



# Missouri Master Naturalist



Summer Issue 2017    Volume 7 Number 3



Monarch Butterfly on Liatris at Don Robinson State Park  
– photo by Barb Cerutti

"Don't chase butterflies – be still, they'll land on you".  
-- from *Breathe the Wind, Drink the Rain: Notes on Being Alive* by Douglas Wood

# Great Rivers Gazette

Spring 2017

Vol.7 No. 1

Published by the Great Rivers Chapter of Missouri Master Naturalists

Editor: Pam Wilcox

Layout: Bob Virag

Contents	Page
The Presidents Corner <i>Rachel Becknell</i>	2
Outreach & Education Events	3
Stewardship Projects	13
Advanced Training	19
Member Milestones	23
Naturalist's Journal	27

## Front Cover

Monarch Butterfly on Liatris at Don Robinson State Park  
– photo by Barb Cerutti

## Back Cover

Butterfly weed, Don Robinson State Park  
– photo by Barb Cerutti

## Great Rivers Chapter Officers

President -----	Rachel Becknell
Vice President-----	Shawn Thomason
Secretary -----	Diana Miller
Treasurer -----	Vaughn Meister
Board Member-at-Large -----	William Hoss
Board Member-at-Large -----	Sherri Schmidt
Board Member-at-Large -----	Bob Virag

## Chapter Advisors

Amy Wilkinson, Missouri Department of Conservation  
Nathan Brandt, University of Missouri Extension St. Louis

## Committee Chairs

Advanced Training-----	Rita Buckley
Tri-Chapter Coordination-----	Michael Meredith
Partners and Projects-----	Pam Wilcox
Communication-----	Pam Wilcox
Historian-----	Rachel Bourneuf
Hospitality-----	Cindy Lueder
Master Naturalist Logo Apparel---	Kari Pratt



The Missouri Master Naturalist™ program is a community-based natural resource education and volunteer service program for adults, sponsored by the Missouri Department of Conservation and the University of Missouri Extension.

The Master Naturalist name and dragonfly logo are trademarks of Texas Cooperative Extension and the Texas Parks and Wildlife Department, used with permission for the Missouri Master Naturalist program."

## The President's Corner



Dear Chapter Members,

As of 2016, over 60% of our nation's population resided within cities that make up a mere 3.5% of the total land mass of The United States. This number is only expected to grow, with urban environments projected to carry 70% of the world's population by the year 2050.

With this shift from rural to urban, an essential connection to the land that provides for our most basic needs, such as our food and water, is severed. A person cannot value something if they know nothing about it, but as master naturalists we have the power to repair this link through **outreach and education**.

Many of our most devoted volunteers spend much of their time working to instill a love of the outdoors in our community. Each of us carries a spark within us that is only lit when we step out into our beloved Missouri Outdoors. I encourage each of you to take whatever opportunity you have to light that spark in others.

*Rachel Becknell*

– *President, Great Rivers Chapter*



# Great Rivers Outreach & Education – Summer 2017

## OUTREACH AND EDUCATION - THE NEXT BIG THING

by Pam Wilcox

The mission of the Master Naturalist program is “to engage Missourians in the stewardship of our state’s natural resources through science-based education and volunteer community service.”



As a chapter within the Missouri Master Naturalist program, we should be very proud of our accomplishments. We are a dedicated, hard-working, conscientious group of volunteers doing our part to raise awareness of the beauty of Missouri’s natural resources, upgrade these resources to provide better quality habitat for wildlife, increasing our knowledge of Missouri flora and fauna, and using that knowledge to educate the public (of all ages) about local ecosystems and natural resources.

The purpose of this column is to raise awareness within the chapter of opportunities for *outreach and education* through our various partners. While many volunteers thoroughly enjoy destroying the invasive honeysuckle that surrounds our area, that’s great and we should continue to do



Kathleen Kapayou leads a group through the tall grass prairie located near The Green Center and used as an educational resource.

it. But I want to stress the need to reach out to the young citizens in our community who one day will become the next stewards of our state. You have all heard the phrase, “Nature Deficit Disorder”, coined by author Richard Louv, in his book “Last Child in the Woods”. In his words, “within the space of a few decades, the way children understand and experience nature has changed radically”. This disorder was created by the advent of technology so ubiquitous as to leave our children with no first-hand knowledge of the outdoors and how important it is. We all have children or grandchildren who spend hours buried in a screen of some sort, playing video games, texting their friends, and otherwise disconnected from their families. I’ve seen entire families at restaurants where everyone at the table is staring at their phones. There is no conversation at the table, and everyone is just engrossed in some form of false communication. What’s happening? Where will they learn social skills, communication skills, interacting with adults? We are allowing them to remove themselves from the real world, which poses severe consequences. Louv says “nature is more abstraction than reality.”

Louv also suggests that “if environmental groups, along with scouting and other traditional outdoors-oriented organizations, wish to pass on the heritage of their movement, and the ongoing care of the earth, they cannot ignore children’s need to explore, to get their hands dirty, and their feet wet. And they must help reduce the fear that increasingly separates children from nature”.



The Green Center 2nd Grade Program

I suggest that as a volunteer organization we can change young people’s perception of nature by participating in the organizations that specialize in this type of education. Research links our mental, physical, and spiritual health directly to our association with nature – in many positive ways. So being out in nature with young children is good for everyone. Children who spend time in nature are more likely to have pro-environmental attitudes as adults.

One thing to keep in mind, in case you feel you are not qualified to teach young children about nature:

**“infectious enthusiasm is more important than knowledge”.**



**Great Rivers Outreach & Education – Summer 2017 - continued**

**OUTREACH AND EDUCATION - THE NEXT BIG THING - continued**

When I initially started volunteering with MDC, and then Litzsinger and finally as a MMN, I had no previous experience with public speaking, let alone any knowledge about native plants, ecosystems, habitats, etc. In order to get up to speed and to try to know just a little bit more than a sixth-grader, I started buying any nature related book I could. I read and read and read. I still know only a fraction of what I should. But I’m still trying. Teachers and educators do not get the praise they deserve. They are under tremendous pressure to make science topics relevant and exciting. All the while, competing with the instant gratification of electronics. When most of us grew up, we didn’t have all those distractions and we learned about nature by being out in nature. It is a struggle to get the younger population to start listening and caring about the environment, learning about plants and animals, etc. But with our help, we can make a difference. We can reach out and do our part in the education process. Many of our members have discovered the joy of teaching nature-related topics to young children, ask them about their experiences. **Peggy Morrison, Cindy Lueder, Brenda Hente, Jim and Brenda Christ, Mary Pat Ehlmann, Bob Virag, Rich Lesage, Vaughn Meister, Mary Dueran, Amy Kilpatrick, Ann Earley, Mark Grenshaw and Pam Wilcox and others.** Surprisingly, a recent report of all GR volunteer hours shows an almost equal amount of time spent on education and stewardship.

Several of our partners use outdoor education exclusively, while others take their nature-related lessons to the classroom, as requested by specific school districts. Below are a few of our partners and organizations that work directly with school districts, or design their own environmental education programs for area students. All of the organizations listed below offer a wide variety of volunteer opportunities for the GR members.

**The Green Center** - An environmental education and arts-integrated science curriculum offered to school districts sets The Green Center apart from other local cultural and science organizations. The Green Center offers outdoor classrooms that enable students to learn about the natural world through inquiry-based programming. Whether students are investigating the prairie, forest or wetland, they will receive a hands-on experience that will encourage them to observe and explore. In addition, Scouts can earn badges through field experiences at The Green Center. For volunteer opportunities, please contact Kathleen Kapayou at [kkapayou@thegreencenter.org](mailto:kkapayou@thegreencenter.org).



Kathleen Kapayou leads a group of summer campers through the woodland area, part of the outdoor acreage at The Green Center.

Below is a list of some of the field experiences offered by the Green Center.

**The Green Center Field Experiences**

- Insects
- Prairie Ecology (fall only)
- Ecosystem Plot Studies
- Forest Ecology
- Letterboxing
- Keying Out Trees- Classification
- Geodesic Greenhouse Growing
- Missouri Rocks: Geology
- Pollination
- Discovery Garden Exploration- Nature Explore Classroom



The Green Center University City Outdoor Classroom Program



The Green Center naturalist educators, Kathleen Evans Kapayou, Bob Virag, Cindy Lueder, Pam Wilcox



**Great Rivers Outreach & Education – Summer 2017 (continued)**  
**OUTREACH AND EDUCATION - THE NEXT BIG THING – (continued)**

**Litzsinger Road Ecology Center-** At Litzsinger Road Ecology



Mary Pat Ehlmann teaching new volunteer Educators at Litzsinger Road Ecology Center

Center (LREC), teachers learn how to engage their students in place-based education: using local ecology as a framework for studying a variety of subjects while interacting with the local community. Class visits to help students become familiar with, and learn how to investigate local natural habitats.

Volunteers at LREC assist with school groups on a daily basis. Using the 36-acre site to explore prairies, creeks, and woodland, teachers are able to enhance their school curriculum with on-site real experiences. For volunteer opportunities at Litzsinger please contact Susan Baron at [susan.baron@mobot.org](mailto:susan.baron@mobot.org). Training for new volunteers occurs throughout the year as demand dictates.



Based on comments from the student teachers from St Joseph Academy, they had a rewarding day teaching other students about nature

**Shaw Nature Reserve** - Their school programs encourage students to interact with the natural environment they are studying.

The Shaw Nature Reserve strives to inspire responsible stewardship of our environment through education, restoration, and protection of natural habitats as well as public enjoyment of the natural world.

We value and believe in...

- the inquiring minds of children and their innate desire to learn.
- natural history learning through hands-on field experiences.
- providing experiences that foster appreciation, understanding, and stewardship of the Earth.
- education to promote lifelong behaviors which protect the natural environment.
- teaching stewardship and sustainability by example.

We offer a wide range of educational opportunities designed to connect people of all ages to the natural world. Whether it is a school program, an adult or family program, or an overnight experience at the Dana Brown Overnight Center there is something for everyone.

Teacher-Naturalist: Teach children outdoors, September through May. Classes are hands-on with a focus on sensory awareness and ecological concepts. This work involves a minimum of one day per week during the school year and a monthly training session. Initial training is given and required.

To learn about volunteer opportunities call 636-451-3512



Jim and Brenda Christ, Educators at Shaw Nature Reserve



Great Rivers Outreach & Education – Summer 2017 (continued)

St Louis Audubon Society/Education Team



St. Louis Audubon educators Pam Wilcox and Lisa Nansteel at the Wolf Sanctuary Open House.

Our Education Team provides free programs for kindergarten through college grade levels, all satisfying Missouri Grade Level Expectations in science. Additional programs are available for adults, suitable for garden clubs, social groups, etc. Subjects include birds, owls, butterflies, bats, plants or other customized subjects based on your need or request. For questions or to schedule a program, please call Lisa Nansteel at education@stlouisaudubon.org or (636) 391-4898.



St. Louis Audubon educator Pam Wilcox at a Master Gardener outreach event

World Bird Sanctuary

Volunteer Naturalist positions are available to assist the Office of Wildlife Learning and Education Staff with the presentation of educational programs to the public and maintenance of the education animals. For volunteer information contact: volunteer@worldbirdsantuary.org.



Missouri Department of Conservation

Discover Nature-Fishing Program by Bob Virag

Parents don't frame photos of their kids playing video games

The MDC Discover Nature-Fishing program provides a wonderful opportunity for children in the St. Louis area to experience the joy of being one with nature. It's said that fishing requires patience and teaching a child to fish requires the patience of a saint, but the rewards are heavenly. It's hard to describe the delight of a young angler catching their first fish. They learn so much more than simply how to reel one in. There is a calming effect that quiets their fears as they start to focus on the water. After we teach them a bit about the importance of habitat and food chain and behavior they start thinking like a fish...imagining what it's like to sense the bait, play with the hook, fight the line. It's a real privilege to serve as a MDC volunteer instructor. There is no greater reward than to see the children beaming with excitement when they proudly show their first catch to their parents. It's great to see them eagerly return for each of the four lessons, week after week. MDC supplies the fishing gear and bait and instructions, and the kids supply the smiles. Great fun. For more information, see [MDC'S DISCOVER NATURE—FISHING STL](#) and contact Denise Otto at Busch CA 636-441-4554



Walter's first fish at a MDC Discover Nature-Fishing event at the Forest Park Fish Hatchery. —photo by Bob Virag



Great Rivers Outreach & Education – Summer 2017 (continued)

### Mark Glenshaw speaker for Master Gardeners



St. Louis Master Gardeners were a rapt audience for Mark Glenshaw's presentation on Forest Park owls on September 23. Learn more about the fascinating creatures in our wonderful Forest Park here:

<http://forestparkowls.blogspot.com/>



### Shaw Nature Reserve BioBlitz!

Biologists, naturalists, and environmental specialists led nature lovers of all ages on field treks Friday and Saturday, Sept 22 & 23, to discover and explore the biodiversity of the Missouri Botanical Garden's Shaw Nature Reserve in Gray Summit, Missouri at the Academy BioBlitz! This is outreach and education coupled with citizen science at its BEST! Amy Kilpatrick helped lead students and teachers from Rockwood Summit High School, Rogers Middle School - Affton, Ridgewood Middle and Fox Middle School in the Fox C-6 School District, St. Charles West High School, St. Joseph's Academy (St. Louis), and The Fulton School at St. Albans. They all braved Friday's heat to help us learn more about the diversity of plant and animal life at the Reserve!

### The Green Center Speaker Series

#### "Reconnecting with the Natural World One Sting at a Time".

This program was part of the Green Center's speaker series. Beekeeper John Pashia presented an excellent program on his beekeeping efforts.



### MDC Monarch Madness Celebration

Five Great Rivers Chapter Missouri Master Naturalists helped Grow Native! and the Missouri Prairie Foundation celebrate the migration of the Monarch butterfly at Missouri Department of Conservation's Monarch Madness celebration at Weldon Springs Interpretive Center in St. Charles on September 9, 2017. Renee Benage, Barbara Stephenson, Sally Carpenter, Dianna Miller, and Nancy Willis staffed the Grow Native! booth at the event, introducing visitors to the wonders of the Monarch and all pollinating critters that help our native plants thrive.



Barbara Stephenson introduces a young visitor of the Monarch Madness celebration to a Monarch butterfly



Great Rivers Outreach & Education – Summer 2017 (continued)

# Greenway Network – Race for the Rivers Festival

By Bob Virag

August 26, 2017



Great Rivers and Confluence chapter tents under the giant shady Sycamore

**IS THAT A LOBSTER? IS IT A CRAB? WILL IT BITE?** Yes, sadly, these were among the most frequently asked questions at the Missouri Master Naturalist exhibit at [Greenway Network's](#) 11<sup>th</sup> annual [Race for the Rivers](#) Festival. Most of the questions ended in surprise and gleeful laughter as the young visitors learned that, yes – they too can pick up their first crawfish without being devoured. Thanks to the patient and skillful teachings of the seven Missouri Master Naturalists, all visitors left the tent a little less fearful of nature and a bit more educated about its wonders.

Once again our most generous partner, Greenway Network, welcomed our exhibits by providing a tent and prime location down by the Missouri River waterfront at Frontier

Park under the giant shady Sycamore tree. Naturalists from the Great Rivers and Confluence chapters joined forces to



Great Rivers O&E materials and Pam Wilcox's pet armadillo

assist visitors with NDD (Nature Deficit Disorder) and dispelled many myths and fears along the way.

Many thanks to Confluence chapter members Debra Molton, Martha Hessler, Connie Campbell, Allison Volk, and Tom Nagle, and to Great Rivers chapter members Pam Wilcox and Bob Virag for

staying the entire day answering the excited questions from over 200 visitors.

The display of a working stream table and trays of live macroinvertebrates drew the largest crowds.

We knew that we were successful when visitors returned to the booth several times throughout the day.

In one case a recently retired gentleman spoke with

naturalists for quite some time, only to return about an hour later with his wife. Both were eager to learn about the program. When the wife said she was more interested in gardening, she was steered to another naturalist who was also a Master Gardener. After telling us that they were very interested in joining, they left, only to return about two hours later with ALL their grandchildren. Watching grandpa patiently teach the kids about the crawfish and hellgrammites and mayfly nymphs he had just played with hours earlier made the long day very worthwhile for all of us!



Confluence member Debra Moulton shows Larry Ruff a macro invertebrate



Students stood in line for the opportunity to catch a crawfish.



Great Rivers member Bob Virag helps visitors catch their first crawfish





Great Rivers Outreach & Education – Summer 2017 (continued)

Bring Conservation Home – Native Plant Garden Tour September 16, 2017



The St. Louis Wild Ones and the St. Louis Audubon Society jointly sponsored the third St. Louis Native Plant Garden Tour Saturday, September 16th. Five of the ten properties belonged to six of our Great Rivers members. Not only did they prepare their landscapes, taking out a Mare’s Tail here and a White Avens there, they created posters to tell the importance of supporting Missouri’s wildlife by incorporating the state’s native plants in one’s own urban home landscape.

- Ellen and Dirk Maas created a 1/3 acre of prairie by plantings and sowing seed. They have motion-activated sprinklers to deter deer browse.
- Richard Lesage and his wife, Janet recently added a bubbler in front of their house to attract birds in need of a drink and a bath. They have a pond, woodland, and prairie all on their Ballwin property.
- Susan Orr fenced in all of her gardens that deer would “deer-ly” love to eat. Susan started removing honeysuckle eighteen years ago. Now, 200 native species later, there’s a wealth of wildlife visiting their landscape.
- In spite of recent surgery on her leg, Kari Pratt put “her big girl panties on” (her words) and soldiered through the day hosting visitors along with her husband, Steve, and volunteers. Visitors enjoyed her sunny rain garden in the front, shady plants under their large tree and expansive sunny garden stretching the width of their property in the back.
- Cori and Al Westcott hoped to inspire some folks to consider the use of rain barrels and rain gardens as ways to manage their stormwater while benefitting wildlife at the same time. They have several rain gardens, a small prairie patch and woodland gardens to share. 175 visitors were recorded passing through at their home Saturday.



Native Plant Tour visitors taking it in at the Westcott home

Visitors to the tour gardens also benefited from the expertise of seven other Master Naturalists from Great Rivers that serve as Habitat Advisors in the Bring Conservation Home program. Bill Hoss, Stephen Hoyt, Linda Kocher, Renee Benage, Michael Meredith, Diana Miller, and Bob Virag helped to shepherd over 230 visitors through the properties as guides and greeters that day.

It was a long day for our 13 Great Rivers naturalists doing what we do naturally! Instructing, inspiring and stewarding all in one.





**Great Rivers Outreach & Education Events – Summer 2017 (continued)**

**Bring Conservation Home – Native Plant Garden Tour (continued)**



Back forty at Kari Pratt's home



Rain garden at Kari Pratt's home



GR Member Ellen Maas and her husband standing in their prairie



Al and Cori Westcott's sunny garden

**MORE NATIVE PLANT TOUR PHOTOS ON THE NEXT PAGE!**



Great Rivers Outreach & Education Events – Summer 2017 (continued)

Bring Conservation Home – Native Plant Garden Tour (continued)



GR member Rene Benage strolls through gardens of Susan Orr



Susan Orr

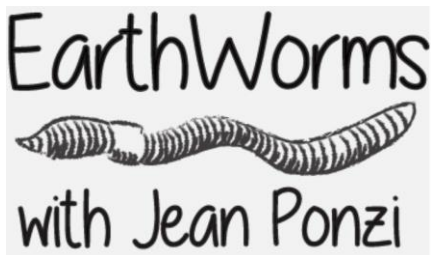


Richard Lesage talking with visitors at his home



Richard Lesage talking with visitors at his home

Bring Conservation Home – Native Plant Garden Tour ON THE RADIO



On August 2, 2017, **Jean Ponzi**, host of the [KDHX radio show Earthworms](#), interviewed Mitch Leachman, Executive Director – St. Louis Audubon Society, and Great Rivers chapter members Cori Westcott and Kari Pratt to announce the Native Plant Garden Tour and discuss the Bring Conservation Home program. The lively discussion reviewed the many benefits of investing in native plants, ecological restoration, and stewardship.

Listen to this inspiring 40-minute segment online in the following link:

<http://earthworms.kdhxtra.org/native-plant-garden-tour-see-grow-love>



### Great Rivers Outreach & Education Events – Summer 2017 (continued)

## Great Rivers Photo Contest

With the change of every season, Great River chapter members have the opportunity to present their prized photos for display on the home page of the chapter website. Cori Westcott organizes the event which is curated by a panel of esteemed judges. Six photographs are selected for the website. These can be seen at [www.greatrivers.org](http://www.greatrivers.org) and are shown below. The runner-up photographs are eligible to be used as front and back cover pages to the seasonal editions of the Gazette. The editor’s selections are also shown below. Please congratulate our Great Rivers photographers. Their outstanding work helps to further the Master Naturalist mission to improve public understanding of natural resource ecology and management by enhancing natural resource *outreach and education* activities.

### Summer Website Photographs



Dogwood – by Glen Horton



Haun State Park – by Renee Benage



Hen of the Woods – by Sean Tracy



Pearl Crescent on Aster – by Renee Benage



Cottonmouth – by Sean Tracy



Painted Lady on Late Boneset – by Sherri Schmidt

### Summer Gazette Cover Photos



Monarch on Liatris at Don Robinson SP – photo by Barb Cerutti



Butterfly Weed in Don Robinson SP-- by Barb Cerutti



# Great Rivers Stewardship Projects – Summer 2017

## Southampton Neighborhood in the City of St Louis

Great Rivers Chapter member Michael Wohlstadter has been very involved in naturalistic landscaping (or naturescaping) of the Southampton “wedges”—common area plots at the intersection of many of the crossroads in the community. His project received local recognition from the Southampton Neighborhood Association and the City of St Louis:

### Southampton Neighborhood Association

“We wish to extend a somewhat belated “Thank You” for all the volunteers at our Naturescaping in Southampton work day. We had another great turnout from the neighbors and once again there was a large contingent from Jubilee Church. The wedges are looking wonderful and we could not accomplish everything we do without your support.”

### City of St Louis

“The City of St. Louis recognizes the value of these natural spaces and [Hampton Wedge](#) (by Carrollton Bank) and Eva Park at Marie's Wedge (on Wherry with the bench) are marked as Naturescape locations on the city's “Connecting with Nature” poster. This poster is available for download at the city's Urban Vitality and Ecology (UVE) page: <https://www.stlouis-mo.gov/government/departments/mayor/initiatives/sustainability/urban-vitality-ecology/> On this UVE page you will find a PDF of the map as well as further information on the value and benefits of urban Nature.”

For those of you who wish to learn more about naturalistic landscaping (or Naturescaping), check out Brightside St. Louis where you can learn about the benefits of native plants, proper preparation, and maintenance, and meet other urban gardeners and would be urban gardeners. For more information go to <http://www.brightsidestl.org/>

### Volunteers Needed Naturescaping in Southampton

Southampton has been awarded two Neighbors Naturescaping grants through [Brightside St. Louis](#). This is our third consecutive year of receiving grants to help develop the green space in Southampton.

If you are interested in helping please contact Michael Wohlstadter at [garden@southamptonstl.org](mailto:garden@southamptonstl.org).



Raingarden in Southampton "Wedges"



Blazing Star in Southampton -- photo Michael Wohlstadter



Southampton stop sign planting - photo Michael Wohlstadter



Pollinators love Southampton - photo Michael Wohlstadter

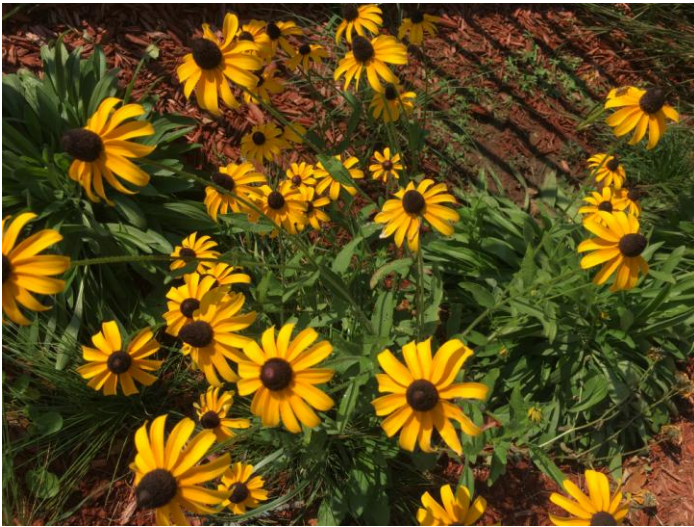


**Great Rivers Stewardship Projects – Summer 2017 (continued)**

**Don Robinson State Park-Native Plant Garden – Update by Cori Westcott**

We wrapped up watering and weeding for the first season of the gardens that we introduced back on May 13th. We planted 800 flowers and grasses on that date. One volunteer traveled to the site every other day, from the middle of May, continuing thru June, July, and August. Most of the volunteers were taking 30-45 minutes one way to get there and then the watering takes 2-3 hours. Local resident Gary Schimmelpfeng collects native plant seeds and raises them in his greenhouse. His plants were used in this project and he assisted with the plantings. The volunteers actively involved in this project are Brett Heath, Sean Tracy, Michael Smith, Barbara Cerutti, Ann Russell, Kari Pratt, Vaughn Meister, Dennis Honkomp, Debra Maurer, Al and myself. That’s a lot of dedication and passion for habitat building!

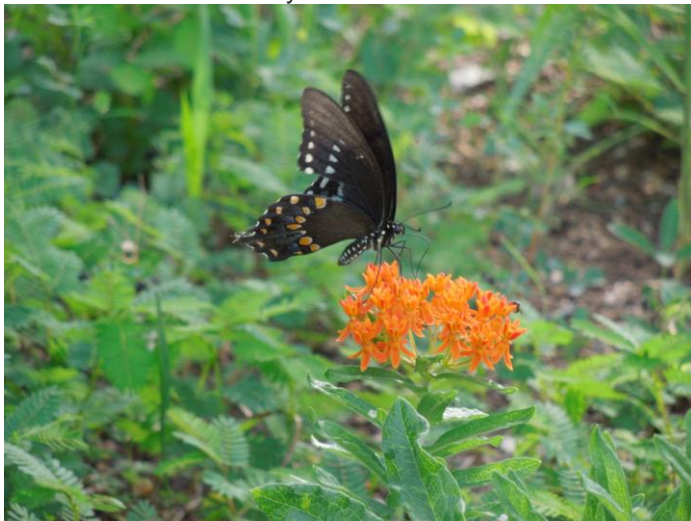
And so worth it! Great efforts, Everybody! The plants have survived their early establishment. Good roots.



Black-eyed Susans from our DRSP garden  
– by Barb Cerutti



Monarch caterpillar on milkweed at DRSP garden  
-- by Tessa Wasserman



Spicebush Swallowtail feeding on Butterfly Milkweed DRSP  
–Photo by Sean Tracey



Imperial Moth on side of bathroom building DRSP  
--Photo by Sean Tracey



Great Rivers Stewardship Projects – Summer 2017 (continued)

Don Robinson State Park-Native Plant Garden (continued)



Photo by Brenda Hente



Photo by Brenda Hente



Photo by Brenda Hente



Photo by Brenda Hente



Rosy Maple Moth on side of bathroom building DRSP -- Photo by Sean Tracey

Also see the FRONT COVER PHOTO, Monarch Butterfly on Liatris at Don Robinson State Park – photo by Barb Cerutti and the BACK COVER PHOTO, Butterfly weed at Don Robinson State Park – photo by Barb Cerutti.





# Great Rivers Current and Future *Stewardship Projects*

Below is a list of the chapters' current and future stewardship projects. This should provide a reference for current members and new interns for use in finding suitable projects where they would like to volunteer. Please contact the project leader shown to initiate your volunteer efforts and to find out more information about each site.

<b>CURRENT PROJECTS</b>	<b>PROJECT LEADER</b>	<b>CONTACT INFORMATION</b>
MDNR - Don Robinson State Park – Located in Jefferson County	Cori Westcott	<a href="mailto:corikeys@aol.com">corikeys@aol.com</a>
City of Manchester - Seibert Park – Manchester Mo.	Cori Westcott	<a href="mailto:corikeys@aol.com">corikeys@aol.com</a>
City of Sunset Hills - Claire Gempp Conservation Area, South County	Sherri Schmidt	<a href="mailto:sgschmidt@prodigy.net">sgschmidt@prodigy.net</a>
Forest Park Forever – Hidden Creek Savanna	Sherri Schmidt	<a href="mailto:sgschmidt@prodigy.net">sgschmidt@prodigy.net</a>
St Louis Audubon Society - Creve Coeur Park and Mallard Lake Restoration, Maryland Heights, MO	Mitch Leachman	<a href="mailto:mitch@stlouisaudubon.org">mitch@stlouisaudubon.org</a>
Ozark Regional Land Trust - Schulze Nature Preserve Washington, Mo.	Alexander Hayter	<a href="mailto:jalexander@outlook.com">jalexander@outlook.com</a>
Museum of Transportation, Barrett Station south of Manchester	April Anderson	<a href="mailto:Team.nature.ed@gmail.com">Team.nature.ed@gmail.com</a> 847-289-9760
Bellefontaine Cemetery Native Gardens	Kyle Cheeseborough	<a href="mailto:kcheeseborough@bellefontainecemetery.org">kcheeseborough@bellefontainecemetery.org</a>
Southampton Naturescaping	Michael Wohlstadter	<a href="mailto:garden@southamptonstl.org">garden@southamptonstl.org</a>
<b>FUTURE PROJECTS</b>	<b>PROJECT LEADER</b>	<b>CONTACT INFORMATION</b>
Peace Haven Nursing Home	Pam Wilcox	<a href="mailto:Pamster049@yahoo.com">Pamster049@yahoo.com</a>
Sunset Hills – Near Laumier Park	Derek Maas	<a href="mailto:dmaas@fastmail.fm">dmaas@fastmail.fm</a>
Nature Trail in Jefferson County	Pam Wilcox Bob Ochs	<a href="mailto:Pamster049@yahoo.com">Pamster049@yahoo.com</a> <a href="mailto:Bob.ochs@sbcglobal.net">Bob.ochs@sbcglobal.net</a>
Kirkwood Parks Project @ Firehouse on Big Bend	Pam Wilcox Kylie Christenell	<a href="mailto:Pamster049@yahoo.com">Pamster049@yahoo.com</a> <a href="mailto:christr@kirkwoodmo.org">christr@kirkwoodmo.org</a>
Right of Way Restoration on I-44 in Eureka Currently led by Confluence & Miramiguoa Chapters	Unknown at present	
Descriptions of the future projects will appear when start dates are announced.		

Descriptions of current projects follow below.



**Great Rivers Stewardship Projects – Summer 2017 (continued)****Stewardship Project Descriptions are listed by Organization and Project name**

**Missouri Department of Natural Resources - Don Robinson State Park** - The 843 acre park was donated by Mr. Robinson to the Missouri Dept. of Natural Resources in 2012 following his death. The donation includes a trust fund giving the dept. the financial resources to manage and maintain the property in the future. The acreage is in the upper watershed of the LaBarque Creek, a high-quality stream supporting 36 species of fish. The area features sandstone box canyons, cliffs, glades, upland and bottomland forests and 328 recorded species of plants. Native shortleaf pine occurs in the area and may represent the northernmost location of this species in Missouri.

Great Rivers took on the task of restoring a native plant garden near the house once lived in by Mr. Robinson. Cori Westcott, and her hard-working team cleared the area and planted numerous native plants. Weeding and watering were necessary on a regular basis. The biggest obstacle for the volunteers is the distance from where most of the volunteers live. It can take up to 45 minutes to reach the park, located in Cedar Hill, Mo. As seen in other pages within this newsletter, the plants seem to be doing very well. Anyone interested in volunteering at this site should contact Cori @ [corikeys@aol.com](mailto:corikeys@aol.com) and be placed on her email list of volunteers. This is an ongoing project.

**City of Manchester - Seibert Park** - A small park at the corner of Manchester Rd. and Sulphur Springs once overrun with invasive species and trees. Currently being restored by member Cori Westcott and a dedicated team of volunteers. Invasives were removed, trees thinned, and native plants installed. It is now a place where residents can stroll the path and discover some of Missouri's best native flora and possibly some fauna as well.

Please contact Cori Westcott @ [corikeys@aol.com](mailto:corikeys@aol.com) to be placed on the volunteer email list. This is an ongoing project.

**City of Sunset Hills - Claire Gempp Davidson Memorial Conservation Area** – The Claire Gempp Davidson Memorial Conservation Area is a 13.5 acre Natural Resource Area in the northeast area of the city. This park has a .5 mile trail system through a wooded setting.

The Great Rivers website includes information regarding the current project and work being done. Please visit: <http://www.greatrivers.org/chapter/projects/24-claire-gempp-davidson-memorial-conservation-area>

**Forest Park Forever - Hidden Creek Savanna** Hidden Creek Savanna is a 3-acre restoration site nestled between the Muny and Central Fields. This site is a strong example of the community

Support surrounding habitat restoration in urban parks. The revival of this area from mowed turf grass to a savanna filled with native grasses and wildflowers was spearheaded by the Great Rivers chapter and initially planted in 2010. This site is maintained by the chapter and uses periodic site surveys to monitor for wildlife activity. The area is host to more than 100 species of native plants and animals. The area is also a great place to view monarchs and other insects and birds. This ongoing project is led by member Sherri Schmidt. For information about volunteering at this site, please contact her @ [sgschmidt@prodigy.net](mailto:sgschmidt@prodigy.net).

**St. Louis Audubon Society - Creve Coeur Park/ Mallard Lake Project** This is a multi-year restoration project initiated by the St Louis Audubon Society with assistance from St Louis County Parks and Forest ReLeaf. So far, several pollinator gardens have been installed along with shoreline plantings. The Great Rivers chapter has been involved in this restoration since its inception and continues to offer support thru volunteer efforts including, turf removal, native plant installation, weeding, etc. The schedule of volunteer events are posted on our calendar as well as on the St Louis Audubon website: <http://www.stlouisaudubon.org/calendar/content/spring-2017-stewardship-projects.pdf>.



## Great Rivers Stewardship Projects – Summer 2017 (continued)

### **Ozark Regional Land Trust (ORLT) - Schulze Nature Preserve**

The Schulze Nature Preserve is located in Washington, Missouri, and protects 22 acres of outstanding old growth oak-hickory forest that is bisected by a small creek. Wildflowers are abundant in the spring of the year.

The land was donated to ORLT in 2000 by the Schulze family who wanted to see this special portion of their historic family farm protected. ORLT manages this preserve to protect its natural values and is investigating options for providing public access.

To date Great Rivers volunteers have assisted with trail building at the site. Most of the volunteer efforts have been provided by the Confluence chapter due to the location. Our chapter is always made aware of planned events and are passed on to the members.

### **Museum of Transportation Native Gardens**

The Great Rivers chapter was asked to assist with native plant gardens at the museum. The following information was provided by April Anderson.

The Museum of Transportation has native gardens, prairie gardens, pollinator gardens, and natural areas that require the expertise and efforts of many to stay beautiful and healthy. Our volunteers are part of a respected team. Some volunteers are leaders while others are learners. Work ranges from pulling weeds to installing plants and removing honeysuckle.

We would love to empower Master Naturalists with stewardship opportunities that would enable them to use the skills they've learned through your program.

Anyone interested in volunteering should contact April directly @ [team.nature.ed@gmail.com](mailto:team.nature.ed@gmail.com) or call her cell at 847-289-9760.

### **Bellefontaine Cemetery Stewardship**

In May, Cemetery Horticulture Staff will be installing a new landscape around Humboldt Gatehouse. This landscape features all native plants, ranging from small trees to herbaceous perennials and grasses. The landscape will create a more inviting, interesting, and maintained appearance around this entrance to Bellefontaine Cemetery, and will complement the fall's installation of a newly-designed landscape at Willow Gatehouse, the Cemetery's current main entrance.

Throughout the month of April, Horticulture Staff will be working to improve upon existing native plantings, seeking to remove invasive plants, replace underperforming plants with more suitable natives, and expanding planting beds. This will enhance the habitat plantings already installed, and provide an excellent example of what small-scale native plant gardening can be.

This past year Bellefontaine Cemetery offered the above projects for volunteers. Member Cindy Steinbruegge volunteers out there. Most work is done in the spring and fall.

Contact: Kyle Cheeseborough, [kcheeseborough@bellefontainecemetery.org](mailto:kcheeseborough@bellefontainecemetery.org).

### **Southampton Naturescaping**

Naturalistic landscaping (naturescaping) of the Southampton Neighborhood Associations "wedges" of common ground at the intersection of many of the neighborhood crossroads. For details, see the article above on "Southampton Neighborhood in the City of St. Louis."

If you are interested in helping please contact Michael Wohlstadter at [garden@southamptonstl.org](mailto:garden@southamptonstl.org)



# Great Rivers *Advanced Training* – Summer 2017

## Cypress Swamp tour at the St. Louis Zoo Flight Cage

**Yes, we went to the Zoo!** By Michael Meredith

On August 31, 2017, over 20 Missouri Master Naturalists from the Great Rivers and Confluence Chapters took advantage of an invitation from the St. Louis Zoo Curator of Birds, Ann Tieber, to tour the Cypress Swamp exhibit in the 1904 Flight Cage.

Cypress Swamp is an immersion exhibit showcasing 20 species of North American birds – from the roseate spoonbill and yellow-crowned night heron to the snowy egret and double-crested cormorant - that thrive in cypress swamps along the Mississippi River. The swamps of southeastern Missouri and southern Illinois are wetlands, carved out by the meandering Mississippi over thousands of years.

As the largest Missouri-centric exhibit at the Zoo, Cypress Swamp offers Master Naturalists a unique opportunity to enjoy some of the wetland waterfowl and plants without having to drive for a couple hours and wear your waders. A winding pathway transports visitors to a floating bridge and viewing pier. Hardwoods, shrubs, aquatic plants and cypress snags are planted lushly along the way. Pools and rock outcroppings complete the natural habitat. This splendid new exhibit teaches people to appreciate local environments and animal species, specifically birds.

With the great turnout, we split into three separate groups, each led by a keeper. For the hour and a half of our tour, the exhibit was closed to the public, giving us an exceptional opportunity to learn and ask questions; and the keepers were as thrilled at the interactions as we were.

But our involvement might not end here. In her role as Curator of Birds, Ann is looking to build an ongoing relationship with groups like ours, so future educational or volunteer opportunities are a real possibility. Stay tuned!



A flock of Master Naturalists from Great Rivers and Confluence Chapters swooped into the Flight Cage at St. Louis Zoo.



Bird keepers led three groups of master naturalists on an exclusive tour of the St. Louis Flight Cage.



Quail family in the Flight Cage at St. Louis Zoo  
---photo by MMN Sandy Brooks



Green heron in the Flight Cage at St. Louis Zoo  
---photo by MMN Sandy Brooks



Great Rivers **Advanced Training** –Summer 2017 (continued)  
Cypress Swamp tour at the St. Louis Zoo Flight Cage (continued)



The Cypress Swamp at the St. Louis Zoo showcases 20 species of native birds that thrive in the backwaters of the Mississippi River



The Flight Cage, built in 1904, offers a natural wetland habitat complete with pools and rock outcroppings planted with native hardwoods, shrubs, aquatic plants and cypress snags



Roseate spoonbill in the St. Louis Zoo Flight Cage  
--- photo by MMN Sandy Brooks



Roseate spoonbill in the St. Louis Zoo Flight Cage  
--- photo by MMN Sandy Brooks



Roseate spoonbill in the St. Louis Zoo Flight Cage  
--- photo by MMN Sandy Brooks



Great Rivers **Advanced Training** –Summer 2017 (continued)

September 23, 2017

# Missouri Master Naturalist Annual Tri-Chapter Advanced Training Event

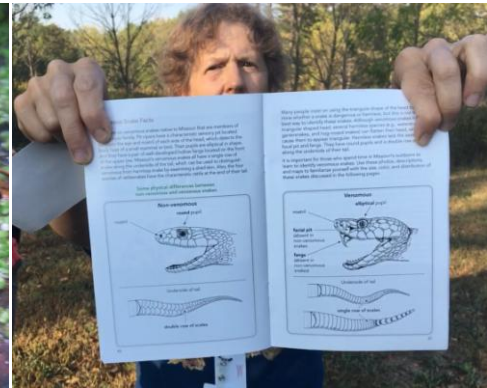


Over 15 Master Naturalists from Great Rivers Chapter participated in the 2017 Tri-Chapter event this year. While the event took place a few days after the end of summer (on September 23) we thought we should include it in this edition of the Gazette to recognize all hard work by the Tri-Chapter committee members in planning, arranging, and setting up the events throughout the long hot summer. Our hardworking Great Rivers Tri-Chapter Committee members are

Committee Chair Michael Meredith, Barbara Cerutti, and Sherri Turner. We owe them a debt of gratitude for organizing such a wonderful day.

This year the three chapters gathered at the Shaw Nature Reserve Freund Center. Over 20 advanced training sessions were held throughout the day. For a complete list, see [www.miramiguoa.org/field-day](http://www.miramiguoa.org/field-day). Several of our Great Rivers chapter members helped as guides in five events: Brenda Hente led the Owl Prowl; Maxine Stone led the mushroom bioblitz; Barb Cerrutti led the nature journaling event and helped lead the Exploring Nature as a Child event, and Bob Virag helped with the river ecology event.

Many thanks to all who participated!



Reptile and Amphibians BioBlitz crew found snakes and Green frogs



“Exploring Nature as a Child”

Climbing trees----Blowing milkweed seeds-----Discovering that the fruit of a Black walnut tree makes **BLACK** fingers



# Great Rivers *Advanced Training* –Summer 2017 (continued) Advanced Training Speaker Series – Summer 2017

July 18, 2017

**Astronomy -- Steve Boerner, Astronomical Society of Eastern Missouri**



What’s up in the sky tonight? Just [borrow a telescope from your local St. Louis Library](#) and check out the [Evening Sky Map](#), says our astronomy guru, Steve Boerner from the [Astronomical Society of Eastern Missouri](#). As a National Park Service AstroVIP and national Astronomy League Master Observer, Steve led us on an energetic romp through the wonders of the universe, beginning with a “sun party”! Steve let all chapter members look at live solar flares and prominences using his special solar telescope equipped with a high tech hydrogen-alpha filter system. Steve then taught us all about the upcoming August 21 total solar eclipse – where the best viewing sites are, when to expect it in our neighborhood, and how to view the eclipse safely. To REALLY ZOOM in on how the total eclipse will look at your house, use this excellent site by Xavier Jubier. After zooming in, double-click on "your site" and it will show you how much time in totality to expect at that location. [http://xjubier.free.fr/en/site\\_pages/solar\\_eclipses/TSE\\_2017\\_GoogleMapFull.html](http://xjubier.free.fr/en/site_pages/solar_eclipses/TSE_2017_GoogleMapFull.html).

Bob Virag handed out special solar glasses to everyone present that he purchased for the chapter members and Steve taught us how to use them. HINT: DO NOT USE THEM WITH BINOCULARS OR TELESCOPES IN ANY WAY...unless you want a hole burned through your eye! Steve then went on to show us all the different types of amateur telescopes we could use and where to use them to avoid light pollution in the area. Two sites, [Broemmelsiek Park Astronomy Center](#) in St. Charles with its “Friday Nights Open House” events, and (even better) the dark skies of the [Danville Conservation Area in New Florence, Missouri](#) provides the best views of planets, stars, asterisms, constellations, clusters, gas nebulae, and galaxies. Thank you, Steve, for showing us our place in the Universe!

August 15, 2017

**Prairie Burns – Erik Otto, Missouri Department of Natural Resources**



We had a pyromaniac in our midst tonight! He touched on many subjects, but the moral of his story was controlled burns. He is always in need of volunteers. Burns are typically scheduled at the last minute--sometimes just a few days, sometimes a few hours! The weather has to be “perfect” and there is definitely a long list of requirements, permissions, etc. If you are interested in being a volunteer, there is a class (of course!) to take to prepare you. Contact Erik at [Erik.otto@dnr.mo.gov](mailto:Erik.otto@dnr.mo.gov).

September 19, 2017

**Soil Microbes: The Role of Fungi on Plant Coexistence Rachel Becknell**



Rachell deepened our understanding of ecology with an emerging new perspective at the soil community level. She introduced the concept of niche partitioning and species coexistence within the soils and the role of soil-borne enemies and mutualists on plant survival. Her work aims to understand if plant-microbe interactions are species-specific and explain how a given plant species may perform poorly in its own soil community and yet better in another plant species soil community.



## Advanced Training Committee 2017 Speaker Calendar

- October 17, 2017 “Thinking like a River Valley” -- Jay Fish, UMSL
- November 17, 2017 ORIENTATION
- December 21, 2017 HOLIDAY PARTY



## Great Rivers Member Milestones

The Great Rivers chapter appreciates the hard work and consistent dedication to our mission of the following Members.



Brenda Hente

**Congratulations to Brenda Hente on earning her 1000 hour milestone award.**



Missouri Master Naturalist Brenda Hente with a Great Horned Owl at Wild Bird Sanctuary

Above and beyond Brenda’s love for all aspects of the natural world, her one true love is birding and teaching others about the avian world. Her Missouri master naturalist service began with planting trees and removing honeysuckle in our county parks. “While this was rewarding, I soon found myself becoming more involved with the World Bird Sanctuary. I joined their banding team.” The team bands and records data on spring migrants (songbirds) and fall migrants (Northern Saw-whet owls). The majority of Brenda’s hours come from leading owl prowls in the St. Louis area at various parks and Shaw Nature Reserve, along with presenting owl shows for WBS.

Brenda began birding only seven years ago. Up until then, she didn’t realize just how amazing birds are. “Since then, I want everyone around me to learn about birds of all types so that they too may find joy in studying or watching them.” Don’t get Brenda started talking about owls though. You may have a difficult time getting her to stop!

Brenda’s love of nature was aroused by a pair of Great Horned owls who set up residence in her backyard tree for four months. She wanted to learn everything she could about the flora and fauna of Missouri. She wanted to help Missouri’s natural world survive. Becoming a Missouri Master Naturalist was a perfect fit, naturally!

Brenda said, “Through volunteer activities and our monthly meetings, I have met many wonderful people who have become good friends and have the same mindset as me. I have also made contacts with specialists in many fields, that are resourceful to me as I seek to educate others, in my classroom as a middle school educator and the general public. “

Thank you, Brenda, for all that you do!





## Great Rivers Member Milestones (continued)



Vaughn Meister

**Congratulations to Vaughn Meister on earning her 1000 hour milestone award.**



Vaughn is an ever-present volunteer at Forest ReLeaf. She loves caring for young trees by pruning, staking, weeding, and tagging. She also enjoys public speaking about the mission of Forest ReLeaf. Vaughn hopes that by her talks, she is encouraging people to choose to plant Missouri's native shrubs and trees rather than the non-native species.

At the time of Vaughn's retirement, she looked for a volunteer service that she would enjoy while making a positive impact. Mike Walsh's tree class was her first advanced training class. She immediately visited the Forest ReLeaf nursery and "...was hooked."

In speaking of the program, Vaughn added, "I really appreciate the myriad of options that are available to us through our calendars."



Tessa Wasserman

**Congratulations to Tessa Wasserman on earning her 500-hour milestone award.**

It seems like just yesterday that we congratulated Tessa upon receiving her 250-hour milestone pin.....WAIT! IT WAS! Tessa received her last pin at the end of Spring and now it's a mere 4 months later.

Here is a photo of Tessa marching at the Webster Groves Fourth of July Parade doing what she does naturally--- reaching out and educating everyone about the honeysuckle invasion ---all while putting a smile on their faces!

We are grateful for your wonderful contributions, Tessa!







## Great Rivers Member Milestones (continued)



Debra Maurer

### **Congratulations to Debra Maurer on earning her 250 hours milestone award.**



Debra is a registered nurse at St. Mary's. She works 12-hour shifts. That results in four days off per week. When that work schedule was established, she began looking for volunteer opportunities that would get her outside. With a friend, she completed the initial training program in 2012. Believe it or not, Debra enjoys clearing honeysuckle the most! She says, ..." great to see an area cleared out. I enjoy hiking and it's nice to be able to see the beautiful valleys and streams without the honeysuckles' obstruction



Diana Miller

### **Congratulations to Diana Miller on earning her 250 hours milestone award.**



Diana explains that these days her volunteer time is mostly for the chapter as our secretary. She enjoys staying close to home since she still works. She doesn't want to drive far when she has a limited amount of time to devote to volunteering. She does enjoy working at Seibert Park and Museum of Transportation. And, if the date works out, she'd love to check out other locales such as the Don Robinson State Park.

Diana likes planting and hacking! "I love the outdoors and always thought my second calling should have been a horticulturist--but life has other plans. So after raising 3 boys, spending many years volunteering for the Boy Scouts, I'm finding time for myself and finally took the class. AND it was offered in the evening!"

Diana has definite plans when she gets more time, most likely from retiring. "I wish to be better at identifying plants and trees, and remembering from year to year!! I'd also love to get back to the Bring Conservation Home program."

You'll be an asset to the program someday, Diana! But for now, we're grateful for your excellent note-taking and our meeting minutes. Congratulations, Diana, and thank you!





## CONGRATULATIONS!

### 2017 Missouri Master Naturalist Graduating Class for the St. Louis Region Chapters



On September 19, 2017, thirty new intern Missouri Master Naturalists graduated from their intensive initial training courses. The courses, listed below, were designed to expose volunteers to a wide variety of natural resource disciplines and to teach trainees about their local natural resources and techniques for their successful management. Most importantly, the 50 hours of courses provided volunteers access to resources needed to teach this information to others in the community.

Here is a list of the training courses the trainees were exposed to:

#### INITIAL TRAINING CURRICULUM

Introduction, Orientation  
Naturalist Pursuits  
Fundamental Ecology  
Reptiles, Amphibians  
Pollinators  
Native Plants  
Prairies and Glades  
Forest Ecosystems

Forest Management  
Urban Impacts and Opportunities  
Aquatic Ecosystems  
Cave Ecology, Karsts, Bats  
Ancient Flyway, Habitat Management  
Soils of Missouri  
True Colors  
Wrap up, Review, Graduation

## WELCOME ABOARD, CLASS OF 2017!



## Naturalist's Journal

### Return to Costa Rica – by Mary Dueren



I was expecting heat and humidity when we arrived in Costa Rica on July 16 of this year. San Jose was overcast and a cool 72 degrees. We all knew that we would be birding the next 12 days during the rainy season in Costa Rica. After all, there are really only two seasons in Costa Rica: wet and dry.

Our group included me, Karen Meyers, Bob Pitzer, Susan Eaton, Laura Erikson and Patty and Steve Mack. We met our driver to shuttle us to the nearby Hotel Robledal.

As soon as we settled for a single overnight, the birding began. Hotel Robledal is a small, family-run establishment. The family actively works the grounds to protect native birds, butterflies, frogs, and plants. It is an oasis in the bustling city of San Jose. Our first birds of the trip were a family of Rufous-napped wrens.

The next morning we met our guide Ernesto Carmen and our driver and guide Vernon Campos. Now the adventure began. Our first destination was Montverde and Hotel Fonda Vela. There were various stops along the way. We chased Turquoise Browed Mot-mot from tree to tree on the black sand beach in Caldera. We patiently waited for the Mangrove Hummingbird and Ferruginous Pygmy Owl to pop out of the deep Mangrove brush. We continued the drive up into the mountains. As we ventured higher into the cloud forest, the rain, thunder, and lightning increased. Rain would be a daily obstacle but usually rewarded our efforts.



Collared Aracery -- photo by Mary Dueren

Hotel Fonda Vela and Curi-Concha Reserve were rewarding destinations. Black Guans, Chiriqui Quail Dove, Emerald Toucanet, Orange-chinned Parakeets, Slaty Antwrens, Olivaceous Woodpeckers were just some of the amazing birds we observed. Hummingbirds do thrive at very high elevations: Green Hermit, Green-Crowned Brilliant, Coppery-headed Emeralds to name a few. After three rewarding days in the Montverde, we headed to Arenal Volcano Observatory Lodge. We had spectacular views of the volcano, but it would sometimes disappear in clouds and mist. For the next three days, we explored the grounds and trails around Arenal. We also visited Sky Adventures which has extensive trails, suspension bridges, and zip lines. From one of the overlooks, we found an Ornate-Hawk Eagle feasting on a Brown Jay. There was also Bare-crowned Antbird, Wedge-billed Woodcreeper, and White-ruffed Manakins. While on one of Arenal Lodge's trails, an Eye-lash Pit Viper was found on a low branch close to the ground. We kept our distance from this venomous snake while we watched it catch an anole and consume it. Fascinating to observe hunter and prey behavior. One of the best finds was the Black and White Owl that hunts flying insects in a street light on the Arenal Lodge property.

Our next stop on our adventure: Hotel Tapanti and Tapanti National Park. Here we found Spangle-cheeked Tanagers, Prevost's Ground-Sparrow, Chestnut Headed Oropendola, Sooty-capped Chlorospingus, and Mountain Thrush. One of our trips was to Irazu Volcano National Park. The volcano is over 10,000 feet high. It was windy and cold but we found amazing birds like the Slaty- Flower Piercer, Volcano Junco, and Volcano Hummingbird.



Author Mary Dueren visiting the Irazu Volcano National Park



Naturalists Journal -- Return to Costa Rica (continued)

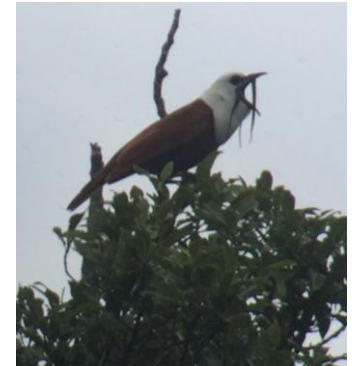


Violet Sabrewing Hummingbird -- photo by Mary Dueren

Our last lodge was Sevegre Mountain Lodge. This lodge is at an elevation of 7000 feet but to get there, we had to descend from the Pan-American Highway that runs along the Continental Divide at 9000 feet. Once we turned off the highway, we descended 1800 feet in 9 kilometers. There were heart-pounding, breathtaking views of the valley. Our reward was a beautiful lodge and gardens as well as great birds. The very next day, we found one of our target birds: the Resplendent Quetzal. There is no doubt that the Quetzal is a uniquely beautiful bird. Stunning iridescent blue, and deep red on the breast. The males still had some of their long streaming tail feathers, but molting is underway since the nesting season was finished. Other birds we found were Black-billed Nightingale Thrush, Gray-breasted Woodwren, Ruddy Treerunner, Sulphur-winged Parakeet, Purple-throated Mountain Gem Hummingbird, Stripe-tailed

Hummingbird, and Rufous-vented Ground- Cuckoo.

After 12 days of being immersed in the birds and natural history of Costa Rica, it was time to make our way back to San Jose. It was a long rainy trip back to the capital city. San Jose is located in the central valley. Costa Rica's size could fit entirely within the state lines of Missouri. The mountains and volcano range make travel from one place to another quite a task. This is a country of 4.9 million people that welcomes tourists from everywhere. The country is very forward thinking about energy (mostly wind, solar and geothermal).



Three-wattle Bell Bird -- photo by Mary Dueren

33



Palm Orchid -- photo by Mary Dueren

As we checked back into Hotel Robledal, our list of birds stood at 358 species seen or heard. That includes species of hummingbirds! We had seen Mantled Howler monkey, Central American Squirrel monkeys, White-nosed Koati, Three-toed sloth, variegated squirrels, Agouti, Cane toads, Funnel Web spider, Leaf-cutter ants, and Blue-morpho Butterflies. There were the birds we saw every day: Great Kiskadee, Tropical Kingbirds, Great-tailed Grackles, Black Vultures (sometimes called the Costa Rican Airforce), and Clay-colored Thrush. The Clay-colored Thrush is the state bird of Costa Rica. Lore says that when the Clay-colored Thrush begins to sing, the rainy season (the growing season) is beginning.

This was my second trip to Costa Rica. Each time, I was overwhelmed by the birds and nature of this country. If you haven't been out of our country to see birds in another country, I urge you to make plans and GO!





## Naturalist's Journal

# The Audubon Center at Riverlands: The Bottomland Forest Avian Survey Project

by Jean Favara, ACR Conservation Manager

The Audubon Center at Riverlands (ACR) is both a project of the National Audubon Society (NAS) and a partnership with U.S. Army Corps of Engineers River Project Office (USACE RPO). The Center is located in the 3,700-acre Riverlands Migratory Bird Sanctuary, which is public property managed by the USACE RPO. The Center and Sanctuary together provide the platform for a unique collaboration between Audubon and the Rivers Project Office to conserve the Mississippi River through nature-based education and tourism, outdoor programs, science-based species monitoring and the restoration and protection of 50,000 acres of floodplain habitat in the Great Rivers Confluence Important Bird Area (IBA), a globally significant place for birds.

May and June are very busy months at the center with both center and USACE RPO staff focused on a bottomland forest avian survey project that was initiated in 2012. This project uses avian point count survey data to determine the abundance and density of breeding birds in the bottomland forests of islands and areas in the Mississippi River managed by the USACE RPO. Currently the survey covers 25 islands/areas with ~145 survey points. Survey areas are found across 100 river miles located on the Mississippi River between Maple Island, which is sited on the sanctuary, to Gilbert Island, located near Ted Shanks CA north of Louisiana, MO. This year flooding on the river in May delayed the survey season by ~ 2 weeks and also limited the access to some survey points due to high water remaining on survey areas. Despite these challenges, we were able to complete 125 survey points on 22 islands. The survey work is done in pairs with one observer who identifies the birds by sight and/or sound during the survey period of 18 minutes while a recorder writes down the observations. The project has benefited from the critical help of interns from both UMSL and SIUE as well as Missouri Master Naturalist volunteers that assist us to complete the surveys each year by acting as the recorders. The data from the surveys will inform future adaptive forest management practices that support avian populations in the bottomland forests of the Mississippi River.



Boat photo (left to right): Jean Favara (Conservation Manager, ACR), Sage Rohrer (Survey Technician, ACR) and Andrea Trigueros (UMSL intern) on the way to Dardenne Island for surveys.-- photo by Bob Virag



Survey Photo: Jean Favara (Conservation Manager, ACR) navigating to a survey point in the West Alton survey area.



## Naturalist's Journal

### THE GIANT ICHNEUMON WASP

by Cori Westcott

The expression, “It’s a dog-eat-dog world out there” would serve us better if we tweaked it. It’s a wasp-eat-wasp world out there is our opening statement as we explore this strange and intimidating creature. Barbara Cerutti took this wonderful photo of a female *Megarhyssa macrurus* busy at her work. That’s probably why Barbara was able to get such a good close-up. Once she has inserted her ovipositor (egg-laying organ), she can’t quickly pull it out and move on. It takes several minutes. View the process at <https://www.youtube.com/watch?v=PiqXytpg6Ko>.

Most adults don’t eat. Their young are strictly carnivores. You Stream Teamers out there would be interested to know that there’s an ichneumon (pronounced ICK-new-mon) species that dives into the caddis fly burrows to deposit her eggs into the eggs of the caddisfly!!



The Giant Ichneumon Wasp  
---photo by Barb Cerutti

The three-inch ovipositor is supported by two companion guides. The ovipositor and its guides can penetrate two inches of wood. Once I was able to wrap my head around the fact that her ovipositor could penetrate bark and wood, I’ve often wondered how does she find the larva within the wood? Connie Hjelmeng-Johnson wrote for an MDC article\* in 2002, “Apparently, the female selects the right tree by pressing its long antennae against the bark to detect vibrations of the horntail larvae deep inside the wood.” The favored larval host is the horntail wasp.

They live in damp habitats. When adults are not mating or laying eggs, they hide under rocks and logs. Have you read any books by naturalist and biologist Bernd Heinrich? His father Gerd Heinrich, was a collector of Ichneumons and sold dry-mounted species to universities and natural history museums. Read Heinrich’s [The Snoring Bird: My Family’s Journey Through a Century of Biology](#), 2007 by Ecco. This hungry emerging larva is a very useful insect to gardeners and farmers because of all the insects it consumes before pupating into adulthood.

So, next time you’re out in the woods, flip over a log. Just be sure and put it back where you found it. No! I’m not kidding!

\*[The Amazing Ichneumon](#), Missouri Conservationist Magazine, May 2, 2002, revised November 12, 2010. Contributed by Cori Westcott



## Naturalist's Journal

### Eastern Hellbender versus the Ozark Hellbender

– An interesting comparison (contributed by Pam Wilcox)

“They purposefully drive away fishermen by smearing their lines with slime; they deliver vicious venomous bites; they wipe out game fish”.

This myth and more you will learn about the hellbender- America's largest amphibian-if you only conduct your research in BARS!. ....**Not a word is true.**



**What IS true:** The Eastern Hellbender, reaching lengths of more than two feet and weighing as much as five pounds, has a flattened head and body, tiny eyes, and folds of loose skin that drip with slime. The hellbender is shy and utterly harmless. These aquatic salamanders breed in cold, fast streams from New York to southern Illinois and south to Mississippi, Alabama, and Georgia. The male hovers over the female in a nest he has recently excavated in bottom rubble, fertilizing her eggs (from 200 to 500) externally, which is unusual for salamanders. After fertilization, the female leaves the nest, leaving the male to defend the nest for the next 45

to 60 days until the eggs hatch into larvae.

Eastern Hellbenders coevolved with trout, which prey on them when they're young. When an eastern hellbender smells a trout, it seeks shelter under a rock or log. However, a subspecies- the Ozark Hellbender, inhabiting southern Missouri and northern Arkansas, did not coevolve with trout, and the scent of these alien predators, recently introduced to their habitat by game and fish agencies, triggers no such escape reflex. This may partially explain why Ozark hellbenders are declining, although the hellbender has numerous other predators, mostly mammals.

After years of delay, the hellbender was finally placed on the Endangered Species List in October 2011.

Also in 2011, the St Louis Zoo in collaboration with the Missouri Conservation Dept. began a program to raise hellbenders in captivity. The Zoo created the Ron Goellner Center for Hellbender Conservation. Its' goal is to find the cause of the hellbenders decline and reverse it, if possible. The center will assist and support researchers who are studying the water quality of the hellbenders' native habitat in Missouri and Arkansas. The center created a captive breeding program in case captive bred hellbenders are needed for reintroductions to the wild. At the time this information was written, a total of 165 hellbenders have been raised in captivity. (see [www.stlouiszoo.org](http://www.stlouiszoo.org) )

Other information from Audubon magazine October 2006.



## Naturalist's Journal

## Missouri Department of Conservation

Throughout the year, the Missouri Dept. of Conservation produces many timely and informative articles. Below are a few examples.

## Buy native trees and shrubs from MDC State Forest Nursery

*Place orders starting Sept. 1.*

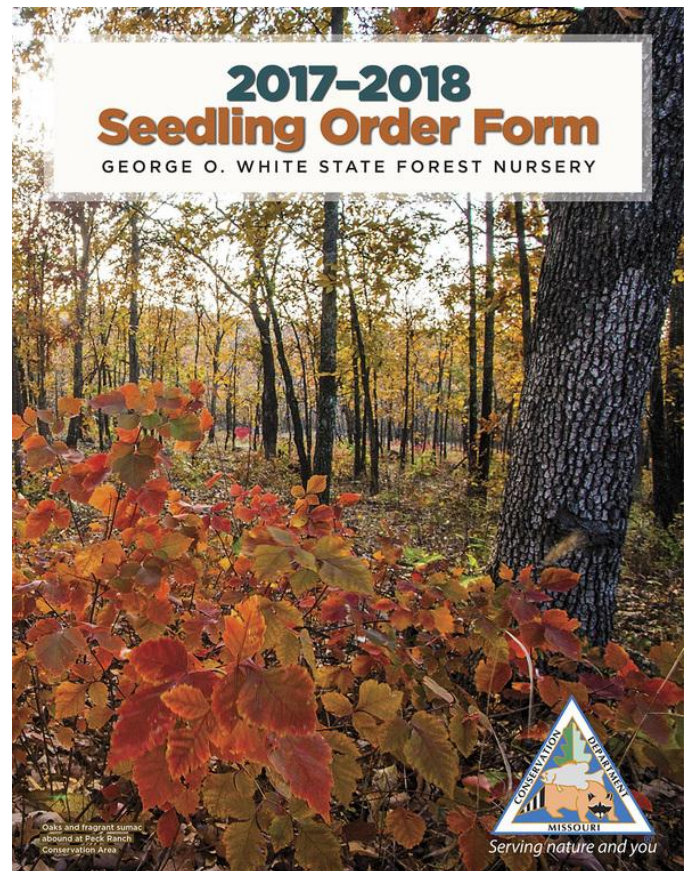
**JEFFERSON CITY, Mo.** -- Native trees and shrubs can help improve wildlife habitat and soil and water conservation while also improving the appearance and value of private property. The Missouri Department of Conservation's (MDC) George O. White State Forest Nursery offers a variety of low-cost native tree and shrub seedlings for reforestation, windbreaks, erosion control, wildlife food and cover, and other purposes.

**This year, the State Forest Nursery is taking orders starting a couple months early, beginning on Sept. 1 instead of in November. Orders are being accepted through April 15, 2018. Supplies are limited so order early. Orders will be shipped or can be picked up at the nursery near Licking from February through May.**

The nursery provides mainly one-year-old bare-root seedlings with sizes varying by species. Seedlings varieties include pine, bald cypress, cottonwood, black walnut, hickory, oak, persimmon, birch, maple, willow, sycamore, blackberry, buttonbush, holly, dogwood, hazelnut, redbud, spicebush, sumac, wild plum, and others.

Seedlings are available in bundles of 10 or increments of 25 per species. Prices range from 16 – 80 cents per seedling. Sales tax of 6.1 percent will be added to orders unless tax exempt. There is an \$8 handling charge for each order. Receive a 15-percent discount up to \$20 off seedling orders with a Heritage Card, Permit Card, or Conservation ID Number.

**Find images and information on available items, along with ordering information, in MDC's 2017-2018 Seedling Order Form. It is available in the September issue of the *Missouri Conservationist*, at MDC regional offices and nature centers, online at [mdc.mo.gov/seedlings](http://mdc.mo.gov/seedlings), or by contacting the State Forest Nursery at 573-674-3229 or [StateForestNursery@mdc.mo.gov](mailto:StateForestNursery@mdc.mo.gov).**







## MDC saves \$1 million+ by reducing energy use

*"Conservation" efforts include energy efficiencies at Department buildings and efforts by staff.*

*By Eleanor C. Hasenbeck*

**JEFFERSON CITY, Mo.** -- The Missouri Department of Conservation (MDC) has broadened its "conservation" efforts to include energy use at Department offices and nature centers. These efforts have saved \$1.2 million on the Department's energy costs since 2010, including more than \$250,000 in 2016.

MDC's energy conservation efforts include installing new energy-saving technologies in most of its largest buildings, such as nature centers and regional offices. This includes replacing incandescent lighting with more efficient LED bulbs and using climate-control systems to adjust building temperatures higher or lower after working hours. MDC has also installed motion-activated lights and heating systems that use geothermal energy.

"We want our buildings to be both comfortable and energy efficient," said Jim Aslakson, a mechanical engineer at MDC. "By managing our temperatures better, we are able to keep our buildings at comfortable temperatures while saving money on utility costs and reducing our carbon footprint."

MDC maintenance staff are also making sure building systems are operating as efficiently as possible with existing equipment and selecting more energy-efficient models when replacing equipment. In addition, all MDC staff are strongly encouraged to turn off lights, computers, and other equipment during unoccupied periods.

According to Aslakson, MDC has reduced energy use at numerous Department locations, including by about 45 percent at Conservation Headquarters in Jefferson City.

He added that seven of its locations have achieved ENERGY STAR® ratings. ENERGY STAR is a joint program of the Environmental Protection Agency and the Department of Energy. Its goal is to help consumers, businesses, and industry save money and protect the environment through the adoption of energy efficient products and practices. The ENERGY STAR label identifies top performing, cost-effective products, homes, and buildings.

"Our Sedalia office now has an ENERGY STAR rating of 94, meaning it's more efficient than 94 percent of similar buildings around the country," Aslakson said. "That's just outstanding."

Other ENERGY STAR locations and ratings are: Conservation Headquarters in Jefferson City (76), Central Regional Office and Conservation Research Center in Columbia (82), Northeast Regional Office in Kirksville (81), Ozark Regional Office in West Plains (75), Southeast Regional Office in Cape Girardeau (80), and the Kansas City Regional Office in Lee's Summit (93).

"Our goal is to use less electricity and people can replicate some of these efforts in their homes," Aslakson said. "Individuals can save money on utilities by choosing more efficient light bulbs and heating systems, turning off lights and other energy users when not needed, and by adjusting the temperature in the home or office when not in the building."

**Learn more about ENERGY STAR at [energystar.gov/](http://energystar.gov/). Find out more about energy efficiency assistance programs at the Missouri Public Service Commission's website,**



# Naturalist's Journal

# Missouri Department of Conservation (continued)

## Japanese beetles and EAB wreak havoc on Missouri's plants and trees

*The two pests look similar to one another but are easy to tell apart.*

**JEFFERSON CITY, Mo.** – The Japanese beetle and the Emerald Ash Borer (EAB) are two invasive insects that are wreaking havoc on Missouri's plants and trees. To the untrained eye, these two pests may look similar to one another. However, there are a few easy ways to figure out which green pest is plaguing your yard.

"It's easy to tell these two beetle species apart, even though both are metallic green in color and about a half-inch long," said MDC Forest Entomologist Robbie Doerhoff. "EAB is slender and bullet shaped, while Japanese beetles are much wider and have copper-colored wing covers.

### Japanese Beetle

Japanese beetles were first discovered in North America in 1916, likely imported from Asia in potted plants. Japanese beetles can now be found through much of Missouri, with high populations in some areas.

Japanese beetles are leaf "skeletonizers," feeding on the upper surface of leaves and leaving behind a lacy network of leaf veins. They can feed upon more than 300 different types of plants and are frequently seen on grape vines, rose bushes, and elm, linden, sassafras, and fruit trees. In Missouri, these pests are usually present in June and July.

"Japanese beetles can defoliate an entire tree in just a few days. Good tree care, such as proper mulching and watering during dry spells, becomes very important in helping reduce stress to damaged trees," said Doerhoff.

For light infestations of Japanese beetles on shrubs and small trees, Doerhoff recommends hand-picking beetles and putting them in soapy water. While several insecticides are available to control these pests, caution is in order.

"If you decide to use insecticides, select a product labeled for Japanese beetles and the plant type you want to protect. To avoid killing beneficial insects such as bees and butterflies, don't apply insecticides to blooming plants," she said.

**Learn more about the Japanese beetle on MDC's website at <http://on.mo.gov/2uiFcr3>. Get treatment information at <http://on.mo.gov/2tpl9Zl>.**



### Emerald Ash Borer

Like Japanese beetles, EAB is native to Asia. This invasive tree pest was first found in Missouri in 2008 at a campground near Lake Wappapello. Since then, EAB has been found in 37 counties throughout the state. Firewood movement is one way this pest has been able to establish in new locations so quickly.

Doerhoff added EAB is much different than the Japanese beetle.

"EAB only feeds on ash trees, and this species doesn't congregate in large masses like Japanese beetles," she said. "It can be difficult to actually see an EAB, even in areas where the population is high because they will be feeding and mating in a tree's canopy."

EAB only attacks ash trees. The adult beetle does very little damage. It is the larval stage that causes tree death. EAB larvae bore into the vascular layer of ash trees, creating distinct S-shaped galleries that slowly cut off the flow of water and nutrients. Unfortunately,

EAB kills over 99% of the ash trees it attacks within 3-4 years of infestation.

The best way to prevent EAB from attacking an ash tree is by treating it with a systemic insecticide. The size of the ash tree and its current state of health are important considerations when deciding on a treatment plan.

"If you decide to treat your ash tree, make sure you use a pesticide labeled to kill EAB and that you apply it at the right time of year," said Doerhoff. "Trees over 20 inches in trunk diameter need to be treated by a licensed applicator, such as a certified arborist."

**For more information on protecting your ash tree from EAB, download the *Emerald Ash Borer Management Guide* for Missouri Homeowners at <https://mdc.mo.gov/wildlife/nuisance-problem-species/invasive-species/emerald-ash-borer-management>**



## Naturalist's Journal

## On the Perils of Honeysuckle Hacks

***What are ticks' roles in the ecosystem?***

*by Joshua Engel*

*Integrative Research Center, The Field Museum*

*Things in nature don't have "purposes". Species exist because they can, and all of the other species have to cope with that.*

*Some species do eat ticks, but that's not really their "purpose". If ticks were to vanish, it would surely change the diets of those species, and in turn everything else would alter, but that's true of any change that happens in the environment.*

*If you're looking for some karmic benefit to ticks' disease spreading, there isn't one. I suppose that the spirochetes are happy about it, but they don't really get a say in it. I'd be happy if those spirochetes were to vanish, but that's pretty unlikely, and I don't get much of say in it either.*

*So it's not so much that we don't know the role of ticks in the ecosystem as that they simply don't have a "role" in the sense you mean it. Their existence in the ecosystem has an impact on every other species, directly or indirectly, as creatures try to cope with or even take advantage of their existence. But that existence is simply a fact: the ticks exist because they're a successful parasite, and their only "obligation" is to themselves. Nature exists more or less in balance at any point because every species works that way, and when the environment changes or some new genetic idea comes along, the entire vast web of it adjusts to that fact.*

*Sometimes that change is drastic; most of the time, it's subtle. And it's happening all the time. But nobody has to ask permission, or check it against some plan, because there isn't one. It all does the best it can, moment to moment. When it can't, it dies out, and all you see is the end result of a long line of survivors who passed the only test of doing just well enough. Including the ticks.*

***Some Advice for Clearing Brush***

*By Jeff Coomer*

*From the Writers Almanac with Garrison Keillor at American Public Radio*

*Walk noisily to declare your presence.*

*The rabbits and deer will leave as soon as they hear you coming, but the snakes need time to process your intentions.*

*Take a moment to be certain of what you're cutting.*

*Many stems look alike down close to the ground, especially when they're young.*

*Look up occasionally.*

*Don't begrudge the wild roses for whipping thorns across your face and arms,*

*or the honeysuckle*

*for tangling your feet*

*and pulling the pruners*

*from your hands. You'd do the same in their place.*

*Honor them with a clean cut.*

*Never begin when you're angry or you might not stop*

*until there's nothing left to hold the soil.*

*Always wear gloves*

*and keep your eye*

*on the blade.*



## Naturalist's Journal

This summer Barb Cerutti helped plant, water, and document the restoration progress at the native plant garden in Don Robinson State Park. Here is her photo of the newly installed Butterfly Weed *Asclepias tuberosa*. Unlike many of the other milkweeds, this species does not have milky-sapped stems. Butterfly Weed flowers are a nectar source for many butterflies and its leaves are a food source for monarch butterfly larvae.



Butterfly Weed *Asclepias tuberosa*  
in Don Robinson State Park  
--Photo by Barb Cerutti

"We are the soil - - You and I.  
We have no control over which seeds are down in our lives.  
But we can become good soil, receive gratefully the seeds given,  
and mature them until we see fruit. "  
. from the *Sunita Experiment* by Mitali Perkins