

You Can Be a Part of the Research!

Each year the Jasper County Conservation Board participates in the *Monarch Watch* program. This program is part of an on-going research project at the University of Kansas. Because not much is known about how monarchs know when to migrate and how they find the same trees their great-great-grandparents found the previous winter, a volunteer tagging program was created to help track the butterflies' movement. No one knows exactly how their homing system works; it is another of the many unanswered questions in the butterfly world.

The Jasper County Conservation Board purchases small tags from the university and invites volunteers to help catch and tag the butterflies, typically in September when the monarchs begin to gather in the trees before heading south to Mexico. For more information about our local tagging programs, go to www.jaspercountyconservation.com.



For more information:

Monarch Watch website: www.monarchwatch.org

Josephson, Judith. *The Monarch Butterfly*. Mankato, MN: Crestwood House, 1998.

Glaser, Linda. *Magnificent Monarchs*. Brookfield, Connecticut: The Millbrook Press, 2000.

Forey, Pamela. *An Instant Guide to Butterflies*. New York, NY: Bonanza Books, 1

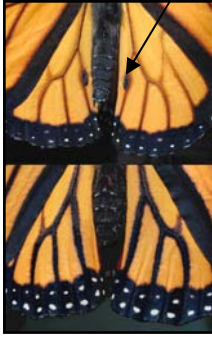
Jasper County Conservation Wildlife Series Fact Sheet



Monarch; Winged Insect Royalty

Description

Monarchs are orange with black margins and veins spotted with white. The males have two black spots on their second pair of wings. These are pheromone pouches used to attract a mate. The females do not have the black spots.



We see the monarch butterflies in Iowa during the summer, but they don't spend the entire year here. They migrate here from Mexico, where they spend their winters. In the spring they migrate north. This amazing butterfly can travel as far as 3,000 miles in its short life. It can actually fly 80 miles in a single day.

Metamorphosis

Metamorphosis is the change of form during the life cycle of an animal. Monarch butterflies go through metamorphosis that includes the egg, larva, chrysalis, and adult.



The monarch butterfly lays about 400 delicate pale green eggs that are the size of a pinhead before it dies. The female butterfly lays all her eggs on milkweed plants, but only one egg per plant. In warm weather the caterpillar will hatch in three to four days.

The caterpillar, or larva, that hatches has alternating white, yellow, and black stripes. For two weeks the caterpillar eats milkweed leaves, grows, and molts its skin five times. The milkweeds are poisonous and the monarchs retain the poisons as adult butterflies, which makes them bad-tasting to birds. The viceroy, another butterfly, mimics the monarch's coloration and it gains protection from birds in doing so.



When the two weeks are about up, the caterpillar stops eating and looks for a firm leaf, twig, or windowsill and hangs upside-down in a "J" shape. It sheds its skin the last time and it reveals a chrysalis. After about 10 days in the chrysalis, the adult butterfly emerges.

As an adult butterfly, the monarch sips nectar from dandelions, milkweeds, thistles, phlox, and wild aster. When testing how sweet the flowers are, butterflies are 2,400 times more sensitive to sweetness than people are. The monarch goes from one flower to the next eating nectar; it picks up pollen and fertilizes other plants it visits. The female lays eggs and the cycle continues. The life of a monarch butterfly last about one month. In the summer there are about three generations of monarchs.



Migration

Butterfly trees are trees where the monarchs gather before their migration south. They stay in trees overnight and find nectar in flowers near by. It is amazing that the butterflies gather in the same place year after year. It is a mystery how the butterfly goes to the same spot its great-grandparents went the previous year. Some scientists think the butterflies do it by sensing by the magnetic pull of the earth or by solar migration.

Monarchs are the only butterflies to make such a long, two way migration every year. Amazingly, they fly in masses to the same winter roosts, often to the exact same trees. Their migration is more the type we expect from birds or whales. However, unlike birds and whales, individuals only make the trip once. They will lay eggs and die, beginning the next generation of butterflies to come north to Iowa. It is their children's grandchildren that return south to Mexico the following fall.

Fat, stored in the abdomen, is a critical element of their survival for the winter. This fat not only fuels their flight, but must last until the next spring when they begin the flight back north. As they migrate southwards, Monarchs stop to nectar, and they actually gain weight during the trip! Some researchers think that monarchs conserve their "fuel" in flight by gliding on air currents as they travel south. This is an area of great interest for researchers; there are many unanswered questions about how these small organisms are able to travel so far.

