



*Confluence Chapter
St Charles County, Missouri*

February 2013, Volume 7, Issue 01

Your key to discovering the Natural Missouri



From Our President Thoughts on a new year.

As the Holidays recede and winter takes a firm grip on the land, we begin preparation for a new year. But before we take leave of 2012 I would like to say Thank You to some of the volunteers who have made remarkable contributions to the Chapter in 2012, and apologize in advance to those of you whom I have overlooked. Of course, we must begin with Sam Hodge, Bob Lee, Bob Coffing, and Larry Berglund for their outstanding work at Matson Hill. Then a big Thank You to Lee Phillion for her loving care of Amy Ludwig before her death. Thanks to Cathy Dedecker, Jayme Hanna, Peggy Meyer, Kay LaBanca, Carol Morgan and Claudia Kasten for a fantastic holiday party. Thanks to Daniel Dundon for his finesse and infinite

wisdom regarding backhoes. And then there's Jim Morrison, who was a frequent participant in Chapter activities long before he completed his training — thanks Jim. And no list of Thank Yous would be complete without recognizing the contributions of Leslie Limberg and Renden Hornung.

Welcome to the new graduates of the 2012 training class, you are a valuable addition to our Chapter. We look forward to getting to know you better as the coming year's activities unfold. Thank you for taking the time and effort required to become a Missouri Master Naturalist, we hope it will be a rewarding for you as it has for those of us who have been members for years.

As the Executive Committee and I have been discussing our plans for 2013, one consistent characteristic of our Chapter comes forth: camaraderie. Any activity that we've undertaken illustrates that spirit, and I think it is a major contributor to our success as a Chapter. I think it also encourages members to volunteer for activities because it makes them both fun and rewarding on so many levels. So, if you're new to the Chapter or haven't been very active

in the past, please get involved on one or more of our projects. I think you'll find that you will have a great time with a wonderful bunch of folks and feel the satisfaction of contributing to the people of Missouri.

*Cliff Palmer
President,
Confluence Chapter*



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To engage Missourians in the stewardship of our state's natural resources through science-based education
and volunteer community service.

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*Missouri Parks & Recreation
Association*
Organizational Citation Award



*Confluence Chapter
St Charles County, Missouri*

The Confluence Chapter of the Missouri Master Naturalist has been selected to receive the 2013 Missouri Parks & Recreation Association Organizational Citation Award.

The award will be presented at the upcoming 2013 MPRA Conference at Tan-Tar-A Resort.

This award will be part of the Awards Banquet on Thursday evening, February 28. Following is the award citation.

The Confluence Chapter of the Missouri Master Naturalists has embraced their passion to help restore and create Missouri's natural communities by volunteering their time, talents and treasure. Since their beginning in 2005, they have contributed nearly 27,000 hours of service to the greater St. Charles County area. Their service of over 4,000 hours to the St. Charles County Parks Department spans the realm of parks and recreation. They are involved in restoring natural habitats by assisting with planting, prescribed burning and invasive plant control. They help plant, mulch and prune landscape trees. Volunteers assist with programs and special events as well as create and run programs on their own. The County and the Chapter have partnered on grant funded projects which have totaled over \$43,000 to create and restore natural communities.

Their proven dedication to stewardship led to a partnership to build the first certified nature explore classroom in St. Charles County at Towne Park. Chapter members were involved from design through installation which was completed in early 2012. They continue their support in

routine maintenance and programming.

In 2011 the chapter embarked on a 35-acre woodland restoration project at Matson Hill Park. This project was nearly completed by their labor alone, with the Department acting in a support role. The chapter developed a management plan, timeline and received a grant from the Missouri Department of Conservation to fund the project. Weekly work days were scheduled to remove undesirable species, establish prairie, conduct a prescribed burn, survey plants and animals and host an educational workshop.

The Confluence Chapter of the Missouri Master Naturalists epitomizes what it means to be a service organization. Their dedication to promoting our parks and natural communities is apparent to all those who visit St. Charles County Parks and everywhere these volunteers have dedicated their time, talent and treasure.

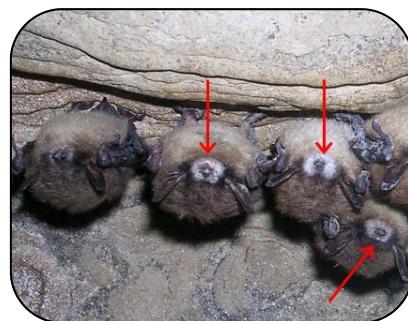
Onondaga Cave

Missouri State Parks has received confirmation that a bat found in the entrance of Onondaga Cave at Onondaga Cave State Park in Crawford County has tested positive with white-nose syndrome. WNS spreads mainly through bat-to-bat contact and has not been found to infect people, pets or livestock but is harmful or lethal to hibernating bats. The fungus that causes WNS, believed to be *Geomyces destructans*, may be inadvertently carried between caves by humans through clothing and equipment.

White-nose syndrome (WNS) is a disease associated with the deaths of North American bats. The condition is named for a distinctive fungal growth around the muzzles and on the wings of hibernating bats.

Onondaga Cave State Park's cave will remain open for tour season; disease has not been found to infect humans

For more information: 573-751-1010



Ephemeral Plants



Trillium grandiflorum

Ephemeral things (from Greek εφήμερος – ephemeros, literally "lasting only one day")

are transitory, existing only briefly. Typically the term is used to describe objects found in nature, although it can describe a wide range of things.

An ephemeral plant is one marked by short life cycles. The word ephemeral means transitory or quickly fading. In regards to plants, it refers to several distinct growth strategies. The first, spring ephemeral, refers to perennial plants that emerge quickly in the spring and die back to their underground parts after a short growth and reproduction phase.

Spring ephemeral describes a life habit of perennial woodland wildflowers which develop aerial parts (i.e. stems, leaves, and flowers) of the plant early each spring and then quickly bloom, and produce seed. The leaves often wither leaving only underground structures (i.e. roots, rhizomes, and bulbs) for the remainder of the year. This strategy is very common in herbaceous communities of deciduous forests as it allows small herbaceous plants to take advantage of the high levels of sunlight reaching the forest floor prior to formation of a canopy by woody plants. Examples include trilliums, Harbinger of Spring, Woodland Poppy, and Spring Beauty.



Eryngium bulbosa
Harbinger of
spring



Stylophorum diphyllum,
Woodland Poppy

2013
STREAM TEAM # 3619
ACTIVITIES



Following are the scheduled dates for our Stream Team water quality monitoring activities for 2013. No training is necessary to participate in many of the monitoring activities and new volunteers are welcomed.

Well-behaved children are also welcome. The macroinvertebrate monitoring sessions are usually a big hit.

Contact Cliff Parmer at Clif-Hanc@aol.com if you are interested in attending an activity.

April 13: Chemistry and macroinvertebrate monitoring

June 15: Chemistry monitoring

August 24: Chemistry and macroinvertebrate monitoring

October 26: Chemistry monitoring



Scott's
Corner
And

Kevin's
Pond



Raising Cane

Bill Brighoff

There are three species of bamboo native to the United States: *Arundinaria tecta* (Switch cane), *Arundinaria appalachiana* (hill cane), and *Arundinaria gigantean* (giant cane).

Switch cane is native to a few southeastern coastal states and typically grows less than six feet tall. Hill cane, only recently discovered, grows in a few southern Appalachian states, is usually less than three feet tall and is the only one of the three that is deciduous. Giant cane can grow to twenty feet or more and was widely found in most of the southeast United States and even grows in southern Missouri.

I have a patch of giant cane growing on the southeast side of my back yard. I planted it several years ago and it is gradually spreading. It grows rather well there both because it is protected from north and west winds and is on the side of my yard to which water drains. Typically, cane breaks grew along rivers and streams.



Giant Cane



I originally planted it as a future source of cane for craft projects and possibly for cane sets to start cane in other areas such as the stream that runs along the edge of our housing development. It has provided several other benefits. It has produced a screen for the south side of my yard. More importantly, it has produced a screen for my bedroom window. My bed-

room is on the southeast end of the house and the only window is on the south side. My wife will allow blinds, but not drapes. Now I have a bamboo drape on the outside that allows me to sleep in.

There is another unexpected benefit; the bamboo provides an excellent environment for birds to spend the night, particularly in cold weather. Shortly after dawn, the chirping starts. The volume is low enough that it doesn't wake me, but is a delightful sound to wake up to. I often lie in bed and listen to their conversations for a while.



Hill Cane

Cane breaks were once an important ecological habitat. Several birds and insects were so dependent on the canebrakes that they have become extinct or very rare. When settlers first came to the US, there were extensive canebrakes along many rivers and streams. Like the prairies, canebrakes grew in some of the best potential crop land. Also like prairies, cane needs periodic burns to prevent being overgrown by forest. Finally, also like prairie, approximately 98% of canebrakes have been destroyed.

Although cane was historically restricted to southern Missouri, if it were now unimpeded by humans, its geographic habitat would be moving north like many other plants and animals.

Should we be considering establishing cane in any of the areas that we work as Master Naturalists?

A people who value
their privileges
above their principles
soon lose both.

President Dwight D. Eisenhower

Vernal Pools

Vernal pools, also called vernal ponds or ephemeral pools, are temporary pools of water that provide habitat for distinctive plants and animals. They are considered to be a distinctive type of wetland usually devoid of fish, and thus allow the safe development of natal amphibian and insect species unable to withstand competition or predation by fish.

During most years, a vernal pool basin will experience inundation from local surface runoff, followed by desiccation from evapotranspiration. Most pools are dry for at least part of the year, and fill with the winter rains or snow melt. Some pools may remain at least partially filled with water over the course of a year or more, but all vernal pools dry up periodically.



Vernal Pool Construction
Hays Project

They are called vernal pools because they are often, but not necessarily, at their maximum depth in the spring ("vernal" meaning of, relating to, or occurring in the spring).

There are many local names for such pools, depending upon the part of the world in which they are found. Vernal pools may form in forests, but they are more typically associated with grasslands. While many vernal pools are only a few meters in width, playas and prairie potholes are usually much larger, but are still otherwise similar in many respects, with high water in wet periods, followed by dry conditions. Some exclude desert playas from the definition of vernal pools because their larger closed drainage basins in areas with high evaporation rates produce higher concentrations of dissolved minerals, with salinity and alkalinity favoring different species. Playas may be inundated less frequently than vernal pools, and inundation typically coincides with colder weather unfavorable for plant growth.

Despite being dry at times, once filled, vernal pools teem with life. The most obvious inhabitants are various species of frogs and toads. Some salamanders also utilize vernal pools for reproduction, but the adults may visit the pool only briefly. Other notable inhabitants are Daphnia and fairy shrimp, the latter often used as an indicator species to decisively define a vernal pool. Certain plant species are also associated with vernal pools, although the particular species depend upon the ecological region. South African vernal pools, for example, have a different flora from Californian vernal pools. In some northern areas, tadpole shrimp are also common.



Vernal pool flowers, with different species occurring in zones related to soil moisture and temperature gradients formed as the pool dries out.
Sacramento National Wildlife Refuge, California

Vernal pools can form anywhere that a depression fills with water. They can be found on bedrock of many kinds, or in grasslands that form over a variety of soil types containing silts and clays. They can develop hydric soils which are typical of flooded areas, including accumulations of organic matter, but this may not happen in drier areas. In some cases there is a hard pan layer which causes the retention of water in the pools.

Vernal pools are often threatened by development in the same way that other wetlands are. Most extant pools occur on protected or private land such as national parks, and ranches.



Spotted Salamander

A large number of rare, endangered species, and endemic species occur in vernal pool areas. Many of the amphibians that breed only in vernal pools spend most of their lives in the uplands within hundreds of feet of the vernal pool. Eggs are laid in the vernal pool, then the juveniles leave the pool two or three months later, not to return until the following spring to breed. Therefore, the upland areas surrounding a vernal pool are critical for the survival of these species.

One of the vernal pool species in Missouri is the spotted salamander (*Ambystoma maculatum*). Some vernal pool species, notably the fairy shrimp, lay eggs capable of entering a state of cryptobiosis.

They hatch when rains replenish the water of the pool.



Fairy Shrimp



Master Naturalists
Outstanding in their field

Sharing
a moment at the
Daniel Boone
Hayes-Matson
Hill Park
Project



The Karst Hike

Perfect AT outing!
Organized by Danny McMurphy,
MMN of the Miramigoua Tribe
and Meramec State Park.

Leslie Limberg and Others

MNNs from all three local chapters traipsed together for miles, listening to pileated woodpeckers & each other. We even had Maxine Stone, a mushroom expert, along.

Marvelous scenery ... we walked through for 6 hours, stopping at a cave for lunch. This was the land of orchids, fens, caves & sinkholes ... even worth marveling in

Winter without snow. Danny was a wealth of natural history and an excellent tour guide. We saw the recently completed gate installation, as a protection for bats & white-nose syndrome. The gate has been installed at the entrance of a bat cave in the Missouri Ozarks to protect hibernating gray and Indiana bats. Both bat species are federally endangered.

The gate installation was completed last fall by Karst Solutions. This cave is the third largest gray bat hibernation site in the state of Missouri. Any type of disturbance while the bats are hibernating can be detrimental. The gate will help prevent that. The gate will keep people from entering the cave, while allowing bats to easily fly into and out of the entrance. When people enter caves or light fires near cave entrances, they can wake bats from hibernation or startle bats that are roosting. Hibernating bats may wake up too early, resulting in starvation, and roosting bats can panic and drop their babies.

Bats are the only mammal that truly flies, and their wings are actually their hands. Bats use echolocation to navigate by emitting ultrasonic sounds—some of the loudest sounds in the world which are out of our range of hearing.

The Nature Conservancy is the primary owner of the cave.



Controlled burn at the Hays property.



Fire!



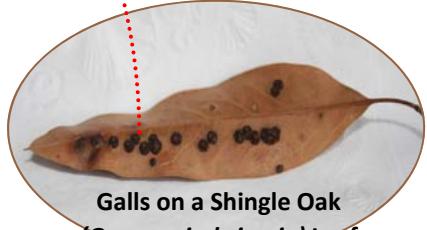
Galls

Leaf galls are a frightening sight, but are not usually as serious as they appear. These bumps and deformations are usually the result of insects or mites feeding on the leaves. The gall itself is the plant's response to the irritation. It's not unlike the bump you get when an insect feeds on you, except the leaf gall is not going to go away.

Despite appearances, the insect is not living in the gall. In fact, it is very likely that once you notice the galls the insects have moved on. Before they do, they can do a lot of cosmetic damage to many plants and in particular trees. Many common trees are susceptible to leaf galls, especially in the spring. Maple, oak, elm, hackberry and others each are favored by a different insect that causes unsightly and intimidating galls. Damage will be greater following a mild winter, since more insects have survived and are hungry. Galls won't usually kill a tree, but they may cause early leaf drop. A healthy tree will send out new growth and recover.



Gall Insects



Galls on a Shingle Oak (*Quercus imbricaria*) Leaf

Cats

Various Sources



A report published in Nature (nature.com) indicates that cats might kill as many as 20 billion mammals — and possibly more than three million birds — every year. The published study suggests that cats are the top threat to U.S. wildlife.

The study was conducted by ornithologist Peter Marra of the Smithsonian's Conservation Biology Institute; his Smithsonian colleague Scott Loss, and U.S. Fish and Wildlife Service biologist Tom Will. It's part of a three-year Fish and Wildlife Service-funded effort to estimate the number of birds killed by predators, chemicals, and in collisions with wind generators and win-

dows.

The study suggests that free-ranging cats cause substantially greater wildlife mortality than previously thought and are likely the single greatest source of anthropogenic mortality for U.S. birds and mammals. They found that cats had killed more than four times as many birds as has been previously estimated. Birds native to the US, such as the American Robin, were most at risk, and mice, shrews, voles, squirrels and rabbits were the mammals most likely to be killed. Dr. Pete Marra from the SCBI said: "Our study suggests that they are the top threat to US wildlife."

For years, bird lovers and cat lovers have clashed over whether outdoor cats, not native to the U.S., should be euthanized or allowed to roam free in managed programs that include neutering. City councils, animal shelters and state wildlife officials have long struggled with the balance.

Cat defenders say that the new estimates won't change their belief that cats are scapegoats for bird habitat loss, chemicals used in fertilizers and insecticides, and collisions with man-made objects.

George Fenwick, president of the American Bird Conservancy, says the issue is not cats vs. birds but "a runaway and

invasive population of cats" that are killing too many birds."

Dr. Marra adds: "We hope that the large amount of wildlife mortality indicated by our research convinces some cat owners to keep their cats indoors and that it alerts policymakers, wildlife managers, and scientists to the large magnitude of wildlife mortality caused by cat predation."

Of special interest:

About a third of the 800 species of birds in the USA are endangered, threatened or in significant decline, according to the non-profit American Bird Conservancy.

I hold that
the more helpless a creature,
the more entitled it is
to protection by man
from the cruelty of man.

—Mahatma Gandhi



10,000 Squawking Snow Geese!



Alberta, Kay, and Leslie's day trip to Southern Missouri
Courtesy of Princess Cruise Lines (Ford Escape)
January 25, 2013



Sages

The genus name, *Salvia*, is variously attributed to derivation from the Latin *salvo*, meaning "to heal," or *salvus*, meaning "safe," or *salvare*, meaning "to save." These are considered indicative of the common sage's highly regarded healing properties. An ancient proverb states:

"Why should a man die
who has sage in his garden?"

Sages provide value for the ecosystem and for humans. Different species of sage are grown as medicinal plants, culinary herbs, and as ornamental plants. Some, such as the white sage or sacred sage and divine sage or diviner's sage also have a history of usage in religious ceremonies.

Ecologically, sages provide food for various animals, including providing pollen and nectar to various pollinating bees, wasps, moths, butterflies, and hummingbirds.

Salvia species are used as food plants by the larvae of some Lepidoptera species including the bucculatrid leaf-miner, *Bucculatrix taeniola*, which feeds exclusively on the genus, and the Coleophora case-bearers *C. aegyptiaca* and *C. salviella*, both of which feed exclusively on *S. aegyptiaca*.

Worth mentioning are two which are present in our

Quail Ridge Prairie Demo and Lewis and Clark Boat House Projects

Present at the Quail Ridge Project is **Blue Sage, *Salvia Azurea***.

Salvia azurea (Prairie sage or Blue sage) herbaceous perennial native to Central and Eastern North America.



Its thin, upright stems can grow to 6 feet (1.5 m) tall, with narrow, pointed, smooth-edged to serrated, furry to smooth green leaves.

The blue flowers (rarely white),



nearly 1/4 to 1/2 inch (7-12 mm) long, appear summer to autumn near the ends of their branched or un-branched spikes. Two varieties are *Salvia azurea var. azurea* (azure sage) and *Salvia azurea var. grandiflora* (pitcher sage).

It is found on the wild on roadsides, glades, fields, and pastures.

White Sage, *Artemisia ludoviciana* is found in the Lewis and Clark Boat House Project.



The lactone glycosides, are probably found in all *Artemisia* species and account for their anthelmintic properties. Thujone, a terpene-like ketone and essential oil, is found in the plant and may be responsible for some of its medicinal effects. However, it is poisonous in large doses. The Food and Drug Administration classifies *Artemisia* as an unsafe herb containing "a volatile oil which is an active narcotic poison."

Interested in these **humble but highly rewarding projects?**

For Quail Ridge contact Carmen at escarmeng@charter.net and for Lewis and Clark contact Kay at heykay@charter.net

USDA NRCS National Plant Data Center & University of California-Davis Arboretum. For more information about these and other plants, visit the PLANTS Web site <http://plants.usda.gov> or the Plant Materials Program Web site <http://Plant-Materials.nrcs.usda.gov>.

Maple Sugar Festival

The Maple Sugar Festival at the MDC's Rockwoods Reservation, February 5, was an unprecedented success. We counted over 2,700 visitors at the information booth, but estimate that there were at least 3,000. Twenty one Confluence Chapter MNs volunteered for this event.

Visitors learned how to identify and tap sugar-maple trees, took guided hikes to see sap collection in action, witnessed firsthand how the settlers made the sap into sugar, and tasted the sugar and syrup.

The art of maple sugaring was discovered by Native Americans, who would set up "sugar camps" near a stand of sugar maples each year to make sugar. Sugar-maple sap has the highest sugar content – about three percent – and produces the most sugar per gallon of sap collected. Still, it takes 40 gallons of sugar maple sap to yield one gallon of syrup.

Native Americans taught the process to early colonists. The settlers eventually developed a system of drilling small holes in the trees and placing hollow taps to draw the sap into wooden buckets. Back at the "sugar shed," the sap was boiled down in large copper pots over an open fire. It's a slow process, requiring almost 40 hours of boiling to produce a gallon of syrup.

In Missouri, February is prime maple sugaring season because it produces the right weather conditions. February has the perfect combination of below freezing temperatures at night and above freezing temperatures during the day that causes the sap to 'flow'. The greater the night-to-day temperature difference, the more the sap flows.

There's no denying the taste of maple sugar is a delight, but it also represents sweet success when it comes to living in harmony with nature.

MDC Archives



In Memory of



Amy Ludwig
"Mother Nature"

...who passed over the rainbow after a two year battle with cancer.

About twenty people met at the Confluence, where the Missouri and the Mississippi meet, for a Native American Ceremony. After the group smudged itself with sage, a Chief addressed the four directions, the group spoke in a circle and scattered tobacco, a Native American offering, to send her spirit



home.

The ceremony was initiated by Amy's Native American friends for family and a close group of friends.



Gone From My Sight

By Henry Van Dyke

"I am standing upon the seashore.
A ship at my side spreads her white
sails to the morning breeze and starts
for the blue ocean.

She is an object of beauty
and strength, and I stand and watch
until at last she hangs like a speck of
white cloud just where the sea and sky
come down to mingle with each other.

Then someone at my side says,
'There she goes!' Gone where?
Gone from my sight ... that is all.
She is just as large in mast and hull and
spar as she was when she left my side
and just as able to bear her load
of living freight to the place of
destination. Her diminished size
is in me, not in her.

And just at the moment when someone
at my side says, 'There she goes!'
there are other eyes
watching her coming
and their voices ready
to take up the glad shouts
'Here she comes!'



"Use the talents you possess,
for the woods would be very
silent if no birds
sang except the best."

Henry Van Dyke

Our Leadership

President—Cliff Palmer

Vice President—Alberta McGilligan

Secretary—Connie Campbell

Treasurer—Ann Finklang

Advanced Training—Steven Thomas

Volunteer Coordinator—Rob Merriman

Membership Services—Carol Morgan

Fun Committee—Cathy Dedecker

Communications—Jerry Lindhorst

Web Site—Rick Gray

Photography—Lee Phillion

Newsletter—Carmen Santos and

Bill Brighoff

Advisors—Scott Killpack, University of
Missouri Extension,
and Kevin McCarthy, MDC



Project Leaders:

- Great Backyard Bird Count,
Leslie Limberg
- Nature Explore Classroom at Towne Park,
Connie Campbell
- Cavity Nesters Project,
Mindy Batsch
- LaBarque Watershed, Lum Miller Hollow
Glade Restoration, Bob Coffing
- Lewis & Clark Boathouse & Nature Center,
St Charles, Kay LaBanca
- Quail Ridge Prairie Demo & Rain Garden
Projects, Wentzville, Carmen Santos
- Daniel Boone Hays Homestead Restoration,
Defiance, Sam Hodge



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/>

