



MLMP Updates

An e-newsletter of the Monarch Larva Monitoring Project



Summer 2023

This summer's newsletter includes an update from MLMP Founder Dr. Karen Oberhauser on monarch winter 2022-2023 and spring population numbers, FAQs about monitoring, a summary of our 2023 online training workshops, a note to volunteers in Florida, an opportunity to learn about the Lost Ladybug Project, the Monarch Blitz Save-the-Date, and gallery photos. Read on!

Monarch Winter 2022–23 and Spring 2023 Population Numbers

By Karen Oberhauser, UW-Madison Arboretum

The first 2023 generation of eastern North American monarchs has moved from the southern U.S. into their northern breeding grounds. There were a few very early [Journey North sightings](#) in Wisconsin and Michigan (before April 18), but a much stronger surge right when expected in the first half of May. These monarchs are the offspring of individuals that flew from the north last autumn, spent the winter in Mexico, and then moved back north into the southern parts of the U.S. MLMP volunteers in the southern U.S. kept track of the [egg-laying activity of the generation that overwintered](#), monitored the development of these eggs through their larval stage, and then sent the monarchs up to their northern breeding grounds.

While it's too early to make predictions about the 2023 eastern migratory population, we can make some comparisons from the past few years. [Numbers in Mexico were slightly lower](#) than they were last year, but there hasn't been a big change over the past four years. [Data from MLMP volunteers in Texas](#) represent reproductive output of the generation that overwintered in Mexico. Comparing numbers over the past few years for late March and April reflects the lower numbers from Mexico: numbers from this year are slightly lower than the previous several years (be sure to note the different y-axis scales on the yearly graphs).

Data from the Upper Midwestern States of [Wisconsin](#), [Minnesota](#), [Michigan](#) and [Illinois](#) represent the reproductive output of the first generation monarchs that were born in the south this spring. As of this writing, numbers look a bit higher than last year, but lower than they were in 2021. There appears to have been a bit of a recovery during the first generation, but the drought in this region might lead to shorter female lifespans (due to decreased nectar availability) and lower overall reproductive output. Check out the graphs when you receive the newsletter to see how the story of 2023 is unfolding!

The Xerces Society for Invertebrate Conservation released numbers for this population in January (see link [here](#): the western population is measured in numbers of butterflies vs. numbers of hectares of trees with monarchs in them in Mexico). Volunteers counted over 330,000 butterflies, as opposed to about 250,000 in 2022 and fewer than 2000 during the winter of 2020-2021. So far, there are very few MLMP monarch reports from western states other than [California](#) and [Arizona](#), but [Gail Morris's updates on Journey North](#) provide evidence that a least a few monarchs are spreading out from these southern states.

Breeding monarch numbers (what we record for the MLMP) in any given year are caused by a complex mix of factors—the number that were present the previous year, how well they survived in their overwintering sites, the conditions they encountered during the spring migration, and conditions in their main breeding grounds. Your data, combined with observations from Journey North and other monarch and butterfly monitoring organizations, will help us put together the story of the 2023 as it unfolds. I hope that your 2023 monitoring season is well underway. Whether things are picking up and you're seeing more monarchs, or numbers are low because of continued drought, your data are incredibly valuable. Thank you!

Monitoring Reminders & FAQs

1. Do I need to wait until next spring to start monitoring for MLMP?

No! You are always welcome to begin monitoring your first site, or add an additional site, anytime throughout the breeding season. So if you have friends or colleagues who are interested in taking part, please let them know that they are welcome to join our team at any point.

2. How will I know when to stop monitoring?

We recommend going out to your site twice after you've seen your last egg or larva, towards the end of the breeding season. If you haven't seen any eggs or larva at all yet this season, don't give up hope!

3. There have been no monarchs at our site so far this year. Do you still want my data even though it shows no monarchs?

Yes! We definitely are interested in your data. Even though it is discouraging to find nothing, understanding where there are no monarchs and when is just as important as learning where and when there are monarchs. This is important because we'll learn a lot about monarch distribution and population dynamics.

4. As I am monitoring I find a lot of eggs, but I don't see many larvae. What would most likely be eating the eggs or first instar?

There are lots of things that eat monarchs! Ants, spiders, red velvet spider mites and stink bugs are some we see frequently. Some monarch larvae also die when their mandibles get gummed up by the milkweed latex.

5. I had bookmarked the data portal and datasheets on my Internet browser and now they aren't working. What happened?

The MLMP website was updated a few months ago (you may have noticed some changes →) meaning that bookmarked pages may no longer work anymore. Please bookmark them again on the updated website and let us know if you have any trouble finding what you're looking for.

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Monarch Larva Monitoring Project
A partnership of the Monarch Joint Venture and the University of Wisconsin-Madison Arboretum

About Conservation Get Started Monitoring Results Resources Gallery

Submit your photography or artwork to our gallery!
Photos and artwork submitted by our MLMP volunteers around the world. [View the Gallery](#)

Summer Monitoring
Have questions about monitoring your site this summer? Head to our FAQ's page!
[FAQ's](#)

The **MONARCH LARVA MONITORING PROJECT (MLMP)** involves volunteers around the world in monarch research. It was developed in 1997 by researchers at the University of Minnesota to collect long-term data on larval monarch populations and milkweed habitat.
[Learn more about MLMP](#)

Summary of 2023 Training Workshops

We had excellent turnouts for our winter and spring online training workshops, which were tailored to specific regions in the US for the second year in a row. Regions included the west, south, and north, and altogether trained 106 new MLMP citizen scientists from 28 states (AZ, CA, CO, CT, FL, IL, IN, KS, LA, MA, MD, MI, MN, MO, NC, NE, NJ, NV, OH, OK, PA, SC, TN, TX, UT, VA, WA, WI) and 1 province (New Brunswick)! These workshops were recorded and shared with an additional 22 trainees, bringing our total to 128. While all of these trainees may not choose to participate in MLMP, we're grateful for the opportunity to teach them about monarch biology and conservation and hope they all find ways to contribute to the cause in their own communities.

For people who are looking for online training and missed these workshops, the recordings can be requested to be viewed at any time throughout the year with a \$20 donation to MLMP. Make a request by contacting Julia at info@mlmp.org. Further, note that we also have many free online training resources on our website under "Get Started" → "Online Training" (<https://mlmp.org/get-started/online-training>).

Monitoring in Florida? Keep an Eye out for African Redhead Agama Lizards

African Redhead Agama Lizards are yet another non-native species to have joined Florida's ecosystems. First reported in 1976 thanks to the pet trade, these lizards native to East Africa have the potential to be detrimental to the insect and invertebrate communities of Florida that they feed on, which several reports indicate includes monarch butterflies. While there are many reports of this lizard in Florida already on iNaturalist, reporting sightings is still valuable and can help researchers understand their abundance and distribution. For folks who are monitoring with MLMP in Florida, we encourage you to include mention of these lizards in your monitoring notes and/or to submit photos of any Redhead Agama Lizard/ Monarch interactions to our photo gallery.



Photo by Alan Schmierer, CC0, via Wikimedia Commons

Source: The University of Florida's IFAS Extension, "Peter's Rock Agama in Florida", September 2020: <https://edis.ifas.ufl.edu/publication/UW476>.

Lost Ladybug Project by Ilse Gebhard

Ilse Gebhard is a long-term volunteer who has been monitoring for MLMP at various sites around her town in Michigan since 2002. She participates in both Activity 1: Measuring Monarch Density and Activity 3: Estimating Monarch Survival and has contributed valuable data over the past two+ decades. She submitted this article to us in May, which highlights how much more than just monarchs is going on at your site, and we're happy to share it in this newsletter:

Knowing of my interest in Citizen Science and insects, Dr. Ann Fraser, Professor of Biology at Kalamazoo College, made me aware of the Lost Ladybug Project (<http://www.lostladybug.org>). While ladybugs are really beetles, most people call them ladybugs, hence the project name. Across North America ladybug species composition is changing. Over the past 20 years some native ladybugs that were once very common have become extremely rare. During this same time, ladybugs from other parts of the world have greatly increased both their numbers and range. This is happening very quickly and it is not known how, or why, or what impact it will have on ladybug diversity.

The Lost Ladybug Project encourages the public to take photos of ladybugs that they find and submit them to the website along with the date and location. One can suggest an ID as to species but that is not required. The scientists doing the study vet all submissions and ultimately assign the species ID. As of September 5, 2022, 39091 ladybug observations have been contributed. Hopefully this will help determine what can be done to prevent more native species becoming so rare.

Since I was always finding ladybugs when monitoring milkweed plants for monarch eggs or larvae, I decided to participate in the project. I would catch a ladybug and place it in a small glass vial that I had along for this purpose. Once inside I would do either of two things. I had learned early on what Multicolored Asian Lady Beetles (*Harmonia axyridis*), an introduced species, looked like. If it was one of these non-native ladybugs, I would put the vial in the freezer where it died quickly and humanely and it was easy to get photos of the top and the head, both necessary for a definitive ID. If it was not a Multicolored Asian Lady Beetle, I would place the vial in the refrigerator for an hour or two and get my camera ready to take photos. This has to be done very quickly as it only takes a minute or two before the ladybug becomes very mobile and takes off. Sometimes I had to "recool" them to get a good enough photo. After the photo session I would release the ladybugs back outside.

Of the 10 different species that I found only half were native and the non-natives were 69% of the total species found with Multicolored Asian Lady Beetles the most common at 42%. Sadly, but not unexpectedly, I did not find any of the three native species that declined precipitously and that inspired the creation of the Lost Ladybug Project.

International Monarch Monitoring Blitz Save-the-Date

Save the Date for the 7th Annual International Monarch Monitoring Blitz July 28 - August 6!

The #MonarchBlitz invites individuals from across North America to look for monarch eggs, caterpillars, chrysalises and butterflies on milkweed plants in their community. Learn more about what we accomplished together last year and learn how you can get involved here: <https://bit.ly/3aYYr49>.

Photo Gallery

Citizen scientists from across the continent submitted great photos to our MLMP gallery this spring. See a few of our favorites below, and don't forget that you can submit your own under "Gallery" on our website into a variety of categories, including art, milkweeds, monarch adults, monarch eggs, monarch larvae, monarch pupa, monarch predators and parasites, monitoring, sites, rearing monarchs, and more!



Partners



"Monarch Ovipositing on Whorled Milkweed" by Mike Reese



"Metamorphosis!" by Kelly Berg

You can support MLMP in many ways!

Please consider supporting our collective conservation efforts with a donation that supports training, materials, and maintenance of the data you collect. You can make a financial contribution today [here](#).

Have a story from your site or art to share? We'd love to hear from you!

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