The Urban Ecology Center’s Research and Community Science program serves as a meaningful bridge between academic research and the community-at-large. The 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.

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. Read more about this new name on our blog!

It’s hard to believe that so much life can be found throughout Milwaukee. Land stewardship efforts have restored wetland, prairie, oak savanna, woodland, riparian, and aquatic habitats at Riverside Park, Washington Park, and the Menomonee Valley.

These diverse habitats are now occupied by mammals that were extirpated for decades, 195 resident and migratory bird species, snake species such as the previously State Threatened Butler’s gartersnake, insects including 41 species of dragonflies and damselflies, and more! Thank you to all of the community scientists who volunteered their time to research the transformation of the Urban Ecology Center’s greenspaces.

—Jennifer, Jessica, and Tim

Cover photo: A beaver within the Milwaukee Rotary Centennial Arboretum along the Milwaukee River. An increase in beaver activity in Riverside Park was a highlight of 2016 and we are excited to report that the American Beaver (Castor canadensis) has returned to an area from which they were extirpated for decades. Photo by community scientist Bruce Halmo in January 2017. Bruce frequently observes (and photographs) wildlife sightings during his frequent walks along the Milwaukee River Greenway.
The Urban Ecology Center’s Land Stewardship team improves habitat quality through community engaged, hands-on restoration work. 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 progression of restoration*—which will in turn inform and adapt land management decisions.

Acre by acre, staff and volunteers have created and enhanced ecosystems within urban green-spaces that provide wildlife habitat, clean air and water, and places for learning and recreation.

Riverside Park

- 4,710 hands-on volunteer hours to improve habitat
- 5,000 square feet of smothering fabric were pulled up and river flats previously dominated by reed canary grass were planted with native grasses, sedges and forbs
- Over 750 native Wisconsin trees were planted along the riparian corridor of the Milwaukee River and adjacent areas below Wisconsin Paperboard Corporation
- A prescribed burn was conducted in May on the “new” Arboretum land as well as the two small prairies

Washington Park

- 891 volunteers donated 3,239 hours of their time to support the Washington Park Land Stewardship activities 2015 – 2016 fiscal year
- Over 1,000 herbaceous plugs were planted to add to the habitat diversity of the prairie, woodland and orchard
- 22.5 cubic yards of common cattail removed from the emergent and fringe areas of the lagoon shoreline along with clusters of reed canary grass
- The second invertebrate survey was conducted throughout the orchard to monitor restoration effects on insect populations

Menomonee Valley

- 640 volunteers contributed 1,784 service hours during the 2015 – 2016 fiscal year—a 40% increase compared to the previous fiscal year
- 10,000 herbaceous woodland and prairie plants were planted where non-native, invasive plants were removed
- Wood chips were used to create trails that traverse the park’s mounds to prevent erosion
- A riverbank stabilization project provided a trail that parallels Three Bridges Park on the north side 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

Successful burns have been conducted in Riverside Park in 2002, 2010, 2012, and now 2016. Controlled burns are an invaluable management tool to help knock back invasive plants, return nutrients to the soil, decrease ‘duff’ layer, and invigorate and aid in fire adapted native species germination. Learn more about how the land stewards use prescribed fire in this video!
We conducted six walking acoustic bat surveys in 2016, bringing the total to 72 surveys since 2011. Surveys occur after sunset when bats are most active during migration (spring and fall) and breeding and residency (summer). 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 different versions of bat detectors, thanks to access to the latest technology borrowed from our partner, 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

The Urban Ecology Center has recorded five of Wisconsin’s eight bat species

% of 2011 – 2016 surveys with species present

<table>
<thead>
<tr>
<th>Species</th>
<th>Menomonee Valley</th>
<th>Riverside Park</th>
<th>Washington Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little brown</td>
<td>0%</td>
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</tr>
<tr>
<td>Big brown</td>
<td>80%</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>Northern long-eared</td>
<td>70%</td>
<td>50%</td>
<td>40%</td>
</tr>
<tr>
<td>Eastern pipistrelle</td>
<td>50%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>Evening red</td>
<td>30%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Hoary</td>
<td>20%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Silver-haired</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Cave-hibernating species
*State Threatened **Federally Threatened

Migratory species

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 from educators and biologists across the region.
WHAT’S A NIGHT SURVEY LIKE?

City Sickers
—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.
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 winter of 2017 the Research and Community Science and Land Stewardship departments invited the Wisconsin Department of Natural Resources to lead a forum for the community to discuss both the ecological importance of beavers and concerns about their effects on land restoration along the Milwaukee River.

“The increased beaver activity along the Milwaukee River at Riverside Park left many people curious about beavers and their effects on the ecosystem. Wisconsin Department of Natural Resources Milwaukee County Biologist and Regional Educator Dianne Robinson came to Riverside Park to educate a packed room about beaver ecology. We learned that despite living on the river, beavers are herbivores and do not eat fish but rather a variety of soft woods. Beavers live in colonies consisting of one monogamous adult pair and several juveniles within their 1 – 3 square mile home range. Beavers impact the ecosystem in many ways, particularly by altering stream flow, recharging groundwater, and increasing sedimentation. This can increase the diversity of reptiles and amphibians, the abundance of invertebrates, and waterfowl habitat, but can cause flood damage as well*. Hopefully we will continue to learn more about beavers on a stretch of urban river as we observe their activity at Riverside Park.”

*Note that our beavers do not have a lodge or dam and likely will never create either. Instead they have excavated a den in the river bank enhanced with downed saplings and large branches. Other beavers in the Great Lakes region are known to utilize banks rather than lodges in large, fast-flowing rivers similar to the Milwaukee River. We were surprised and excited to learn that we have less-than-typical beavers living in our park!

The Urban Ecology Center is excited to report that the American beaver has returned to stretches of the Milwaukee and Menomonee Rivers, areas from which they were extirpated for decades.

In response to the increased beaver activity observed in 2016, the Urban Ecology Center’s Land Stewardship team and Research and Community Science team began working towards an organizational strategy to co-exist with these new residents in the park. The return of the beaver is a testament to the hard work and countless hours spent by Urban Ecology Center volunteers and staff along with our community partners to restore habitat for wildlife like the beaver. The return of the beaver also brings some interesting issues based on their desire to do their own habitat restoration work, particularly cutting down trees. We have decided to allow beavers to continue to modify their habitat while taking some steps to protect selected trees of various sizes to continue with some of our own restoration goals. We welcome input from the community as this process unfolds and we strongly welcome help to study the behavior of the urban beavers. Read more about beaver ecology on our blog!

A pair of beavers within the Milwaukee Rotary Centennial Arboretum along the Milwaukee River. Photo by community scientist Bruce Halmo in January 2017.
Frogs & Toads
Frogs and toads hold an important ecological position: the middle of the food chain. They convert insects and other invertebrates (and even some smaller vertebrates) into food for larger predators. Additionally, they are sensitive to environmental change and are in decline worldwide due to disease, climate change, habitat loss, and environmental contaminants. Monitoring populations over time can help indicate restoration progress of urban water resources and adjacent uplands.

“On a cold, crisp evening last week, Tim Vargo, Manager of Research and Community Science at the Urban Ecology Center, gave a short description of the program to volunteers bundled up for the weather, some wearing head lamps. The group would spend five minutes silently listening at each location. Volunteers piled into an Urban Ecology Center bus and traveled to the first stop at Schlitz Audubon Center, where, because of its rich diversity of wetlands, two surveys were done. Also on the route were Brown Deer Park, McGovern Park, Estabrook Park, Riverside Park and the Juneau Park lagoon. Aside from the two places at Schlitz Audubon Center where volunteers heard spring peepers, it was silent everywhere else.”

—by Milwaukee Journal Sentinel Reporter Meg Jones who joined us on a very chilly April frog and toad survey. Read more in her article Volunteers head to the woods for annual DNR frog count.

Snakes
Since 2013, we’ve conducted snake surveys in the Menomonee Valley 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.

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.

2016 marked the last year of Urban Ecology Center’s participation in the Wisconsin Department of Natural Resources Wisconsin Frog and Toad Survey—the longest running acoustic frog monitoring project in North America. Why are we retiring this project? We are narrowing our focus to more closely monitor the parks we manage, including a newly created amphibian habitat pond in Riverside Park. However, the county-wide driving route will be continued by Schlitz Audubon.

Northern leopard frog tadpoles ready to absorb their tails and metamorphose. We are excited to document breeding amphibians in the restored aquatic habitats of Menomonee Valley. Photo by 2016 Research and Community Science intern Peter Rebholz.

Reptiles And Amphibians
Captured and recaptured at Menomonee Valley

<table>
<thead>
<tr>
<th>Year</th>
<th>New capture</th>
<th>Recapture</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>2015</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>2016</td>
<td>20</td>
<td>30</td>
</tr>
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</table>
Community scientists meet at 8:00 a.m. for Weekly Bird Walks to record the birds at each of the three Urban Ecology Center branches. These year-round surveys have been happening at Riverside Park since 2001 (Thursdays), Washington Park since 2010 (Wednesdays), and Menomonee Valley as of the branch opening in September 2012 (Tuesdays). Each 1.5-mile walking route takes about 2 hours and all experience levels are welcome—we even have binoculars to borrow.

Four species were recorded for the first time, increasing the cumulative Urban Ecology Center bird list to 194 species.

Community scientists recorded 144 bird species among our three branches during Weekly Bird Walks in 2016. Four of these species were first-time records for any of our three branches, increasing our cumulative Urban Ecology Center “life list” to 194 bird species! These newcomers include greater yellowlegs at Washington Park, pectoral sandpiper at Menomonee Valley, and pileated woodpecker and bank swallow at Riverside Park.

Two branches also had days with record high bird species counts in 2016—Riverside Park with 67 species recorded on May 12, 2016 and Washington Park with 65 species recorded on May 11, 2016—both the same week of our Green Birding Challenge, our biggest bird watching day of the year!

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

61 species were banded in 2016—more than any year on record across branches

In 2016, we partnered with the U.S. Forest Service and high school 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 biologists identifying and banding 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.

53 community scientists and professional partners contributed
1,475 hours of field work, mentoring, and data management during
17 bird banding sessions in 2016!

Our first-ever American woodcock was banded on October 19, 2016 at Washington Park! The American woodcock is listed as a State Special Concern Species in Wisconsin due to the loss of forest and shrubland habitat, and it is rarely seen in our three parks. We can only hope that this bird makes its way to another banding station in the future so more can be learned about this elusive species. Photo by Research and Community Science Coordinator Jennifer Callaghan.

Birds banded at all three branches
Species richness and abundance 2012 – 2016

Richness of birds banded
Abundance of birds banded

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

Bird banding as an educational tool for I Spy...Birds! summer camp at Washington Park led by Environmental Educator Tory Bahe and Escuela Verde students participating in a field research mentorship program at Menomonee Valley in partnership with the U.S. Forest Service. Photos by Marketing Communications Coordinator Anna Aragon and Escuela Verde Advisor Joey Zocher.
In 2016 we recorded five species for the first time at any of our three branches:

• Common baskettail on June 15 at Washington Park
• Blue-tipped dancer on June 29 at Menomonee Valley
• Fragile forktail, green-striped darner and shadow darner on August 31 at Menomonee Valley

This common baskettail was recorded for the first time at any of our branches during a June 15, 2016 survey at Washington Park and among three 2016 species first observed in Washington Park.

Why monitor odonates?

• Odonates are indicator species particularly in aquatic habitats such as rivers, lakes, and ponds. Their sensitivity to habitat quality and amphibious life cycle (they spend the majority of their life cycles underwater as eggs and larval nymphs) make them well suited for evaluating environmental changes over time.

• Odonate surveys are a great way to connect the community with urban greenspaces. Dragonflies and damselflies are fascinating creatures that generate interest among prospective volunteers. Artists often join to photograph, sketch, or be inspired by their diversity.

• 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).

• 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.

—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 Urban Ecology Center Research Symposium in December 2016.
Each fall, monarchs migrate from their summer breeding territories (like the Urban Ecology Center) 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... and their grandchildren’s grandchildren then start the same long migration to Mexico in fall. In September, our community scientists tagged 62 adult monarchs of this “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 preferences to help conserve this species.

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 and overwinter.”

—By Jake Olsen, Outdoor Leader and Rufus King High School class of 2018. Photo: Jake releasing a butterfly he tagged at Riverside Park. Watch Jake and other community scientists tagging monarchs!

Monarch egg & larval detections 2012 – 2016
% of milkweeds with monarch eggs & larvae

<table>
<thead>
<tr>
<th>Year</th>
<th>Menomonee Valley</th>
<th>Riverside Park</th>
<th>Washington Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>5%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>2013</td>
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<td>20%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>2016</td>
<td>25%</td>
<td>50%</td>
<td>30%</td>
</tr>
</tbody>
</table>

What happened in 2016?
We found fewer eggs and larvae in 2016 than we did in 2015 and also observed fewer adults. Despite local restoration efforts, monarchs are threatened by habitat loss, pesticides, and climate change across their entire migration route. 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 to Wisconsin. We are hopeful that restoring greenspaces, like our three parks, will aid monarch recovery.

So much more than milkweed
Monarchs require a nectar food source staggered along their entire 2,000+ mile migration route and throughout the summer breeding season. A 20-year population decline has led to petitioning for federal listing as an Endangered Species.

Adult monarchs depend on a variety of native flowering plants like this Meadow Blazing Star in the Menomonee Valley. Photo by 2016 Research and Community Science intern Peter Rebholz.
Singing Insects

Invertebrates are the most diverse and abundant animal life on the planet. Although much of this biodiversity goes unnoticed due to the small size and cryptic coloration, some advertise their presence differently. Like birds and frogs, some insects produce songs to attract mates, startle predators, or claim territories. These singing insects belong to several groups, including grasshoppers, katydids, crickets (Order Orthoptera) and cicadas (Order Hemiptera). Recently scientists have begun using songs to monitor singing insects in surveys similar to those used for birds, frogs, and even bats.

The Urban Ecology Center began monitoring singing insects at each of its three branches in 2015. In 2016, three surveys were performed in early September, the peak season for many singing insects. Each survey began with a brief training workshop to help community scientists begin to learn the different insect calls. Following training, sections of the trails and paths were walked at each of the branches while listening for and identifying insects calling. The presence of particular species was recorded for each survey. In the future, call intensity information could be added to the surveys to indicate the relative abundance of each singing insect species.

Six species of singing insects were detected during the 2016 surveys

The singers most frequently encountered during our surveys included field crickets, short-winged meadow katydids, and snowy tree crickets. Additional orthopterans observed during the surveys included larger katydids, specifically the coneheads (e.g., Neoconocephalus ensiger) and angle-wings (Microcentrum rhombifolium). Finally, community scientists noted the ubiquitous song of the dog-day cicada, the loudest insect observed during the surveys.

—By UW-Parkside Assistant Professor of Biological Sciences Jessica Orlofske, Ph.D. Follow her blog to learn more!

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

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.

Milwaukee River sensitive and semi-sensitive species increased since 2013

Median species richness per survey

Students conduct water quality research through the River Connections program during the school year and summer camp. Read more in a recent blog post by educator Laurel Cutright.
Green Birding Challenge

2016 marked the 6th annual Green Birding Challenge, our unique fundraiser that inspires friendly competition and encourages everyone to get outside to explore the wonders of resident and migratory birds each May. In addition to being the best month for seeing colorful migrant birds in Milwaukee, May is when people all around the world celebrate International Migratory Bird Day—a celebration of birds and their migrations that transcend political boundaries.

Teams of birders of all skill levels compete to find the most species of birds without using fossil fuels. The challenge raises money for community science programming which provides students and the community year-round opportunities to learn about birds and other wildlife at the Center.

18 teams traveled by foot or bike to identify as many species as possible—without fossil fuels
120 species of birds were identified between 6:00 a.m. and 11:00 a.m.
$19,600 was raised by participants and sponsors!

Unique 2016 t-shirts designed by volunteer Claire Colton!

Annual Research Symposium

Each year community scientists gather to present findings of their own original research. 2016 presenters included:

- Ann Graf, Research and Citizen Scientist - Dragons and Damsels: Odonata as Evidence of a Healthy Ecosystem
- Kara Delanty, Milwaukee County Zoo and Master of Arts Candidate, Miami University - Location of Bat Monitoring Equipment for Citizen Science Based Surveys in the State of Wisconsin
- Menomonee Valley Young Scientists Club - Methods of Insect Collection in Three Bridges Park
- Violet Zaragoza, Escuela Verde student - In What Ways does the Lack of Cultural Competency Training Affect the Health Care Services of Multicultural Patients?
- Shameka Tyler, Human Resources Specialist and Master of Arts in Adult Education and Organizational Development, Alverno College - Where are the African Americans in Environmental Education?
- Jake Olsen, Outdoor Leader and Rufus King High School student - A Comparison of American/European Birds
- Yue Pheng Lee, Research and Community Science Intern and UW-Milwaukee student - Biological Monitoring: Benthic Macroinvertebrates

Eco-travel

Our Eco-travel program explores new places while focusing on nature, education, community, and fun. Eco-travel is a great way to support year-round community science programming at the Center while connecting to new places, organizations aligned with our mission, and each other.

In 2016 the Research and Community Science team led trips to explore:

- The Biodiversity of Costa Rica—the country with the largest percentage of protected areas and plans to become the first carbon-neutral country by 2021

- Coastal Maine using wind—one of our cleanest renewable energy sources—aboard the oldest schooner in the U.S.

- Wisconsin’s Tiffany Bottoms State Natural Area—by open-air train with the Chippewa Valley Motor Car Association, a local group of train enthusiasts committed to getting people back on the rails and into this beautiful and remote area

Exploring closer to home in Tiffany Bottoms State Natural Area by rail.
2016 COMMUNITY SCIENTISTS

Adam Honts  Christine Wilkinson  Janet Carr  Leah Weiss
Adam Yellen  Chuck Stebelton  Jean Casper  Leakhena Au
Adelie Content  Cindy Haq  Jean Classen  Lenore Lee
Ajay Rajurkar  Claire Colton  Jean Zachariasen  Liam Smith
Alex Martinez  Cordarrell Martin  Jeanne Prochnow  Lincoln Rice
Alexa Hollywood  Craig Berg  Jeff Taylor  Linda Frank
Alexandra Kilmer  Dale Snider  Jennifer Lautz  Linda Orlando
Alicia Schultz  Dana Hanson  Jessica Jaglowski  Linh Nguyen
Allie Zindl  Daniel Lobesky  Jessica Mailhot  Liza Fleischmann
Alyssa Craft  Daniel Pirtle  Jessica Orlofske  Lora Loke
Amy Baer  Danny Lynn  Joanna Rotter  Lori Dehaan
Ann Bowe  David Axtell  Joanne Kline  Maggie Hennig
Ann Graf  David Dehaan  Joe Meyer  Maggie Madden
Anne Bales  David Sikorski  Joel Springsteen  Maria Terres
Annika Roberts  Dean Muller  John Gnorski  Marilyn Bontly
Anonymous  Dennis Casper  John Schwabe  Marquette Univ. H.S.
Avinash Rajurkar  Dennis Oulahan  John Sterr  Martin Pfeiffer
Barb Kellerman  Diane Weaver  Jonathan Abresch  Mary Staten
Barbara Eisenberg  Dominick Reed  Jonathan Rogers  Mary Mirasola
Barbara Todd  Elaine Vokoun  Juanita Malloy  Mary Mueller
Becky Schneider  Elise Myers  Judi Kistler  Mary Schley
Ben Bobinski  Elizabeth Cliffe  Judy Jones  Mary Stetson
Benjamin Pritchard  Elizabeth Dalton  Julia Robson  Maurice Fair
Benjamin Grabowski  Elizabeth Kaplan  Karen Hamm  Max Rebolz
Beth Lee  Elizabeth Vokac  Karen Haley  Megan Henson
Billie Harrison  Emilie Hunn  Kate Hightdudis  Melissa Giuffre
Bob Stetson  Emily Kronenberger  Amelia Sanger  Michelle Hawkins
Brian Hansen  Emily Michi  Stephens  Michelle Les
Brian Holoubek  Emma-Sarah  Emma Kate Stecker  Nancy Tran
Brantley Todd  Ernest Von Briesen  Erinna Malloy  Nate Rebolz
Brittany Pladek  Ethan Bott  Judith Dill  Neil Houtler
Bruce Bookman  Evan Fischer  Judi Kistler  Nicholas Hightdudis
Bruce Halmo  Gabrielle Ziskin  Julie Robson  Nicholas Stuessy
Caithlin O’Brien  Gloria Stone  Karen Hamm  Nina Schield
Candace Rogers  Hansen-Tidbergs  Karen Haley  Oliver Rebolz
Carol Johnstone  Helen Barborich  Kate Hightdudis  Olivia Beauchamp
Carolyn Washburne  Henry Vargo  Kathleen Gallick  Owen Bellin
Carolyn Vargo  Jacqueline Weber  Kathleen Beaver  Paul Sokolowski
Catey Doyle  James Gennrich  Kathleen Mahoney  Peggy Cavanaugh
Catherine Seelman  James Orlando  Kathrin Spinnler  Peggy Noonan
Cecilia Vargo  Jane Biel  Kathy Gillman  Peter McMullen
Celina Burback  Jane Pi  Katie Gennrich  Philip Longenecker
Charlotte Catalano  Jana Viel  Katie Halmo  Phyllis Keefer
Chris Young  Jane Cliff  Katlyn Pluer  Quintin Bendixen
Christian Lankford  Jane Gellman  Katrina Degenhardt  Rachel Bürge
Christine Korty  Janet Gonzalez  Keenen Edwards  Rachelle Ketelhohn
Clytie Doyle  Catherine Seelman  Kelsey Crank  Rakesh Waghray
Cecilia Vargo  Jean Classen  James Orlando  Rebecca Burton
Cecilia Vargo  Jean Zachariasen  Jeanne Prochnow  Rose Mary Muller
Cynthia Haq  Jennifer Lautz  Jeff Taylor  Russell Mason
Cordarrell Martin  John Gnorski  John Sterr  Sam Rebolz
Craung Berg  John Schwabe  Jonathan Abresch  Scott Mason
Dale Snider  Jonathan Rogers  Jonathan Bales  Sean Jackson
Dana Hanson  Juanita Malloy  Joseph Amoroso  Sid Hamm
Daniel Lobesky  Karen Hamm  Karen Haley  Sonia Ost
Daniel Pirtle  Karen Hamm  Kate Hightdudis  Stacey Rebolz
Danny Lynn  Keenen Edwards  Kathleen Mahoney  Stacy Zacher
David Axtell  Judith Dill  Kathleen Gallick  Stephanie Orlando
David Dehaan  Judith Dill  Kathleen Gallick  Stephen Gazo
David Sikorski  Judith Dill  Kathleen Gallick  Stephen Baldwin
Dean Muller  Judith Dill  Kathleen Gallick  Steven Marshall
Dennis Oulahan  Judy Jones  Julia Robson  Susan Blaustein
Diane Weaver  Karen Hamm  Kate Hightdudis  Susan Cruz
Dominick Reed  Judi Kistler  Judy Jones  Suzy Holstein
Elaine Vokoun  Judi Kistler  Julia Robson  Tallulah Sams
Elise Myers  Judith Dill  Judy Jones  Taylor Pichler
Elizabeth Cliffe  Judith Dill  Judy Jones  Terese Keehan
Elizabeth Dalton  Julia Robson  Karen Hamm  Terry Pavletic
Elizabeth Kaplan  Kate Hightdudis  Kathleen Gallick  Thomas DiCamelli
Elizabeth Vokac  Emily Michi  Emma-Sarah  Thomas Nelson
Emma-Sarah  Stephens  Emma Kate Stecker  Tom Content
Emma Kate Stecker  Erinna Malloy  Kathleen Gallick  Tom Pier
Ernst Von Briesen  Ethan Bott  Kathleen Gallick  Tom Sheperd
Gabrielle Ziskin  Eva Fischer  Kathleen Gallick  Tyler Morgan
Gloria Stone  Gabriel Ziskin  Kathleen Gallick  UW-Madison
Hansen-Tidbergs  Helen Barborich  Kathleen Gallick  Valerie Pogue
Helen Barborich  Henry Vargo  Jacqueline Weber  Vicki Piaskowski
Henry Vargo  Jacqueline Weber  Kathleen Gallick  Victor Vargo
Jacqueline Weber  James Gennrich  James Orlando  Vivi Content
James Gennrich  James Orlando  James Orlando  Walker Holoubek
James Orlando  James Orlando  James Orlando  Will Sebern
Jana Viel  Jane Pi  Jane Gellman  William Vuyk
Jane Cliff  Jane Gellman  Janet Gonzalez  William Rumpf
Jane Gellman  Janet Gonzalez  Janet Carr  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.
The Urban Ecology Center is a proud member of Community Shares of Greater Milwaukee