

The Chrysalis

Spring 2022



Emerging news from Monarchs Across Georgia

Our mission is to inspire caretakers of the natural environment through monarch and pollinator education



Western monarch Thanksgiving count tallies nearly 250,000 butterflies

Excerpt from an [article](#) by Isis Howard and Emma Pelton of the Xerces Society for Invertebrate Conservation

Launched in 1997, the Xerces Society's Western Monarch Thanksgiving Count celebrates its 25th year of community science with a surprising and remarkable outcome: 247,237 monarch butterflies observed across western overwintering sites, a more than 100-fold increase from last year. However, the population remains more than 95% below its size in the 1980s, when low millions were observed most years.

This year's total both amazed us with the monarchs' ability to bounce up from a record low and underscores the importance of ongoing conservation efforts to recover the western monarch butterfly population.

Why did this happen?

There are more questions than answers as to how and why western monarchs bounced back at the rate they did in 2021. It is unlikely that there is a single cause or definitive explanation for such a complex migratory journey and for a single year's increase. As butterfly researcher and professor Dr. Cheryl Schultz has put it, "butterflies are bouncy." Although modeling and analysis of this year's data is currently underway, it may take several more years of Thanksgiving counts to put this year's "bounce"

in context. The migratory western monarch population has undergone a sustained and significant decline and is now bouncing around in uncharted territory. We do not have much experience with migratory monarch populations when they reach this low level.

Some have suggested that wildfires, resident monarchs, and/or an influx of eastern monarchs could be some of the factors responsible for this year's uptick. However, it's important to note that these are hypotheses that, as of yet, lack strong evidence to support them. However, there are some exciting studies underway to better understand the genomics of western monarchs and the impact of resident monarchs. You can read more about a few of the ideas being discussed in "[The Bounciness of Butterflies](#)," a blog published last fall written by Xerces and western monarch researchers.

What does it mean?

Balancing the excitement of the present with the context of the past is challenging but necessary when it comes to discussing western monarch population trends. While the 2021 uptick represents a serious "bounce" up, just a few years ago this count would have been considered deeply concerning. Conservation scientists hope to instill cautious optimism as news of the 2021 Thanksgiving Count circulates.

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Upcoming Events

Cobb County Master Gardener Plant Sale & Expo
April 15-16, 2022
Jim R. Miller Park, Marietta

Children & Nature Network International Conference
May 9-12, 2022, Atlanta

Outdoor Learning Symposium
June 24, 2022, 8 a.m.-3 p.m.
Life University, Marietta

Educator Workshop: Enhancing Your School Pollinator Garden
June 27-28, 2022
Savannah

EEA 30th Annual Conference & SEEA 10th Annual Conference & Research Symposium
Sept. 29 - Oct. 1, 2022
Unicoi State Park

For more information about these events, please visit <http://www.eealliance.org/mag-events>.

Final 2021-22 Symbolic Monarch Migration update

by Susan Meyers

Amazingly, Estela Romero finished her school visits during the first week of February. More than 1,000 Ambassadors were delivered to 40 schools. To find out where your Ambassador landed in Mexico, use the search function at the top right of [Symbolic Migration](#).

I arrived in Mexico on February 5 for a 10-day excursion to visit friends and the monarch sanctuaries, buy tags for Monarch Watch, purchase books for next season's [Mexico Book Project](#), and pick up the letters written by students as part of the Symbolic Migration environmental lesson taught by Ms. Romero.

To my surprise, many of the younger students, who have not yet honed their writing skills, had created beautiful Ambassadors themselves to return to participating groups in the U.S. and Canada! You may receive one of these beautiful works of art along with a letter in your Spring Return Envelope.

We have filled all of the Spring Return Envelopes with life-sized butterflies and letters from students in Mexico and mailed them via USPS. Check your mailboxes!

Remember, as with the real monarch migration, not every life-sized butterfly makes the return trip. We do our best to return the same number of life-sized butterflies that you sent, but it is not always possible.

Thank you again for your patience and support throughout this Symbolic Migration season. We hope that you will join us next season. Details will be posted in early August.

We would also like to acknowledge our [donors](#) and the [Monarch Butterfly Fund](#)'s Small Grant Program for making it possible for us to provide such high-quality books to Mexican schools.

The Symbolic Migration project is a partnership project between Journey North, a University of Wisconsin-Madison Arboretum program, and Monarchs Across Georgia, a committee of The Environmental Education Alliance, a 501(c) (3) organization.

[Journey North](#) manages the interactive Symbolic Migration Participant Maps and hosts all educational materials on the Journey North website. [Monarchs Across Georgia](#) administers the program and is responsible for all fundraising.



Susan Myers accepting letters and ambassadors from Estela Romero (above). Samples of the letters and ambassadors created by students in Mexico (below).



INTERNATIONAL CHILDREN'S BOOK DAY

Mexico Book Project seeks donations

This year's **International Children's Book Day** (ICBD) is April 2. Typically scheduled on or around the birthday of famed author, Hans Christian Andersen, ICBD is a celebration to call attention to children's books and to inspire a love of reading.

The theme for 2022 is, "*Stories are wings that help you soar everyday*" (Richard Van Camp). We hope that the joy that monarchs on wing bring you will inspire you to donate and make a child take flight with a book.

Monarchs Across Georgia (MAG) invites its supporters to donate to its Mexico Book Project to commemorate ICBD. Created as a literacy effort by MAG in 2004, the project serves the rural schools near the monarch butterfly's overwintering sites in Mexico. All donations are used to purchase children's books written in Spanish, which are delivered to more than 30 schools.



Donations are tax deductible and donors have the option of receiving a donor certificate in their name or in the name of a family member or friend. The certificates make great gifts for loved ones or for that special teacher. Learn more about the **Mexico Book Project**, and/or access the **Donation Form** directly.

POLLINATOR HABITAT CERTIFICATION

Congratulations to our latest certified habitats

Do you enjoy watching and studying caterpillars on their host plants, searching for chrysalides hidden from predators, or observing butterflies and hummingbirds flitting from flower to flower?

Does your schoolyard, workplace, or backyard have bushes, trees, and flowers that provide host plants, nectar, and protection for butterflies, bees, hummingbirds, and other pollinators? Is there a source of water/puddling areas for thirsty butterflies? Are there places for them to roost at night? If so, register your habitat with Monarchs Across Georgia's Pollinator Habitat Program. No garden is too big or too small!

For more details and to download the form, visit the **Pollinator Habitat Certification** webpage.

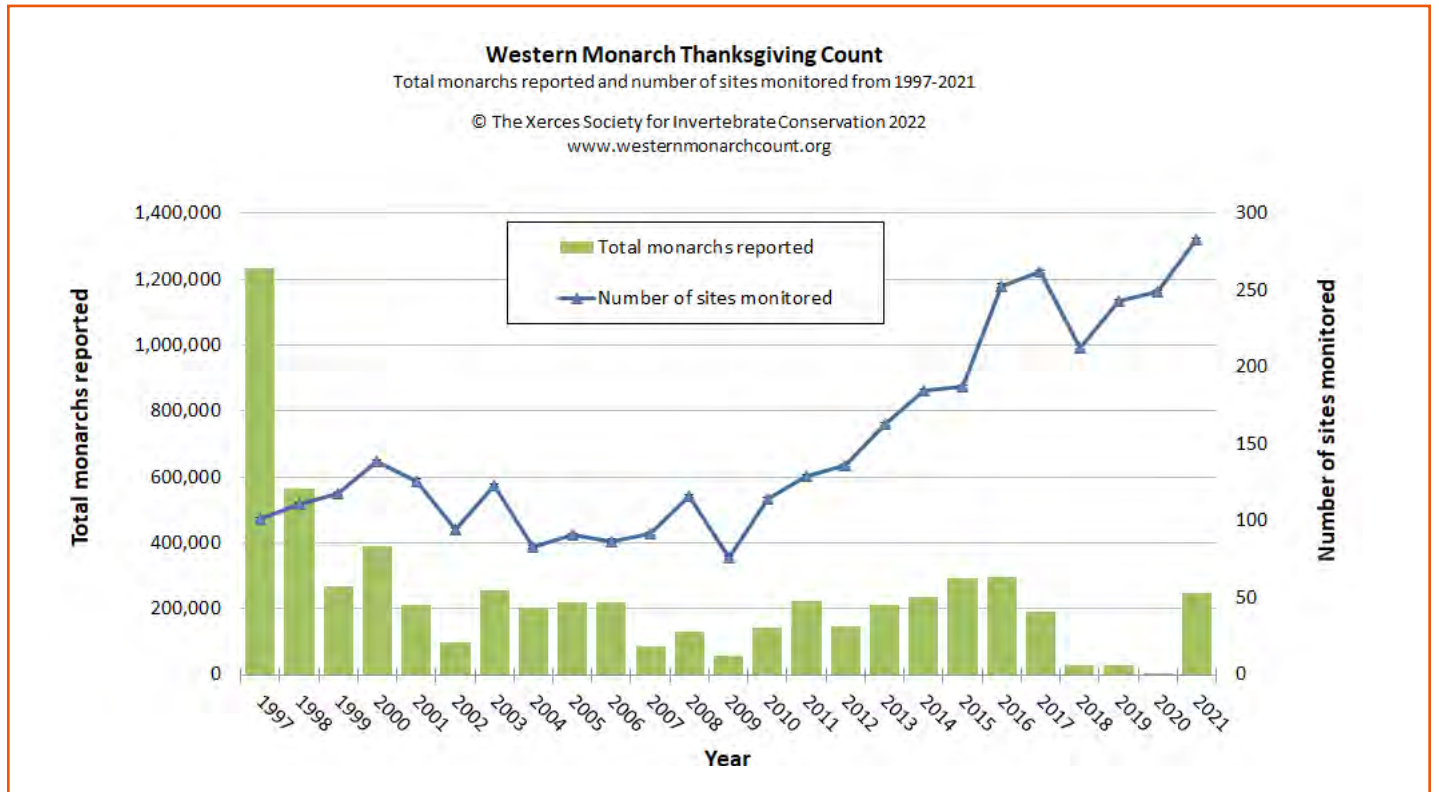
Congratulations to the latest gardens to be certified:

- Jo Adang – Hazelton, PA
- Andrew and Anna Navratil – Decatur, GA



Monarch Thanksgiving count

Continued from page 1



“This year’s total of nearly a quarter-million monarch butterflies in the West, although a step in the right direction, still indicates a severe population decline,” says Isis Howard, endangered species conservation biologist for the Xerces Society. “Now more than ever, we have an opportunity to double down on our conservation efforts. Harnessing the momentum of this upswing may be our best chance at aiding western monarchs and other at-risk butterflies.”

With the good news of this year’s Thanksgiving Count, it is important to understand that the western monarch butterfly population may continue to fluctuate, even drastically, over the next several years.

Additionally, the decline of the migratory monarchs isn’t just happening in the West. The eastern migratory population has also declined by approximately 70 percent since monitoring began in the 1990s. World Wildlife Fund-Mexico typically announces the size of the eastern monarch’s overwintering population in Mexico each February.

How you can help

What we do know is that the 2021 Thanksgiving Count is evidence that the western monarch migration is not gone

and our collective efforts can make a difference. Here are a few actions you can take to be part of the solution:

- Plant **native milkweed** species
- Plant a diversity of **nectar plants**, ideally native to your area
- **Stop using pesticides**, or minimize risk associated with pesticide use
- Contribute to community science projects that track monarchs, such as the **Western Monarch Thanksgiving Count** and the **Western Monarch Milkweed Mapper**
- Visit our **website** to learn more about monarchs and find additional ways to help.

The Xerces Society has been active in monarch and pollinator conservation in California for decades. Xerces’ work has contributed to the restoration of monarch overwintering sites, expanding pollinator habitat on farms, and distributing more than 100,000 pollinator plants to California residents through the Xerces habitat kit program.

RECOMMENDED RESOURCES

Butterflies are pretty... gross

by Cindy Reitinger

I have always loved children's books, especially the illustrations. But when I come across a beautifully illustrated children's book on a science topic, I approach it with a mix of excitement and trepidation. I am often disappointed to discover that while the artwork is awesome, the author got the facts wrong. So, I was pleased to stumble upon the work of author Rosemary Mosco. She gets the science right, the illustrations are clever, and the writing is fun to read.

As an avid reader and nature-nerd, I have read plenty of nonfiction science books for children that are full of facts and incredible photographs and/or illustrations. They make good references for student book reports and appeal to young nature nerds like me, but most kids need a "hook" to get them interested. An element of fun that can draw them in and get them to read a book again and again. It doesn't hurt to throw in a little "gross" or "weird."

Mosco's latest books "Butterflies are Pretty... Gross" released April 2021 by Tundra Books, and "Flowers are Pretty... Weird" coming in April 2022 make learning about science fun – as it should be.



MAG 2021 Service Award: Henning von Schmeling

Henning von Schmeling, senior director of operations at the Chattahoochee Nature Center (CNC), has been named recipient of the 2021 Monarchs Across Georgia (MAG) Service Award. Over the years, Henning's efforts have provided thousands of native milkweed plants for sale by CNC and many other organizations, schools, and community gardens.

In 2018, he partnered with the State Botanical Garden of Georgia, MAG, and others to write *Monarch Butterflies & Georgia's Gardeners*, a guide to educate people on the best milkweeds to plant in Georgia.



Henning and the CNC are state leaders in growing native milkweeds. Over the last five years, CNC has grown more than 25,000 milkweeds for a variety of projects, including plant sales and restoration activities.

Without the efforts of Henning and CNC's horticultural department (under his leadership), Georgia gardens would not feature nearly as many native milkweeds.

Henning's passion and support for milkweeds go beyond his "day job" at CNC. He spends countless hours in the field, finding and collecting (with permission) rare milkweeds for propagation.

Spring azure & flowering dogwood

Spring azure (*Celastrina ladon*)

This tiny butterfly, with a wingspan of 2.2 to 3.5 cm, is famous for its ability to confuse observers due to the different “forms” that are seen during spring. The various forms are differentiated by markings on the hindwings: form “violacea” has scattered dark spots, “marginata” has a dark gray-brown border, and “lucia” has a prominent dark splotch in the middle along with dark borders on both wings. Some taxonomists believe *Celastrina ladon* to be a subspecies of *C. argiolus*.

When the wings of the male are open, both the forewings and hindwings are revealed to be bright blue, whereas the female is a darker shade of blue with prominent black margins on the forewings. When closed, the wings look grayish with darker markings.

Their geographical range is from Alaska and Canada south of the tundra through most of the U.S., except the Texas coast, southern plains, and peninsular Florida. Their preferred habitats are old fields, clearings and edges of deciduous woods, freshwater swamps, and wooded marshes.

Many broods can be seen January through October along the Gulf Coast. They occur for progressively shorter periods in the northward regions. In Canada, they are seen May through August. Flowering dogwood (*Cornus florida*) is a primary host. Other host plants include a variety of woody shrubs and occasionally herbs, such as viburnums, black cherry (*Prunus serotina*), New Jersey tea (*Ceanothus Americana*), meadowsweet (*Spiraea salicifolia*), and Collinsia.

The blue-green eggs look like flattened discs and are placed singly on or near flower buds. The caterpillars feed on the flowers and fruits of the host plants and are tended by tree ants. The mature larvae are shaped like flat wide slugs, rather than tubes. They have been observed to be of variable color: shades of green, brown, and pinkish green. Their segmented bodies, with pale, lateral bands on each segment, allow them

to blend with the center of the dogwood blossom. Each caterpillar forms a light brown, pellet-shaped chrysalis, which is its overwintering stage. The adult butterfly feeds on nectar from flowers of blackberry, dogbane, privet, New Jersey tea, common milkweed, and others.

Flowering dogwood (*Cornus florida*)

The flowering dogwood is one of the most beautiful eastern North American trees. It is well-loved across the eastern U.S. and is the state flower of North Carolina. Dogwood trees are well-known for showy flowers that bloom in early spring. They bear red fruits, and have scarlet-colored foliage in fall.

A woody, deciduous tree, it may grow up to 40 feet tall. It is native to the area spanning southeastern Canada, through the eastern U.S., up to eastern Mexico. It is single or multi-trunked with a spreading crown and long-lasting showy white and pink spring blooms.



Flowering dogwood. Close-up of bracts and flowers. Source: Wikimedia Commons.

The hardwood of the tree is extremely shock-resistant and useful for making weaving shuttles, spools, small pulleys, mallet heads. Native Americans extracted a red dye from the roots. The aromatic bark and roots were also used as a remedy for malaria, while the fibrous twigs were used as chewing sticks to whiten teeth.

Flowering dogwoods grow well in full sun to partial shade, in well-drained soil that is high in organic matter and has an acidic to neutral pH. In addition to being the larval host for the spring azure butterfly, the tree attracts birds and many other butterflies.

The tree blooms early in spring before the leaves are out. The flower, as it appears from the outside, is actually made of petal-like bracts that are modified leaves. The “true” flowers are contained in the centrally positioned yellowish-green flower heads. Each flower head consists of 20 to 30 flowers that attract butterflies and specialized bees. The red fruits are a food source for songbirds and other wildlife through fall and winter. The twigs and bark are also eaten by wildlife.



Spring azure female, Mount Totumas cloud forest, Panama. Source: Charles J. Sharp, <https://www.sharpphotography.co.uk/>

Volunteers needed to map milkweed for monarchs

The State Botanical Garden of Georgia is working with **Connect to Protect** and residents all around the state to map milkweed populations throughout Georgia and we need your help!

We are collecting data on native and planted milkweed populations throughout Georgia to help protect monarch butterflies. For a crash course on the importance of milkweed for monarch conservation, please read our **Monarch Butterflies & Georgia's Gardeners** factsheet.

The data collected through this project will be used by the State Botanical Garden to create maps, which will help identify key conservation communities to support these important pollinators. The data will also help track the numbers of planted milkweed in gardens and natural settings. Georgia needs thousands of milkweed stems on the land.

Volunteers should be good stewards of the land and ambassadors of nature, treading lightly and bringing no harm to the land, plants, and wildlife encountered in the forests. Teams should work in groups of two to four. Larger groups can disrupt wildlife and single-person exploration is discouraged for safety concerns.

How to participate

1. Go to <https://www.inaturalist.org/projects/mapping-milkweed-for-monarchs-in-georgia>, sign up, and join the Mapping Milkweed for

Monarchs in Georgia group. You can also search the project name, "Mapping Milkweed for Monarchs in Georgia" under iNat projects and sign up there.

2. Be sure to read the "ABOUT" tab for information on safety and protocols.
3. Download the **iNaturalist** and the **SEEK** apps to your phone. These apps will allow you to instantaneously become amateur botanists. Just take clear photos of a plant and the apps will help you identify the species.
4. Have fun while learning about Georgia's native milkweeds!

Special Request: To protect wild milkweed populations from unwanted relocation, please hide or obscure the coordinates of any natural milkweed populations that you find.

Learning resources

- Step-by-step **guide** on using iNaturalist
- **Staying safe** on roadside observations
- Identifying **Georgia's Milkweed**
- Butterflies & Georgia's Gardeners **brochure**
- Educational **resources** on monarch butterflies
- U.S. Fish & Wildlife Service's **profile on the monarch butterfly**
- Information about the U.S. Fish & Wildlife Service's 2020 decision on listing the monarch butterfly under the **Endangered Species Act**
- Ethical **sources of milkweeds**/native plant nurseries

Join the MAG committee

The MAG committee is always looking for new volunteers. Email us at mag@eealliance.org and let us know what opportunities interest you. There are many ways you can help, including:

- Writing newsletter articles
- Becoming a MAG workshop facilitator
- Reviewing grant applications
- Becoming part of our speakers bureau
- Posting information on our web pages
- Gathering news for our Facebook page
- Helping staff an event

Other opportunities for active committee members include coordinating or helping out with grant administration or editing the newsletter. You could also work on the Symbolic Migration, Mexico Book Project, plant sales, pollinator habitat certification, volunteer coordination, or the e-blast and email list.

Urban gardens and landscapes as monarch habitat

Excerpt from Monarch Joint Venture's 2021 Monarch Research Review

Monarch Joint Venture's Monarch Research Review provides key takeaways from the latest scientific literature about monarchs and their habitat. The 2021 review is based on 85 articles published between September 2020 and December 2021 and includes topics such as monarch biology and populations, pollinator habitat quality and conservation, climate change and other stressors, migration dynamics, and genetic research. The **full review** is available for free as a downloadable PDF.

The excerpt below is based on literature explaining how urban gardens and landscapes can be monarch habitat.

Urban gardens and landscapes

Monarchs may lay more eggs in gardens with a diversity of flowering species, and larvae survive just as well on certain milkweed cultivars as they do on their wild counterparts. Establishing gardens via broadcast seeding and plug planting optimizes soil ecosystem services. Converting lawns to pollinator habitat is financially beneficial in the long-term, and rebates to encourage this may only work on homeowners who are already environmentally-minded.

- Adding multiple flowering species to garden-sized milkweed plantings in north-central Florida resulted in higher rates of monarch oviposition compared to milkweed only, without increased predation (Nestle et al., 2020).
- Monarch larval survival, growth, and development on cultivars of *A. tuberosa* and *A. incarnata* are similar to those metrics on the wild varieties of those species. In pollinator gardens, these cultivars are expected to support monarch butterflies and native bees as well as their wild types (Baker et al., 2020).
- In a three-year urban lot study, lower intensity native plant restoration methods (seed bombs, broadcast seeding, or no restoration) decreased soil nutrient retention, while more intensive techniques (intensive gardening and planting plugs) decreased soil carbon sequestration and water infiltration. However, because carbon sequestration and water infiltration are expected to increase over time, authors suggest that broadcast seeding and plug planting may be best



to optimize plant establishment and soil ecosystem services (Midgley et al., 2022).

- For rural homeowners, conversion to pollinator habitat was found to be appreciably less expensive (\$54-\$167/acre-1y-1) than continued self-care (\$637-\$1,007/acre-1y-1) or contracted care (\$326-\$1,034/acre-1y-1) of lawns over a 10-year period (Janke et al., 2021).
- A study of single-family homeowners found that a rebate incentive to convert portions of lawn to pollinator-friendly yards did not impact the overall intent to adopt such a practice. However, the rebate had a positive impact for 'environmental-oriented' homeowners' likelihood to convert, while 'turfgrass-oriented' owners were not swayed by any level of rebate offered (25 or 50%). This article also discusses factors to consider for homeowner education programs (Zhang and Khachatryan, 2021).

MAG 2021 Pollinator Habitat Award: Butterflies & Blooms in the Briar Patch

Butterflies & Blooms in the Briar Patch has been named recipient of the 2021 Monarchs Across Georgia (MAG) Pollinator Habitat Award.

On a location owned by the city of Eatonton, Butterflies & Blooms in the Briar Patch is a volunteer-based project whose active members change from season to season.

After the site of the original garden was sold, the mayor requested that, rather than ending the project, it be moved to another location. The new area consists of a quarter-mile track full of native larval host plants for more than 70 butterflies and skippers!

The habitat is open to the public, free-of-charge from dawn to dark, seven days a week, including holidays. A [Facebook page](#) describes the native larval host plants, nectar plants, and butterfly life cycles, in addition to inviting the public to group events, such as monarch tagging.

Hundreds of milkweeds have been propagated from seed collected on the site by local middle school students. A ventilated butterfly cage allows visitors to view the metamorphosis of all the supported species in the habitat.

Since its original MAG certification in 2013, many features have been added, including a pond, a boardwalk that crosses a natural boggy area, and several nature viewing stations. The new area includes about five acres, and hundreds of plants (perennials as well as annuals) have been added. An outdoor classroom built by the Boy Scouts for their Eagle Scout designation is available to be used by any group.

Butterflies & Blooms in the Briar Patch hosts garden tours, students, and nature photographers. In 2021, more than 2,500 non-scheduled visitors dropped in to view this incredible habitat.

