

Essential Weeds

The Monarch is the only butterfly known to make an epic two-way migration as many birds do, traveling up to 3,000 miles from central Mexico to the central and eastern U.S. and Canada each spring in search of a specific host plant vital to their new generations. The plant is called milkweed, and three species of native milkweed grow in western North Carolina, including common milkweed (*Asclepias syriaca*), swamp milkweed (*Asclepias incarnata*), and butterfly weed (*Asclepias tuberosa*). Monarchs use a mix of visual and chemical cues to locate milkweed, then once they land they use sensory organs on their feet and head to determine if it is a quality milkweed plant. After evaluating the plant, the females will begin to lay eggs on the underside of the plant's leaves, usually laying one egg per plant to ensure the larval caterpillar has ample food. One female monarch can lay up to 300-400 eggs in her lifetime, which spans from 2-6 weeks. It takes roughly a month for the eggs to go through the process of becoming a beautiful butterfly. Once an egg is laid, it will hatch in about 3-5 days. The caterpillar stage lasts about 2 weeks, where the caterpillar sheds its skin five times, growing to almost 2000 times its original size. The caterpillar will then find a secure location where it forms a chrysalis (pupa), which lasts about 8-15 days before an



adult Monarch emerges. This process then begins again when the new generation of butterflies moving north seeking new milkweed plants on which to lay their eggs. There are 4-5 generations of monarch butterflies born each summer. Once the last generation is born in October, they will begin their exhaustingly long trip back to central Mexico where they overwinter as adults in oyamel fir trees, waiting for the next spring, where it all starts over again.

The Monarch egg and caterpillar stages occur only on species of milkweed, whereas adults survive by nectaring on a variety of flowering plants. After eating the milkweed leaves, Monarch caterpillars have adapted a defense against predators by storing up a toxin called cardenolides, which occurs in milkweed. The toxin causes them no harm, but makes them distasteful and poisonous, protecting them from predation.

Loss of native habitat, especially milkweed and nectar plants, is a major cause of the decline of Monarch butterfly populations. Monarchs are important for several reasons. They pollinate many types of wildflowers and as adults provide a source of food for birds and small mammals. They are also an indicator of overall ecosystem health. They are a part of our natural heritage, and are used to teach children about the natural world. There are many reasons why we want to keep the Monarchs flying.

Recently, the U.S. Fish & Wildlife Service provided funding to restore monarch habitat in western North Carolina, and with the help of local volunteers and partners, we have been able to establish local gardens of native milkweed and nectar plants, and worked to raise and release monarch butterflies. The last release was located in Bakersville, North Carolina, at the Rhododendron Festival, where ten were let go into

the wild. There are ways that we can all work together to make a difference and create habitat for these beautiful and endearing butterflies too. By planting milkweed and nectar plants native to our area and reducing mowing to allow for native plants to grow, we can move towards reversing habitat loss and help to save Monarchs. Using less pesticides and herbicides will minimize your impacts on Monarchs, their food plants, and other pollinators. Become a citizen scientist and monitor monarchs in your area. Educate others about pollinators, conservation, and how they can help.



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