



Mahoosuc Land Trust

Fall 2022 Newsletter

Conserving the Mahoosuc Region since 1989



www.mahoosuc.org

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Winged Ambassadors; A Look Into the Lives of Monarch Butterflies

Barbara Murphy, Director of Development & Habitat for All Program

Engagement with the natural world. This is the ethos of MLT's Habitat For All (HFA) program. We believe that engagement is the first step in re-igniting a personal commitment to the care of the environment.

The annual Monarch Festival is a full day of engagement. It is a day to touch, smell, discover, learn, and interact with nature. Monarch butterflies are perfect ambassadors by providing engagement at so many levels - caterpillars, chrysalids, nectar plants, milkweeds, plus their incredible migration. Thank you to all who made the 2022 Monarch

A monarch caterpillar hangs in a "J" formation in the Habitat Garden. Photo credit: Judy Dunham



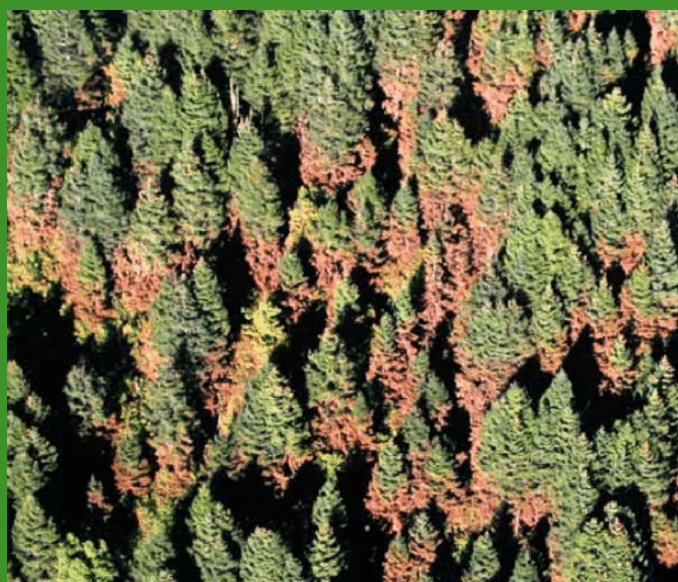
Two Monarch Festival attendees examine a Monarch caterpillar. Photo credit: Adine Storer

Festival possible, and read on for more information about these fascinating insects.

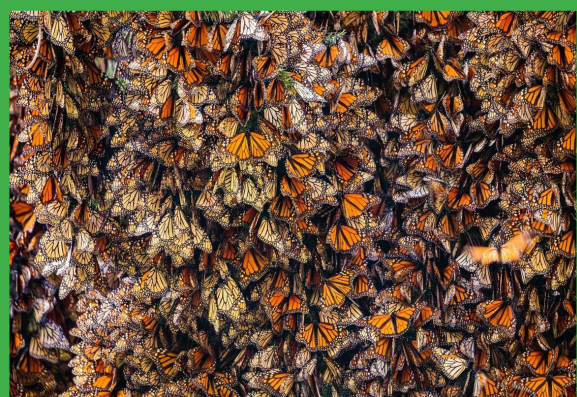
Overwintering in Mexico

Let's begin this cyclic event in Mexico where the Eastern Monarch overwinters. Monarchs that live east of the Rocky Mountains overwinter in rare oyamel forest ecosystems located on one of 12 mountain sanctuaries in Mexico. Monarch butterflies appear to be adapted to the same ecological conditions as the trees - it is cool and relatively moist at high elevations when this region of Mexico is parched during the dry season. The cool temperatures slow butterfly metabolism, allowing them to conserve their fat reserves, and the condensed morning fog provides needed moisture.

The butterflies remain in the forest for 4 to 5 months. Interestingly, annual monarch populations are determined by the total forest area used by monarchs each winter. It certainly beats counting them! In 2020, one of the monarchs tagged at Valentine Farm was recovered in Mexico!



An aerial shot of monarch butterflies (the orange patches) in their winter home in Mexico.



Monarch butterflies cluster together in huge numbers for warmth and protection from the elements in their winter habitats in Mexico. Most Western monarchs overwinter in California, where they exhibit the same behavior.

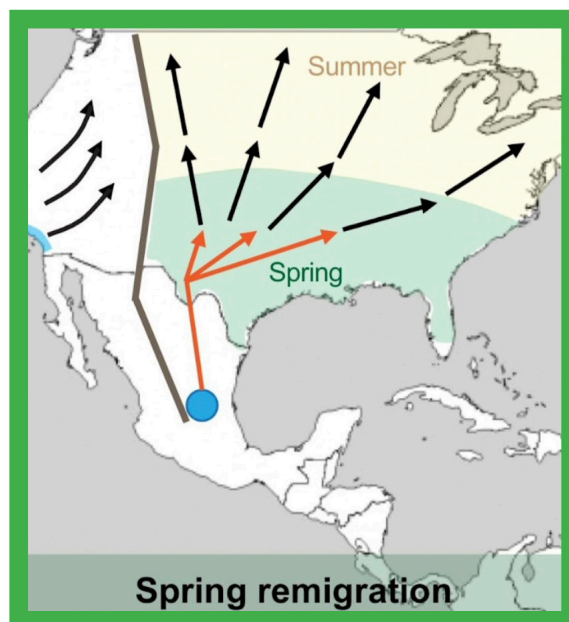
The Migration North

Around the time of the spring equinox, the cues to begin migrating occur. Northern migration is a delicate dance - waiting long enough to ensure adequate habitat north but not so long that the butterflies risk using up fat reserves or being caught in Mexico's rainy season.

Mating begins as temperatures rise. Unlike many insects, monarch adults live for 2-6 weeks after mating. Once mated, butterflies move north feeding on nectar plants and searching for milkweed to lay eggs on. Monarchs identify milkweed through sensors in their feet. Cold weather, tropical storms, high winds, and frosts can delay migration and reduce the potential size of the first generation.

The first generation is born in Texas. This generation mates and flies through a wide swath of the midwest to lay its eggs creating the next generation. This second generation arrives in New England in

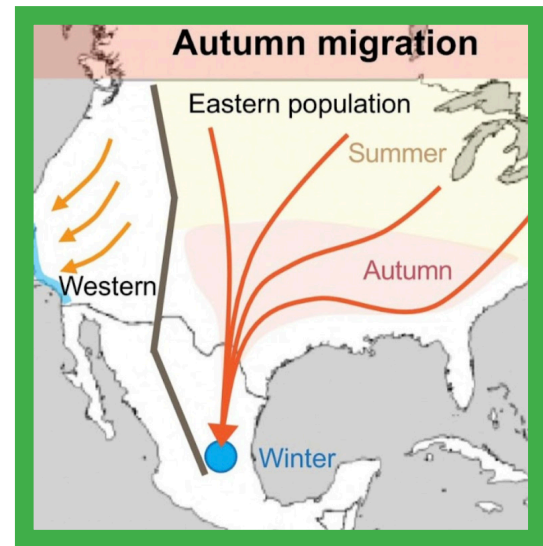
late July, where they mate. Their offspring, the third generation, (sometimes it is the 4th generation) are the super generation of butterflies which travel all the way back to Mexico. These are the butterflies that we catch and tag with small stickers at Valentine Farm as part of Monarch Watch.



The Migration South

The monarchs in Bethel in late summer are part of the super generation, the group of monarchs that fly over 3,000 miles to Mexico. Unlike the summer generations which live for 4 to 6 weeks, this final generation lives for 8 to 9 months, does not mate until next year, and endures many perils during its lifetime.

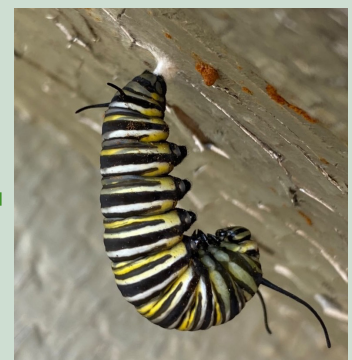
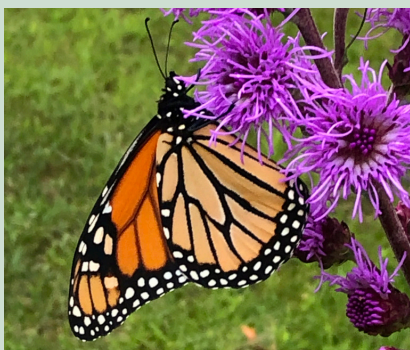
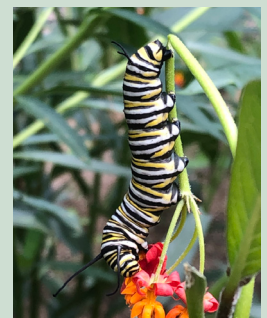
The success of the southern migration begins with the size of the caterpillar that forms the super generation adult butterfly. Large caterpillars result in big, healthy butterflies with fat reserves and fat reserves play a critical role in monarch winter survival. When the temperature begins to fall and day-length shortens, the flight to Mexico begins.



Migration Fun Facts

- Monarchs travel only during the day. They congregate in tree roosts each night.
- The adult butterflies feed only on nectar for the entire journey, completely dependent on a trail of flowers to keep them well nourished.
- It is thought that they navigate through sensors in their antennae and by the angle of the sun. (Remember, this generation has never been to the overwintering site in Mexico.)
- Tagging has shown that they stop frequently to rest and feed and may wait for good weather conditions.
- Glider pilots have reported monarchs as high up as 11,000 feet, fishing boats on the Gulf of Mexico have reported sightings as well.
- Most monarchs arrive in Mexico during November-December, typically 3-4 months after the start of their journey.
- Then the cycle begins again.

Monarch Life Cycle in Pictures





First Forever Wild Preserve to be Created by the Ken Hotopp Wildlands Fund

Kirk Siegel, Executive Director

It's happening! The Ken Hotopp Wildlands Fund has its first project well underway. Roughly 400 acres in Albany Township near MLT's existing Flint Farm conservation easement are under negotiation with willing landowners and will be acquired this year when adequate funds are raised. MLT's new Wildlands program recognizes that nearly all conservation land in our region is oriented toward active human management, and that there are precious few conservation areas that are dedicated to being left forever wild.

MLT's Wildlands Fund is devoted to acquiring and caring for such areas, inspired by and in memory of MLT board member and volunteer, Ken Hotopp. Ken was a naturalist, conservation biologist, and defender of wilderness and the climate. In his career Ken grew to understand how ecosystems and organisms thrived when left alone. He developed an appreciation for wildness and wilderness. He wanted future generations to know what it feels like to stand alone in a forest to feel the vitality and vibrance of a genuinely wild ecosystem.

The vast majority of MLT's 20,000 + acres of preserves and conservation easements allow management, which may include activities such as timber harvesting, farming, and creation of trails for mountain biking and hiking, all important components of our regional economy and way of life. Our new wildlands will allow access to enjoy the scenic beauty and other wilderness values through minimal impact, non-mechanized recreation, such as walking, snowshoeing, cross-country skiing, canoeing, and nature observation and study.

MLT's work draws inspiration from the words of the Wilderness Act of 1964: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is . . . recognized as

an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."

The 400-acre wildland preserve at Flint Mountain will be a modest first step to demonstrate how undeveloped and minimally managed lands play an essential role in forest ecosystems. Undisturbed land can provide benchmarks against future change and provide habitat and other benefits that more traditionally managed land can not. This land contains large hardwood stands containing abundant red oak approximately 100 years in age and "pasture oaks" of very significant girth dating back well into the 1800's when the land was actively farmed. There has been little or no harvesting in recent decades on much of

"The purpose of the Ken Hotopp Wildlands Fund is to designate land to be protected in its natural condition, in perpetuity, as free from human manipulation and disturbance as possible. Natural occurrences such as floods, weather events, and fire and native insect outbreaks will continue to influence the land over time.

Wildlands benefit natural communities as well as humans who enjoy the scenic beauty and other wilderness values through minimal impact, non-mechanized recreation, such as walking, snowshoeing, skiing, canoeing, and nature observation and study."

-Ken Hotopp Wildlands Fund Prospectus

the acreage. These lands are thus well on their way toward healing and restoration from human impact. The property's wildland status will also protect documented Wild Brook Trout habitat on two of its streams which feed the Crooked River.

The role of unmanaged lands to combat climate change is becoming clearer, and Flint Mountain will be a pilot project to study and understand how. As noted by The Nature Conservancy's Mark G. Anderson, PhD, "Recently published, peer-reviewed science has established that unmanaged forests can be highly effective at capturing and storing carbon. It is now clear that trees accumulate carbon over their entire lifespan and that old, wild forests accumulate far more carbon than they lose through decomposition and respiration, thus acting as carbon sinks. This is especially true when taking into account the role of undisturbed soils only found in unmanaged forests." (rewilding.org/wild-carbon-a-synthesis-of-recent-findings.)

As a forever wild preserve, the primary permissible recreational access will be for hiking, backcountry skiing, and snowshoeing. Flint Mountain has an existing high quality trail to a picnic table on one of its summits from the public road, with striking views to the White Mountains and to nearby Sawin Hill. Additional trail creation will ensure public access to other high points without creating extensive trail networks. We envision small parking areas in the future, if needed. Motorized and mechanized use will be prohibited. Hunting of non-predator species will likely be allowed, using the Northeast Wilderness

Trust (NEWT) easement model as guidance. NEWT, a regional leader in wilderness preservation, is sharing its expertise with MLT. Their staff is assisting MLT to put permanent "forever wild" conservation measures in place so that the ecological integrity and wild character of the land will be preserved and protected in perpetuity.

In addition to the above, this project lies between and near the White Mountain National Forest and MLT's 12,300-acre Crooked River Headwaters conservation easement, extending habitat protections and preventing habitat fragmentation. This forested land in Sebago Lake's headwaters will play an essential role in the health of Sebago Lake and Greater Portland's drinking water—as a result, the acquisitions are likely to have financial support from Sebago Clean Waters and Portland Water District, as well as The Conservation Fund through its Oxford County Land Conservation Grant Program established by the Stifler Family Foundation.

Last year, an outpouring of gifts from Ken's friends and family and other defenders of wilderness established the Wildlands Fund, creating a reserve fund allowing MLT to talk with landowners with the confidence that we could complete the project. If this project calls to you, MLT asks members to consider a donation to the Wildlands Fund above and beyond their critical support to our Annual Fund. To donate, please note Wildlands Fund on your check or select "Wildlands Fund" when you donate at www.mahoosuc.org/donate.



Most of MLT's conservation projects offer many uses, such as our 12,300-acre Crooked River Headwaters conservation easement, which has a top-level mountain bike network maintained by Inland Woods + Trails. Photo credit: Corey Fitzgerald for Sebago Clean Waters



On a Wildlands preserve, non-mechanized access—walking, snowshoeing, and backcountry skiing—will be the means to experience processes like decomposing mature trees. Photo credit: Ken Hotopp



Celebrating the Successful Conservation of Buck's Ledge

Abby Bennett, MLT Intern

The Town of Woodstock's August 2022 acquisition of this property is a historic community achievement. Funds were raised in a remarkably short time—just over a year—thanks to a synergy of partnerships including Mahoosuc Land Trust, Northern Forest Center, and Forest Society of Maine, with the leadership of the Woodstock Conservation Commission (WCC). The project has inspired wide-reaching support among our communities, exceeding the local fundraising goal of \$175,000. More than 270 people contributed, including the Woodstock selectmen and town manager.

The Buck's Ledge acquisition project has also inspired art and connection. Students of Melissa Prescott's community art class designed and constructed four unique benches that will be placed along the trail network. In addition, Telstar Middle School art students conducted and recorded interviews with a diverse group of individuals relating to Buck's Ledge. These records are archived at the Bethel Historical Society. Thanks to you, Buck's Ledge Community Forest is

now a permanent fixture of the Mahoosuc Region, providing accessible recreation for generations. Mahoosuc Land Trust is excited to take on the responsibility of overseeing the conservation easement to ensure the permanence of this treasured forest.

This project would not have been possible without financial support from the state and other conservation organizations. The Town of Woodstock's Buck's Ledge Community Forest land was more than 50% funded by the Land for Maine's Future program to secure public conserved land, and was funded in part through the Open Space Institute's Appalachian Landscapes Protection Fund, which supports the protection of climate resilient lands for wildlife and communities. The Fund is made possible by major support from the Doris Duke Charitable Foundation. Maine Mountain Collaborative funded a portion of the due diligence costs. The unsung heroes who made Buck's Ledge a reality are the leaders from the Woodstock Conservation Commission, the inspired fundraising committee, the selectboard and town manager and individual donors, small and large.

Please save the date of **Saturday, October 15th, at 1 PM in the Buck's Ledge Community Forest Parking lot off Rt. 26**. We will be celebrating the new community forest and the dedication of a permanent art installation created by Telstar Middle School Art students for Buck's Ledge Community Forest.



Trail Access Coming Soon for Shelburne Riverlands

Larry Ely, MLT Board Member

The MLT Riverlands Stewardship Subcommittee completed its 10-year Management Plan earlier this year with plans for a hiking trail on the Riverlands 216-acre State-Line parcel along the north side of the Androscoggin River on the ME/NH state line.

The 880-acre Riverlands includes multiple parcels of upland, shoreline, and islands which stretch over a seven-mile section of the river in Shelburne. MLT's primary focus will be on the protection of wildlife habitat and the extensive, high-value wetlands and islands along the river's course. A hiking trail designed for the State-Line parcel includes a small parking lot off North Road and an informational kiosk to be in place later this fall.

Construction of the three-mile trail loop with dramatic river views is underway with partner Shelburne Trails Club, and volunteers will be invited to join trail construction in the coming months. Stay tuned: a short loop may be in place before winter, and the full 3-mile loop should be complete by the start of next summer. The State-Line parcel kiosk will have a map of all of the Riverlands, and both www.mahoosuc.org and the next version of MLT's pocket trail map will depict the Riverlands trails.



Kayakers paddle the Androscoggin in Shelburne.
Photo Credit Larry Ely

Happy Trails!

Joe Aloisio brought to MLT his 25 years of experience as the Engineering Manager at Sunday River Ski Resort to MLT. There was no better person to call on, for example when it became obvious that the Valentine Farm parking lot needed to be redesigned. Thanks, Joe, for sharing your engineering expertise to keep this organization up and functioning. Joe will remain involved as a member of the Lands Committee.

Abby Bennett was an intern for MLT this summer. Abby is a graduate student at UMaine. Her primary focus this summer was to analyze survey data of MLT preserve users to determine the economic value of public trails. However, Abby also jumped in and helped with many projects - staffing Step Falls on busy weekends, writing newsletters and press releases for the Buck's Ledge Campaign and helping out at the Monarch Festival. Thanks, Abby, for your energy and enthusiasm!

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