illinois Department of Natural Resources convened the Monarch Butterfly Summit in Springfield to begin to develop a unified message and strategy for monarch butterfly conservation in Illinois.

The Illinois Monarch Project was established as a direct result of this summit in order to bring together representatives of the Agriculture, Rights-of-Way, Urban, and Natural Lands Sectors to address the stressors on monarch butterfly habitat, enhance existing habitat on the ground, and plan additional conservation actions for the monarch butterfly.

THE IMP CHARTER

In April 2018 the Technical Steering Committee developed a group charter outlining the agencies, sectors, and stakeholders involved in the IMP and the governance and structure by which the group operates. The charter sets forth the roles and responsibilities of the Executive Committee, Technical Steering Committee, sector groups, and other committees, as described in the section Illinois Monarch Project Organization at the end of this plan. The charter also establishes IMP's mission and vision for monarch butterfly conservation in Illinois.



1975

Illinois adopts the monarch as the state insect.



2014

White House establishes the Federal Pollinator Health Task Force; and the US Fish & Wildlife Service is petitioned to protect the monarch under the Endangered Species Act.

2015

Illinois declares the monarch the Species of Greatest Conservation Need; and the Midwest Association of Fish & Wildlife Agencies (MAFWA) begins a 20-year plan for monarch conservation in Illinois.



2016

Illinois surpasses 1,000 registered Monarch Watch Waystations and the Illinois Monarch Project hosts the first statewide Monarch Summit.



2017

Illinois designates milkweed as the state wildflower; and MAFWA sets a goal of adding 1.3 billion milkweed stems across critical monarch habitat by 2038.

2018

Illinois Departments of Natural Resources, Agriculture, Transportation, and Environmental Protection sign an agreement committing their support of the Illinois Monarch Project



2019

Illinois surpasses 2,000 Monarch Watch Waystations, and designates the month of May as "Monarch Month" to be observed annually in honor of the state insect.

2020

The Second Monarch Summit launches the statewide implementation of the Illinois Action Plan, with the US Fish & Wildlife Service expected to make a listing decision for the monarch butterfly under the Endangered Species Act.



2038

We did it! 150 million milkweed stems added to the Illinois landscape.

PARTICIPATING SECTORS

The strength of the IMP and this action plan is rooted in the collaborative input and contributions from diverse industries, communities, landowners and land managers across Illinois. The following sectors are participating in the IMP and have had an essential role in developing this plan.

AGRICULTURE SECTOR

The Agriculture Sector consists of stakeholders across Illinois, including farmers and the associations that represent them, industry specialists, scientists, outreach and education practitioners, and state and federal agencies. Illinois has 26.7 million acres of farmland.¹¹ Illinois's Agriculture Sector employs nearly 1 million people and feeds millions more—ranking first in the nation for processed food sales. Illinois's commodities generate more than \$19 billion in revenue and Illinois is consistently a leader in producing soybeans, corn, swine, and several specialty crops.¹²

Agriculturalists of all types are inherently dedicated to protecting and improving their environment. They support pollinators and the monarch through extensive work in outreach and education, science and research, and habitat work by farmers and partners. Farmers across the state are actively conserving habitat for pollinators and monarchs, including creating new habitat, enhancing non-cropped areas to provide habitat benefits, and stewarding crop protection products to reduce threats to pollinators. As of December 2019, 850,000 acres of Illinois's farmland were enrolled in the Conservation Reserve Program (CRP), with more than 100,000 acres enrolled in the Pollinator Habitat Program (CP-42).

The agricultural community is a strong supporter of sound science and research, including monarch research. Through partnerships with many organizations and scientists across the state, agricultural representatives have helped to provide increased knowledge about the monarch. In addition, with the help of their robust communications platforms, the agricultural community actively communicates to a variety of audiences, including students, farmers, agricultural specialists, and the general public. Over 45 agricultural organizations in Illinois help ensure that their varied audiences are well-informed on key issues and encourage conservation practices.

Looking forward, the Agriculture Sector has begun developing strategies for continued success. This sector will continue to develop partnerships and programs that specifically help improve the status of the monarch.



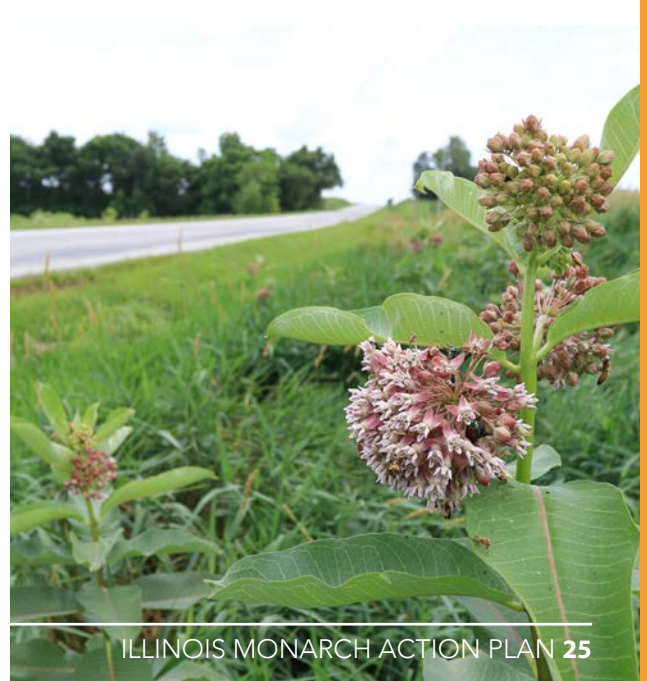


RIGHTS-OF-WAY SECTOR

The Rights-of-Way Sector consists of utility and transportation stakeholders across Illinois, including state and local road authorities, electric and gas utilities, water and wastewater utilities, solar developers, and railroads. These stakeholders manage extensive networks of land across the state, including roadsides, transmission and distribution lines, pipelines, energy generation sites, railroads, office campuses, and other facilities. In the state of Illinois, there are more than 550,000 acres of utility and transportation lands.

What makes this sector unique are the long, linear corridors that run immediately adjacent to, under, or above most of the utility and transportation infrastructure. These corridors are commonly referred to as rights-of-way (ROW). ROW serve a primarily operational purpose to support the safe and reliable transportation of people, energy, and other materials. However, in doing so, they intersect nearly every landscape type and create pathways and havens for wildlife such as the monarch butterfly. Often these ROW may contain greater plant diversity than adjacent or surrounding landscapes.

ROW and other utility and transportation lands are typically managed by professional vegetation managers using Integrated Vegetation Management (IVM) techniques such as mowing, brush removal, and herbicide applications. These practices can be adjusted to minimize impacts on monarch butterflies and promote beneficial plants like milkweed and other nectar resources. Increasingly, vegetation managers are also looking for ways to use biological and cultural controls such as native plants, grazing, and prescribed fire to improve vegetation management and control the spread of invasive species.



URBAN SECTOR

From Chicago to Bloomington to Carbondale, four out of five Illinoisans live in large metropolitan areas.¹³ Cities and towns are often viewed as biological deserts with few opportunities for biodiversity conservation. However, there is considerably more green space in urban areas than often perceived. Even in the Chicago metropolitan area, approximately 30% of the land area consists of green areas dominated by turf grasses, other herbaceous vegetation or shrubby areas. We view many of these green areas as potential monarch habitat with the addition of milkweed and nectar sources.

There are a multitude of stakeholders in cities and towns, which can require the use of potentially very different engagement approaches. Key urban stakeholders that manage extensive green space include municipal governments, park districts, wastewater treatment districts, schools, churches, golf courses, cultural institutions, and corporations with campuses. An often-overlooked opportunity is residential properties. Individual homes may only have a small amount of land, but added together, those lands constitute an enormous habitat potential, not to mention homeowners' associations and other residential complexes.

It is estimated that the large metropolitan region of Chicago already has over 16 million stems of milkweed on the ground, and studies suggest that through strategic outreach with different stakeholders, that number could increase to over 35 million stems.¹⁴ Many of our urban landscapes are already teeming with innovative and effective local-scale monarch recovery efforts. There is a wide range of programs dedicated to increasing native plants on the ground in nearly every urban land-use class imaginable. Adding a specific monarch focus and expanding or duplicating these programs in other cities has the potential to add extensive habitat for monarchs. In addition, Illinois passed a bill in 2017 prohibiting municipalities from considering milkweed a noxious weed.

Although the vast majority of Illinois residents live in larger metropolitan areas, there are still well more than a million people living in small, rural towns throughout the state. While the prospects for adding milkweed stems will vary from city to city, there is clearly potential for cities and towns of every size to make a difference in monarch conservation and reach millions of people—both through engaging residents in understanding the role of urban places in supporting monarch butterflies and through developing resources that anyone can use to put functional habitat on the ground to support the monarch population.





NATURAL LANDS SECTOR

The Natural Lands Sector covers natural areas across Illinois and includes the organizations that manage these areas. This sector values open spaces, wildlife habitat, healthy watersheds, quality of life, and recreational opportunities, and has a long history of working to protect and steward the unique natural heritage of Illinois. Working to support wildlife, such as the monarch butterfly and other pollinators, is part of the Natural Lands Sector's core mission. The actions identified in this plan will build upon existing efforts in this sector.

Natural areas are defined as lands and waters that (1) contain primarily native or restored ecosystems or are potentially restorable to primarily native ecosystems, (2) have as their primary purpose the preservation or restoration of native ecosystems, and (3) are protected in perpetuity. The Natural Lands Sector includes all protected natural areas (owned, managed, or under easement) that are held by public or private organizations, excluding Natural Resources Conservation Service easements, which are part of the Agriculture Sector, and municipal park properties, which are part of the Urban Sector. This includes, for example, the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Illinois Department of Natural Resources, County Forest Preserve & Conservation Districts, and nonprofit conservation land trusts. It also includes all Illinois Nature Preserves and Land & Water Reserves registered with the Illinois Nature Preserves Commission. Areas included in the Natural Lands Sector are tracked in the Prairie State Conservation Coalition's i-View database. In 2014, there were approximately 1.2 million acres of natural lands in Illinois.¹⁵ These acres include an estimated 50,000 acres of grassland, 165,000 acres of wetland, and 568,000 acres of forest.¹⁶



Goals, Strategies, and Actions



The following brief overview of the Illinois Monarch Action Plan’s goals, objectives, and strategies on this and the following pages is meant to provide information at a glance. After this overview, the remainder of the section provides a full breakout of goals, detailed strategies, and actions intended to support implementation.

Goal	Objective	Strategy
Goal 1: Create an active collaborative of diverse stakeholders to increase cooperation in monarch conservation and help ensure the successful migration of monarchs through Illinois	Objective A: Engage key stakeholders to coordinate the implementation of the Illinois Monarch Action Plan	<p>Strategy 1: Host regular statewide summits to increase cross-sector engagement and coordinate implementation of the Illinois Monarch Action Plan</p> <p>Strategy 2: Foster active participation among public and private stakeholders and across the state to increase awareness of the Illinois Monarch Action Plan</p>
	Objective B: Distinguish IMP as the coordinated statewide effort for monarch butterfly conservation in Illinois and provide essential support for collaborative activities	<p>Strategy 1: Develop a recognizable IMP brand and consistent messaging about IMP, the Illinois Monarch Action Plan, and monarch conservation in Illinois</p> <p>Strategy 2: Support coordination among IMP leaders and with local, state, and regional partners</p> <p>Strategy 3: Identify and apply for collaborative grants or other funding to support implementation of the Illinois Monarch Action Plan</p>
	Objective A: Track emerging issues and needs related to monarch butterflies and their habitat, and identify mechanisms to address those needs	<p>Strategy 1: Engage conservation experts to identify and address emerging issues and needs related to monarch butterflies and their habitat</p> <p>Strategy 2: Periodically review and evaluate conservation strategies and actions to align with best available science</p>
	Objective B: Encourage adoption of conservation strategies and actions based on best available science	Strategy 1: Apply the best available science to determine best management practices (BMPs) and guidelines for habitat implementers and other practitioners

Goal 3: Conduct education and outreach to align statewide activities, inspire Illinoisans to engage in monarch conservation, and deliver the technical resources necessary to implement the Illinois Monarch Action Plan

Objective 3A: Reach the general public through targeted education and outreach activities

Strategy 1: Provide general education about monarch conservation, with a focus on why it is important to take action

Strategy 2: Create a buzz about monarch conservation across Illinois

Objective 3B: Encourage leaders and decision-makers to invest in monarch conservation

Strategy 1: Develop and disseminate outreach materials and resources to illustrate the ecological, economic, and cultural value of monarch habitat

Strategy 2: Encourage individuals and organizations to implement conservation actions by recognizing their achievements

Objective 3C: Provide training, curriculum, and technical assistance to habitat implementers and other practitioners

Strategy 1: Create curriculum and conduct training events for habitat implementers and other practitioners to encourage adoption of habitat BMPs and adaptive management

Strategy 2: Deliver technical assistance to support habitat implementers and other practitioners to more efficiently and effectively restore and enhance new and existing habitat for monarchs

Goal 4: Support populations of monarch butterflies and other pollinator species by preventing loss of existing habitat and by adding 150 million stems of milkweed embedded in appropriate nectar sources onto the landscape by 2038

Objective 4A: Identify existing habitat on the ground and minimize habitat loss by addressing threats, including conversion to other land use types and other forms of habitat degradation

Strategy 1: Identify and prioritize lands with existing habitat that have the highest risk for conversion or degradation and develop rapid response plans to address potential habitat loss

Strategy 2: Avoid accidental conversion of habitat to other land uses by designating or indicating existing habitat

Strategy 3: Reduce the impacts of habitat degradation from land management practices and chemical use

Objective 4B: Enhance existing habitat through the use of best management practices to increase the density and diversity of beneficial plant species

Strategy 1: Identify and prioritize lands for enhanced habitat management, taking into consideration both conservation value and practical implementation

Strategy 2: Improve the management of invasive species that threaten the quality of existing habitat

Strategy 3: Adopt best management practices, such as interseeding with native seeds, prescribed burning, and conservation mowing

Objective 4C: Create or restore new habitat on favorable lands across different land types using best management practices

Strategy 1: Identify and prioritize lands for new habitat restoration, taking into consideration both conservation value and practical implementation

Strategy 2: Identify potential public and private sector partners and assist them with implementing targeted programs to create or restore new habitat

Objective 4D: Build capacity for habitat restoration and enhancement across the agriculture, rights-of-way, urban, and natural lands sectors

Strategy 1: Increase the availability of native seed and plant resources necessary to meet demand, with special emphasis on the availability of regionally appropriate milkweed species

Strategy 2: Develop strategic partnerships to advance habitat conservation on the ground

Strategy 3: Advocate for programs, policies, funding, and other resources that promote habitat conservation on the ground

Strategy 4: Promote the Route 66 Monarch Corridor as a showcase initiative to incentivize habitat restoration and enhancement across a variety of landscapes from Chicago to St. Louis

Goal 5: Standardize data collection and monitoring for monarch butterfly habitat

Objective 5A: Identify existing data and data gaps to quantify baseline and potential monarch butterfly habitat

Strategy 1: Convene experts from each sector to evaluate and analyze existing data available to quantify 2014 baseline habitat quality and quantity, as well as potential habitat

Strategy 2: Quantify impacts of conversion of habitat to other land uses and develop mechanisms to track conversions

Objective 5B: Develop and implement a statewide monitoring plan to evaluate and track implementation of the Illinois Monarch Action Plan

Strategy 1: Identify common tracking mechanisms and reporting platforms for documenting progress on habitat goals and other action items identified in the Illinois Monarch Action Plan

Strategy 2: Support all stakeholders in monitoring trends in monarch habitat quality and the impacts of various threats on public and private lands across the state

GOAL 1

Create an active collaborative of diverse stakeholders to increase cooperation in monarch conservation and help ensure the successful migration of monarchs through Illinois.



For the IMP to be successful in achieving Goal 1, it must work to cultivate and foster an active collaborative of diverse stakeholders across the State of Illinois. An active collaborative must have thoughtful and thorough representation at the table, the opportunity to meet on a regular basis, a uniting initiative, and the ability to adapt to meet the needs of the future. The IMP is committed to supporting active management strategies to confront challenges and meet emerging needs in habitat conservation.

OBJECTIVE 1A: ENGAGE KEY STAKEHOLDERS TO COORDINATE THE IMPLEMENTATION OF THE ILLINOIS MONARCH ACTION PLAN.

Strategy 1—Host regular statewide summits to increase cross-sector engagement and coordinate implementation of the Illinois Monarch Action Plan.

Action: Plan a statewide summit in 2020 to kick off implementation planning for the Illinois Monarch Action Plan, including further developing and refining the definitions of success for each goal.

Action: Prepare, plan, and communicate around statewide monarch summits at least every five years to engage new and existing stakeholders to ensure effective partner participation across all four sectors and throughout the entire state and support ongoing implementation of the Illinois Monarch Action Plan (e.g., science updates, sector reports, success stories, implementation challenges).

Action: Develop post-summit follow-up tasks for sector groups, committees, and other stakeholders to support implementation of the Illinois Monarch Action Plan.

Strategy 2—Foster active participation among public and private stakeholders and across the state to increase awareness of the Illinois Monarch Action Plan.

Action: Maintain a stakeholder database to track participation and interest in implementation of the Illinois Monarch Action Plan.

Action: Engage key stakeholders in implementation of the Illinois Monarch Action Plan through sector groups:

- *Agriculture:* Develop a long-term marketing plan geared at a farmer, agricultural, and/or rural audience that introduces them to the IMP, encourages action toward the goals set forth in the Illinois Monarch Action Plan, and plugs them in to one of the many agricultural organizations participating.
- *Rights-of-Way:* Utilize the Rights-of-Way as Habitat Working Group, facilitated by the University of Illinois–Chicago, to encourage habitat conservation and collaboration across utility and transportation organizations in Illinois.

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- **Urban:** Target stakeholders representing diverse habitat opportunities on the built landscape, balancing perspectives from the Chicago area and other urban areas in Illinois.
- **Natural Lands:** Utilize Illinois DNR programs, the Vital Lands network, and Prairie State Conservation Coalition to promote the Illinois Monarch Action Plan with land trusts, government agencies, conservation organizations, and private landowners.

Action: Promote IMP at key conferences and events in the state (e.g., Illinois State Fair, DuQuoin State Fair, Farm Progress Show, Illinois Green Industry Association, iLandscape, Illinois Association of Park Districts) to increase awareness of the IMP and promote the Illinois Monarch Action Plan.

Action: Utilize the Route 66 Monarch Corridor initiative to engage key stakeholders, raise awareness of the Illinois Monarch Action Plan, and promote habitat restoration and enhancement across diverse rural and urban landscapes.





1

OBJECTIVE 1B: DISTINGUISH IMP AS THE COORDINATED STATEWIDE EFFORT FOR MONARCH BUTTERFLY CONSERVATION IN ILLINOIS AND PROVIDE ESSENTIAL SUPPORT FOR COLLABORATIVE ACTIVITIES.

Strategy 1—Develop a recognizable IMP brand and consistent messaging about IMP, the Illinois Monarch Action Plan, and monarch conservation in Illinois.

Action: Create an IMP communications plan to prioritize communications needs by sector and define a coordinated public outreach campaign to help increase awareness of the Illinois Monarch Action Plan and monarch conservation activities around the state.

Action: Strive for consistent messaging across sectors and IMP partners.

- Create a portal to vet IMP messages to ensure consistency among stakeholders and avoid conflicting messages.
- Encourage IMP partners to promote the Illinois Monarch Action Plan and monarch habitat on their websites and in their communications using consistent messaging.

Action: Develop a dedicated website for the IMP to provide a go-to resource for Illinoisans to find information about IMP, monarch conservation and habitat resources, and other outreach materials.

- Maintain the website and ensure its content remains up-to-date.
- Utilize the website to document and track implementation of the Illinois Monarch Action Plan.
- Feature a story map of successful habitat projects across the state.

Action: Increase IMP brand recognition by partnering with existing programs (e.g., add IMP logo to Monarch Watch’s Monarch Waystation and University of Illinois Extension Pollinator Pocket signage) and pursuing new branding opportunities.

Action: Identify those who are already actively giving talks on monarchs and habitat to create loose network of “monarch experts” to serve as spokespeople for the IMP.

Action: Advocate for and raise awareness of the month of May as Illinois Monarch Month and also for Start Seeing Monarchs Day (first Saturday in May) to promote the Illinois Monarch Action Plan.

Strategy 2—Support coordination among IMP leaders and with local, state, and regional partners

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Action: Maintain Monarch Butterfly Memorandum of Understanding between Illinois Department of Natural Resources, Illinois Department of Agriculture, Illinois Environmental Protection Agency, and Illinois Department of Transportation to ensure continued support and commitment to IMP and the Illinois Monarch Action Plan from agency leaders.

Action: Meet regularly as IMP leaders, sector groups, and committees to coordinate implementation of the Illinois Monarch Action Plan.

Action: Maintain a working definition of IMP “success” to ensure IMP, the Illinois Monarch Action Plan, and related activities remain relevant and effective.

Action: Encourage IMP representatives to participate in regional and national collaboratives and meetings related to monarch butterfly and pollinator conservation.

Action: Keep IMP leaders and partners informed of important developments in science and policy related to the monarch butterfly as well as upcoming events and opportunities.

Action: Form special committees (e.g., IMP Policy Committee, Route 66 Monarch Corridor Committee) and/or other cross-sector strategy teams to promote and help implement the Illinois Monarch Action Plan.

Action: Utilize the Route 66 Monarch Corridor initiative to engage key stakeholders, raise awareness of the Illinois Monarch Action Plan, and promote habitat restoration and enhancement across diverse rural and urban landscapes.

Strategy 3—Identify and apply for collaborative grants or other funding to support implementation of the Illinois Monarch Action Plan.

Action: Identify and explore sources of grants, donations, and other funding opportunities to support the implementation of the Illinois Monarch Action Plan.

Action: Utilize the Route 66 Monarch Corridor initiative to engage funders and support habitat restoration and enhancement across the target geography.

Action: Maintain existing programs and explore new partnership opportunities to provide cost-share to public and private landowners for habitat restoration and enhancement.

Action: Apply for State Wildlife Grant funding to monitor and track habitat restoration.

ROUTE 66 CORRIDOR: COLLABORATION IN ACTION

The Illinois Route 66 Monarch Corridor provides a showcase for stakeholders' successful collaborations and habitat projects in Illinois, to build interest in additional monarch habitat restoration and enhancement. Historic Route 66 runs across the state of Illinois, from Chicago to St. Louis. This highway, once a major travel corridor to the western United States and still a tourism attraction today, lies predominately north-south and aligns with the central flyway for migrating monarch butterflies.

The target geography of the Route 66 Monarch Corridor—inspired by the Interstate 35 “Monarch Highway” that runs through neighboring states in the Midwest—spans 33 miles on either side of the historic highway, creating a 66-mile-wide corridor that contains a variety of landscapes, including farms, roadsides, utility lines, large cities, small towns, and protected natural areas. The corridor serves as a rallying point for outreach and collaborative habitat work on the ground across a range of urban and rural landscapes.

The Route 66 Monarch Corridor is anchored in the north by Midewin National Tallgrass Prairie, which lies about 10 miles south of Joliet. The 20,000-acre site contains some of the last remnants of Illinois's native tallgrass prairie. This natural area, among the largest in northeastern Illinois, abuts Interstate 55 and is highly visible to motorists. It is also close to many urban areas, receiving visitors for hiking, biking, birdwatching, and more. Midewin's location and ongoing habitat restoration work provide abundant opportunities for monarchs and for educating the public about monarchs and their habitat.

On the south end of the Route 66 Monarch Corridor is the Litchfield Weigh Station Prairie, located just north of the town of Litchfield, between Highway 16 and Interstate 55. The site consists of a prairie remnant managed by the Natural Area Guardians. The historic Route 66 roadbed transects the prairie, leaving small sections of the original pavement visible and attracting visitors. In 2019, the Illinois Department of Transportation installed a parking lot and walkway to make the site more accessible. Future plans include highlighting the prairie at the nearby Route 66 museum, installing interpretive signage along the walkway, performing ongoing management of the site, and promoting related monarch conservation efforts in Litchfield. This project is a great example of the type of collaborations that can be generated along the Route 66 Monarch Corridor.

The opportunities along the Route 66 Monarch Corridor are endless: native plantings at highway rest areas, county fairgrounds, and schoolyards; a string of cities and towns committed to the Mayors' Monarch Pledge; coordinated educational events and fundraising campaigns to increase awareness and build capacity—just to name a few! The Route 66 Monarch Corridor brings together local communities, landowners, and organizations—large and small—to recognize the cultural and historical significance of Route 66 and celebrate the monarch butterfly's special place in the hearts of Illinoisans.



SUNRISE AT MIDWIN NATIONAL
TALLGRASS PRAIRIE IN WILMINGTON

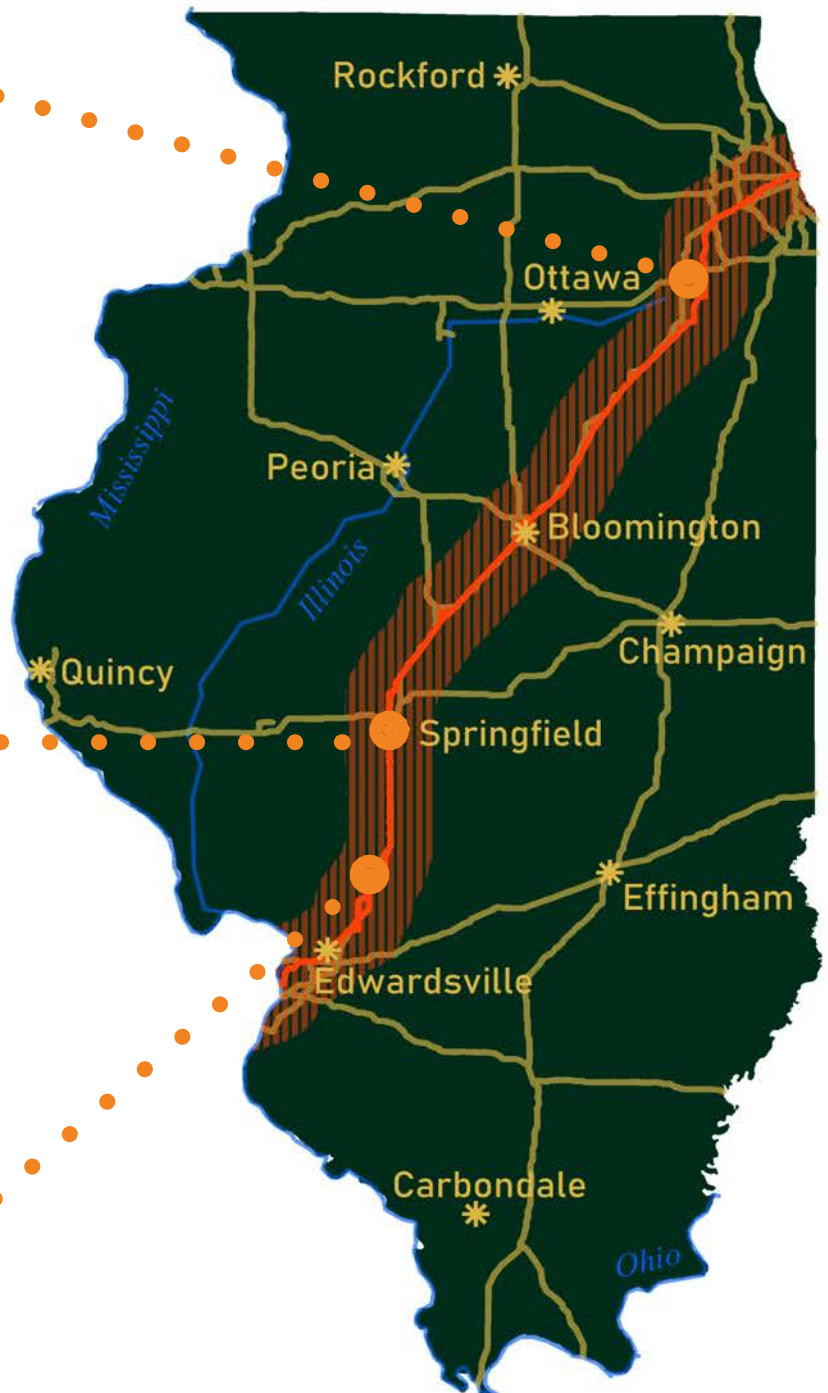


ILLINOIS DOT CELEBRATES ROUTE 66 IN
POLLINATOR PLANTERS IN SPRINGFIELD



CONVERTING OLD ROUTE 66 PAVEMENT
TO HABITAT IN LITCHFIELD

MAP OF THE ILLINOIS ROUTE 66 MONARCH CORRIDOR,
THE FOCUS OF COLLABORATIVE OUTREACH AND HABITAT
OPPORTUNITIES FOR 33 MILES ON EITHER SIDE OF THE OLD
ROUTE 66 HIGHWAY



GOAL 2

Use the best available science on monarch butterflies and their habitat to inform conservation strategies.

To be as effective as possible, the IMP must utilize the best available science on monarch butterfly health and habitat to inform conservation strategies that support monarchs in Illinois. This includes identifying and prioritizing information needs and research gaps, setting a research agenda, creating a feedback loop whereby the continually evolving science feeds into improved conservation recommendations, and creating technical resources and outreach materials for habitat implementers and other practitioners. Our success in implementing Goal 2 will be measured based on engagement by the science community and the availability of scientifically sound information to guide habitat conservation.



WHO IS THE IMP SCIENCE COMMITTEE?

The IMP Science Committee comprises individuals from all four sectors with a wide range of expertise in monarch butterflies, other pollinators, and habitat restoration and conservation. The Science Committee convenes experts on emerging science-related issues and needs, monitors the latest research, develops a coordinated research agenda, and periodically reviews and updates recommendations and guidance for the implementation of the Illinois Monarch Action Plan.

OBJECTIVE 2A: TRACK EMERGING ISSUES AND NEEDS RELATED TO MONARCH BUTTERFLIES AND THEIR HABITAT, AND IDENTIFY MECHANISMS TO ADDRESS THOSE NEEDS.

Strategy 1—Engage conservation experts to identify and address emerging issues and needs related to monarch butterflies and their habitat.

Action: Regularly convene experts to identify and prioritize information needs related to monarch butterflies and their habitat, including those related to regulatory status, habitat requirements and landscape-level considerations, monarch migration, monarch health, best management practices for restoring and managing habitat, threats, and monitoring.

Action: Monitor new monarch-related research and perform periodic literature reviews to respond to information needs.

Action: Identify mechanisms to address information needs, including establishing a monarch conservation research agenda and resource development plan.

Action: Host science roundtables to engage other state, regional, and national experts in active conversations and knowledge exchange about new and existing monarch-related research.

Strategy 2—Periodically review and evaluate conservation strategies and actions to align with best available science.

Action: Review and evaluate conservation strategies and actions in the Illinois Monarch Action Plan at least every five years to ensure alignment with best available science.

OBJECTIVE 2B: ENCOURAGE ADOPTION OF CONSERVATION STRATEGIES AND ACTIONS BASED ON BEST AVAILABLE SCIENCE.

Strategy 1—Apply the best available science to determine best management practices (BMPs) and guidelines for habitat implementers and other practitioners.

Action: Identify statewide and/or sector-specific BMPs and guidelines for monarch habitat, such as recommendations for ideal site conditions, seed mixes and plantings, mowing, and other habitat establishment and maintenance practices.

Action: Identify and develop technical resources and outreach materials to support implementation of the Illinois Monarch Action Plan.

Action: Encourage key stakeholders to review and adapt conservation strategies and actions based on science discoveries, research, BMPs, and other guidance.



Conduct education and outreach to align statewide activities, inspire Illinoisans to engage in monarch conservation, and deliver the technical resources necessary to implement the Illinois Monarch Action Plan.

GOAL 3

Communicating the ecological, economic, and cultural values inherent in monarch butterfly habitat conservation is essential to achieve the goal of adding 150 million milkweed stems to the Illinois landscape by 2038. We must consider the varied history of milkweed and native landscapes in Illinois and overcome perceptions and knowledge gaps in order to effectively change land management practices and other behaviors to benefit monarchs. Our success in implementing Goal 3 will be measured through outreach and education to key stakeholders that increases general awareness, motivates actions in line with the Illinois Monarch Action Plan, and provides the necessary technical know-how to perform those actions.

OBJECTIVE 3A: REACH THE GENERAL PUBLIC THROUGH TARGETED EDUCATION AND OUTREACH ACTIVITIES.

Strategy 1—Provide general education about monarch conservation, with a focus on why it is important to take action.

Action: Promote the IMP Education and Outreach Strategy to educators and outreach specialists and guide them toward meeting specific objectives and targets related to monarch conservation.

Action: Provide K–12 educational programs on monarch conservation and support students to connect with nature through monarch-themed field trips, day camps, and schoolyard gardens.

Action: Create educational displays and demonstration plots in visible public spaces, such as interstate rest areas, parks, nature centers, libraries, office buildings, and campuses.

Action: Mobilize an army of stewards to conduct education and outreach across Illinois:

- Recruit and train “monarch ambassadors” (including children) across the state to teach about monarchs in their communities.

3

- Utilize landowner education and outreach programs, such as those provided by the University of Illinois Extension (e.g., Monarchs on the Move, Pollinator Pockets, Master Gardeners, Master Naturalists), to increase awareness of monarch habitat opportunities.
- Utilize public and/or employee engagement programs (e.g., Illinois DOT's Operation Habitat) to increase awareness of monarch habitat opportunities and or distribute seed packets.

Action: Provide general education about living with potentially endangered species, relevant state and federal regulations, what it means to have endangered species on your property, and what happens if you change or enhance property.

Strategy 2—Create a buzz about monarch conservation across Illinois.

Action: Create outreach campaigns to raise general awareness and interest in monarch conservation, including topics such as historical concerns with milkweed, benefits of habitat, importance of monarch biology, monarch population declines, habitat best management practices, and the role of key stakeholders.

Action: Recruit a celebrity spokesperson to be the face of IMP and the Illinois Monarch Action Plan.

Action: Engage in robust and coordinated social media activity to share key stakeholder activities and achievements related to monarch habitat conservation.

Action: Coordinate with local governments, media channels, and other outreach specialists to disseminate information through a variety of outlets (e.g., newsletters, articles, public service announcements) to increase awareness of monarch conservation efforts.

Action: Host special events or contribute to existing community events throughout Illinois that feature information on monarch conservation.

OBJECTIVE 3B: ENCOURAGE LEADERS AND DECISION-MAKERS TO INVEST IN MONARCH CONSERVATION.

Strategy 1—Develop and disseminate outreach materials and resources to illustrate the ecological, economic, and cultural value of monarch habitat.

Action: Develop and disseminate sector-specific outreach materials and resources to inspire key leaders, decision makers, or other influencers to support monarch habitat conservation:

- Agriculture: Recognize farmers' historical relationship with milkweed (i.e., concerns, worries, habits, language) and offer relevant science, evidence, best practices, and benefits of habitat.

- Rights-of-Way: Emphasize the compatibility of monarch habitat with vegetation management objectives and long-term cost savings.
- Urban: Highlight opportunities across the built landscape for habitat restoration and enhancement, e.g., promoting urban conservation tools developed by the Field Museum.
- Natural Lands: Integrate monarch habitat conservation with other conservation plans and programs.

Action: Create talking points for key stakeholders to emphasize the importance of monarch butterflies and their habitat in Illinois, including the ecological benefits (e.g., biodiversity, stormwater retention, nutrient-loss reduction, carbon sequestration, ecosystem services), economic benefits (e.g., cost savings from reduced water use, fuel use, chemical use, management, purchase of annuals), and social benefits (e.g., human health, education, environmental justice) of converting from turf grass, managing natural vegetation, and/or installing native plantings for monarch habitat.

Strategy 2—Encourage individuals and organizations to implement conservation actions by recognizing their achievements.

Action: Promote awards and recognition programs to acknowledge individuals and organizations that are leaders in monarch conservation action.

Action: Create friendly competition programs to encourage individuals and organizations to adopt habitat BMPs and restore and manage habitat for monarchs.

Action: Develop an IMP pledge program for public and private sector partners to commit to create or restore monarch habitat.

Action: Challenge Illinoisans to increase the number of registered Monarch Watch Waystations in Illinois from 2,000 to 4,000 sites, and the University of Illinois Extension Pollinator Pocket sites from 250 to 500, by 2025.

Action: Create “monarch crews” to support pollinator-friendly vegetation management practices on ROW lands.

3

OBJECTIVE 3C: PROVIDE TRAINING, CURRICULUM, AND TECHNICAL ASSISTANCE TO HABITAT IMPLEMENTERS AND OTHER PRACTITIONERS.

Strategy 1—Create curriculum and conduct training events for habitat implementers and other practitioners to encourage adoption of habitat BMPs and adaptive management.

Action: Integrate habitat BMPs and guidelines into training curricula for professional practitioners (e.g., pesticide applicators, vegetation managers, landscape contractors) and nonprofessional habitat implementers (e.g., Master Naturalists, citizen scientists).

Action: Conduct targeted trainings for key habitat implementers and other practitioners on specific BMPs, adaptive management, and other habitat conservation strategies.

- Plan and host IMP Training Days to reach large, cross-sector audiences.
- Develop continuing education courses and/or webinars for professional trades that are specific to Illinois landscapes.
- Train cross-sector habitat strike teams to assist with collaborative landscape management across boundaries.
- Attend and present at key stakeholder meetings and conferences (e.g., industry training events).

Action: Create a certification program for professional practitioners (e.g., pesticide applicators, vegetation managers, landscape contractors) that incorporate habitat BMPs and guidelines into standard operating procedures.

Strategy 2—Deliver technical assistance to support habitat implementers and other practitioners to more efficiently and effectively restore and enhance new and existing habitat for monarchs

Action: Create a map and/or directory of technical assistance and resource professionals (i.e., habitat experts) to help landowners and other entities throughout Illinois find information about restoring or managing monarch habitat.

Action: Engage organizations like the U.S. Fish & Wildlife Service’s Partners for Fish & Wildlife Program, USDA Farm Services Agency and Natural Resources Conservation Service, Pheasants Forever, and the University of Illinois Extension to provide expertise and resources for restoring and managing habitat for monarchs.

Action: Identify and/or develop technical resources (e.g., handouts, brochures, tools, slide presentations, talking points) for key habitat implementers and other practitioners, including topics such as:

- Recommended BMPs and guidelines for monarch habitat
- Quick reference “What You Can Do” lists of actions for targeted stakeholders (e.g., homeowners, farmers, grounds crews)

- Information on what to expect from native and “native-inspired” plantings during establishment and long-term management
- Identification sheets (e.g., laminated field guides, plant lists) for milkweed and beneficial nectar plant species found in Illinois
- Information addressing common questions or concerns about restoring or managing habitat

Action: Develop boilerplate language for land managers to use in contracts or requests for proposals (e.g., on habitat BMPs, invasive species management) to promote monarch habitat.

Action: Develop boilerplate language (e.g., on habitat BMPs or programs) for municipalities, corporations, and other institutions to incorporate into their sustainability plans.

Action: Educate agricultural landowners about the ability to interseed milkweed on existing Conservation Reserve Program land and how Conservation Plans of Operation can be modified to incorporate beneficial practices for monarchs.

Action: Educate and engage landowners whose properties abut new or managed monarch habitat about what they can do to support monarchs.

Action: Create customizable information packets to provide key stakeholders with relevant information about monarch habitat conservation in Illinois and technical resources.

Action: Arrange technical resources for monarch habitat conservation by sector on the IMP website.



GOAL 4

Support populations of monarch butterflies and other pollinator species by preventing loss of existing habitat and by adding 150 million stems of milkweed embedded in appropriate nectar sources onto the landscape by 2038.

The addition of 150 million new milkweed stems is an ambitious goal. It requires a suite of coordinated actions from stakeholders in all sectors, taking into consideration both conservation value and practical implementation. Restoring, enhancing, maintaining, monitoring, and mitigating—all of this work will ultimately result in increased acreage of monarch habitat that benefits many other species as well. Our success in implementing Goal 4 will be measured with assessments of habitat area and populations of milkweed stems. Goal 4 strategies and actions are presented by sector to facilitate implementation and tracking.





4

OBJECTIVE 4A: IDENTIFY EXISTING HABITAT ON THE GROUND AND MINIMIZE HABITAT LOSS BY ADDRESSING THREATS, INCLUDING CONVERSION TO OTHER LAND USE TYPES AND OTHER FORMS OF HABITAT DEGRADATION.

Agriculture

Strategy 1—Identify and prioritize lands with existing habitat that have the highest risk for conversion or degradation and develop rapid response plans to address potential habitat loss.

Action: Identify specific risks of habitat conversion in agricultural areas (e.g., conversion from Conservation Reserve Program (CRP) acres and/or resulting from wind or solar development) and how to manage them.

Action: Evaluate and prioritize existing habitat across the agricultural landscape for targeted action to prevent conversion or degradation.

Strategy 2—Avoid accidental conversion of habitat to other land uses by designating or indicating existing habitat.

Action: Inform landowners and operators where habitat areas may occur on differing landscapes and which plants are beneficial to pollinators.

Action: Protect existing or planned habitat by identifying fields with signs or other designations, so that land managers will take special care.

Strategy 3—Reduce the impacts of habitat degradation from land management practices and chemical use.

Action: Educate landowners and operators about reducing chemical use near habitat areas, including working with the Pesticide Safety Education Center at the University of Illinois to enhance pesticide applicator trainings with information on pollinators, habitat, and best practices.

Action: Encourage use of FieldWatch to communicate the location of managed habitat areas and inform land managers' practices.

Action: Limit extent and timing of mowing to minimize impact to monarchs.

Action: Work with the University of Illinois to change the standard farm lease language to include mowing considerations for wildlife and monarch habitat.



OBJECTIVE 4B: ENHANCE EXISTING HABITAT THROUGH THE USE OF BEST MANAGEMENT PRACTICES TO INCREASE THE DENSITY AND DIVERSITY OF BENEFICIAL PLANT SPECIES.

4

Agriculture

Strategy 1—Identify and prioritize lands for enhanced habitat management, taking into consideration both conservation value and practical implementation.

Action: Work with landowners and operators to evaluate and prioritize existing habitat in rural areas that would benefit from enhanced management, with special consideration of Conservation Opportunity Areas identified in the Illinois Wildlife Action Plan.

Action: Identify mid-contract management opportunities within CRP contracts that could allow for enhancement of existing set-aside areas.

Strategy 2—Improve the management of invasive species that threaten the quality of existing habitat.

Action: Work with agricultural stakeholders, other sector stakeholders, and the science community to develop best management practice (BMP) guidelines for managing common invasive species that threaten habitat quality.

Action: Use Early Detection & Distribution Mapping Program (EDDMaps) to identify and track invasive species locations for targeted management.

Action: Where possible, implement invasive species BMPs near existing habitat.

Strategy 3—Adopt best management practices, such as interseeding with native seeds, prescribed burning, and conservation mowing.

Action: Work with agricultural stakeholders, other sector stakeholders, and the science community to develop BMP guidelines (e.g., mowing guidelines) for enhancing the quality of existing habitat.

Action: Encourage agriculture agencies and organizations to promote mowing BMPs with their members to benefit milkweed and monarchs.

Action: Support the continued and improved management of existing conservation areas for monarch habitat (e.g., CRP, USFWS, IDNR, CREP, EQIP programs), with special consideration for maximizing milkweed density.



4

OBJECTIVE 4C: CREATE OR RESTORE NEW HABITAT ON FAVORABLE LANDS ACROSS DIFFERENT LAND TYPES USING BEST MANAGEMENT PRACTICES.

Agriculture

Strategy 1—Identify and prioritize lands for new habitat restoration, taking into consideration both conservation value and practical implementation.

Action: Work with landowners and operators to evaluate potential habitat opportunities and prioritize lands for habitat restoration on the rural landscape with special consideration for maximizing milkweed density.

Action: Set milkweed stem and/or acreage goals for individual counties.

Action: Identify opportunities under the Farm Bill for habitat set-asides, leaving existing cover for longer periods, and other strategies on working lands.

Action: Identify opportunities to incentivize landowners and operators who establish habitat, including providing regulatory protections if necessary.

Strategy 2—Identify potential public and private sector partners and assist them with implementing targeted programs to create or restore new habitat.

Action: Encourage landowners and operators to establish and register Monarch Watch Waystations for new habitat projects.

Action: Encourage landowners and operators to commit to create new monarch habitat as part of the IMP pledge program.

Action: Partner with prominent agricultural stakeholders to restore habitat in highly visible areas (e.g., Illinois State Fairgrounds, county fairgrounds).

Action: Include pollinator habitat conservation in Soil and Water Conservation District annual plans of work and long-range plans.

Action: Partner with FFA and/or 4-H groups to encourage plots focused on pollinator habitat.

OBJECTIVE 4D: BUILD CAPACITY FOR HABITAT RESTORATION AND ENHANCEMENT ACROSS THE AGRICULTURE, RIGHTS-OF-WAY, URBAN, AND NATURAL LANDS SECTORS.

Strategy 1—Increase the availability of native seed and plant resources necessary to meet demand, with special emphasis on the availability of regionally appropriate milkweed species.

Action: Promote seed and plant giveaways to rural landowners and operators (e.g., Monarch Watch's free milkweed program).

Action: Participate in a cross-sector strategy team to explore local seed sources versus regional seed sources and develop native seed mix offerings in collaboration with Illinois's state nurseries and local growers.

Action: Work with seed suppliers to propagate geographically appropriate native seeds.

Action: Increase confidence in seed quality by exploring and promoting seed certification or verification programs.

Strategy 2—Develop strategic partnerships to advance habitat conservation on the ground.

Action: Participate in regional action teams across the state (e.g., northeast, central, and southern regions of Illinois) to support coordinated, cross-sector implementation of the IMP Action Plan.

Action: Partner with Illinois DNR to promote habitat opportunities on farm leases.

Action: Partner with the Rights-of-Way Sector to encourage habitat restoration and enhancement on shared or adjacent lands.

Strategy 3—Advocate for programs, policies, funding, and other resources that promote habitat conservation on the ground.

Action: Participate in the IMP Policy Committee to identify policy and legislative opportunities to engage and inform key policy stakeholders regarding IMP initiatives and to promote the IMP Action Plan.

Action: Improve access to information about private and public funding opportunities that incentivize habitat conservation on rural landscapes, including promoting and participating in IDNR and Farm Bill cost-share and technical assistance programs.

Action: Find opportunities to implement or expand land protection and/or conservation easement programs.

Action: Partner with Ag in the Classroom and the Illinois Clean Energy Community Foundation K–12 Pollinator Schools Grant Program to continue grant program for teachers to create gardens at schools.

Strategy 4—Promote Route 66 Monarch Corridor as showcase initiative to incentivize habitat restoration and enhancement across a variety of landscapes from Chicago to St. Louis.

Action: Participate in Route 66 Monarch Corridor Committee to coordinate cross-sector habitat conservation within the target geography.

Action: Engage county Farm Bureaus and other Agriculture Sector organizations to showcase pollinator habitat with partners within the Route 66 Monarch Corridor.

Action: Perform targeted outreach to private landowners within the Route 66 Monarch Corridor to encourage habitat restoration and enhancement.

4

OBJECTIVE 4A: IDENTIFY EXISTING HABITAT ON THE GROUND AND MINIMIZE HABITAT LOSS BY ADDRESSING THREATS, INCLUDING CONVERSION TO OTHER LAND USE TYPES AND OTHER FORMS OF HABITAT DEGRADATION.

Rights-of-Way

Strategy 1—Identify and prioritize lands with existing habitat that have the highest risk for conversion or degradation and develop rapid response plans to address potential habitat loss.

Action: Identify specific risks of habitat conversion on utility and transportation lands (e.g., spread of invasive species, mowing by adjacent landowners, etc.) and how to manage them.

Action: Utilize the Rights-of-Way as Habitat Working Group's Pollinator Scorecard (or similar tools) to classify existing habitat areas with high levels of threats.

Action: Work with utility and transportation organizations to evaluate and prioritize existing habitat on utility and transportation lands for targeted action to prevent conversion or degradation.

Strategy 2—Avoid accidental conversion of habitat to other land uses by designating or indicating existing habitat.

Action: Add signage to clearly delineate existing habitat areas.

Action: Develop long-term management plans that provide for the maintenance and management of existing habitat.

Action: Coordinate with adjacent landowners to minimize mowing or other unapproved uses on utility or transportation lands that are managed for habitat.

Action: Establish partnerships to support ongoing maintenance and management of new and existing habitat.

Strategy 3—Reduce the impacts of habitat degradation from land management practices and chemical use.

Action: Follow IMP mowing guidelines to limit the extent and timing of mowing on utility and transportation lands to minimize the impacts monarchs.

Action: Reduce broadcast spraying on utility and transportation lands to preserve desirable plants and to allow nearby flowering plants to continue blooming.

Action: Work with the Pesticide Safety Education Center at the University of Illinois to enhance pesticide applicator trainings with information on pollinators, habitat, and best practices.

Action: Encourage use of FieldWatch to communicate the location of managed habitat areas.

OBJECTIVE 4B: ENHANCE EXISTING HABITAT THROUGH THE USE OF BEST MANAGEMENT PRACTICES TO INCREASE THE DENSITY AND DIVERSITY OF BENEFICIAL PLANT SPECIES.

Strategy 1—Identify and prioritize lands for enhanced habitat management, taking into consideration both conservation value and practical implementation.

Action: Work with utility and transportation organizations to evaluate and prioritize existing habitat areas for enhanced management, with special consideration of Conservation Opportunity Areas identified in the Illinois Wildlife Action Plan.

Strategy 2—Improve the management of invasive species that threaten the quality of existing habitat.

Action: Work with utility and transportation organizations, other sector stakeholders, and the science community to develop best management practice (BMP) guidelines for managing common invasive species that threaten habitat quality.

Action: Use Early Detection & Distribution Mapping Program (EDDMaps) to identify and track invasive species locations for targeted management.

Action: Where possible, implement invasive species BMPs, such as integrated vegetation management (IVM) practices that selectively treat invasive species and minimize habitat impacts, on rights-of-way (ROW) and other utility and transportation lands.

Action: Participate in weed control boards (e.g., Headwaters Invasive Plant Partnership) to improve the management of noxious weeds on utility and transportation lands.

Action: Utilize public and landowner complaints to help identify and manage invasive species.

Action: Continue the Pollinator Rehab construction project contracts statewide to remove invasive brush and reestablish viable nectar resources with Class 5C Pollinator and Monarch seed mixes.

Action: Monitor restored areas on utility and transportation lands and rehabilitate as needed to prevent grass dominance.

Strategy 3—Adopt best management practices, such as interseeding with native seeds, prescribed burning, and conservation mowing

Action: Work with utility and transportation organizations, other sector stakeholders, and the science community to develop BMP guidelines (e.g., mowing guidelines) for enhancing the quality of existing habitat.

Action: Promote opportunities to integrate BMPs with existing vegetation management and maintenance work on utility and transportation lands.

Action: Work with utility and transportation organizations to establish (or reestablish) prescribed burn programs.



Action: Increase conversations about mowing across the utility and transportation sectors, shifting focus from year-round as-need mowing to beneficial seasonal mowing. Where possible, reduce mowing to no more than one-third of designated areas per year, leaving the remaining two-thirds as potential habitat set-aside.

Action: Evaluate IVM knowledge across the utility and transportation sectors and increase habitat-oriented IVM capacity through the development of statewide guidelines, management plan templates, and training.

Action: Enroll utility and transportation lands into the nationwide Candidate Conservation Agreement with Assurances for the monarch butterfly and implement the associated conservation measures to provide a net benefit to monarchs.

OBJECTIVE 4C: CREATE OR RESTORE NEW HABITAT ON FAVORABLE LANDS ACROSS DIFFERENT LAND TYPES USING BEST MANAGEMENT PRACTICES.

Strategy 1—Identify and prioritize lands for new habitat restoration, taking into consideration both conservation value and practical implementation.

Action: Work with utility and transportation organizations to evaluate and prioritize lands for new habitat restoration. Where possible, find collaborative opportunities where roadsides and utilities overlap.

Action: Work with utility and transportation organizations to identify future infrastructure projects expected through 2038 and estimate potential new or restored habitat opportunities for these projects.

Action: Set milkweed stem and/or acreage goals for individual counties, districts, and/or organizations in the utility and transportation sectors.

Strategy 2—Identify potential public and private sector partners and assist them with implementing targeted programs to create or restore new habitat.

Action: Encourage utility and transportation organizations to establish and register Monarch Watch Waystations for new habitat projects.

Action: Encourage utility and transportation organizations to commit to create new monarch habitat as part of the IMP pledge program.

Action: Find opportunities for suitable habitat set-asides that will be undisturbed by construction, maintenance, or routine vegetation management.

Action: Create or restore new monarch habitat during wetland mitigation work.

Action: Continue and expand ComEd's Prairie Restoration Program to add 15 acres of new low-maintenance habitat on transmission ROW each year. Utilize this program as a model for other utilities in the state.

4

OBJECTIVE 4D: BUILD CAPACITY FOR HABITAT RESTORATION AND ENHANCEMENT ACROSS THE AGRICULTURE, RIGHTS-OF-WAY, URBAN, AND NATURAL LANDS SECTORS.

Rights-of-Way

Strategy 1—Increase the availability of native seed and plant resources necessary to meet demand, with special emphasis on the availability of regionally appropriate milkweed species

Action: Participate in a cross-sector strategy team to explore local seed sources versus regional seed sources and develop native seed mix offerings in collaboration with Illinois’s state nurseries and local growers.

Action: Develop and promote a statewide post-construction seed mix design that provides beneficial plants for monarchs and meets regulatory requirements (e.g., erosion control).

Action: Explore and implement seed harvesting programs on ROW, including engaging in Pollinator Partnership’s Project Wingspan to collect and propagate native seeds across the state.

Action: Distribute seed packets through corporate and agency outreach programs (e.g., Illinois DOT’s Operation Habitat program).

Strategy 2—Develop strategic partnerships to advance habitat conservation on the ground

Action: Participate in regional action teams across the state (e.g., northeast, central, and southern regions of Illinois) to support coordinated, cross-sector implementation of the IMP Action Plan.

Action: Participate in the Rights-of-Way as Habitat Working Group facilitated by the University of Illinois–Chicago to support information exchange and collaborative work across the utility and transportation sectors.

Action: Implement Illinois DOT’s Interchange Exchange program with partner municipalities.

Action: Implement an Adopt-a-Rest-Area program whereby Illinois DOT partners with garden clubs and other groups to enhance rest areas.

Action: Continue ComEd’s Green Region grant program and other partner programs to increase habitat on the ground.

Action: Partner with Pheasants Forever to support habitat implementation on ROW and related lands across the state.

Action: Explore opportunities to partner with community groups to create or restore habitat at train stations.

Action: Partner with agricultural landowners to encourage habitat restoration and enhancement on shared or adjacent lands.

Action: Look for partnership opportunities between utilities, agencies, and/or other partners (e.g., Clinton generation site collaboration between Exelon, Ameren, and Forest Preserves).

Strategy 3—Advocate for programs, policies, funding, and other resources that promote habitat conservation on the ground.

Action: Participate in the IMP Policy Committee to identify policy and legislative opportunities to engage and inform key policy stakeholders regarding IMP initiatives and to promote the Illinois Monarch Action Plan.

Action: Promote native seed cost-share programs with ROW managers.

Action: Look for opportunities to fund and participate in research on habitat on utility and transportation lands.

Action: Encourage utility and transportation organizations to enroll into the nationwide Candidate Conservation Agreement with Assurances for the monarch butterfly.

Strategy 4—Promote Route 66 Monarch Corridor as showcase initiative to incentivize habitat restoration and enhancement across a variety of landscapes from Chicago to St. Louis.

Action: Participate on Route 66 Monarch Corridor Committee to coordinate cross-sector habitat conservation within the target geography.

Action: Create, restore, and/or enhance habitat along utility and transportation lands within the Route 66 Monarch Corridor.

Action: Perform targeted outreach to public and private landowners within the Route 66 Corridor to encourage habitat restoration and enhancement.

Action: Display Route 66 Corridor projects at interstate rest areas to raise public awareness about IMP and the Illinois Monarch Action Plan.

Action: Designate Route 66 as the Illinois Monarch Byway. Explore similar designations for other highways across the state.

4

OBJECTIVE 4A: IDENTIFY EXISTING HABITAT ON THE GROUND AND MINIMIZE HABITAT LOSS BY ADDRESSING THREATS, INCLUDING CONVERSION TO OTHER LAND USE TYPES AND OTHER FORMS OF HABITAT DEGRADATION.

Urban

Strategy 1—Identify and prioritize lands with existing habitat that have the highest risk for conversion or degradation and develop rapid response plans to address potential habitat loss.

Action: Identify specific risks of habitat conversion within cities and towns (e.g., changes in land use or zoning) and how to manage them.

Action: Work with key urban landowner types (e.g., park districts, corporate campuses, faith-based organizations) to evaluate and prioritize existing habitat in cities and towns for targeted action to prevent conversion or degradation.

Action: Implement targeted programs focused on key urban landowner types (e.g., homeowners, golf courses, schools) to reduce habitat loss and maintain existing milkweed and nectar plant stocks.

Strategy 2—Avoid accidental conversion of habitat to other land uses by designating or indicating existing habitat.

Action: Add signage to clearly delineate existing habitat areas in cities and towns.

Action: Establish agreements with targeted urban landowner types (e.g., park districts, schools or corporate campuses) that provide for the ongoing maintenance and management of pollinator habitat.

Strategy 3—Reduce the impacts of habitat degradation from land management practices and chemical use.

Action: Educate key urban landowners and land managers about reducing chemical use near habitat areas. In particular, target education and outreach to the following stakeholders: (a) municipal public works departments, (b) park districts, (c) lawn care and landscape companies, and (d) homeowners.

Action: Identify buffers for “no mow” or “no spray” zones in cities and towns. Also consider “low spray” or “low mow” zones that allow some management to minimize the risk of invasive species.

Action: Work with the Pesticide Safety Education Center at the University of Illinois to enhance pesticide applicator trainings with information on pollinators, habitat, and best practices.

Action: Revise zoning or municipal codes to be consistent with habitat management and restoration.

Action: Encourage use of FieldWatch to communicate the location of managed habitat areas.



4

OBJECTIVE 4B: ENHANCE EXISTING HABITAT THROUGH THE USE OF BEST MANAGEMENT PRACTICES TO INCREASE THE DENSITY AND DIVERSITY OF BENEFICIAL PLANT SPECIES.

Urban

Strategy 1—Identify and prioritize lands for enhanced habitat management, taking into consideration both conservation value and practical implementation.

Action: Work with key urban landowner types (e.g., park districts, corporate campuses, faith-based organizations) to evaluate and prioritize their land holdings for enhanced habitat management, with special consideration of Conservation Opportunity Areas identified in the Illinois Wildlife Action Plan.

Strategy 2—Improve the management of invasive species that threaten the quality of existing habitat.

Action: Work with key urban stakeholders, other sector stakeholders, and the science community to develop best management practice (BMP) guidelines for managing common invasive species that threaten habitat quality in cities and towns.

Action: Promote the use of Early Detection & Distribution Mapping Program (EDDMaps) to identify and track invasive species locations for targeted management.

Action: Where possible, implement invasive species BMPs near existing habitat.

Action: Target education and outreach to key urban landowners and land managers (e.g., lawn care and landscape companies) to minimize or eliminate the use of invasive species in landscaping.

Strategy 3—Adopt best management practices, such as interseeding with native seeds, prescribed burning, and conservation mowing.

Action: Work with key urban stakeholders, other sector stakeholders, and the science community to develop BMP guidelines (e.g., mowing guidelines) for enhancing the quality of existing habitat in cities and towns.

Action: Target education and outreach to key urban landowners and land managers (e.g., park districts, schools, corporate campuses, golf courses) to adopt BMPs for the enhancement of habitat in cities and towns.

Action: Implement targeted programs (e.g., Monarchs in the Rough) to focus on enhancing habitat in priority areas (e.g., open green spaces) in cities and towns.

OBJECTIVE 4C: CREATE OR RESTORE NEW HABITAT ON FAVORABLE LANDS ACROSS DIFFERENT LAND TYPES USING BEST MANAGEMENT PRACTICES.

Strategy 1—Identify and prioritize lands for new habitat restoration, taking into consideration both conservation value and practical implementation.

Action: Work with key urban landowner types (e.g., municipalities, park districts, corporate campuses) to evaluate and prioritize lands for new habitat restoration in cities and towns, including:

- Identify unattractive or otherwise undesirable areas owned by local governments and determine feasibility for habitat restoration.
- Identify buffer zones adjacent to and within landfill areas and determine feasibility for habitat restoration.
- Identify opportunities on stormwater retention/management areas near urban open space and determine feasibility for habitat restoration.

Action: Set milkweed stem and/or acreage goals for individual counties, cities, towns, and/or other stakeholder groups within the Urban Sector.

Strategy 2—Identify potential public and private sector partners and assist them with implementing targeted programs to create or restore new habitat.

Action: Encourage urban landowners and land managers to establish and register Monarch Watch Waystations for new habitat projects.

Action: Encourage urban landowners and land managers to commit to create new monarch habitat as part of the IMP pledge program.

Action: Continue the Illinois Green Economy Network (IGEN) Monarch Migration Network pledge program to encourage community college campuses across the state to restore or create habitat. Utilize this program as a model for other college and university campuses, including linking habitat work with curriculum and/or fields of study.

Action: Work with the Midwest Association of Golf Course Superintendents to promote the Monarchs in the Rough program to restore and/or create 3,000 acres of habitat on golf courses across the state.

Action: Work with the Illinois Parks & Recreation Association to promote habitat restoration and creation in parks across the state.

Action: Partner with companies with corporate headquarters and/or large campuses to dedicate part of their landscaping to monarch habitat.

Action: Connect residents via local government communications or homeowners' associations to local chapters of Wild Ones and/or other groups that can assist with habitat restoration.

Action: Utilize urban monarch conservation planning tools developed by the Field Museum to promote habitat restoration with municipal leaders.

Action: Develop urban land-type-specific management plan templates to encourage urban stakeholders with open spaces (e.g., parking areas) to restore or create habitat.

OBJECTIVE 4D: BUILD CAPACITY FOR HABITAT RESTORATION AND ENHANCEMENT ACROSS THE AGRICULTURE, RIGHTS-OF-WAY, URBAN, AND NATURAL LANDS SECTORS.

Strategy 1—Increase the availability of native seed and plant resources necessary to meet demand, with special emphasis on the availability of regionally appropriate milkweed species.

Action: Participate in a cross-sector strategy team to explore local seed sources versus regional seed sources and develop native seed mix offerings in collaboration with Illinois's state nurseries and local growers.

Action: Engage in Pollinator Partnership's Project Wingspan to collect and propagate native seeds across the state.

Action: Promote Monarch Watch's free milkweed program.

Action: Work with retail stores to increase the commercial availability of native seed and plant resources.

Action: Identify existing municipal or local events (e.g., residential waste drop-off days) where native seeds can be distributed to residents.

Action: Develop tools and templates for the creation of seed libraries for residents and others.

Action: Add milkweed and native plants to required plant lists.

Strategy 2—Develop strategic partnerships to advance habitat conservation on the ground.

Action: Participate in regional action teams across the state (e.g., northeast, central, and southern regions of Illinois) to support coordinated, cross-sector implementation of the IMP Action Plan.

Action: Partner with Illinois DOT on interchange exchange program.

Action: Partner with Illinois DOT on an Adopt-a-Rest-Area program.

Action: Encourage city and county governments to create cooperative management schemes to allow for equipment and staff sharing for habitat restoration work.

Action: Encourage coordination among key urban stakeholders (e.g., mayors, park districts, schools, scout groups, special government districts) to communicate resources, peer learning, and a shared calendar.

Action: Adapt Mayors' Monarch Pledge to specifically include collaboration with the community and park districts.

Action: Utilize Sierra Club and Illinois Audubon networks to promote homeowner habitat creation across the state.

Action: Engage programs like The Conservation Foundation's Conservation@Home to expand homeowner habitat creation across the state.

Strategy 3—Advocate for programs, policies, funding, and other resources that promote habitat conservation on the ground.

Action: Participate in the IMP Policy Committee to identify policy and legislative opportunities to engage and inform key policy stakeholders regarding IMP initiatives and to promote the Illinois Monarch Action Plan.

Action: Promote Mayors' Monarch Pledge, including mapping current cities in Illinois that have signed the pledge to visualize their efforts and accomplishments (e.g., mapping, social media) and encourage others to join.

Action: Develop a Community Monarch Proclamation designating an entire community as a Monarch Watch Waystation (e.g., Greenest Region Compact's "monarch-friendly community").

Action: Create demonstration gardens, particularly in highly visible areas in cities and towns, to demonstrate that native landscaping can "look good."

Action: Draft local ordinances to require or promote "native spaces" in new developments.

Action: Work with IDNR to revise Open Space Lands Acquisition and Development (OSLAD) grant program to include points awarded for monarch habitat restoration.

Action: Work with IDNR to amend flood buyout agreements to encourage establishment and management of pollinator habitat.

Strategy 4—Promote Route 66 Monarch Corridor as showcase initiative to incentivize habitat restoration and enhancement across a variety of landscapes from Chicago to St. Louis.

Action: Participate on Route 66 Monarch Corridor Committee to coordinate cross-sector habitat conservation within the target geography.

Action: Promote the Mayors' Monarch Pledge to cities and towns located along the Route 66 Monarch Corridor.

Action: Promote demonstration gardens along the Route 66 Monarch Corridor (e.g., cities, park districts, libraries, commercial use, residential, open space) to showcase monarch habitat.

4

OBJECTIVE 4A: IDENTIFY EXISTING HABITAT ON THE GROUND AND MINIMIZE HABITAT LOSS BY ADDRESSING THREATS, INCLUDING CONVERSION TO OTHER LAND USE TYPES AND OTHER FORMS OF HABITAT DEGRADATION.

Natural Lands

Strategy 1—Identify and prioritize lands with existing habitat that have the highest risk for conversion or degradation and develop rapid response plans to address potential habitat loss.

Action: Identify specific risks of habitat conversion on natural lands (e.g., developing park infrastructure on existing habitat areas) and how to manage them.

Action: Work with natural land stakeholders (e.g., state and federal agencies, forest preserves, land trusts) to evaluate and prioritize existing habitat for targeted action to prevent conversion or degradation.

Action: Develop pollinator habitat management plans for Natural Lands Sector properties that identify habitat areas and appropriate habitat management practices.

Strategy 2—Avoid accidental conversion of habitat to other land uses by designating or indicating existing habitat.

Action: Protect 2,500 acres per year of pollinator habitat from conflicting uses through conservation acquisition or easement.

Action: Where appropriate, add signage to clearly delineate existing habitat areas.

Strategy 3—Reduce the impacts of habitat degradation from land management practices and chemical use.

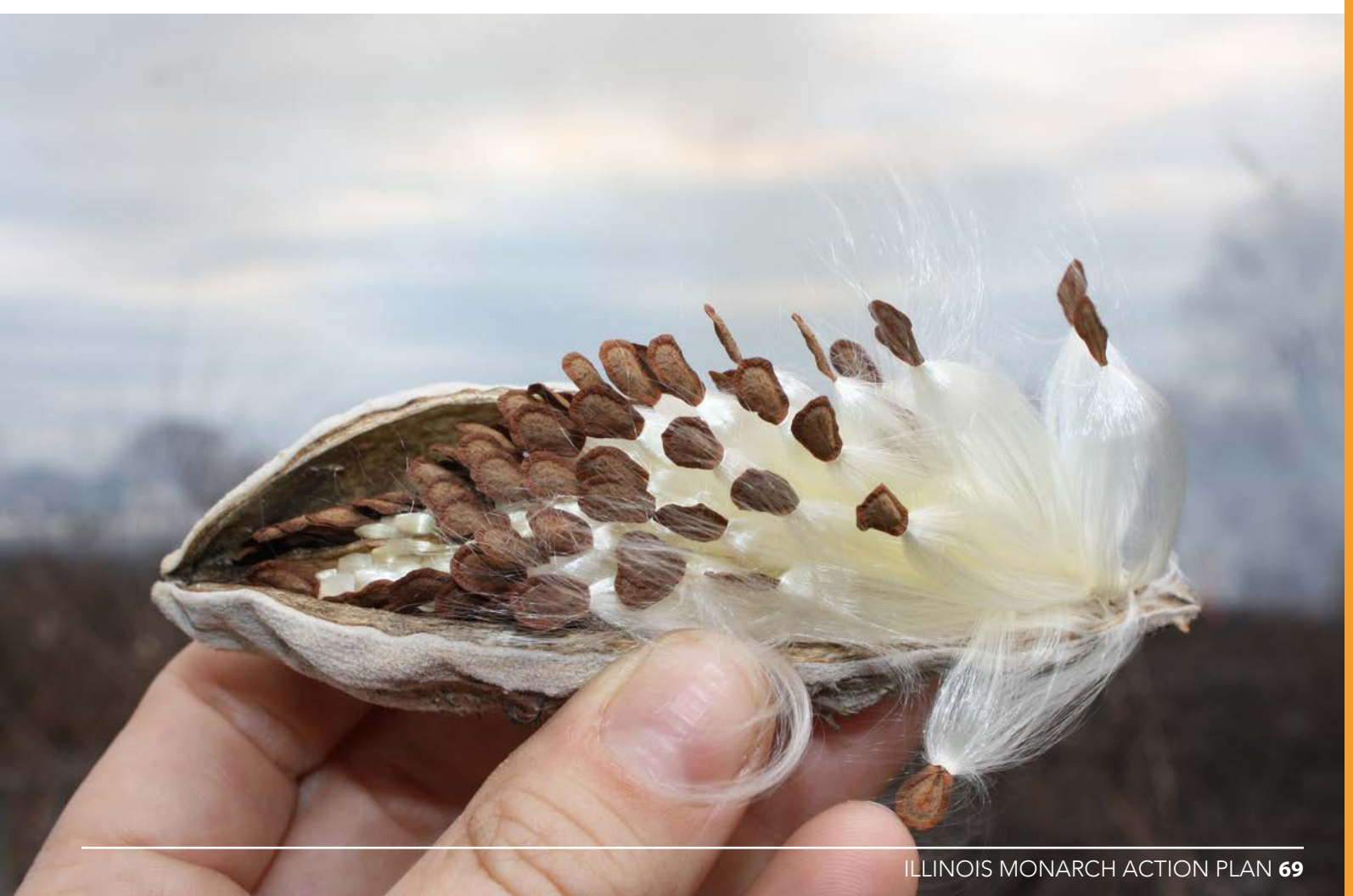
Action: Work with other sectors to prevent chemical drift onto managed habitat areas.

Action: Prevent impacts of off-target chemical drift by making applicators aware of sensitive natural lands.

Action: Promote policies that reduce the impacts of neonicotinoids on natural lands.

Action: Inform project developers of impacts to pollinators and options for minimizing and mitigating them.

Action: Limit extent and timing of mowing on natural lands to minimize impacts to monarchs.



4

OBJECTIVE 4B: ENHANCE EXISTING HABITAT THROUGH THE USE OF BEST MANAGEMENT PRACTICES TO INCREASE THE DENSITY AND DIVERSITY OF BENEFICIAL PLANT SPECIES.

Natural Lands

Strategy 1—Identify and prioritize lands for enhanced habitat management, taking into consideration both conservation value and practical implementation.

Action: Work with natural lands stakeholders (e.g., state or federal agencies, forest preserves, land trusts) to evaluate and prioritize existing habitat areas for enhanced habitat management, with special consideration of Conservation Opportunity Areas identified in the Illinois Wildlife Action Plan.

Action: Assess existing aerial photos or maps to determine potential habitat in cedar thickets (former prairies or hill prairies) where landowners and land managers might be interested in restoring habitat for pollinators (or for other reasons such as grazing or hunting).

Strategy 2—Improve the management of invasive species that threaten the quality of existing habitat.

Action: Adopt best management practice (BMP) guidelines, such as the Illinois Nature Preserve Commission's invasive species management guidelines, for managing invasive species on natural lands.

Action: Work with other sectors and the science community to develop BMPs for managing common invasive species that threaten habitat quality across the state.

Action: Promote the use of Early Detection & Distribution Mapping Program (EDDMaps) to identify and track invasive species locations for targeted management.

Strategy 3—Adopt best management practices, such as interseeding with native seeds, prescribed burning, and conservation mowing.

Action: Work with natural lands stakeholders, other sector stakeholders, and the science community to develop BMP guidelines (e.g., prescribed burning and conservation mowing) for enhancing the quality of existing habitat in natural areas.

Action: Work with natural lands stakeholders to incorporate BMPs for pollinators into new and existing management plans for natural areas.

Action: Apply appropriate BMPs, such as interseeding, prescribed fire, conservation mowing, and invasive species control, on 20,000 acres of state lands through IDNR staff and programs.

Action: Support the use of appropriate BMPs on private lands through IDNR private land programs.

Action: Find collaborative cross-sector opportunities to support the continued and improved management of existing conservation areas for monarch habitat (e.g., CRP, USFWS, IDNR, CREP, EQIP, CSP, WRE, NRCS).

OBJECTIVE 4C: CREATE OR RESTORE NEW HABITAT ON FAVORABLE LANDS ACROSS DIFFERENT LAND TYPES USING BEST MANAGEMENT PRACTICES.

Strategy 1—Identify and prioritize lands for new habitat restoration, taking into consideration both conservation value and practical implementation.

Action: Work with natural lands stakeholders (e.g., state or federal agencies, forest preserves, land trusts) to evaluate and prioritize lands for new habitat restoration in natural areas.

Action: Set milkweed stem and/or acreage goals for key natural lands stakeholders (e.g., state or federal agencies, forest preserves, land trusts).

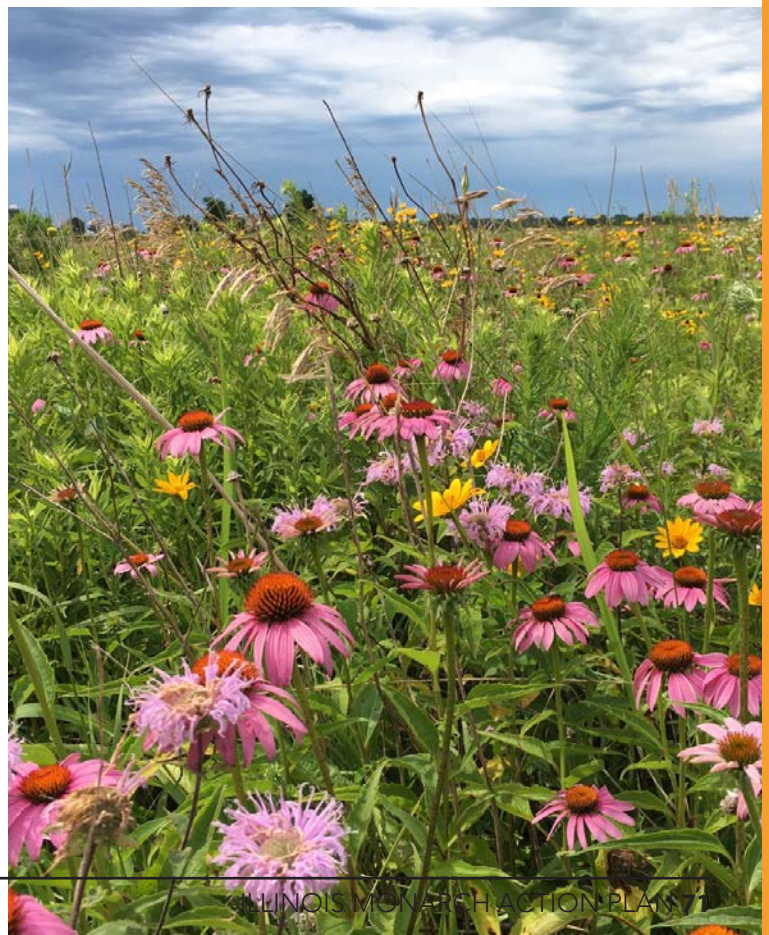
Strategy 2—Identify potential public and private sector partners and assist them with implementing targeted programs to create or restore new habitat.

Action: Encourage natural lands stakeholders (e.g., state or federal agencies, forest preserves, land trusts) to establish and register Monarch Watch Waystations for new habitat projects.

Action: Encourage natural lands stakeholders (e.g., state or federal agencies, forest preserves, land trusts) to commit to create new monarch habitat as part of the IMP pledge program.

Action: Increase the footprint of lands within the Natural Lands Sector (e.g., acquire additional lands, expand conservation easements) and work with the landowners and land managers to create or restore habitat on those lands.

Action: Create incentives for reclaimed surface coal-mining lands to be restored to monarch habitat.



4

OBJECTIVE 4D: BUILD CAPACITY FOR HABITAT RESTORATION AND ENHANCEMENT ACROSS THE AGRICULTURE, RIGHTS-OF-WAY, URBAN, AND NATURAL LANDS SECTORS.

Natural Lands

Strategy 1—Increase the availability of native seed and plant resources necessary to meet demand, with special emphasis on the availability of regionally appropriate milkweed species.

Action: Participate in a cross-sector strategy team to explore local seed sources versus regional seed sources and develop native seed mix offerings in collaboration with Illinois’s state nurseries and local growers.

Action: Develop and promote policy for seed harvesting on natural lands that protects existing habitat from over-harvesting and allows for responsible use of the resource to establish or enhance habitat.

Action: Work with other sectors to develop a seed sharing collaborative to collect, process, and distribute seed (e.g., Pollinator Partnership’s Project Wingspan).

Action: Organize native plant nursery seed giveaways for targeted stakeholder groups.

Action: Distribute locally sourced pollinator seed mixes through IDNR programs.

Action: Promote Monarch Watch’s free milkweed program.

Action: Highlight local seed-sharing programs that can be models for other communities.

Strategy 2—Develop strategic partnerships to advance habitat conservation on the ground.

Action: Participate in regional action teams across the state (e.g., northeast, central, and southern regions of Illinois) to support coordinated, cross-sector implementation of the IMP Action Plan.

Action: Partner with agriculture stakeholders to promote habitat opportunities on farm leases.

Action: Coordinate and support the use of strike teams to manage pollinator habitat on natural lands.

Action: Coordinate and support the use of volunteer stewards to manage pollinator habitat on natural lands.

Strategy 3—Advocate for programs, policies, funding, and other resources that promote habitat conservation on the ground.

Action: Participate in the IMP Policy Committee to identify policy and legislative opportunities to engage and inform key policy stakeholders regarding IMP initiatives and to promote the Illinois Monarch Action Plan.

Action: Develop policies and MOUs to align IDNR and federal agency priorities around the Illinois Monarch Action Plan.

Action: Continue and expand land protection and/or conservation easement programs (e.g., Illinois Recreational Access Program, Illinois Conservation Stewardship Program, NRCS’s ACEP Wetland Reserve Easement Program).

Action: Continue and expand monarch butterfly programming provided by the IDNR (e.g., Monarch Mania).

Action: Continue and expand IDNR grants to support habitat restoration and enhancement (e.g., Illinois Natural Areas Stewardship Grant Program, Special Wildlife Funds Grant Program, Schoolyard Habitat Action Grant).

Action: Revise Open Space Lands Acquisition and Development (OSLAD) grant program to include points awarded for monarch habitat restoration.

Action: Amend flood buy-out agreements to encourage establishment and management of pollinator habitat.

Strategy 4—Promote the Route 66 Monarch Corridor as a showcase initiative to incentivize habitat restoration and enhancement across a variety of landscapes from Chicago to St. Louis.

Action: Participate on Route 66 Monarch Corridor Committee to coordinate cross-sector habitat conservation within the target geography.

Action: Identify and prioritize habitat activities on public and private natural lands within the Route 66 Monarch Corridor.



GOAL 5

Standardize data collection and monitoring for monarch butterfly habitat.



The Illinois Monarch Action Plan is a living document, one that can adapt to new information in order to meet the needs of both the monarch butterfly and Illinoisans over the coming decades. An adaptive management strategy includes a feedback loop whereby data and information are collected over time, then integrated into actionable strategies to support continuous improvement. Moreover, we must identify the data and information needed to monitor progress toward our goals and determine the effectiveness of strategies and actions implemented. Our success in implementing Goal 5 will be measured based on data availability and our ability to readily adapt initiatives and strategies.

OBJECTIVE 5A: IDENTIFY EXISTING DATA AND DATA GAPS TO QUANTIFY BASELINE AND POTENTIAL MONARCH BUTTERFLY HABITAT.

Strategy 1—Convene experts from each sector to evaluate and analyze existing data available to quantify 2014 baseline habitat quality and quantity, as well as potential habitat

Action: Identify available data on baseline habitat quantity and quality within each sector.

Action: Utilize existing data sources (e.g., spatial data, imagery, surveys) to map and identify existing quality habitat and priority areas for targeting new habitat, such as:

- Agriculture: Map USDA program data by county and utilize USDA NASS surveys, annual reports, Cropland Data Layer, and the NRCS's Environmental Easements map to inform landscape scale habitat availability over time.
- Rights-of-Way: Utilize Rights-of-Way as Habitat Working Group's geospatial habitat database to map and identify existing quality and potential habitat on utility and transportation lands.
- Urban: Expand geospatial model through the Field Museum's work with downstate cities, and support refinement of Field Museum models regarding habitat and milkweed numbers.
- Natural Lands: Utilize USGS National Land Cover Data and aerial imagery to assess 2014 landcover in Natural Lands Sector properties and Illinois Critical Trends Assessment Program milkweed density data to estimate baseline habitat and identify opportunities.

Strategy 2—Quantify impacts of conversion of habitat to other land uses and develop mechanisms to track conversions

Action: Develop standard methods and metrics for quantifying habitat conversion.

Action: Identify or develop finer-scale data to capture small habitat changes across all sectors.

Action: Identify a common platform for tracking habitat conversion and loss across Illinois.

5

OBJECTIVE 5B: DEVELOP AND IMPLEMENT A STATEWIDE MONITORING PLAN TO EVALUATE AND TRACK IMPLEMENTATION OF THE ILLINOIS MONARCH ACTION PLAN.

Strategy 1—Identify common tracking mechanisms and reporting platforms for documenting progress on habitat goals and other action items identified in the Illinois Monarch Action Plan.

Action: Establish a statewide mechanism for monitoring progress across sectors toward the 150 million milkweed stem goal, in terms of acres of specific actions or practices and changes in milkweed density (e.g., USFWS’s Monarch Conservation Database (MCD)).

Action: Report Illinois’s contribution to monarch conservation to regional and national partners using both quantitative and qualitative methods to measure progress toward Illinois’s goals.

Action: Explore focus groups, interviews, and other reliable qualitative methods to evaluate progress in attitudes, beliefs, and actions of key stakeholders in each sector with regard to monarchs and their habitat.

Action: Summarize implementation status of the Illinois Monarch Action Plan and the status of the monarch butterfly population at least every five years in a findings report and on the IMP website.

Strategy 2—Support all stakeholders in monitoring trends in monarch habitat quality and the impacts of various threats on public and private lands across the state.

Action: Develop and implement performance measures and protocols to allow for consistent evaluation of habitat loss and habitat gain (e.g., a standard protocol for determining milkweed stem density).

- Promote existing monitoring protocols and scorecards suitable for monarch habitat (e.g., Integrated Monarch Monitoring Protocol, Rights-of-Way as Habitat Working Group’s Pollinator Habitat Scorecard, NRCS’s Working Lands for Wildlife Monarch Project Wildlife Habitat Evaluation Guide).
- Assist with the development of habitat scorecards when applicable (e.g., Illinois Solar Pollinator Scorecard).

Action: Encourage participation in citizen science programs (e.g., Monarch Larvae Monitoring Project, iPollinate).

Action: Work with existing programs (e.g., The Conservation Foundation’s Conservation@Home and Conservation@Work, Mayors’ Monarch Pledge, Illinois Green Business Association certification, iPollinate) to add a voluntary citizen science component for monitoring and tracking.



Next Steps



This plan outlines five overarching goals to help monarch butterflies thrive in Illinois, including the addition of 150 million milkweed stems and beneficial nectar sources to the Illinois landscape by 2038. The plan identifies numerous supporting objectives, strategies, and actions to complement those goals. While the specific strategies and actions are intended to guide implementation of the Illinois Monarch Action Plan and advancement of the statewide monarch conservation effort, we fully recognize this action plan as a living, working document that will evolve over time with improving science, increased stakeholder engagement, and lessons from implementation and practice.

The IMP sector groups and committees offer forums to engage targeted stakeholders in implementation of the Illinois Monarch Action Plan. Through these groups, more specific implementation plans, targets, and guidelines will be developed to facilitate widespread and effective actions on the ground. As a first step, sector groups will facilitate the development of milkweed stem and/or acreage goals for each sector. Sector groups and committees will also help track relevant activities and achievements toward the stated goals in this plan and others developed in support of this plan. Sector groups and committees will also help address needs and challenges identified by stakeholders to support the ongoing implementation and evolution of the Illinois Monarch Action Plan. Additional information about the sector groups and committees is found in the section Illinois Monarch Project Organization, at the end of this plan.

The Illinois Monarch Action Plan will undergo regular review to ensure that it stays current and relevant to Illinoisans' needs. At least every five years the IMP Science Committee will lead a review of the plan against best available science and conservation practices and recommend updates if necessary. IMP sector groups and other committees may similarly recommend revisions or updates based on their own periodic review. The IMP's Technical Steering Committee and Executive Committee will review and approve revisions and updates to the plan.

Statewide monarch summits, at least every five years, will serve as opportunities to convene stakeholders across all sectors and throughout the state to build capacity and coordination around implementing the Illinois Monarch Action Plan, and to highlight achievements and success stories, share new information and progress reports from sectors and committees, and address emerging issues or challenges.

At least every five years, the IMP Technical Steering Committee will prepare a summary report describing the implementation status of the Illinois Monarch Action Plan, including the current status of the monarch butterfly population and other relevant information to inform ongoing implementation and evolution of the plan.

The success of the Illinois Monarch Action Plan relies on the many individual efforts of a wide range of stakeholders across the state. No matter your age, background, or the size of land you manage, we welcome you to join the army of monarch enthusiasts and habitat implementers across Illinois and help foster a culture of conservation that supports monarch butterflies and many other species. If you are interested in learning more or becoming involved with the Illinois Monarch Project, please visit our website at <http://www.ilmonarchproject.org> or contact info@illinoismonarchproject.org.

Endnotes and Resources



ENDNOTES

- ¹ B. Semmens, D. Semmens, W. Thogmartin, R. Wiederholt, L. López-Hoffman, J. E. Diffendorfer, . . . O. R. Taylor (2016), Quasi-extinction risk and population targets for the Eastern, migratory population of monarch butterflies (*Danaus plexippus*), *Scientific Reports*, 6, art. 23265.
- ² L. P. Brower, O. R. Taylor, E. H. Williams, D. A. Slayback, R. R. Zubieta, & M. I. Ramirez (2012), Decline of monarch butterflies overwintering in Mexico: Is the migratory phenomenon at risk?, *Insect Conservation and Diversity*, 5(2), 95–100.
- ³ Midwest Association of Fish and Wildlife Agencies (2018, June). *Mid-America Monarch Conservation Strategy, 2018–2038*, retrieved from http://www.mafwa.org/wp-content/uploads/2018/07/MAMCS_June2018_Final.pdf.
- ⁴ D. T. Flockhart, L. I. Wassenaar, T. G. Martin, K. A. Hobson, M. B. Wunder, & D. R. Norris (2013), Tracking multi-generational colonization of the breeding grounds by monarch butterflies in eastern North America, *Proceedings of the Royal Society B: Biological Sciences*, 280(1768), art. 20131087. <https://doi.org/10.1098/rspb.2013.1087>.
- ⁵ For a visual guide to milkweed, see the Illinois Department of Resources poster *Illinois Milkweeds*, available at <https://www2.illinois.gov/dnr/publications/documents/00000835.pdf>.
- ⁶ I. Koh, E. V. Lonsdorf, N. M. Williams, C. Brittain, R. Isaacs, . . . T. Ricketts (2016), Modeling the status, trends, and impacts of wild bee abundance in the United States, *Proceedings of the National Academy of Sciences*, 113, 140–145. I. Bartomeus, J. S. Ascher, J. Gibbs, B. N. Danforth, D. L. Wagner, S. M. Hedtke, & R. Winfree (2013), Historical changes in northeastern US bee pollinators related to shared ecological traits, *Proceedings of the National Academy of Sciences*, 110(12), 4656–4660. <https://doi.org/10.1073/pnas.1218503110>.
- ⁷ Semmens et al. (2016).
- ⁸ J. Pleasants (2017), Milkweed restoration in the Midwest for monarch butterfly recovery: Estimates of milkweeds lost, milkweeds remaining and milkweeds that must be added to increase the monarch population, *Insect Conservation and Diversity*, 10, 42–53, <https://doi.org/10.1111/icad.12198>.
- ⁹ J. White (1978), *Illinois Natural Areas Inventory Technical Report* (Vol. 1), Urbana: Illinois Natural Areas Inventory. R. C. Anderson (1991), Illinois prairies: A historical perspective, *Illinois Natural History Survey Bulletin*, 34, 384–391.
- ¹⁰ K. J. Voorhies, J. Szymanski, K. R. Nail, & M. Fidino (2019), A method to project future impacts from threats and conservation on the probability of extinction for North American migratory monarch (*Danaus plexippus*) populations, *Frontiers in Ecology and Evolution*, 7, 384, <https://doi.org/10.3389/fevo.2019.00384>.
- ¹¹ Illinois Department of Agriculture (n.d.), *Facts About Illinois Agriculture*, retrieved from <https://www2.illinois.gov/sites/agr/About/History/Pages/default.aspx>.
- ¹² Illinois Department of Agriculture (n.d.).
- ¹³ According to data from the 2010 U.S. Census.
- ¹⁴ M. K. Johnston, E. M. Hasle, K. R. Klinger, M. P. Lambruschi, A. Derby Lewis, D. Stotz, . . . I. Redlinski (2019, June 21), Estimating milkweed abundance in metropolitan under existing and user-defined scenarios. *Frontiers in Ecology and Evolution*, <https://doi.org/10.3389/fevo.2019.00210>.
- ¹⁵ Prairie State Conservation Coalition (2016), *I-View*, retrieved from <http://www.prairiestateconservation.org/pscc/iview/>.
- ¹⁶ L. Yang, S. Jin, P. Danielson, C. G. Homer, L. Gass, S. M. Bender, . . . G. Xian. (2018). A new generation of the United States National Land Cover Database—Requirements, research priorities, design, and implementation strategies. *ISPRS Journal of Photogrammetry and Remote Sensing*, 146, 108–123. <https://doi.org/10.1016/j.isprsjprs.2018.09.006>.

ABBREVIATIONS IN THIS PLAN

BMP: Best Management Practice

CP-42: Pollinator Habitat Program, USDA Farm Service Agency

CRP: Conservation Reserve Program, USDA Farm Service Agency

EDDMaps: Early Detection & Distribution Mapping Program

IGEN: Illinois Green Economy Network

IMP: Illinois Monarch Project

IVM: Integrated Vegetation Management

MAFWA: Midwest Association of Fish and Wildlife Agencies

MCD: U.S. Fish and Wildlife Service Monarch Conservation Database

OSLAD: Open Space Lands Acquisition and Development

ROW: Rights-of-Way



ILLINOIS MONARCH PROJECT ORGANIZATION

After 18 months of meetings, in April 2018 the Illinois Monarch Project developed a group charter outlining the agencies, sectors, and stakeholders involved in the Illinois Monarch Project and the governance and structure by which the group operates. The charter sets forth the roles and responsibilities of the executive committee and technical steering committee, sector groups, and committee members. The charter recognizes that conservation plans and monarch projects will evolve over time. In addition, the Technical Steering Committee worked to develop the IMP's mission and vision, as well as overarching goals and strategies to promote monarch butterfly conservation across Illinois.

The work of the Illinois Monarch Project is carried out through several active committees that comprise representatives from state agencies, sector leaders, and stakeholders:

- **Executive Committee:** Provides guidance and direction for the IMP, monitors the IMP's progress, and formally adopts the Illinois Monarch Project Action Plan.
- **Technical Steering Committee:** Facilitates cross-sector collaboration and leads the development and implementation of the Illinois Monarch Project Action Plan. The Technical Steering Committee includes two leaders from each of the IMP's four sector groups, representatives from the participating state agencies, and chairs of other IMP committees.
- **Sector Groups:** Engage key stakeholders to identify, develop, implement, and track sector-specific strategies across all four sectors of the IMP: natural lands, rights-of-way, urban, and agriculture.
- **Communications Committee:** Guides communications and messaging for the Illinois Monarch Project and supports implementation of the Illinois Monarch Project Action Plan. The committee hosts a web page for the Illinois Monarch Project through the Chicago Zoological Society (<https://www.czs.org/IllinoisMonarchProject>) and will support the development of an IMP website.
- **Community Engagement Committee:** Supports educators and those involved in outreach by providing assistance in developing and/or achieving project goals that align with one or more of the IMP's strategic outcomes. The committee guides education and outreach strategies and engages stakeholders across all sectors.
- **Science Committee:** Convenes biological and conservation experts to address questions or issues related to pollinator habitat, management practices, and best available science. The committee will advance the Illinois Monarch Project Action Plan by developing a research agenda needed for plan implementation as well as various best management practices and technical assistance resources.
- **Special Committees:** Provide special expertise or focused attention on specific needs or activities identified by the Technical Steering Committee, such as the development of informational packets and coordination of the Route 66 corridor initiative.

ILLINOIS MONARCH ACTION PLAN STAKEHOLDERS

We would like to acknowledge the contributions of many individuals and organizations across Illinois whose support and input made possible this Illinois Monarch Action Plan.

Adams Electric Cooperative	Illinois Farm Bureau
Ag in the Classroom	Illinois Fertilizer and Chemical Association
Ag Innovations	Illinois Green Economy Network (IGEN)
Ameren	Illinois Livestock Developer Group
Association of Illinois Electric Cooperatives	Illinois Native Plant Society
Association of Illinois Soil & Water Conservation Districts	Illinois Natural History Survey
BASF	Illinois Nature Preserves Commission
Bloom Township	Illinois Pork Producers
Boone County Conservation District	Illinois Route 66 Scenic Byway
Champaign County Forest Preserve District	Illinois Sierra Club
Chicago Academy of Sciences	Illinois Soybean Association
Chicago Living Corridors	Illinois Specialty Growers
Chicago Park District	Illinois Tollway
Chicago Zoological Society	Institute for Conservation Leadership
City of Bloomington	The Land Conservancy of McHenry County
City of Peoria	Lincoln Heritage RC&D
CN Railroad	Lincoln Park Zoo
ComEd	Logan County Highway Department
Conservation Foundation	Mason State Nursery
Ducks Unlimited, Inc.	McHenry County Conservation District
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Eastern Illinois University, Urban Butterfly Initiative	Metropolitan Water Reclamation District of Greater Chicago
Engie Distributed Solar	Midwest Association of Golf Course Superintendents
Environmental Defenders of McHenry County	Monarch Joint Venture
Exelon Nuclear	Natural Resources Conservation Service
Faith in Place	The Nature Conservancy
Federal Highway Administration	Nicor
Field Museum	Oak Lawn Park District
Flagg Township	Openlands
Forest Preserve District of DuPage County	ParkLands Foundation
Forest Preserve District Will County	Peoria GC Monarch Task Force
Friends of Lincoln Trail Homestead State Park	Peoria Park District
Friends of the Kankakee	Pheasants Forever / Quail Forever
Garden Clubs of Illinois, Inc.	Prairie Rivers Network
Grand Prairie Friends	Prairie State Conservation Colalition
Great Rivers Country	Private Individuals
GROWMARK	Rock Island County Forest Preserve District
Illinois Audubon Society	Sand County Foundation
Illinois Beef Association	Shawnee National Forest
Illinois Corn Growers Association	Sierra Club
Illinois Department of Agriculture	Sportsman's Country Club
Illinois Department of Military Affairs	Stewardson-Strasburg High School
Illinois Department of Natural Resources	Sugar Grove Nature Center
Illinois Department of Transportation	Trees Forever
Illinois Environmental Council	Triton College
Illinois EPA BOW Watershed Management Section	

U.S. Army Corps of Engineers
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University of Illinois–Chicago
Vermilion County Conservation District
Village of Hainesville
Village of Hawthorn Woods
Village of Westmont
Waterborne Environmental
Wetlands Initiative
Wildlife Habitat Council

FOR MORE INFORMATION

There is a vast amount of information and resources available about the monarch butterfly and establishing and maintaining habitat. The following list provides some good starting points. For a more complete list of specific resources and programs, visit <http://illinoismonarchproject.org/>.

U.S. Fish & Wildlife Service

<https://www.fws.gov/savethemonarch/>

Monarch Joint Venture

<https://monarchjointventure.org/>

Xerces Society of Invertebrate Conservation

<https://xerces.org/monarchs>

Monarch Watch

<https://www.monarchwatch.org/>

Pollinator Partnership

<https://www.pollinator.org/monarch/monarch-resources>

National Wildlife Federation

<https://www.nwf.org/Our-Work/Wildlife-Conservation/Monarch-Butterfly>

Illinois Department of Natural Resources

<https://www2.illinois.gov/dnr/education/Pages/PollinatorsPlants.aspx>

Farmers for Monarchs

<https://farmersformonarchs.org/>

Field Museum

<https://www.fieldmuseum.org/science/research/area/keller-science-action-center/science-action-chicago/monarchs-view-city>

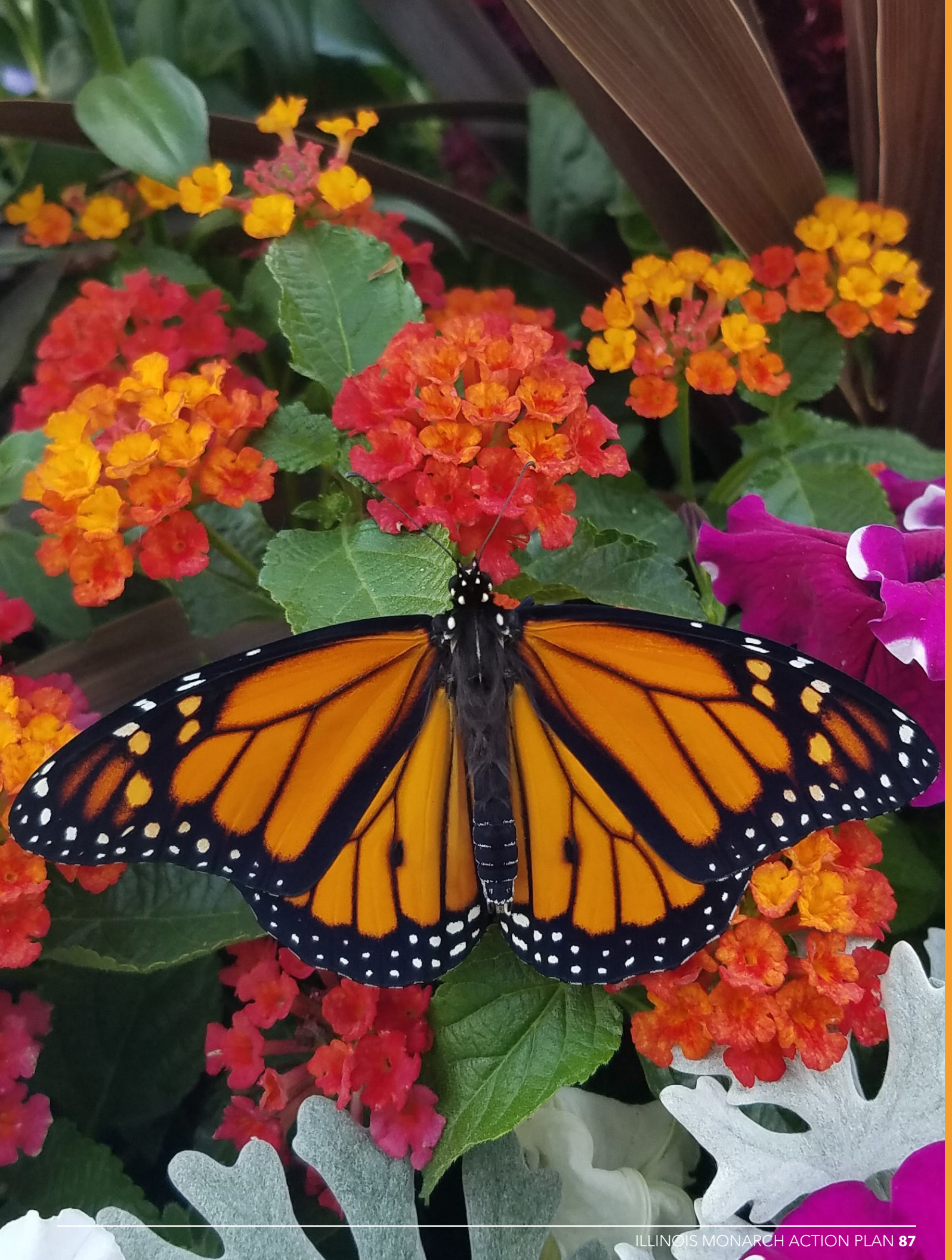
University of Illinois Extension Pollinator Pockets

<https://extension.illinois.edu/cfiv/pollinator-pockets>

CREDITS

We thank all of the individuals and organizations who have contributed photos and images for use in the Illinois Monarch Action Plan:

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