

Research and
Community Science

*Menomonee
Valley*

2017

A MESSAGE FROM THE TEAM

The Urban Ecology Center's Menomonee Valley branch opened in 2012 in collaboration with the Menomonee Valley Partners, Inc. working towards greater ecological, environmental, and community revitalization. These restored greenspaces (and bluespaces) now support populations of wildlife that add value to the community by providing lifelong learning opportunities, inspiration, and ecosystem services such as nutrient cycling, pollination, and natural pest control. The Urban Ecology Center's [Research and Community Science program](#) serves to connect the community to this transformation and return of biodiversity. As a meaningful bridge between academic research and the community-at-large, we use collaborative science to engage the community in ongoing restoration, increase understanding of local ecology, and adapt land management strategies.



The Research and Community Science team was joined by interns Xeng Xiong, Danielle Mellin, Spencer Hofschulte-Beck, and Mioni Samo during June - August 2017. Their passion for community, urban wildlife, and learning fueled the summer field season, the time of year when research efforts quadruple!

Research as a foundation for understanding

We invite the community to join each and every one of our field research projects. And we couldn't do our work without them. Community members contribute integral knowledge and life experiences to ask new questions, hypothesize answers, and share results in creative ways. The program encourages collaborative spaces for research between professional and community scientists and creates a more engaged, knowledgeable, and ecologically literate community.

What's on the cover?



How wildlife are using the restored aquatic habitats of the Menomonee Valley informs us about the water quality and quantity of the ecosystem. These juvenile snapping turtles were spotted during a field trip in the rain gardens that were designed and purposefully built into Three Bridges Park. The

presence of these turtles indicates healthy aquatic and upland habitats used for breeding.

Snapping turtles travel through restored upland habitats to find sheltered ponds built into the Menomonee Valley. These juveniles are evidence of breeding—and the success of restoring diverse habitats in Three Bridges Park. Photo by Menomonee Valley Educator Carlos Manriquez on October 11, 2017.

Greater understanding of how we heal the land

Twenty-four acres of abandoned industrial development have been transformed into the diversifying ecosystems and trails of Three Bridges Park thanks to community restoration efforts, collaborations with local and state governments and organizations, neighborhood groups, and local businesses. Restored prairie, wetland, and forest habitats interconnect with the Menomonee River, Stormwater Park, and Hank Aaron State Trail to create positive, community-led change.

These diverse habitats are now occupied by resident and migratory birds, snakes, turtles, amphibians, fish, dragonflies and damselflies, monarchs, native bees, bats, terrestrial mammals, and more! Thank you to all of the community scientists who volunteered their time to research the transformation of the Menomonee Valley!

—Jennifer, Jessica, Tim, and Tony



Research and Community Science team (left to right): Community Assistance Fellow Tony Garcia (in partnership with the National Park Service), GIS and Field Data Coordinator Jessica Orlando, Research and Community Science Coordinator Jennifer Callaghan, and Manager of Research and Community Science Tim Vargo.

LAND STEWARDSHIP

The Urban Ecology Center's Land Stewardship and Community Science teams collaborate to implement adaptive management. Regular monitoring of biotic and abiotic components of urban landscapes informs the efficiency and effectiveness of restoration strategies and when to adjust strategies and goals.



•640 volunteers contributed 1,970 service hours during the 2016 – 2017 fiscal year (a 10% increase compared to the previous year)

Land Stewardship & Community Science collaborate to implement adaptive management

- The Integration of Design, Management, and Monitoring to Systematically Test Assumptions in order to adapt and learn.
- [Adaptive Management: A Tool for Conservation Practitioners](#) by Nick Salafsky, Richard Margolis, and Kent H. Redford.
- Test Assumptions: systematically try different actions to achieve a desired outcome. Which actions work and don't work and why?
- Adaptation: Improve project based on monitoring, especially if expected results not achieved
- Learning: Documenting process and results. Allows you and others to learn from mistakes.



•5,000 herbaceous plants were planted in management areas along with 200 trees

•6 acres of invasive garlic mustard were removed along the Hank Aaron State Trail

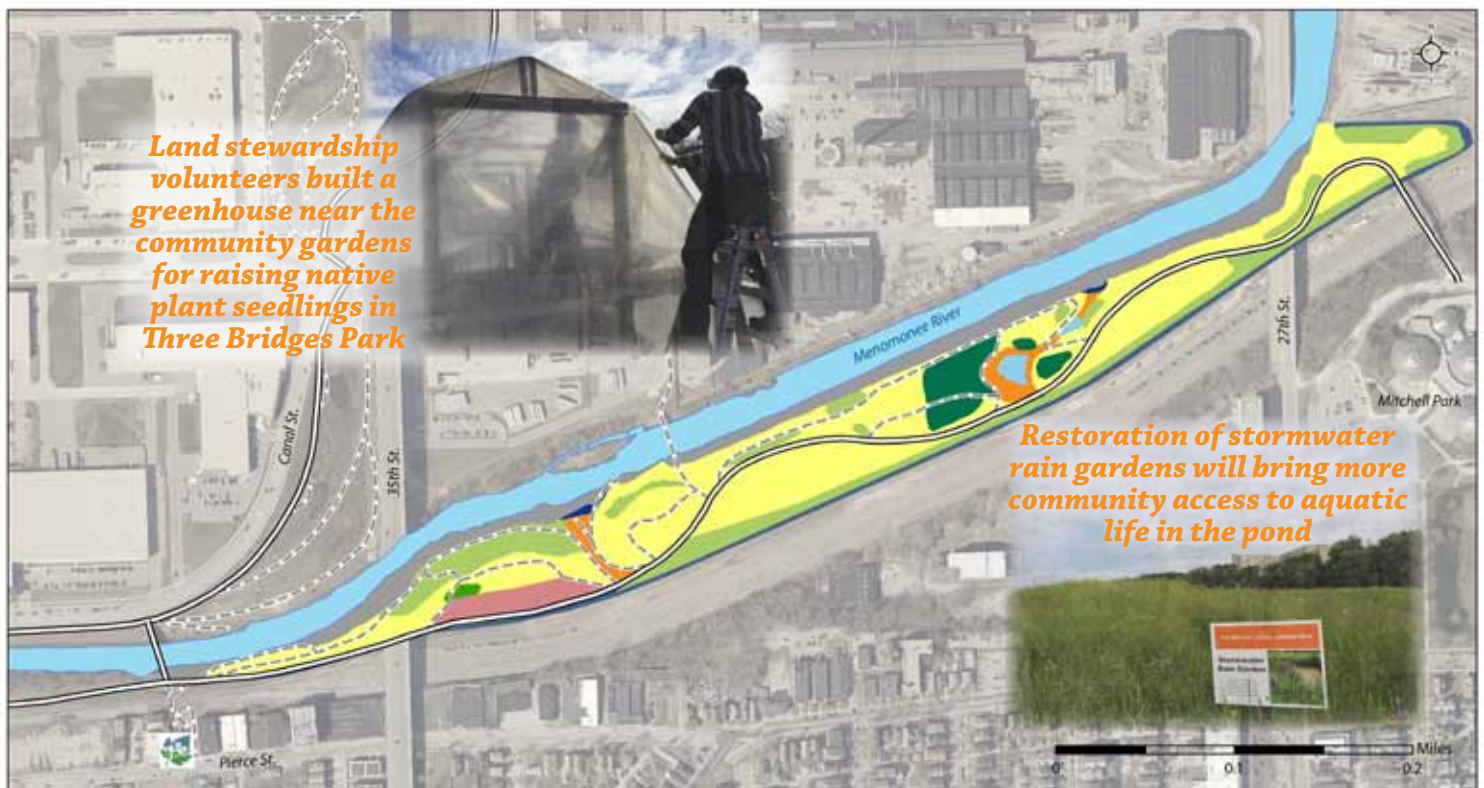
•15 additional plant species were documented for the first time ever in Three Bridges Park

The 640 volunteers included weekly ROOT opportunities and corporate and school groups such as Escuela Verde, Fratney, Rexnord, BMO Harris, Marquette University, Alverno University, and Cardinal Stritch.



The Land Stewardship and Research and Community Science teams presented their adaptive management collaboration at the Southeastern Wisconsin Conservation Summit in November 2017.

Targeted Plant Communities of Three Bridges Park



Land stewardship volunteers built a greenhouse near the community gardens for raising native plant seedlings in Three Bridges Park

Restoration of stormwater rain gardens will bring more community access to aquatic life in the pond

Management areas	
Bio-retention swales	Wet prairie
Rain gardens	Woodland
Community gardens/berry zone	Mesic prairie
Nut trees/shrubs	Shrub-carr
	Hank Aaron State Trail
	Trails
	Urban Ecology Center

Three Bridges Park is managed as multiple unique habitats representative of southeastern Wisconsin. In 2017 the management plan for the park was completed by Menomonee Valley Land Steward Jeff Veglahn which included 3-year, 10-year, and 100-year goals for each targeted native plant community.

WATER QUALITY



Community scientists monitor the health of the restored aquatic habitats of the Menomonee Valley. By documenting the presence of wildlife in the river, ponds, and rain gardens we can determine the quality of water

resources in this area and how it is changing as ecological restoration continues.



Wildlife depend on aquatic and terrestrial habitat connections

Many wildlife species depend on both aquatic and terrestrial habitats during their life cycles. Aquatic turtles breed in more protected uplands. Waterfowl and shorebirds nest in adjacent riparian habitat. Terrestrial insects like dragonflies and damselflies lay eggs in rivers and ponds and their young are actually aquatic. Restoring connections between land and water is also important, as wildlife depend on corridors to move safely between habitats. Throughout this report, community science discoveries reveal a functioning and rebuilding ecosystem in the Menomonee Valley!



Stream Assessments with our future leaders

Community Science teamed up to explore water quality with The Art and Science of Water Engineering summer camp.

Emerging Contaminants

The Urban Ecology Center in partnership with Milwaukee Riverkeeper, University of Wisconsin-Milwaukee School of Freshwater Sciences, and Carroll University works with community scientists to measure emerging contaminants through the [Citizens of the Rivers and Lake Monitoring Program](#). Contaminants include pharmaceuticals such as aspirin and antibacterial soap, common cooking products such as spices, and lawn and garden products. Once inside home plumbing and sewage systems, they can enter local waterways due to leaks, overflows, and incomplete wastewater treatment.



Benthic Macroinvertebrates



We depend on freshwater resources for food, air, water, climate control, waste assimilation and more. While physical and chemical assessments can indicate the potential for water to support life, it can

often be as effective to rely on the organisms living in the water to “tell us” the water quality by their presence (or absence).

benthic: in or on the bottom of a body of water

macro: big enough to be seen with the naked eye

invertebrates: animals without backbones

Pollution-sensitive organisms such as mayflies, stoneflies and caddisflies are more susceptible to the effects of physical and chemical changes compared to pollution-tolerant organisms such as midges and worms. Polluted water will have fewer individuals and less variety of pollution-sensitive organisms and greater numbers and more variety of pollution-tolerant organisms.

—*Benthic Macroinvertebrates* section by Research and Community Science intern Yue Pheng Lee. Since his internship ended, he has gone on to work with the American Conservation Experience in southern California and is currently serving in Peace Corps Nepal!

ODONATES

Odonate (dragonfly and damselfly) monitoring began at the request of the [Wisconsin Dragonfly Society](#) to increase survey efforts in underrepresented southeastern Wisconsin and to engage urban communities. The Urban Ecology Center's Research and Community Science program is complemented by the Wisconsin Dragonfly Society's mission to study and protect the dragonflies and damselflies in Wisconsin and foster appreciation, study, and enjoyment of these species and the aquatic habitats on which they depend.

Dragonflies? More like dragon-swims!

Urban Ecology Center outdoor leader and Escuela Verde student Gustav Kramer couldn't have said it better when he proclaimed them dragon-swims during a wetland monitoring survey.



Larval exoskeleton (exuvia) found in a Three Bridges Park pond.

Most non-migratory dragonflies and damselflies actually spend the majority of their life cycles as eggs and larval nymphs (1 – 4 years) within aquatic habitats such as rivers, lakes, and ponds. It isn't until the very end of their lives that they metamorphose into adults and emerge from aquatic nurseries. Adults live only a short time during their flight season (about 1 month), which is long enough to reproduce and continue the next generation. Because the aquatic larvae of many dragonfly and damselfly species are sensitive to pollution, their presence

can indicate good or improving water quality in aquatic habitats.



A clubtail dragonfly emerging from its exuvia—the exoskeleton shed by larval nymphs during metamorphosis. Photo taken by Environmental Educator Tory Bahe on the Milwaukee River.



A rainbow bluet damselfly documented July 5, 2017 at Menomonee Valley. This was a new species occurrence for any of the three Urban Ecology Center branches and a relatively rare find for Milwaukee County. Photo by Research and Community Science Coordinator Jennifer Callaghan.

Eight additional dragonfly and damselfly species added in 2017

Eight odonate species were documented for the first time in the Menomonee Valley, increasing our life list to 35 species! This is the highest species richness of any of the three branches (30 species documented at Riverside Park and 28 species at Washington Park).

One reason for this is the diversity of aquatic habitats including intermittent rain gardens, ponds, and running water of the Menomonee River to attract and support a variety of dragonfly and damselfly life histories.

Menomonee Valley dragonfly additions included red saddlebags, eastern amberwing, four-spotted skimmer, and dot-tailed whiteface. Damselfly additions were the marsh bluet along with three species that were new to any of the three Urban Ecology Center branches—rainbow bluet, citrine fork-tail, and sweetflag spreadwing!



This page was adapted from a presentation by Research and Community Science Coordinator Jennifer Callaghan and community scientist Ann Graf. Presented at The Southeastern Wisconsin Conservation Summit in November 2017 and Wisconsin Summit for Natural Resources Volunteers in March 2018.

TERRESTRIAL MAMMALS

Terrestrial mammal monitoring at the Urban Ecology Center includes live-trapping small mammals to determine population trends through mark-recapture research, documenting larger mammals with wildlife cameras, and incidental reports by students and visitors.

Mark-Recapture Methods

Sherman live traps are set in early evening with bait (peanut butter, oats, or seed mix) and bedding (to keep warm overnight). Two parallel transects are set every 10 meters, totaling 40 traps per night.



For three consecutive days each week, Menomonee Valley community scientists help prepare bait and set traps each evening and check traps and record capture data each morning.



Early each morning traps are checked and collected. Trap condition is recorded and if small mammals are present, they are identified, sexed, assessed for health (pregnancy, presence of parasites, etc.), and weighed.



What's the nail polish for?

Mammals are marked with nail polish on the ear or tail. Different colors signify different survey nights so we know when a mammal was caught in case it is captured again later.

Trap setting and checking are repeated for a total of three trap nights per week. This gives multiple chances for recapture so we can better estimate wildlife populations in a particular habitat (small mammals have relatively small home ranges).



Bushnell

06-28-2017 01:37:24

Five raccoons caught on camera in Three Bridges Park! Wildlife cameras document nocturnal animals and other illusive species that are too big for our traps and not otherwise accounted for.

BATS

AND OTHER CREATURES OF THE NIGHT

Bats



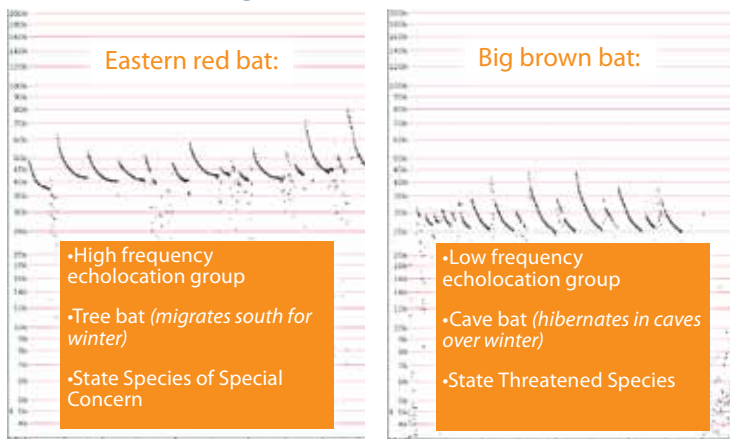
We conducted five acoustic bat surveys in 2017 in spring migration (when bats are either migrating from southern wintering habitats or regional hibernation caves), summer breeding season, and again during fall migration.

Bat monitoring is especially urgent since cave-hibernating bats are threatened by white-nose syndrome, a deadly fungal disease that depletes energy reserves. Cave-hibernating and tree bats are also threatened by habitat loss, pesticides, and wind turbines.



Learn more about Wisconsin's bat species in [The Bats of Wisconsin](#), a narrated presentation created by Milwaukee County Zoo Zookeeper and Urban Ecology Center partner Kara DeLanty. Presentation excerpts by Kara DeLanty.

The monitoring equipment used during acoustic surveys translates bats' high-frequency echolocation calls used 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 the state-wide monitoring efforts of the [Wisconsin Bat Program](#).



Side-by-side echolocation recordings for two different bat species observed in Menomonee Valley on September 4, 2017.



Community scientists entering Three Bridges Park to survey bats, fireflies, and singing insects. Evening surveys start with a short indoor workshop to play insect calls and talk about the importance of monitoring these species, many of which are in decline nationally.

Fireflies



When anecdotal evidence began to suggest a decline, Firefly Watch mobilized community scientists to collect data nationally to better understand populations of these beetles through backyard observations. Each species emits a different color and/or pattern of light which can be used to identify them in the field.

Singing Insects

Since 2015, community scientists have listened for the songs of insects in the Menomonee Valley under the instruction of UW-Parkside Assistant Professor Dr. Jessica Orlofske. Singing insects include many groups that often go unnoticed due to their small size and cryptic coloration, but instead advertise their presence with sound. The singers most frequently encountered were field crickets, short-winged meadow katydids, and snowy tree crickets. Additional orthopterans observed during the surveys included larger katydids, specifically the coneheads and angle-wings. Finally, community scientists noted the ubiquitous song of the dog-day cicada, the loudest insect observed during the surveys!

INTERESTING INVERTEBRATES:

Monarchs continue to be the focus of butterfly research at the Urban Ecology Center because of their decline over recent decades and a sense of urgency to better understand and conserve their unique international, multigenerational migration route. In the Menomonee Valley community scientists contribute to the monitoring of monarch eggs and larval caterpillars as well as the “super generation” of adult monarch butterflies as they begin their migration to Mexico each fall.

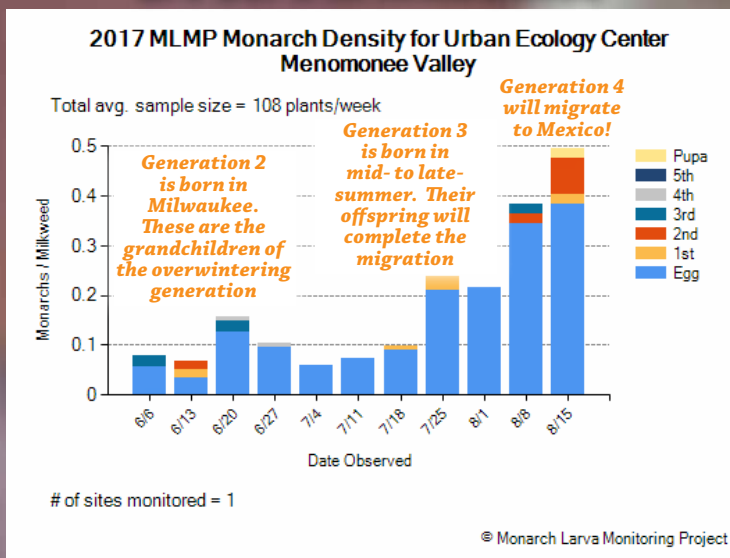
Monarch Larval Monitoring



A year in the life of a monarch includes [multiple generations sequentially completing a single migration journey](#), and it all starts with an egg. Monarchs arrive in Milwaukee in late spring and begin a summer-long breeding season where each new generation is born, metamorphoses, reproduces, and dies. In fall the final generation will return to Mexico—the same mountains their great-great-grandparents overwintered in the year before.

It all starts with an egg. In this case, multiple eggs laid on a single common milkweed leaf. Photo taken July 25, 2017 by Research and Community Science intern Xeng Xiong.

Three generations of monarchs are born in Milwaukee



Monarch Tagging



Community scientists tag the last generation of monarchs in September. Each butterfly's tag has a unique identification number and how to record the data if it is seen again, either

during migration or while overwintering in Mexico. Tag purchases help fund efforts by local community members in Mexico to collect monarch data and contribute to international monarch conservation.

So much more than milkweed

Larval monarch caterpillars rely solely on milkweed for food, habitat, and protection from predators (they absorb toxic compounds from the plant that makes them unpalatable to predators throughout their lives). However monarch populations require diverse native plants staggered throughout the summer breeding season and along their entire 2,000+ mile migration route as a nectar source for adult monarch butterflies. These same blooms also support a variety of other native insect pollinators such as bumble bees.

BUTTERFLIES, BEETLES, & BEES

Bees

Like monarchs, bees are also in decline and are gaining national attention as conservation becomes vital for their survival—and ours. The pollination that bees provide for both native flowering plants, forests, and human crops are unparalleled. And there is good news. Urban areas are emerging as hotspots for pollinators because of the diversity of native plants in home gardens and public greenspaces thanks to efforts like those in the Menomonee Valley.



Native bees are the most effective pollinators in the ecosystem—including our home vegetable gardens. Unlike the introduced honey bees, bumble bees can buzz pollinate using high frequency vibrations to release pollen like a secret password. With furry bodies adapted to cooler temperatures, they depend on a continuum of flowering plants from early spring through late fall along with ground cover habitat to nest and overwinter in.



Beetles

Beetles are among the newest taxa monitored in the Menomonee Valley—and it is entirely community led and driven. Community scientists Jon Bales and Heidi Meier look in the vegetation, decomposing wood, and even scat. After finding beetles in the field, they bring them back to the lab to begin identifying representatives of the largest group of animals on earth!

"Beetles are amazing. My favorite aspect of learning about beetles is identifying them, discovering their life story, and communicating with entomologists on expanding local data. Beetles are strong, survivalists, and unbelievably, breathtakingly beautiful animals. I welcome you to explore the order of Coleoptera."
—Community scientist and project leader Heidi Meier

"I collected beetles as a youngster, and the Urban Ecology Center has me reliving my youth...There are 115 families and thousands of different species of beetles right here in Milwaukee....Under the microscope, each individual is stunningly gorgeous, colorful and unique...I would recommend that anyone with an interest in insects, be they butterflies, bugs, spiders or dragonflies, join a team and aid the Urban Ecology Center in its survey of animals without backbones."
—Community scientist and project leader Jon Bales



Taxonomy

Community scientists contribute the beetle data they collect to BugGuide.net, a collaborative database for community and professional scientists. And many of their observations are first-time records of beetle species in the region, and even the state!

REPTILES AND AMPHIBIANS

Snakes



Community scientists search for snakes under coverboards set throughout the Menomonee Valley during the summer. The most commonly occurring species is the [Butler's gartersnake](#), a State Species of Special

Concern native to southeastern Wisconsin. Butler's gartersnakes prefer open to semi-open habitats in wetlands and adjacent uplands, including prairies such as the restored habitats of Three Bridges Park. Community scientists have also documented [DeKay's brownsnake](#), which is common throughout Wisconsin.



DeKay's brownsnake spotted along the Menomonee River by a school group and photographed by Educator Miguel Santos September 8, 2017.

Butler's gartersnake found under a Menomonee Valley coverboard on August 2, 2017. Community scientists assist in the handling, recording, and processing of individuals that are marked so we can identify them in the future to assess population trends.

Turtles



Photo by Menomonee Valley Educator Carlos Manriquez on October 11, 2017.

Turtles, such as [snapping turtles](#) and [spiny softshell turtles](#), are found using the aquatic and terrestrial habitats of Menomonee Valley. While adapted for swimming and feeding in rivers, lakes, or ponds, connections to upland habitats are important for reproduction—and breeding is certainly evident from the size of this juvenile! The snapping turtle is Wisconsin's largest turtle and is a top predator in aquatic ecosystems.

Frogs & Toads

Amphibians such as frogs and toads are tied to aquatic habitats for their breeding, egg, and larval (tadpole) life stages. Clean, oxygenated water with food sources and protection from predators is key to their survival. In the Menomonee



Northern leopard frog found in a Three Bridges Park pond. High quality aquatic habitats were designed and built into the park for wildlife like these frogs.

Valley we continue to observe the presence and breeding activity of [green frogs](#), [bullfrogs](#), [northern leopard frogs](#), and [American toads](#). Frogs and toads are documented during visual surveys of aquatic habitats during the day and listening surveys for breeding males who have unique calls to attract mates in the evenings. Incidental sightings or callings are also an important tool for research, as the first official American toad documentation was a photograph during an evening walk through the park!



A Toad in the Hand is Worth Two in the Bush, American toad photograph (and first official Menomonee Valley record!) by Adam Carr on June 3, 2017.

It's not a coincidence that almost every photo on this page is wildlife in hand. The Urban Ecology Center's research program is centered on community engagement and up-close experiences with science in neighborhood greenspaces.

Research and Community Science credit intern Mioni Samo. Holding a Butler's gartersnake is a fear she, like many others, overcame while working in the Menomonee Valley!



FISH

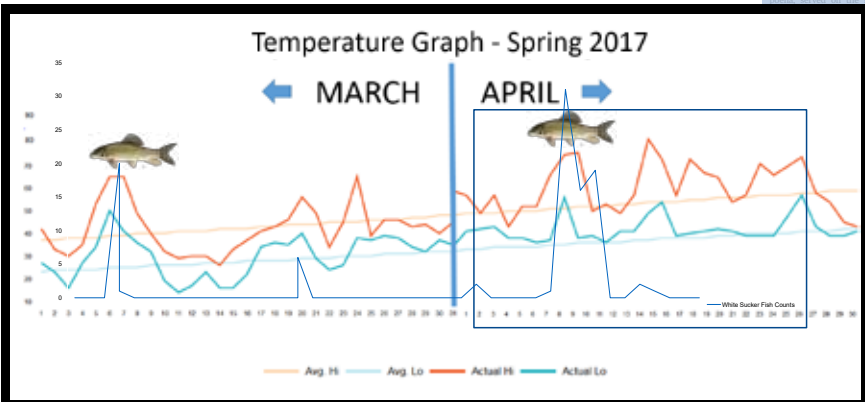


In 2017 fish monitoring was added to the Menomonee Valley community science repertoire. Collaborating with Shedd Aquarium, the

Menomonee River became part of a network of Great Lakes monitoring stations where community scientists observed sucker fish—native fish species that migrate from the Great Lakes into inland rivers and streams to spawn.



Menomonee River migrations coincided with higher-than-average spring temperatures



The Menomonee River was checked daily during migration season and the young scientists club played a big role in the monitoring. Watch them in action on this [TMJ4 news segment!](#)

Their hard work was rewarded with a trip to explore the Shedd Aquarium with project leaders.



Come join us and help improve the health of Great Lakes fisheries!
Did you know that there are over 50 species of migratory fishes in the Great Lakes? We need your help in an exciting citizen science project documenting these mighty migrations!

About the Project
Researchers from Shedd Aquarium, the University of Wisconsin-Madison, and the Lake Superior National Estuarine Research Reserve are launching a Citizen Science Project aimed at documenting long-term shifts in the timing of fish migrations into Great Lakes streams. Fish migrations are important for maintaining fishery species, but also carry in nutrients that fertilize the stream ecosystem. Suckers will be used as the focal species because they migrate into virtually every stream in large numbers, and are large enough to see easily. Results of the study will be communicated to the volunteers at the end of the monitoring period. Our goal is to launch a successful monitoring program in 2017, and then expand on it in subsequent years to take the program Great Lakes wide! Your participation can help us to improve the health of Great Lakes fisheries.

Who: Volunteers who live near a stream mouth on the coast of Western Lake Michigan or the south shore of Lake Superior where suckers are known to spawn

When: Spring, 2017 – daily for up to 4 weeks (exact dates will be determined by winter/spring weather)

What: Monitor a station each day for about 10 minutes, recording information on time, weather, water level, and presence/absence of fish. Training by Shedd's lead investigator Dr. Karen Murchie and all supplies will be provided.

Why: Project data will be used to test whether fish are responding to water temperature or stream flow as cues to initiate their spawning migrations, and to pinpoint when peak migrations occur. Data will also be used to understand the local impacts of global climate change.

How: If you know of tributaries with good water clarity that have sucker spawning runs near you, and you'd like to volunteer to monitor, please contact Karen Murchie at (312) 692-2783 or kmurchie@shedd-aquarium.org.



Menomonee Valley Community science making waves!



Karen Murchie, from left, Liz Etteson and Rebecca Grill look for white sucker fish at Rosewood Beach.

CITIZEN-SCIENTISTS PLAY ROLE IN THE ECOSYSTEM

Volunteers track migrating sucker fish as native species returns to streams feeding Great Lakes

By MICHAEL HAWTHORNE
Chicago Tribune

Great Lakes fish stories can be downright scary. Pollution dumped by industries and cities make some fish unsafe to eat. Invasive species spread by cargo ships decimate yellow perch, lake trout and other native fish. Warmer water in a changing climate triggers algae blooms that create oxygen-depleting, fish-killing dead zones.

But on a crisp April afternoon, Karen Murchie waded into a Lake Michigan inlet and spotted a sign that nature still works wonders when humans get out of the way. Clustered in a shallow pool a few feet from the Highland Park shoreline were a dozen white suckers, native bottom-feeding fish resting on their way up the narrow creek to spawn.

"You wouldn't have seen this a few years ago," said Murchie, a Shedd Aquarium biologist, point-

ing to a spot where the Park District of Highland Park and the local water utility had removed a steel wall that once blocked the mouth of the waterway. "As soon as that barrier was gone, the fish started coming back."

The Ravine Drive creek is among more than two dozen tributaries of Lake Michigan and Lake Superior where Murchie is tracking the annual spawning run of white and longnose suckers—fish that play an important, though largely unheralded, role in the complicated ecosystem of the

Turn to **Fish**, Page 10

Obama Center opts out of presidential library network

The break from the National Archives will flow up the Obama Foundation, the nonprofit group charged with building the center, in several ways. [ChicagoLand](#), Page 7

Ten reasons it's OK to panic about the Cubs' slow start

Chicago Sports

19th-century fox 'SNATCHED'

The action comedy starring Amy Poehler and Colin Hanks is funny here and there, but to ways that make the bulk of the formulaic material all the more frustrating, writes Michael Phillips. [A+E Movies](#)

Project summary by National Park Service Fellow Tony Garcia (right). Trained in water science and engineering, Tony partnered with Urban Ecology Center to expand community science programming, especially in aquatic habitats, and explore partnerships with neighboring Jackson Park, Pulaski Park, 16th Street Community Health Center, and the Kinnickinnic River.



WEEKLY BIRD WALKS



Community scientists identify and count birds in the Menomonee Valley weekly in every season of the year.

Community scientists meet at 8:00 a.m. every Tuesday for [Weekly Bird Walks](#) to record birds in the Menomonee Valley. This year-round research has occurred since 2012 and alternates between Three Bridges Park east to Mitchell Park and the Menomonee Valley Passage west to Miller Park. Each 1.5-mile walking route follows the Menomonee River and takes about 2 hours. All experience levels are welcome—we even have binoculars to borrow!

Community scientists meet at 8:00 a.m. every Tuesday for [Weekly Bird Walks](#) to record birds in the Menomonee Valley. This year-round research has occurred since 2012 and alternates

between Three Bridges Park east to Mitchell Park and the Menomonee Valley Passage west to Miller Park. Each 1.5-mile walking route follows the Menomonee River and takes about 2 hours. All experience levels are welcome—we even have binoculars to borrow!

Additions to Menomonee Valley's cumulative list of 142 species:

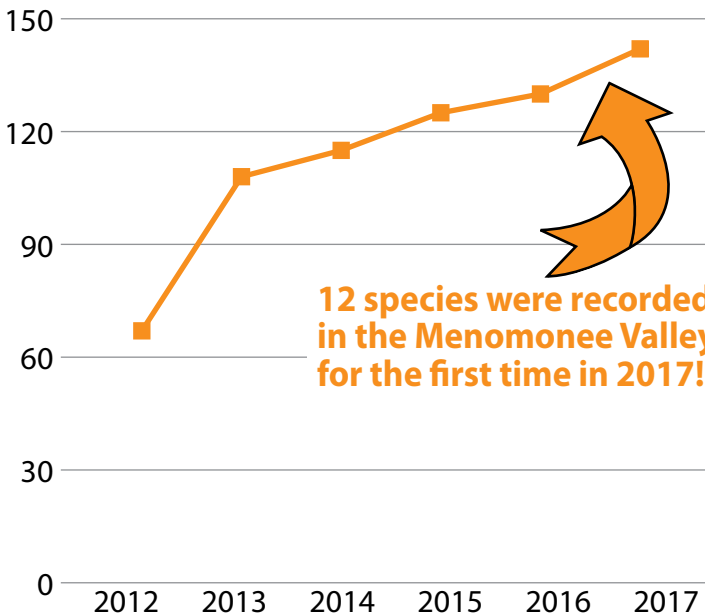
- Sandhill crane
- Eastern meadowlark
- Brown thrasher
- Canada warbler
- Red-headed woodpecker*
- Black-billed cuckoo
- Scarlet tanager
- Semipalmated plover**
- Philadelphia vireo
- Merlin
- Pine siskin
- Veery

*State Special Concern species

**First observation at any of the Urban Ecology Center branches

Cumulative bird species richness

Total number of species documented based on 296 checklists (weekly walks and casual observations)



In May the Urban Ecology Center hosted the first annual Brew City Birding Festival. Bringing participants across the city to birding stopover habitats like the Menomonee Valley, the festival highlighted the importance of urban greenspaces during migration. Highlights included a native planting for bird habitat workshop by Menomonee Valley Land Steward Jeff Veglahn, spring migration bird banding along the Menomonee River, and an afternoon family bird walk through the habitats of Three Bridges Park.

Young Scientists Club on a family bird walk through Three Bridges Park during the first-ever Brew City Birding Festival.



Birds in the Park Pájaros en el Parque

Come and enjoy the sounds of fall. This Saturday, October 21st, we will go on a short early morning nature walk to count and observe the birds in the area. We will need your help!

Ven y disfruta los sonidos del otoño. Este sábado, el 21 de Octubre, iremos en una corta caminata de naturaleza para contar y observar los pajaros en la área. ¡Necesitamos su ayuda!

Saturday, October 21st | Sábado el 21 de Octubre

Where/Dónde: Pulaski Park Pavilion/ Pabellón del Parque Pulaski

Address/Dirección: 2677 S. 16 St. Milwaukee, WI 53215

Time/Hora: 8:00-9:30AM

Contact: Tony Garcia (414) 534-5500

Agarcia@urbanecologycenter.org

FREE! GRATIS



Expanding community science! In 2017 National Park Service Fellow Tony Garcia explored expanding Urban Ecology Center's community science programming in nearby Milwaukee neighborhoods.

BIRD BANDING

Menomonee Valley's Three Bridges Park is now home to numerous year-round, summer resident, and migratory birds. [Bird banding](#) is a useful tool to help researchers better understand these populations. This up-close encounter with urban wildlife also provides a unique educational opportunity for the community who are invited to learn, participate, and often get to hold and release a bird!

Banding expands understanding of Menomonee Valley bird ecology:

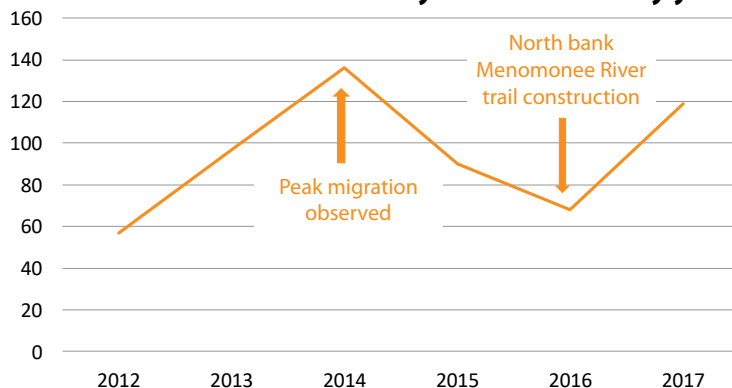
- Dispersal & migration
- Behavior & social structure
- Survival and productivity
- Population size
- Life span
- Toxicology and disease

Top bird species by season, Menomonee Valley 2017



A total of 123 birds were banded in 6 banding sessions in 2017. This was the first year that Three Bridges Park trails were established enough to support banding—previously banding occurred north of the Menomonee River in Stormwater Park. Banding can be highly variable due to the weather-related timing of migration and disturbances, but it appears we are off to a good start monitoring the new location compared to past seasons.

Number of Menomonee Valley birds banded by year



Bird banding data analysis by community scientist Diane Weaver. Diane manages data for the Center's bird banding research, has represented the organization in regional bird banding meetings, and presented her findings at the 2018 Brew City Birding Festival. Photos by community scientist Bruce Halmo.



Cultivating a community that is participatory, just, sustainable and peaceful.

Bird banding was at the heart of a two-year partnership with the U.S. Forest Service and Escuela Verde to create a field research mentorship program for high school students. For two years students attended workshops, participated in bird banding, and learned how to apply research skills to their own projects and careers. In November, the students presented their research to professionals at the Southeastern Wisconsin Conservation Summit.



Southeastern Wisconsin Conservation Summit.

Bird Banding as a Gateway for Mentoring Urban Youth



The US Forest Service, Urban Ecology Center, and Escuela Verde have teamed up to create a mentorship program for high school students and adult community scientists. Bird banding is a tool through which students are introduced to field research concepts and procedures. We are in the second year of a 2-year pilot in which students learn from professional and community scientists and carry out original research.

Conference abstract presented at the Southeastern Wisconsin Conservation Summit. Students joined professional researchers and natural resource managers at the Western Great Lakes Bird and Bat Observatory to share the results of their 2-year research program. Photos: Escuela Verde students releasing birds after participating in bird banding research. Photos by Escuela Verde advisor Walter Sams.

WHAT IS COMMUNITY SCIENCE?



Community science is more than collecting data for professional scientists. *Community science is science*—and community members are part of the entire process: advising study designs, collecting data

in the field, formulating (and revising) hypotheses, identifying wildlife, analyzing data, and sharing results with the community. The Urban Ecology Center's Research and Community Science program encourages collaborative spaces for research between professional and community scientists and creates a more engaged, knowledgeable and ecologically literate community. The Center maintains a network of urban field stations in which all research is accessible to and advised by both community and professional researchers.

Research = Community + Science

Who are community scientists?

Community scientists are students, retirees, neighborhood families, professionals working in a variety of fields with diverse skill sets, Young Scientist Club members, school groups, educators, professional scientists, natural resources managers, and biologists from partnering organizations and universities. They are curious about wildlife and ecology, value lifelong learning, and want to contribute to science and conservation efforts. At the Urban Ecology Center they also want to work in urban ecosystems to uncover biodiversity and monitor greenspaces to understand how we can restore the land and inspire change in the community, neighborhood by neighborhood.



What do community scientists do?

Urban Ecology Center community scientists contribute to all aspects of research and there is a role for everyone. Community Science depends on interested and inquisitive community members to safely conduct research for a variety of species and better understand how wildlife are responding to habitat restoration in urban greenspaces.



Community scientists are observers. They spot and identify wildlife in the field—with binoculars, sound, nets, and even photographs.

Community scientists are volunteers. They generously give their time and talents to collect data and communicate science by analyzing data, writing poems and stories, and sharing results at professional conferences.

Community scientists are leaders. They study and train to lead bird banding, Weekly Bird Walks, odonate surveys, and insect identification. You will find them teaching evening lectures and leading community interest groups. They even work behind the scenes to update maps, analyze data, and report findings.

*“The overarching goal of this internship was to become a naturalist—someone who can walk out the door and tell you what time of year it is by the blooming plants or trees or what kind of bird just sang way off in the distance...Although I am years away from this, the internship gave me a terrific head start and added to my education as a hands-on example of science and giving me an appreciation for research. Being outside with nature also gave me great joy and motivated me to be more environmentally conscious. **Nature is now my getaway.**”*

—Spencer Hofschulte-Beck, Menomonee Valley Research and Community Science intern and Marquette biology student. Students like Spencer (left, along with UW-Milwaukee graduate Xeng Xiong and Marquette student Danielle Mellin) train community members to conduct research and learn just as much themselves during their community-based internship.

THANK YOU TO MENOMONEE VALLEY'S 2017 COMMUNITY SCIENTISTS

Anonymous	Jane Cliff	Melissa Miller
Aaron McGarry	Jane Gellman	Michelle Les
Alexa Hollywood	Jean Zachariasen	Nicholas Hightdudis
Alicia Schultz	Jeannette Brickner	Nick Hoffman
Andrea Humber	Jeffrey Taylor	Olivia Felix
Andrea Kroll	Jennifer Lautz	Patricia Geiger
Ann Graf	Jessica Huber	Patricia Nelson
Anthony Ricks	Jessica Orlofske	Patti Engbring
Ben Olson	Jim Moenning	Peter Rebholz
Billie Harrison	Joey Kilmer	Rebecca Burton
Chris Young	Jon Bales	Rebecca Nowacek
Danial Jibson	Joseph Heffron	Richard Ruppel
Daniel Diliberti	Judi Keith	Robert Horkheimer
Daniel Pirtle	Judi Kistler	Roberto Rosales
David Axtell	Julia Robson	Robin Squier
David Glenn	Kara DeLanty	Rose Mary Muller
David Sikorski	Katheryn Sullivan	Serena Lor
Dean Muller	Kathleen Beaver	Stephen Baldwin
Dennis Casper	Kathleen Mahoney	Sue Lewis
Diana Sullivan	Kelly Gibson	Susan Blaustein
Diane Weaver	Kristin Gjerdset	Suzy Holstein
Elizabeth Dalton	Kristine Jaeger	Tatianna Rivera
Erica Henderson	Laurel Heebsh	Terry Pavletic
Erick Anderson	Leakhena Au	Victoria Piaskowski
Erik Kroll	Lee Wagner	Zachary Nowacek
Fiona Weeks	Linda Orlando	
Gisela Zelenka-Drysdale	Lora Loke	
Heidi Miller	Maggie Madden	
Heidi Meier	Maria Terres-Sandgren	
Ian Huber	Martha Honetschlager	
Jacqueline McGarry	Martin Pfeiffer	
James Orlando	Max Jitney	

***Community scientists
volunteered 904 hours in
Menomonee Valley in 2017—
an 11% increase from 2016
representing 91 different
wildlife surveys!***



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Fri & Sat | 9 a.m. – 5 p.m.
Sun | Noon – 5 p.m.

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Sat | 9 a.m. – 5 p.m.

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**MENOMONEE VALLEY
FROM THE
GROUND UP**

A COLLABORATION OF

