Missouri Master Naturalist

Confluence Chapter
St Charles County, Missouri

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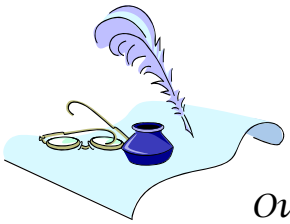
Your key to discovering the Natural Missouri



From Our President

As my presidency has only days left, I've had plenty of time to think about what I might say on my way out.

No mushy stuff, no tears… perhaps just a bit of insight though…

Question to ponder:

What one gift could someone
give you that would be worth
more than anything
in the whole world?
Worth more than gold, gems,
fancy cars, dragonfly pins,
fame or fortune?

I've had the chance of a life-time befriending chapter members, you cool master naturalists you!

What you've given to me is your trust. Thank you so much for that…

There's nothing greater than that… It goes deep. It's about the heart & that's the place that makes the most sense to be.

So thanks for your trust.
Thanks for your heart.
It's been a wild & good ride.

Leslie Limberg
Confluence President
2010—2012

2012 Volunteer Service Pin
The Regal Fritillary

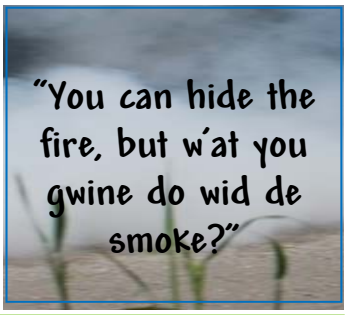
Hines Emerald Dragonfly

The Hines Emerald is the only dragonfly on the U.S. endangered species list. One of the rarest dragonflies in North America, it is distinguished from all other dragonfly species by its emerald green eyes and metallic green thorax.

Marvel at their beauty at the Mark Twain National Forest in Missouri, where they receive special protection.

Our Mississippi,
Quarterly newsletter of the U.S. Army Corps of Engineers

Inside this issue:



- Former president Jerry Lindhorst for his service to our chapter. His commitment to the community of Bridgeton & young students is unquestionable, as he has initiated our Boys Hope Girls Hope Project, landscaping their national office with native plants. He also has successfully completed our Chapter Sign Project for public places where we have volunteered.

- Larry Berglund, Carol Morgan & Steve Thomas for the excellent process of nominating the 2013-2015 officers.

- Jim Morrison (class of 2012) for jumping to the call of the chapter for help!

- Congratulations to Rob Merriman for filling the large shoes of Volunteer Service Committee Chair Bob Lee. We know he is tall enough to handle this tall order. Hee, hee

- Congratulations Quail Ridge volunteers for a successful native plant season. They (1) Saved the Demo Garden from drought destruction and (2) Brought back from the dead a lovely rain garden. These **OLD** volunteers worked come hell or high water throughout the two month 100 degree heat wave.

Hays Park
Project Overview

By Sam Hodge

The Confluence Chapter of the Missouri Master Naturalists and the St. Charles County Parks and Recreation Department have joined together to restore a degraded woodlands, create a new grassland area combining prairie type grasses and wildflowers, and construct a small wetlands to be used as part of the new Hays-Matson Hill Park in St. Charles County.

The purpose of these efforts under a 2012-2013 MDC Community Stewardship Grant is to provide self-sustaining natural terrestrial communities for education of the public, quality examples for Missouri landowner restoration management of their properties and enjoyment of the outdoors by public visitors for the future opening of this historic Daniel Boone Hays homestead in Hays-Matson Hill Park. The restored and new terrestrial communities will draw many new wildlife species to the improved habitats being created.

The woodland area restoration will greatly improve the degraded upland and bottomland woods through removal of selected Eastern Red Cedar and Sugar Maple trees plus various invasive plants which have grown unabated due to lack of fire and other natural land processes since settlement of the area in the early 1800s. The original quality oak/hickory forest will return in this healthy environment. Plant and bird surveys have been held to provide data on current species which will become the basis for comparison with regular surveys as the benefits of the restoration efforts are tracked with future surveys. Existing trails will be improved and new ones built to allow the public good access to areas of study and enjoyment.

The land stewardship efforts of the Confluence Chapter and SCCP are improving the badly degraded open fields on the property which will be created into a useful, visually appealing and self-sustaining grassland area made up of specifically selected mixtures of prairie grasses and wildflowers/forbs. The woodland edges of the grasslands will be feathered and managed, and along with the grassland areas attract new bird and animal species to the park for observation and study. Trails will be built through and around the grasslands to allow easy access to key areas so that education groups of children and adults will be able to focus study on certain key habitats, plants, birds and animals.

The Future Prairie!

Constructing a wetland is the latest in our plan to make the park a great natural community study area. A vernal pool or ephemeral pool, containing water for only several months of the year, will be built in an adjacent woodland and grassland area so that frogs, toads and salamanders can reproduce and survive without fish and other animal predicators. This addition will be constructed as part of the 2012-2013 Capstone Project for chapter new members.

Confluence Chapter members will continue their land restoration efforts for the balance of the grant and participate in planned prescribed burps, grass and wildflower seeding, vernal pool construction, trail building and development of education programs .

TRAPPING WEEVILS AND SAVING MONARCHS

Widely admired for its eye-catching wings and transcontinental migrations, the monarch butterfly, ***Danaus plexippus***, depends on milkweed plants to survive. Concern about loss of milkweed habitat has prompted conservationists to recommend milkweed plantings in yards and gardens so that monarchs can keep making their long-distance trips.

Now, an unexpected finding by Agricultural Research Service's Areawide Pest Management Research Unit in College Station, Texas, could help save milkweed habitat and preserve one of North America's most admired insects. They have found a formula for a lure that can trap a major milkweed pest.

The discovery stems from research originally designed to help the Texas Boll Weevil Eradication Foundation (TBWEF), which uses traps to monitor and detect boll weevil populations. Captures of weevils in traps are also used to help eradication-program managers decide whether to spray insecticides against boll weevils in particular fields.

But the traps haven't always been reliable for detecting incipient weevil populations. At some field locations, for example, no weevils were captured in traps, but substantial weevil infestations were later found in nearby fields.

In a field study, 80 pairs of traps were set up along county roads and highways in Atascosa and Frio counties in Texas, with each pair spaced at least 50 meters apart and traps within each pair spaced about 25 meters apart. Traps were checked once a week from mid-May to mid-June, and lures were replaced every other week.

In the first week, the researchers found that the traps were capturing a type of weevil distinctly different from the boll weevils they expected. The mysterious

strangers were quickly identified as milkweed stem weevils, *Rhyssomatus lineaticollis*, a major pest of milkweed. They initially discounted the number of milkweed stem weevils being lured into the traps as irrelevant, but by the second week, it became obvious that more milkweed stem weevils were being captured than boll weevils and that the milkweed weevils were increasingly attracted to the experimental lure. The results showed that while the boll weevils were no more attracted to the experimental lures than to the standard lures, the milkweed weevils were more attracted. Overall, four times more milkweed weevils were captured in traps baited with experimental lures than in traps baited with standard lures.

The discovery, reported in Southwestern Entomologist, could be used to develop a trap-based system for detecting milkweed weevil and monitoring their dispersal and movements across landscapes. Such a system could also help conserve a rare type of milkweed. The number of milkweed species attacked by the stem weevil includes Mead's milkweed (*Asclepias meadii*), which is listed as a threatened species of plant (a risk level just below endangered) and is the focus of a federal recovery plan by the U.S. Fish and Wildlife Service.

The research is part of Crop Protection and Quarantine, an ARS national program (#304) described at www.nps.ars.usda.gov.

Clean Water Act Protecting National Waterways Under Attack

Submitted by Jerry Lindhorst

Confluence members are proud of their Stream Team, which is headed by Cliff Parmer. This project committee is monitoring a section of the Femme Osage Creek to protect it from any pollution threats. Confluence's local activism follows in the footsteps of the federal national Clean Water Act.

Following a historical background of flaming rivers, dying lakes and sewage-choked beaches, Congress worked together, forty years ago, in a successful bipartisan effort to pass the Clean Water Act—a law that helped rescue America's waterways from centuries of industrial, municipal and agricultural pollution.

Today, environmental organizations across the country are now warning that some 10 years ago, the popularity of the Act slowed in Congress as polluters began influencing members of Congress to make changes in the Act.

In the past several years, it was reported by the news media that Congress stopped working together to resolve problems. As a result, loopholes were placed in the Clean Waters Act and lax enforcement led to the fouling of beaches and rivers with toxic slime, filling thousands of miles of Appalachian streams with the rubble of mountaintop removal mining; destroying the Gulf of Mexico with agricultural chemical runoff; and allowing dozens of toxic coal ash ponds to exist unregulated in our country's communities.

Environmental groups are warning that now Congress seems almost eager to prove that pollution means prosperity and jobs for Americans. Many representatives are joined in an effort to weaken and even eliminate the Clean Water Act, strategically by attacking the Environmental Protection Agency's power to enforce it.

To counter this trend, a number of environmental groups have joined together to file suit in court and rebuild Congressional support for the Act. They are also working to rally public support across the nation.

The environmental groups' top priorities are:

- Reverse policy which excludes many waterways from the Act's protections;
- Ensure that the EPA proposes and finalizes rules that reduce sewage overflows and pollution from storm-water runoff;
- Pressure the EPA to follow through on its commitments to reduce Florida's toxic algae blooms caused by nutrient pollution; and
- Expand regional and national nutrient numeric limits; and continue working to end the devastation wrought by mountaintop mining.

Year after year, in poll after poll, regardless of which political party was in power, Americans continue to voice their strong support for the Clean Water Act.

Spotted Knapweed

Tim Banek, MDC

One of Missouri's worst invaders is spotted knapweed (*Centaurea stoebe micranthos*), a plant species native to Europe and western Asia. Spotted knapweed has invaded millions of acres of pastures, fields, prairies and roadsides in 45 states since it was accidentally introduced in the United States through contaminated alfalfa and clover seed in the late 1800s. Spotted knapweed was first recorded in Missouri in 1933.

The weed is "allelopathic," which means it produces chemicals that inhibit other plant growth. This allows it to spread more quickly, forming monocultures that can span vast acreages. Spotted knapweed is a short-lived perennial that reproduces solely from seed. It is a prolific seed producer with 1,000 or more seeds produced annually per plant. The seeds can remain viable in the soil for up to eight years.

Spotted knapweed outcompetes native vegetation to create a monoculture that does not favor livestock or wildlife. Forage for livestock and wildlife is reduced both by the loss of existing forage and by the low palatability of spotted knapweed to livestock and wildlife. This monoculture also promotes soil erosion, resulting in sedimentation in surrounding streams that harms aquatic plants and animals.

The first line of defense is identification. Look for spindly weeds that look like chicory or wild lettuce, but with pink flowers. Spotted knapweed flowers look like miniature thistle flowers. Because the seeds can spread through flowing water and through the movement of hay and gravel in addition to its natural disbursement, it's found almost everywhere, but especially along major roadways.

Pulling plants and herbicide treatments can be successful for spotted knapweed control, but are not feasible when dealing with large stands. Milestone, Perspective and Streamline are all effective herbicides to kill spotted knapweed. They have a residual effect, which means they will kill new seedlings of knapweed as they germinate for six months to possibly up to two years. These herbicides kill only broad-leaved plants without harming grass.

The Missouri Department of Conservation (MDC) has partnered with the Missouri Department of Transportation (MoDOT) to aggressively attack the issue of spotted knapweed by spraying herbicides along major highways.

One strategy for non-chemical control of spotted knapweed is biocontrol using varying combinations of insects. MDC and MoDOT have partnered with the Missouri Department of Agriculture and the Missouri Extension Service to purchase and release insects that use knapweed as a specific host. One beetle attacks the root and the other consumes knapweed seeds. The insects are two of 13 species tested on native plants and approved by the United States Department of Agriculture. These insects have been effective in other states with no known non-target effects. MDC is evaluating insect releases at three sites in southern Missouri, and is piloting a cost-share program for private landowners in Texas and Wright counties.

For more information on spotted knapweed, visit mdc.mo.gov.

Potter Wasp

Eumenes spp.

This is about the size of the wasp—it was feasting on my Dill plant.

A closer look. Notice the size of the wasp in relation to the dill stem.

Closer…

What the nest would look like.

Prairie Demo Gardens
Quail Ridge Park

By Ann Finklang

Workday at the Prairie Demo Gardens at Quail Ridge Park. This workday will be repeated every Wednesday at the same time. Bring garden gloves, garden tools and water. Contact Carmen Santos.

Our volunteer web site lists the above information. However, it does not include the learning aspect of the workday nor the camaraderie developed while volunteering.

During the past year I volunteered at Quail Ridge. In the beginning I did not know the names of the native plants in the prairie garden. Now I can identify most of them. This is one of the reasons I enjoy helping with the planting, weeding, watering, and mulching of the garden. It is not only a learning experience in native plants but also about the birds, lady bugs, and other wild life. During the hot months of July and August every week a blue bird would serenade us while we watered the native plants. The resident small mouse would scamper out from the goldenrods as the water got closer.

Others volunteers, including Joe Veras, Leslie Limberg, and Jim Morrison, are also helping Carmen Santos our project lead to create and maintain an area long the paved paths in Quail Ridge Park. The walkers, joggers, and bikers express their appreciation for our effort to bring them nature's beauty along their exercise route. It is special when individuals stop to say good morning or ask about a group of plants or simply seeking more information about the prairie garden.

About a month ago Carmen and I were talking and she mentioned the Rain Garden in Quail Ridge Park about a quarter of a mile from the prairie garden. We checked it out and decided it had potential to become a showcase for rain gardens. It reminded us of the prairie garden when we first saw it with more weeds than native plants. The rain garden is a smaller area but needs attention.

Once the Confluence Chapter adopted the garden Carmen agreed to lead the project. She worked out her project plan. The next week we weeded and she brought her weed eater and cut down the Bermuda grass. It was surprising to find a number of native plants surviving as they were threaten by the Bermuda grass and seemingly overtaken by the weeds. The rain garden is located down the hill from the pavilion by Henry's Pond. It was designed to demonstrate what home owners can do to help with storm water in their own yards. Because of the location Bermuda grass surrounds the entire area. It was decided to install weed matting (which lets the water soak into the ground but prevents weeds and Bermuda grass from growing). By using the matting and newspaper we hope to prevent weeds from invading the area. We will find out in the spring if this strategy worked.

Quail Ridge is a great park and the Confluence Chapter has improved upon it by adopting the Prairie Demo Garden and now the Rain Garden.

We are looking for a new name for the Rain Garden because as we sit and talk about our next step in restoring the garden we find birds, and other wildlife visiting the garden. So if you have a name for the Rain Garden let us know.

A life is not important except in the impact it has on other lives.
Jackie Robinson

A Day in the Woods

Rockwoods Reservation, 6 October 2012

Camp Cooking

(Cooking in a cardboard box—yes, a cardboard box)

1. Make sure your coal is ready.

2. Wrap aluminum foil all around and inside your cardboard box.

3. Place your "oven" racks inside the box and the charcoal on the bottom rack.

4. You are now ready to bake cookies.
5. Unless your oven catches fire...

Legacy at Our "Boat House" Project

Kay

There are many plants and small trees thriving at our Lewis and Clark Boathouse Garden Project at St. Charles, says Kay Labanca, our project steward. The Lewis and Clark Boat House Garden was our first Capstone Project in 2006.

One of these is a small Osage Orange (*Machura pomifera)* seedling. (I wonder where he came from.)

On March 1804, Captain Meriwether Lewis sent President Jefferson slips and cuttings of what Lewis called "Osages Plums and Apples." Lewis and Clark were in St Louis, recruiting workers and building boats for their journey up the Missouri River. Pierre Chouteau, a prominent citizen of St Louis who had lived with the Osage Nation introduced the Osage Orange to Lewis.

Chouteau had obtained his plants from an Osage Indian village west of St Louis and had been growing the trees for about five years when Lewis met him. Osage Orange trees are native to Arkansas, Oklahoma, and Texas. Lewis passed on information from the Indians, who gave an extravagant account of the aroma of the mature fruit. In late summer, guided by the smell, they obtained wood from the trees, which they valued highly. It is hard, tough and durable, and makes excellent bows; another name for the tree is *bois d'arc, bow wood.*

Lewis was the first to collect and describe *Machura pomifer.* The tree was named in honor of the early American geologist William McClure.

Today there are trees growing in Philadelphia and the University of Virginia that are said to be direct descendants of the cuttings sent back by Lewis.

More information can be found in the book *Common to this Country—Botanical Discoveries of Lewis and Clark* by Susan H. Munger and *The Enduring Osage Orange* at the MDC Archives.

Recent Elk Deaths Update

Elk deaths, including six cow elk, one yearling bull elk, three calves (two of which were born to cow elk that died) occurred in mid-to-late July and involved elk relocated earlier this year from Kentucky to Missouri's elk restoration zone in Carter, Shannon, and Reynolds counties.

In addition, three newborn calves from elk brought to Missouri in 2012 died in June shortly after birth. One elk cow and her calf from the 2011 restoration group died while birthing in early June.

All restored elk underwent a series of health tests after capture in Kentucky and received clean bills of health before being relocated to MDC's Peck Ranch Conservation Area in May.

Necropsies of the dead elk included testing for bovine tuberculosis and other diseases, which were also among health tests conducted in Kentucky. MDC staff also reviewed health records of the dead elk for clues. Other than pneumonia found in the bull elk, no disease-related causes surfaced. Preliminary results from necropsies on the animals and initial lab tests did not detect epizootic hemorrhagic diseases (EHD) or bluetongue, which are more prevalent in deer during dry weather. Elk typically do not get sick from EHD or bluetongue. Poaching was not involved.

One of the dead cow elk from the 2012 group was found stuck in a muddy pond. After being pulled free by MDC staff, it died the next day. MDC Resource Scientist Lonnie Hansen says that heat exhaustion likely contributed to its death. He adds that the combination of relocation and calving in extreme heat and drought may have contributed to the cow-elk deaths. It appears that malnutrition or other stress-related factors contributed to the deaths of the three calves. Other potential causes evaluated included naturally occurring toxins in water or food that can be concentrated to lethal levels during drought. Water samples from several ponds on Peck Ranch used by elk tested negative for blue-green algae toxins. These toxins have caused livestock deaths in surrounding states.

Following extensive laboratory tests and consultation with veterinarians in Missouri and from other states, MDC has determined that none of the elk that died earlier this summer had any livestock or wildlife related diseases. MDC has concluded that the dead elk from among ones restored in May 2012 died of stress, which affected cows trying to raise calves in the extreme heat and drought of the summer. Their calves died once they passed. As reported earlier, pneumonia was found in the bull elk that died.

With cooler weather, rain and greening up of the area, MDC has had no other elk deaths.

Tri-Chapter Picnic

Henges Shooting Range

Miramiquoa Sponsored for Great Rivers & Confluence chapters

Learning About Archery & Shooting

Stream Team 3612

Femme Osage Creek, Defiance, MO—Saturday, August 25, 2012

After this summer's drought and heat wave, water was scarce in the creek. It was an overcast day, perfect for stream team activity. We did find small pools for sampling water quality.

Cliff Parmer, project lead, Kay LaBanca, Larry Markley, Leslie Limberg

In Memory of

John Schwenderman

Until we meet again,
may God hold you in the
palms of His hands.

Bugs

… are with us everywhere, all the time. They live in our gardens, our houses, our books, and even on us. There might be a tiny, squiggly, wormlike mite enjoying the smorgasbord of minerals, moisture and protein at the roots of your eyelashes right this very minute. Almost everyplace on Earth gives a well-adapted bug all it needs to eat, take shelter and reproduce. There are even bugs in the Artic!

Right here in Missouri several native bugs are hard at work recycling nutrients so new plants can grow, pollinating flowers so seeds and fruits will develop and killing pests to protect crops and forests. Next time you see a helpful bug, give it a salute. It's helping to keep Missouri clean, green, and natural.

You have probably seen this fly (adult crane fly) hanging around outside your door at night. It looks like a giant mosquito, but it eats nothing, living only to reproduce. Some larval crane flies are predatory and may occasionally eat mosquito larvae. The larvae, called "leatherjackets", "leatherbacks", "leatherback bugs" or "leatherjacket slugs" because of the way they move, consume roots (such as those of turf grass) and other vegetation, in some cases causing damage to plants.

Scott's corner fell on Kevin's pond and is slowly sinking!

Our Leadership

President—Leslie Limberg
Vice President—Alberta McGilligan
Secretary—Connie Campbell
Treasurer—Renden Hornung
Advanced Training—Steven Thomas
Volunteer Coordinator—Rob Merriman
Membership Services—Carol Morgan
Fun Committee—Cathy Decker
Newsletter—Carmen Santos and Bill Brighoff (proof reader)
Web Site—Rick Gray
Photography—Lee Phillion
Advisors—Scott Killpack, University of Missouri Extension,
and Kevin McCarthy, MDC

The Confluence Chapter was founded in 2005 as the fifth Master Naturalist chapter in Missouri. The chapter was formed by 24 individuals from St. Charles County, St. Louis County, and St. Louis City after completing the Missouri Master Naturalist™ training program. We share a common interest in nature and in volunteering to help protect, preserve and restore Missouri's natural heritage. Most of our members live in the region West of the Missouri-Mississippi Confluence and from both north and south of the Missouri River.

We operate according to the bylaws and operating handbook of the Missouri Master Naturalist Program developed by the Missouri Department of Conservation and University of Missouri Extension.

Visit us at http://www.mmnconfluence.org/