

Why do monarchs need milkweeds and native wildflowers?

The monarch butterfly is one of Iowa's most celebrated wildlife species, admired for its beauty and inspiring life cycle. Milkweeds (*Asclepias* species) are the only plants that monarch caterpillars can eat, and the butterfly's health and survival is entirely dependent on them. Nectar is the primary food for adult butterflies, which they sip from milkweed and other flowers.



Monarch caterpillar
Photo: William M. Ciesla, Forest Health Management International, Bugwood.org

What milkweeds are native to Iowa?

Milkweeds are native perennial wildflowers well-known for their important role as the monarch butterflies' larval host plants. Their flowers also provide an abundant, quality source of nectar for a wide diversity of insects, including adult monarchs, many other butterfly species, honey bees, and wild native bees such as bumble bees. Milkweeds have a unique beauty and their distinctive characteristics include intricate flower structure, milky sap, large pod-shaped fruits, and seeds dispersed on the wind by silky white "floss" fibers.

There are eighteen milkweed species native to Iowa. Five have become so rare that they now have special status as threatened or endangered species.

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|----------------------------------|--------------------------------|-------------------------------|
| <i>Asclepias amplexicaulis</i> | <i>Asclepias meadii</i> † | <i>Asclepias sullivantii</i> |
| <i>Asclepias engelmanniana</i> † | <i>Asclepias ovalifolia</i> | <i>Asclepias syriaca</i> |
| <i>Asclepias exaltata</i> | <i>Asclepias purpurascens</i> | <i>Asclepias tuberosa</i> |
| <i>Asclepias hirtella</i> | <i>Asclepias quadrifolia</i> | <i>Asclepias verticillata</i> |
| <i>Asclepias incarnata</i> | <i>Asclepias speciosa</i> † | <i>Asclepias viridiflora</i> |
| <i>Asclepias lanuginosa</i> † | <i>Asclepias stenophylla</i> † | <i>Asclepias viridis</i> |

† Threatened in Iowa
‡ Endangered in Iowa



Common milkweed
Asclepias syriaca



Prairie milkweed
Asclepias sullivantii



Swamp milkweed
Asclepias incarnata



Butterfly milkweed
Asclepias tuberosa



Photo: Iowa DOT

Pollinators

Danaus plexippus

MONARCHS & MILKWEED

Iowa's Roadside Habitats

What happened to the monarchs' habitat?

Nationwide, much of the wildflower-rich habitat that monarchs need has been lost due to land conversion for agricultural, urban, suburban, and industrial use. For example, several milkweed species were part of the native prairie communities that historically dominated the central United States. To prevent further habitat loss, existing populations of milkweeds and other native wildflowers must be protected. Habitat restoration projects that involve planting milkweeds and wildflowers are also essential to overcome the impacts of widespread habitat loss.



Why is roadside habitat important?

Roadsides have the potential to offer valuable wildlife habitat because they span the landscape, often connecting remnant habitat patches and creating linear areas of refuge. With more than 75 percent of Iowa's land allocated to agricultural production, roadside habitat is especially important to wildlife. The Iowa Department of Transportation, with support from the Living Roadway Trust Fund, has planted more than 100,000 acres of state and county road rights-of-way with native plants; many of these acres include milkweed and several of the monarch's preferred nectar plants. As a result, vast stretches of Iowa's roadsides provide resource-rich habitat for both summer resident and migratory monarchs.

The Iowa Living Roadway Trust Fund (LRTF) was established by the Iowa General Assembly in 1989 and is administered by the Iowa Department of Transportation. Through grants to counties, cities and state agencies, the LRTF's mission is to provide assistance to implement Integrated Roadside Vegetation Management (IRVM).

IRVM is a management system that promotes the use of hardy and adapted native grasses and wildflowers in combination with practices such as mowing, burning, and the limited use of herbicides to control weeds. Due to their extensive root systems, these native plants help improve water quality and provide excellent erosion control benefits. The diverse grasses and wildflowers used in IRVM practices also provide critical habitat for Iowa's insects and wildlife, including monarchs and other invertebrate pollinators, while connecting remnant habitat areas via roadside corridors.

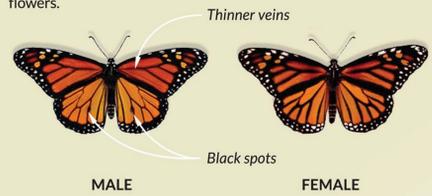


Photo: Milkweed seed pods, Doug Goldman, USDA-NRCS PLANTS Database / USDA-NRCS-NPDT

Asclepias incarnata

LIFE CYCLE OF A MONARCH BUTTERFLY

After mating, female monarchs search for milkweeds on which they lay eggs. Once the eggs hatch, the caterpillars feed voraciously on their host plants for up to two weeks before forming chrysalises. Up to three generations of butterflies are born during the summer. By September, monarchs begin migrating southward and it is possible to see hundreds of butterflies per hour, in flight or nectaring on late-blooming flowers.



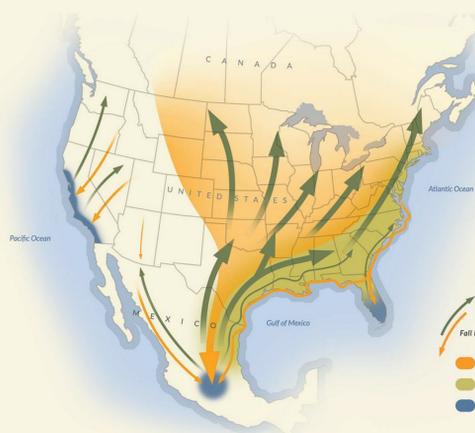
The Viceroy (*Limenitis archippus*) is a North American butterfly that ranges through most of the lower 48 States as well as parts of Canada and Mexico. It is often mistaken for the monarch.



Photo: Russ Ottens, University of Georgia, Bugwood.org

MONARCH BUTTERFLY MIGRATION

Typically, monarchs arrive in Iowa as early as May and are present throughout the summer months. Adult butterflies seek nectar that provides them with energy for flying and breeding. Large numbers of migrating monarchs can often be seen at the Neal Smith National Wildlife Refuge.



Spring Migration
Fall Migration
Summer Breeding Range
Spring Breeding Range
Winter Range

Pollinators

WHAT CAN YOU DO?

Protect and create habitats

You can help support monarchs by protecting milkweeds and native wildflowers where they already grow, or by planting flower-rich habitat that includes milkweed. By creating patches of monarch habitat in a pot on your balcony, in your yard, in parks, or on school or business campuses, you will beautify your local environment and provide opportunities for your family, friends, neighbors, and colleagues to share the experience with you.

Create your own garden

When designing a garden or planting plan, complementing one or more milkweed species with summer blooming wildflowers will provide food for both monarch caterpillars and adults. Valuable nectar sources include beggarticks (*Bidens aristosa*), blazing stars (*Liatris* spp.), ironweed (*Vernonia fasciculata*), New England aster (*Symphoricarum novae-angliae*), pale coneflower (*Echinacea pallida*), hoary vervain (*Verbena stricta*), and common boneset (*Eupatorium perfoliatum*).

Milkweed seeds can be planted directly in the ground during either fall or spring, in an area that receives full sun for several hours a day and has been cleared of competing weeds. Scatter the seeds onto the soil surface, cover them with a thin layer of soil, and press the seeds into the soil with a trowel or the soles of your shoes.

Note: The plants may not flower in their first year, and watering will likely be needed to aid establishment.

To help keep monarchs and other pollinators healthy, please avoid applying insecticides to or near milkweeds and other flowering plants.

Help track monarch migration

Since the 1970s, scientists have used a technique called "tagging" to study monarchs' migratory movements. This is done by gently applying a small, sticker-like tag, with a unique identifying number, to a butterfly's wing and then sending it on its way. To capture information about an individual butterfly's travels, someone must later sight the tagged butterfly and report its location and tag number. Through tagging, pioneering researchers learned that monarchs hatched in the United States during the late summer are capable of flying more than 2,000 miles to spend the winter in central Mexico.

The optimal window for tagging is from late August to early October. Tagging kits can be purchased from University of Kansas' Monarch Watch online at <http://monarchwatch.org>



Monarch with tracking tag
Photo: Wendy Caldwell, Monarch Joint Venture

Newly hatched caterpillar with empty eggshell



Photo: www.naturallycuriouswithmaryholland.wordpress.com

Caterpillar

Photo: William M. Ciesla, Forest Health Management International, Bugwood.org



Butterfly on swamp milkweed

LIFE CYCLE OF THE MONARCH BUTTERFLY



Recently emerged butterfly



Mature caterpillar begins forming a chrysalis



New butterfly emerges from chrysalis



Photo: Russavia, Wikimedia Commons



Chrysalis

Butterfly nearly ready to emerge from chrysalis



www.iowalivingroadway.com



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