

Research and
Community Science

*Menomonee
Valley*

2016

A MESSAGE FROM THE TEAM

The Urban Ecology Center's Menomonee Valley branch opened five years ago thanks to community support from the [Menomonee Valley Partners, Inc.](#) and other partners. Previously an industrial brownfield after 150 years of human development, we now have healing and diversifying ecosystems in Three Bridges Park, Stormwater Park, and along the Hank Aaron State Trail and Menomonee River. [Community scientists](#) aid in understanding this transformation as we continue the restoration process and share our progress to inspire positive, community-led change.

Introducing the Research and Community Science department!

We're happy to announce that the Urban Ecology Center's Research and Citizen Science Department is now the Research and *Community Science* Department. We want to emphasize that everyone in the community is encouraged to collaborate with us—whether it's learning how to survey for wildlife in the field, analyzing data, or carrying out original research.



The Research and Community Science team (left to right): Manager of Research and Community Science Tim Vargo, GIS and Field Data Coordinator Jessica Orlando, and Research and Community Science Coordinator Jennifer Callaghan.



2016 Research and Community Science intern Dionne Price holding a Butler's Gartersnake. The Urban Ecology Center offers year-round opportunities for the community to learn from observations of wildlife in our urban greenspaces while contributing to collaborative research efforts. Photo by 2016 Research and Community Science intern Melissa Gilmore.

It is hard to believe that *so much life*—including 130 species of birds, a previously State Threatened snake species, several migrating fish species, flying and terrestrial mammals, and insects such as our 27 species of dragonflies and damselflies—are already using the restored wetland, prairie, oak savanna, woodland, riparian, and river habitats of the Menomonee Valley.

The Urban Ecology Center invites you to witness this transformation by volunteering your time as a land steward or community scientist. Or walk through the park on newly created trails, participate in one of our year-round community programs such as a family hike or Young Scientists Club, borrow skis or canoes through our equipment lending program, or watch the native plants and wildlife change seasonally with our Photo Phenology Club.

—Jennifer, Jessica, and Tim

Cover photo: Butler's Gartersnake in Three Bridges Park on March 26, 2016. Photo by Jeanette Fellows, a volunteer at the Urban Ecology Center whose work is featured throughout this report.

Jeanette is an artist and photographer located in Waukesha, WI. She has displayed her works since 2012 at various galleries and exhibitions throughout Waukesha and Milwaukee, including Waukesha City Hall, Milwaukee City Hall and the Waukesha Public Library. Her work has also been acquired for permanent display at the Gila River Indian Community Utility Authority in Chandler, AZ.

Her artwork is done in a photo realistic style, usually in black and white. Her paintings are based from photographs that she has taken and then recreated in acrylic paints on canvas. Her goal is to continue to use art as a way of sharing her experiences and helping to expand people's understanding of the world around them.

LAND STEWARDSHIP

The Urban Ecology Center's Land Stewardship team improves habitat quality through community engaged, hands-on restoration work in Three Bridges Park. The community works together in all aspects of the restoration process, including planning and collecting native seeds (with state permits) and removing invasive species to provide space for native plant plugs and tree seedlings. The Research and Community Science team is focused on *understanding how wildlife respond to this restoration progress*—which will in turn inform and adapt land management decisions.

Acre by acre, dedicated staff and volunteers have created ecosystems within urban greenspaces that provide habitat for wildlife, clean air and water, and a place for learning and recreation.

Habitat restoration and management in Three Bridges Park includes a variety of reconstructed plant communities found in Southeastern Wisconsin, including mesic prairie, southern mesic forest, and savanna (oak opening). Each plant community is maintained by controlling non-native, invasive plant species, enhancing native plant diversity by introducing species found in historical records for Southeastern Wisconsin, and increasing native plant diversity and resilience by increasing gene flow.



Prairie Smoke in full bloom in Three Bridges Park. This is one of the first native prairie plants to flower each spring in the restored ecosystems of the Menomonee Valley. Photographed May 26, 2016 by Jeanette Fellows.



Urban Ecology Center staff, summer interns, community volunteers, and groups such as DentaQuest work together to manage a variety of plant communities in the Menomonee Valley. Photo by Manager of Land Stewardship Kim Forbeck.

With the help of 640 volunteers who contributed 1,784 service hours from September 2015 – August 2016 (the Center's fiscal year), we planted about 10,000 herbaceous woodland and prairie plants, removed countless pounds of non-native, invasive plants, and addressed erosion issues. Volunteers included student service learners applying classroom knowledge to their communities, [ROOT volunteers meeting weekly](#) to restore our outdoor treasures, and corporate and school groups including Kohl's Corporation, Rexnord, BMO Harris, Marquette University, Alverno University, and Cardinal Stritch University.

40% increase in land stewardship volunteer hours in the Menomonee Valley during 2015 – 2016 compared to the previous fiscal year

2016 trail improvements provided the community with access to diverse ecological greenspaces for recreation and education:

- Wood chips were used to create trails that traverse the park's mounds to prevent erosion
- The north bank trail stabilization project provided a trail that parallels Three Bridges Park on the north bank of the Menomonee River. We've already adjusted our Weekly Bird Walk and bat survey routes to begin monitoring ecosystems adjacent to this new trail
- A water line to the community gardens was run from the Urban Ecology Center building

BATS

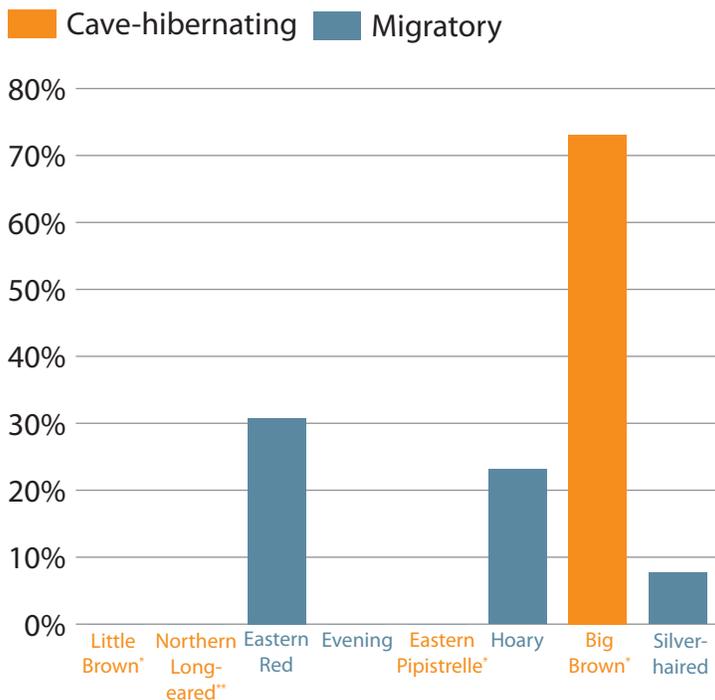
We conducted three [acoustic bat surveys](#) in 2016, totaling 26 surveys during spring and fall migrations and summer breeding and residency in the Menomonee Valley since 2011. Surveys occur after sunset when bats are most active. The monitoring equipment translates high-frequency echolocation calls bats use to search for prey and avoid obstacles into visual sonograms. Each species' unique sound waves help document their presence in our parks and contribute to state-wide monitoring efforts.

We are among the first sites to simultaneously survey with multiple different versions of bat detectors, thanks to borrowing the latest technology from our partners at Escuela Verde. This allows the Wisconsin Department of Natural Resources to better advise field monitoring efforts across the state, which is especially urgent since cave-hibernating bats are threatened by [White Nose Syndrome](#), a deadly fungal disease that causes them to expel energy reserves needed to survive winter.

Wisconsin bats are *superheroes of the night*—controlling insects and protecting human health

Four of Wisconsin's eight bat species have been recorded in the Menomonee Valley

% of 2011 – 2016 acoustic surveys with species present



*State Threatened Species **Federally Threatened Species



Wisconsin Bat Festival 2016 field trips and Superheroes of the Night Bat Science Demonstration. Photos by Marketing Communications Coordinator Anna Aragon and community scientist Janet Carr.

In fall of 2016, we collaborated with the U.S. Forest Service, Wisconsin Department of Natural Resources, and the Organization for Bat Conservation to bring [bat science to the Menomonee Valley](#) as part of the Wisconsin Bat Festival. More than 200 students gathered for an up-close encounter with bats from all over the world and in the evening the Center was transformed into a field research station complete with live bats, mist nets, thermal and infrared cameras, radio transmitters, and hands-on activities to explore why bats are *superheroes of the night*! The event culminated with a festival at the Milwaukee Public Museum where our Young Scientists Club presented a poster of their research and learned more from educators and biologists across the region.



Wisconsin Department of Natural Resources Biologist Jennifer Redell with a Big Brown Bat! Photo by volunteer Joe Meyer.

WHAT'S A NIGHT SURVEY LIKE?

City Slickers

—by community scientist *Becky Tidberg*

My daughter's favorite animal is the bat and has been since she was 4 years old. She's now 14 and instead of being content watching *Fern Gully*, we have to indulge her in other ways such as catch and releases and bat listening walks hosted by the Urban Ecology Center.

We've participated in bat walks at a couple of different locations but the one we attended last summer held some special magic. Finding the wild in the middle of the city is always an interesting juxtaposition, seeing how wildlife has adapted to city sidewalks and construction venues.

When we left the Center with our ultrasonic detectors, flashlights, and sweatshirts, it was clear we'd entered the wild, but I couldn't leave my city-fied self behind.

The first encounter we noticed was the other Wisconsin state bird—the mosquito. They buzzed around begging for donations like the co-worker in charge of collecting for Bob's birthday. Sorry, ladies, I gave at the office.

We paused to record the bats on our radar screens and then had to choose to take the straight path which headed toward the casino or turn left for the nature trail. A few rabbits scurried out of the community garden—raiding the office fridge no doubt—and headed down the straight path. Off to multiply their winnings along with their families, I guess.

As we made the turn in the path, we were struck by the lights of a factory slightly filtered by trees. Against those trees, the flashbulbs of fireflies blinked from either side of our very own red carpet. "Yes, I'm wearing a Beatles t-shirt and jeans. Please get my good side. We will be attending the Kopp's Frozen Custard after party."

Our whole group was ready for a drink by this time but only the geese were so lucky. To our left the river meandered slowly and the birds were bellied up to a sandbar, one to a stool, where old posts cleared the water. I'm not sure who was bartending but the bullfrogs and crickets provided background music that would've made Sinatra proud.

We lingered for a while in the artisan district. Perched on the bridge we could see some of our winged mammals catching a snack near the water. But we could also inspect the weaving skills of a variety of local spiders spinning webs large enough to be spread across any table, but too delicate to be touched by anything but the eyes. Those massive webs splayed against graffiti were a good reminder that we weren't wandering the northern back woods, but were still in the middle of our largest city.

Learning to live together is one of the primary goals of the Urban Ecology Center. Seeing nature quite literally in our own backyard.



The Hansen-Tidberg Family. Becky is a Learning Coach working with non-traditional college students earning their Associate Degree. She's also a freelance writer with work appearing in five volumes of *Chicken Soup for the Soul*, *Thriving Family Magazine*, and is one-half of The Poetry Professors (along with her hubby) on Facebook and Twitter.

TERRESTRIAL MAMMALS

Mammals play an important role in ecosystem health through their connections with vegetation, soil, invertebrates, and higher levels of the food web. Live-trapping, wildlife cameras, and incidental visual observations aid in monitoring populations of mammals, large and small. In addition, mark-recapture procedures enable us to estimate population size and monitor trends over time.

—Introduction and data analysis by community scientist Rachelle Ketelhohn, a senior at UW-Milwaukee majoring in Conservation and Environmental Science and pursuing a career in wildlife conservation.



07-24-2016 14:11:40

Wildlife camera surveys provide species presence data by documenting nocturnal animals, more elusive species, and large mammals like this white-tailed deer fawn.



Bushnell

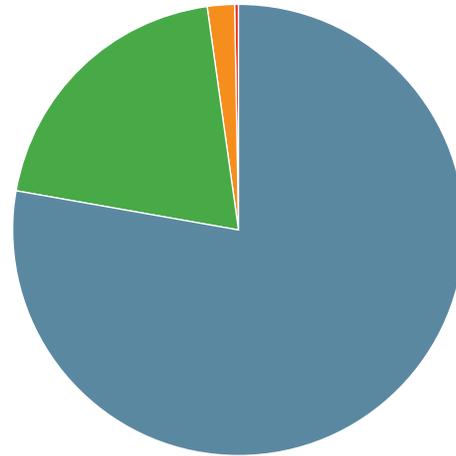
07-02-2016 22:01:45

In 2016, we continued to document beaver activity at Menomonee Valley, first observed in 2015. American Beavers had been extirpated from the Menomonee River for decades and their return is a testament to habitat restoration efforts by our land stewards, volunteers, and community partners.

Small mammal species composition

Based on 2014 – 2016 Menomonee Valley surveys

White-footed Mouse Eastern Chipmunk
Meadow Vole House Mouse



2,647

trap nights in the Menomonee Valley since 2014! Community scientists set live-traps nightly and check them each morning as part of a long-term, mark-recapture study

Interns Melissa Gilmore, Kara Kehl, and Peter Rebholz trapped three consecutive nights each week of the field season (pictured with a White-footed Mouse that was live-trapped in June 2016 in Three Bridges Park). Mammals are marked, measured, and released to determine population trends of these important primary consumers (and prey) within our restored ecosystems.



Some of our mammal data are from incidental observations and other projects, like this nest of meadow voles found under one of our snake coverboards in Stormwater Park. Photo by 2016 Research and Community Science intern Peter Rebholz.

REPTILES AND AMPHIBIANS

Frogs & Toads

We observed three frog species—**Green Frogs**, **Northern Leopard Frogs**, and **American Bullfrogs**—during nine visual frog and toad surveys in the summer of 2016. The Northern Leopard Frog begins breeding in mid-April when water temperatures reach 65°F. These frogs can travel up to a mile from breeding ponds to forage in upland prairies during the summer, reflecting the importance of restoration of both aquatic and upland habitats in the Menomonee Valley.



Northern Leopard Frog photographed by Jeanette Fellows on April 23, 2016 during a Photo Phenology hike through Three Bridges Park.

We are excited to document frogs breeding in the restored aquatic habitats of Menomonee Valley! Not only did we see frogs, we heard Green Frog breeding calls and observed 20 Northern Leopard Frog froglets (tadpoles almost finished metamorphosing into frogs that still retain their larval tail) in July 2016 during a weekly visual frog survey.



Froglets observed in Three Bridges Park! These Northern Leopard Frog froglets were almost ready to absorb their tails and metamorphose into juvenile frogs. Photo by 2016 Research and Community Science intern Peter Rebholz.

Turtles

In the summer of 2016, we observed two turtle species—**Spiny Softshell** and **Common Snapping Turtles**—from eight surveys of the Menomonee River using binoculars while walking along the shoreline. These two species encompass our cumulative list since 2014.

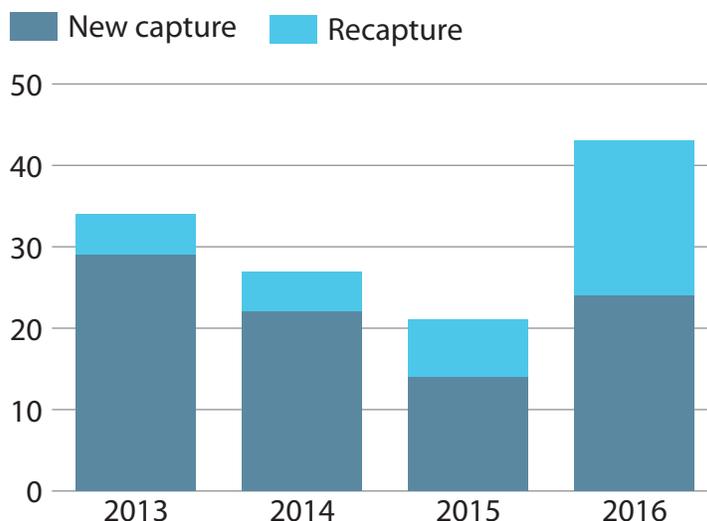
Snakes

Since 2013, we've conducted snake surveys using a network of plywood coverboards. The ground beneath the boards retains heat, especially at night, making them attractive shelter for ectothermic animals that use the environment to regulate their body temperature. Individual snakes are identified year after year using mark-recapture techniques to study population dynamics over time and track individual growth and body condition.



Community scientist (and now UW-Green Bay student) Russell Mason measuring snout-vent length of a Butler's Gartersnake in the Menomonee Valley. Photo by 2016 Research and Community Science intern Peter Rebholz.

Number of individual Butler's Gartersnakes Captured and recaptured at Menomonee Valley



Butler's Gartersnakes (previously a State Threatened Species) have accounted for 98% of snake species documented in the Menomonee Valley since surveys began in 2013. In the summer of 2016, the species was observed on all 11 surveys with 24 new individuals and 19 recaptures. Additionally in 2016, we captured (then recaptured) one DeKay's Brown Snake.

Outdoor Leader Jake Olsen learning how to handle snakes in the field—and in our Native Wisconsin Animal Rooms! Photo by 2016 Research and Community Science intern Peter Rebholz.

WEEKLY BIRD WALKS

On Tuesday mornings at 8:00 a.m., community scientists meet at the Urban Ecology Center-Menomonee Valley to conduct bird surveys. All experience levels are welcome and we have binoculars to borrow. Alternating east into Three Bridges Park and west along the Menomonee River, each 1.5-mile survey lasts about 2 hours. In 2016, 51 bird walks occurred—only missing one week! We also experienced record community science participation, up 80 hours from 2015 for a total of 726 birding hours (number of observers × survey hours).



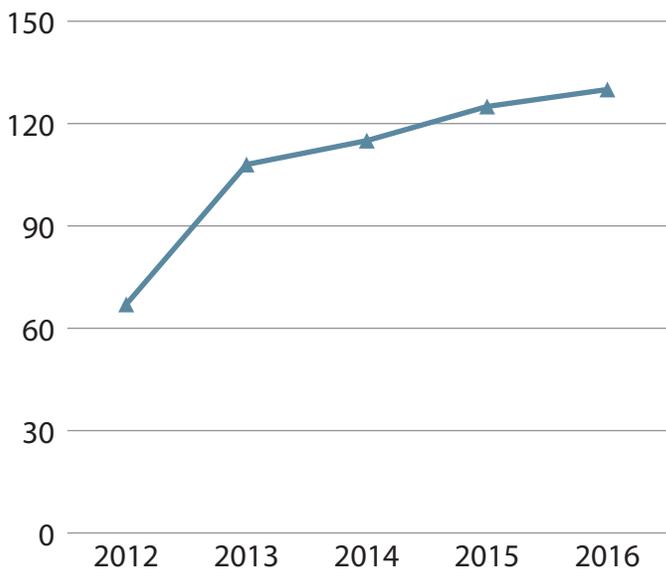
In this fifth year of Weekly Bird Walks, we continued to add new species to the ongoing checklist of resident and migratory birds using restored habitats in the Menomonee Valley. New additions in 2016 included American Black Duck*, Pectoral Sandpiper, Ruby-throated Hummingbird, Broad-winged Hawk, and Wood Thrush. We were excited to sight our first Ruby-throated Hummingbird on August 23, 2016—then again the next week on August 30. Moreover, our May 24, 2016 Pectoral Sandpiper was a first-ever sighting of this bird for any of our three Urban Ecology Center branches!

*State Special Concern species

In 2016, five species were recorded for the first time, increasing our cumulative Menomonee Valley list to 130 species

Cumulative bird species richness

Total number of species documented based on 243 Menomonee Valley checklists (weekly walks & casual observations) since fall 2012



Photos: (Left and top) Community scientists recording birds during a Menomonee Valley Weekly Bird Walk traveling west from the Urban Ecology Center; (Above) Blue-winged Teal spotted in a group of Mallards along the Menomonee River. This August 2, 2016 observation was only our second sighting of this duck in the Menomonee Valley (first documented April 16, 2013). Photos by 2016 Research and Community Science intern Peter Rebholz.

Read more about this research and Menomonee Valley restoration featured in [Politico Magazine, August 2016](#).

BIRD BANDING

Bird banding surveys occur every spring and fall and are unique up-close encounters with urban wildlife. Our team of dedicated community scientists works hard in Menomonee Valley's restored ecosystems to safely band birds while providing educational opportunities for school groups and the community—who often even get to hold and release a bird!

In 2016, we partnered with the U.S. Forest Service and Escuela Verde to create a field research mentorship program for high school students. Students attended workshops and training sessions in ornithology and learned the benefits of bird banding as a tool for conducting research. We introduced the entirety of a field study, from asking a research question to early mornings assisting volunteers and professional biologists identify and band birds in the field. The goal is to build off of this pilot year for a deeper experience in 2017 where students can lead community research.



27 community scientists and professional partners contributed

364 hours of field work, mentoring, and data management during

6 Menomonee Valley bird banding sessions in 2016!

28 species were banded in 2016—more than any year since banding started at Menomonee Valley in 2012

Five of 2016's 28 species were new to Menomonee Valley bird banding: Ruby-crowned Kinglet, Brown-headed Cowbird, White-crowned Sparrow, Chestnut-sided Warbler, and Orange-crowned Warbler. After five years of banding, our cumulative list is now up to 48 species banded! Some of these have never been recorded on our Weekly Bird Walks so banding helped us document their presence, including Fox Sparrow, Grey-cheeked Thrush, Mourning Warbler, and Philadelphia Vireo.

Common Menomonee Valley species

Occurrence during bird banding sessions 2012 – 2016

Spring (13 sessions)	Fall (11 sessions)
American Robin (85%)	American Goldfinch (82%)
American Goldfinch (77%)	Black-capped Chickadee (45%)
Red-winged Blackbird (77%)	Gray Catbird (36%)
Common Grackle (69%)	House Finch (36%)
Tree Swallow (54%)	Song Sparrow (36%)
Song Sparrow (46%)	Swainson's Thrush (36%)
Traill's Flycatcher (38%)	Western Palm Warbler (36%)
Wilson's Warbler (31%)	



Escuela Verde students participating in a field research mentorship program at the Urban Ecology Center-Menomonee Valley in partnership with the U.S. Forest Service. Photos by Escuela Verde Advisor Joey Zocher.

ODONATES

Community scientists have been monitoring odonates (dragonflies and damselflies) in the Menomonee Valley since 2014. Over time, this program can provide valuable data to document the impact of restoration and stewardship of urban greenspaces, as well as indicate the health of aquatic ecosystems such as the Menomonee River.

Why research odonates? Odonates are indicator species—their sensitivity to habitat quality and amphibious life cycle (they spend the majority of their life cycles underwater as eggs and larval nymphs) make dragonflies and damselflies well suited for evaluating environmental changes over time particularly in aquatic habitats such as rivers, lakes, and ponds. This is especially useful in urban areas where humans greatly influence aquatic ecosystems.

Community scientists documented 19 odonate species in the Menomonee Valley in 2016—eight of those for the first time, increasing our ongoing checklist to 27 species!



This Blue-tipped Dancer was one of eight odonate species recorded for the first time in the Menomonee Valley in 2016! Photo by community scientist Ann Graf.

The Urban Ecology Center contributes to the [Wisconsin Odonata Survey](#), a database of dragonfly and damselfly observations throughout the state. The Wisconsin Dragonfly Society requested our participation because Milwaukee County was largely under-surveyed—and our efforts have led to numerous observations of species that haven't been recorded in Milwaukee County in over 100 years, including Marsh Bluet and Stream Bluet damselflies recorded in 2015.

Odonate surveys are a great way to connect the community with urban greenspaces:

- Odonates are fascinating creatures that generate interest among prospective volunteers who may be squeamish about snakes or spiders. We often have artists join to photograph, sketch, paint, or be inspired by their diversity
- Participation by community scientists from other programs often occurs and is welcomed
- The 41 species we have observed at our three branches (so far) is a manageable number of local species to learn to identify (as opposed to much larger groups of insects)

—Written, analyzed, and photographed by community scientist Ann Graf. Ann regularly attends and leads odonate surveys and contributes to much of the photo-documentation of this project. In 2016, she attended the Wisconsin Dragonfly Society annual meeting in Black River Falls, WI. Ann presented her research, *Dragons and Damsels: Odonata as Evidence of a Healthy Ecosystem*, at the annual research symposium in December 2016.



A comparison of a Green-striped Darner (left) and Shadow Darner (right), both recorded for the first time in the Menomonee Valley during an August 31, 2016 survey at Menomonee Valley. Photo by community scientist Ann Graf.

BUTTERFLIES

Each fall, Monarchs migrate from their summer breeding territories, places like the Menomonee Valley, to the mountains of central Mexico. In spring these same butterflies fly north, but not all the way back to Wisconsin. It's their grandchildren that will make it back here and the grandchildren's grandchildren then start the same long migration to Mexico in fall.

Monarchs are the focus of our butterfly research largely because of declines in recent decades and the urgency to better understand their unique 2,000+ mile multigenerational migration

“Throughout the summer of 2016, community scientists surveyed butterfly populations within the Menomonee Valley and collected valuable data towards understanding their migration. Once a week we walked through the park to record different species of butterflies—equipped with only nets, a clipboard, and keen observation skills. We also surveyed specifically for Monarch larvae every week. The process was simple but interesting: find milkweed plants where Monarchs lay their eggs and count how many are present. Though it didn't occur to me at first, this research helps us understand how many Monarchs migrated back to Milwaukee to lay eggs—and by monitoring reproductive success we can estimate how many adults we expect to migrate south to overwinter.”

—Section written by Jake Olsen, Urban Ecology Center Outdoor Leader and Rufus King High School class of 2018.



Searching one of Menomonee Valley's many milkweed plants for Monarch eggs, larval instars (caterpillars), and pupae as part of the University of Minnesota's Monarch Larva Monitoring Project. Monarch butterflies lay eggs on milkweeds, whose leaves are eaten by larvae after hatching. Absorbing unpalatable milkweed compounds into their body deters predators even after metamorphosis into adult butterflies. Photo by 2016 Research and Community Science intern Melissa Gilmore.

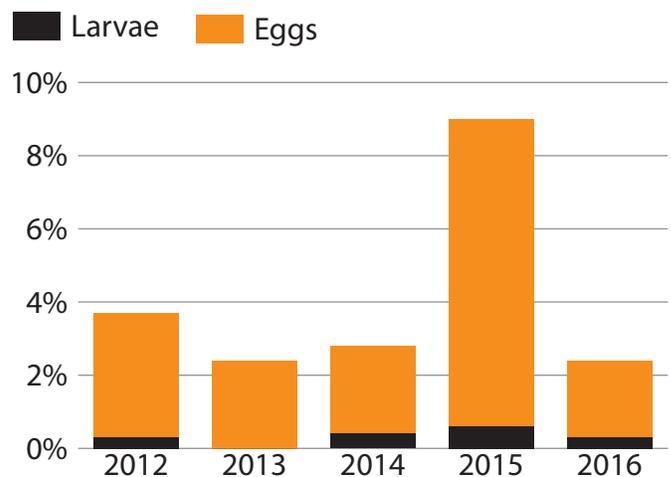


So much more than milkweed, Monarchs depend on a variety of native flowering plants (like this Meadow Blazing Star in the Menomonee Valley) for nectar. Monarchs require blooms staggered along their entire 2,000+ mile migration route and throughout the summer breeding season. Photo by 2016 Research and Community Science intern Peter Rebholz.

In September, volunteers, Young Scientists, and school groups helped tag 13 Monarchs of the “super generation” on their way to overwinter in central Mexico. Tags recovered during migration, overwintering, or return flight increase understanding of population dynamics and habitat needs to help conserve this species.

Monarch egg & larval detections 2012 – 2016

% of Menomonee Valley milkweeds with Monarch eggs or larvae (including pupae & chrysalises)



What happened in 2016? We found fewer eggs and larvae in 2016 than we did in 2015 and observed fewer adults in the summer months. While we continue to plant milkweeds and other native flowering plants, Monarchs are threatened by habitat loss, pesticides, and climate change across their entire migration route—and a 20-year population decline has led to a petition to be federally-listed as an **Endangered Species**. As overwintering butterflies began the journey north in 2016, a March sleet storm struck central Mexico and decimated the population, resulting in fewer and later arrivals. We are hopeful that restoring greenspaces like Three Bridges Park will aid in Monarch recovery.

PARK USE

In addition to surveying how wildlife are using the restored urban greenspaces, we are interested in how the community is using the park. It is our hope that the ecological restoration, along with daily programming at the Center, creates places that are welcoming to both wildlife and humans. We record how people are using the park (biking, running, walking, fishing, etc.) outside of programming at the Center and then extrapolate from these observations to estimate park use for the entire year.

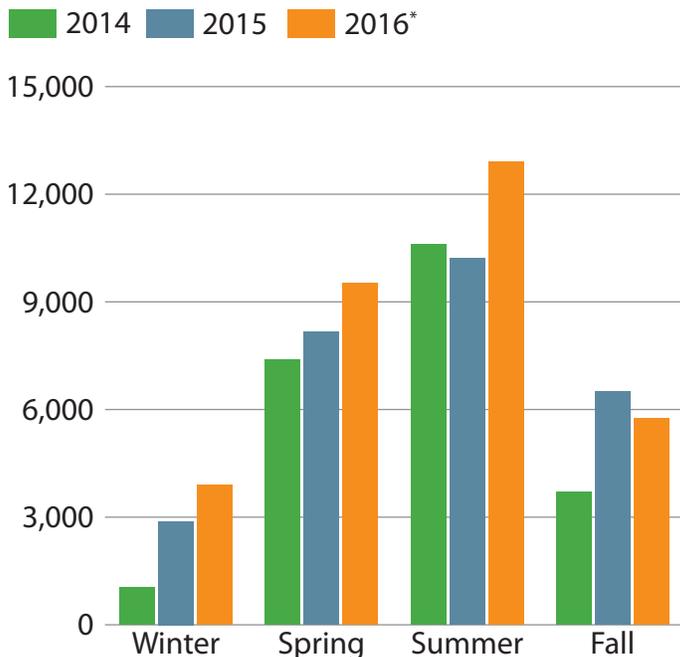
In 2016, we estimated 32,088 park visits in addition to visits through Urban Ecology Center programs



We hope that daily programming at the Center creates places that are safe and welcoming—and that this feeling extends to adjacent greenspaces and trails. Photo by Jeanette Fellows in Three Bridges Park during Young Scientists Club in February 2016.

Estimated park visits continue to increase

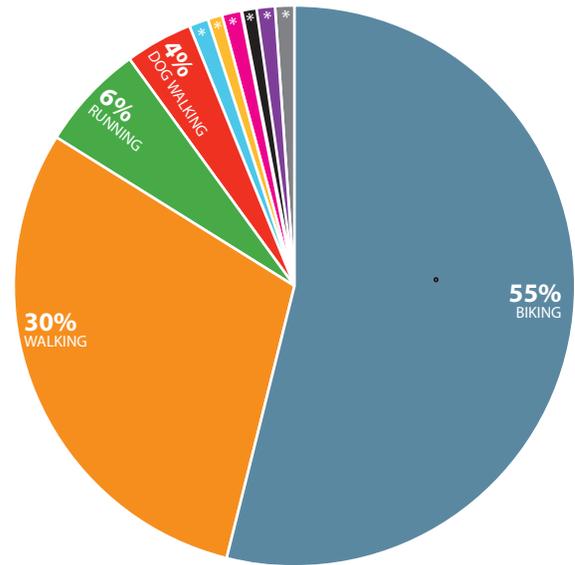
Based on 2014 – 2016 surveys in Menomonee Valley



*In 2016, sampling intensity was reduced from approximately 80 surveys per year to 27

Park user activities at Menomonee Valley

Based on 2013 – 2016 park use surveys



*1% each FISHING, PLAYING, SITTING, ROLLERBLADING/SKATEBOARDING, STANDING, & OTHER

Community scientists work together to measure park use throughout the year. Surveys last approximately one hour and consist of four fixed points recorded for ten minutes and when moving between survey points. Photo by GIS and Field Data Coordinator Jessica Orlando at Observation Point 1, the highest drumlin in Three Bridges Park, during a summer afternoon survey in 2016.



Looking forward, the updates we made to survey methods in 2016 were driven by the need to increase volunteer participation, safety, and opportunities to explore new dimensions of park use within a restored urban greenspace. Building off the wealth of data collected since 2013 will allow us to develop a more robust method for scaling our survey observations to estimate overall park use. This method will allow us to make adjustments specific not only to each branch and season, but also each day of the week and each time period throughout the day to better reflect how the parks are being used by the community. Increasing sampling efficiency has let us continue to maintain community engagement throughout the research process, from study design to evaluation. So far we've conducted multiple focus groups to reimagine this project to make it more engaging, collaborative, and results-oriented to share with our volunteers and community partners.

COMMUNITY PROGRAMS

Community science at the Urban Ecology Center extends beyond the Research and Community Science Department. We are humbled and inspired to be able to bring research and monitoring efforts to environmental education and community programs led by our colleagues. These efforts include a collection of photos documenting **phenology** (seasonal and annual changes) in our parks as seen through the lenses of staff and community photographers in addition to after-school programs for the Young Scientists Club. We are honored to work with such talented and passionate colleagues, community partners, and volunteers.

Photo Phenology



A pond in Three Bridges Park changing throughout the seasons documented during monthly Photo Phenology community programs. Photo by community scientist Scott Mason.

“Joining the phenology project gave me a chance to use my joy of photography to document the reclamation of a former railroad yard to an urban park. I think people hope that an abandoned industrial area would eventually return to a more natural state, but I was surprised how quickly this can happen as wildflowers attract insects, then birds and mammals. Using photos is a great way to share this with people in the area and encourage them to explore more.” —Scott Mason



Photo Phenology leader Lainet Garcia-Rivera with Scott Mason at “Visions of the Valley” photo gallery and reception at the Menomonee Valley Urban Ecology Center in 2016. Photo by Jeanette Fellows.

“I worked with the Young Scientist Club, in connection with the Menomonee Valley Photo Phenology group, to help document the changes occurring in Three Bridges Park. Classes began with an instruction in photography techniques, followed by a hike through the park, where the Young Scientists had the opportunity to practice what they learned. We ended the day with a photo slideshow of the images they captured. Each month, the Young Scientists learned a different aspect of nature photography, and in the fall, their work was showcased in the “Visions of the Valley” photo gallery and reception at the Menomonee Valley Urban Ecology Center.

What I liked most about being involved in this project was the enthusiasm of the staff, volunteers, and children. It was a group effort to ensure we had space and equipment for learning, as well as staff and volunteers to lead and engage the Young Scientists. The most important factor was the willingness of the children to learn something new. What we accomplished this past year couldn't have happened without the dedication of everyone involved in the project. I am very proud of the images the Young Scientists produced and I am glad I had the opportunity to share my knowledge and experience.” —Jeanette Fellows



Photo Phenology in Three Bridges Park, including Jeanette Fellows (front). Photo by community scientist Scott Mason.

Young Scientists Club

This is the 3rd year Menomonee Valley's Young Scientists Club has presented their own community-based research at the [University of Minnesota's Ecology Fair!](#)

Methods of Insect Collection in Three Bridges Park: *“We chose three different sites in Three Bridges Park to test four methods of insect collection: pitfall trap with bait (chicken) and without bait, sweep netting and branch shaking. The purpose of the study is to get ready for a future project to know which method of insect collection yields the greatest diversity of insects. We found that the pitfall trap with chicken collected the largest amount of insects, but sweep netting collected the greater diversity.” —Young Scientists*



Young Scientists Club with advisors Lainet Garcia-Rivera and Eric Kleppe-Montenegro presenting their original research at the University of Minnesota's Ecology Fair in December 2016.

2016 MENOMONEE VALLEY COMMUNITY SCIENTISTS

Adam Honts

Adam Yellen

Adelie Content

Alicia Schultz

Alyssa Craft

Anonymous

Ann Graf

Beth Lee

Billie Harrison

Charlotte Catalano

Dana Hanson

Danial Jibson

Danny Lynn

Danny Pirtle

David Sikorski

Dennis Casper

Dennis Oulahan

Diane Weaver

Elizabeth Dalton

Ernst Von Briesen

Hansen-Tidberg Family

Jane Cliff

Jane Gellman

Janet Carr

Jean Casper

Jean Zachariasen

Jeanette Fellows

Jeff Taylor

Jennifer Lautz

Jessica Mailhot

Jessica Orlofsky

Joanna Rotter

Joe Meyer

Joey Kilmer

John Sterr

Judi Kistler

Kate Hightdudis

Kathleen Beaver

Katrina Degenhardt

Kevin Sas-Perez

Leakhena Au

Lincoln Rice

Lora Loke

Maria Terres-Sandgren

Marquette University High School

Martin Pfeiffer

Mary Mirasola

Mary Mueller

Melissa Giuffre

Michelle Hawkins

Michelle Les

Neil Houtler

Nicholas Hightdudis

Paul Sokolowski

Philip Longenecker

Rakesh Waghray

Rich Kudronowicz

Robin Squier

Rohan Waghray

Ronald Gutschow

Rose Mary Muller

Russell Mason

Sarah Fischer

Scott Mason

Sonia Ost

Stephen Baldwin

Susan Blaustein

Suzy Holstein

Taylor Pichler

Terry Parletic

Tyler Morgan

The Wildlife Society – University of Wisconsin Madison

Vicki Piaskowski

Vivi Content

Will Sebern

Yang Liu



My Mediocre Powers

*What if I
was patient
every day?*

*Patient enough
to observe,
to observe things
long enough.*

*Long enough
to learn – to learn
directly.*

*I should be patient,
and learn directly
from what I see.*

*From observation
and patience,
not from reading.*



This poem was written by Urban Ecology Center community scientist Sue Blaustein who has contributed to numerous wildlife surveys, particularly those involving observations of the invertebrate world. Sue's poem was a reflection on an insect field guide passage: *"Among his most famous studies are his work on hunting wasps, his descriptions of the domestic lives of dung beetles, the revelation of the complicated life cycle of a group of beetles called Meloidae..., and detailed work on the relationship between the sex of the egg and the dimension of the cells of a group of solitary bees, Osmiae."* –David Black in his introduction to Jean-Henri Fabre's *Insects*. Photo by Jeanette Fellows in Three Bridges Park during March 2016's monthly Photo Phenology hike.



URBAN ECOLOGY CENTER[®]

Riverside Park

1500 E. Park Place
Milwaukee, WI 53211
P (414) 964-8505
F (414) 964-1084
jferschinger@urbanecologycenter.org

Hours:
Mon – Thurs | 9 a.m. – 7 p.m.
Fri & Sat | 9 a.m. – 5 p.m.
Sun | Noon – 5 p.m.

Washington Park

1859 N. 40th Street
Milwaukee, WI 53208
P (414) 344-5460
F (414) 344-5462
tevans@urbanecologycenter.org

Hours:
Tues – Thurs | Noon – 7 p.m.
Fri | Noon – 6 p.m.
Sat | 9 a.m. – 5 p.m.

Menomonee Valley

3700 W. Pierce Street
Milwaukee, WI 53215
P (414) 431-2040
F (414) 308-1858
gholstein@urbanecologycenter.org

Hours:
Tues – Thurs | Noon – 7 p.m.
Fri | Noon – 6 p.m.
Sat | 9 a.m. – 5 p.m.

This research was made possible by the generous support of the Menomonee Valley Partners, Inc.

