

Bluffviews

A quarterly newsletter by Clifftop

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Tree-of-Heaven, I Think Not!

Article and photos by Joann Fricke

While the name conjures up a beautiful tree with sweet smelling flowers and a canopy that makes you think of angel wings, Tree-of-Heaven (*Ailanthus altissima*) has neither. An alternate name, stinking sumac, provides insights into the tree's not-so-heavenly scent, sometimes described as a burned nut odor. You may think I sound like a broken record when it comes to invasive plant species, but I think of myself more as a crusader to save our native plants. I must admit that I have become somewhat compulsive on the subject.

Tree-of-Heaven was first introduced into the eastern United States in the late 1700s from China. Because the tree was easy to establish, grew rapidly and lacked insect or disease problems, it was extensively planted in U.S. towns and cities throughout the 1800s. Today, this invasive tree threatens to overwhelm natural areas, agricultural fields, and roadsides. I have never seen a Tree-of-Heaven for sale in any local nurseries, but a quick Google search yielded numerous internet retailers of this troublesome tree.

For those of you unfamiliar with its characteristics, Tree-of-Heaven (ToH) can reach 75-80 feet in height with an irregularly spreading crown. The bark is pale grey and slightly roughened or smooth, as seen at left, with a trunk diameter up to 2 feet. Leaves are compound, one to four feet in length, alternate, and composed of 10 to 41 smaller leaflets. The large, lance-like leaflets are similar in appearance to the leaves of staghorn sumac and black walnut. Male and female flowers occur on separate trees. While the abundant winged seeds help the ToH reproduce in great numbers, any disturbance causes suckers to sprout profusely from its roots.



In November, 2014, Mark Brown, District Forester with the Illinois Department of Natural Resources, led a Clifftop Wintertime tree ID field trip at White Rock Nature Preserve. During that field trip, Mark alluded to the fact that a simple plunk on the trunk of a ToH with a hammer, would cause its reproductive system to go into overdrive. This has stuck with me over the years, but I always thought it took a physical wound for this to happen. Not so. Last fall, I treated numerous Trees-of-Heaven with herbicide applied to the bark of the tree. The trees I treated died, but this spring I have found hundreds

of suckers all around the vicinity of those standing dead trees.

I mentioned bark treatment previously, so let's discuss how to get rid of this stinky, invasive tree. Remember, the root system must be killed in order to control the plant and prevent sprouting from the stump or suckering from the roots. Foliar spraying will kill re-sprouts and suckers, but, depending on your choice of herbicide, can kill valuable grasses and forbs nearby. Cut stump and basal bark herbicide treatments work best for large trees. For more information on these treatments, please visit: <http://www.clifftopalliance.org/2011/08/tree-of-heaven/>



Tree-of-Heaven can be seen easily along Bluff Road throughout our area.

When working around Tree-of-Heaven, be mindful of the dangers of the sap coming in contact with an open wound or cut for it has been shown to cause myocarditis (inflammation of the heart muscle) and/or intestinal distress in otherwise healthy individuals. Always wear gloves and eye protection in these situations. For further safety tips, please visit: <http://www.clifftopalliance.org/invasive-plant-control-definitions-methods-safety/>

Please join me in my crusade to rid our area of this foreign invasive tree that is ravaging our hardwood forests and roadsides, preventing the regeneration of oaks and hickories.



The Stomping Buffalo

By William McClain

Buffalo and big grasses once held sway
On lands where hot winds swirl,
Oceans of yellow wildflowers
And fires red roaring curls

Here prairie chickens danced
To watchful, waiting eyes,
And orange suns and silver moons
Helped fill empty skies

But it was a strange and curious place
To those who came from abroad,
For no trees graced its soils
And no plough could cut its sward

Then new orders came on the land
As cold steel blades cut deep,
Slicing matted prairie roots
and planting strange new seeds

Could you save a place for the buffalo
For the prairie is now dotted with fields
Without a home to romp and roar
Its fate surely is sealed

Silence now grips the land
And winds dance through wheat,
For we no longer see the prairie
Or hear buffalo stomping their feet

And prairie ashes have mingled
As dust upon the winds,
And the stomping of the buffalo
Will never be heard again

Editor's note: The abundance of yellow wildflowers at Paul Wightman Subterranean Nature Preserve was part of the inspiration for this poem.

Keep It Under Cover

By Wayne Johanning

Have you slipped on your boots and walked out to the low end of your field just after a rain to look at the runoff water? If you haven't, it may be worth checking. Hopefully you will find that the runoff water is clear, not brown and muddy. It seems like the amount and intensity of rains during the past several years has been increasing. I won't speculate on the causes, but as good stewards of the land, we must adapt our farming practices to keep our valuable topsoil where it can grow good crops, not in road ditches, streams, lakes and rivers.

Farming practices that used to work may not be the best answer now. Many of us can remember when steep hills were commonly moldboard plowed and soil erosion losses were very high. Fortunately most of those plows are no longer in use. Farmers have made great improvements in controlling erosion since those days, but there are still a lot of opportunities to continue the progress.

With the high price of inputs to plant and maintain a crop we should give those crops the best soil environment possible so they can best utilize those inputs and produce the highest yields. Keeping the topsoil in place and improving the soil organic matter content should be top priorities. No-till planting and cover crops can be significant in achieving those goals. That may not be the way Grandfather or Dad did it, but keep in mind that we are doing very little in the farming world that is the same as it was done 20 or more years ago.

Every year presents a new challenge in producing crops to meet the food and fiber needs of the world. Often times it is the weather, a new disease, or maybe another herbicide resistant weed. We often fall back to the "tried and proven" ways we have done things in the past because we are comfortable with them and think that if we make changes, they may not be successful – and what will the neighbors think and say? Sometimes those changes have great results and other times they are not what we had hoped for. We know that if our management becomes stagnant we will not be successful very long. This also applies to our soil management – we must be constantly looking for ways to make improvements, some of which will undoubtedly be beyond our "comfort zone".

I would challenge each of you to look for and implement new ways to improve your soil management to get more of the rainfall into the soil and keep the runoff water from your fields clean. Keeping a "cover" on the soil surface at all times, whether it is crop residue or growing plants, is an excellent way to help achieve this goal.

In my many years of working with conservation programs of endless acronyms, I have seen programs that can be helpful in achieving improved soil conservation. Where the actual conservation happens, however, is by the individual landusers that implement practices on their land whether it is with or without a government program. THANKS to all those who have already put out that extra effort to protect their land for future generations.

CLIFFTOP is an excellent example of an organization dedicated to the improvement of forest and wildlife conservation on the acreage they have acquired. THANKS also to the CLIFFTOP Board for all the effort they have done and continue to do as they forge ahead, trying new things that may not have been done before. The "cover" that has been established on many acres of the Wightman Nature Preserve will protect that land for years to come.

Wayne Johanning, Through Clifftop's Eyes

Wayne Johanning retired in 2015 after a distinguished, 30+ year career with the U.S. Department of Agriculture. During his last decade with the Department he was the Natural Resources Conservation Service's (NRCS) District Conservationist for Monroe County.

Wayne eagerly and professionally supported all causes for conservation in the county. His office was a critical member of the Southwestern Illinois Wildlife Action Plan (SWIWAP) Partnership, a collaborative focusing on improving conservation practices in the area. The Partnership includes NRCS, the Illinois Department of Natural Resources, the Illinois Natural History Survey, the University of Illinois Extension Service, The U.S. Fish & Wildlife Service, the Kaskaskia Valley Audubon Society, the Salt Lick Point Stewardship Committee, the Friends of Stemler Nature Preserves, and Clifftop, which serves as administrative agent and lead non-profit for the collaborative.

In 2009, with Wayne's assistance and on behalf of the SWIWAP Partnership, Clifftop was awarded the first Cooperative Conservation Partnership Initiative contract in the state. Nearly \$584,000 in cost-share Farm Bill dollars were contracted to sixty local landowners to tackle invasive species on 3400 private acres in the region. Both Clifftop's White Rock properties and Valmeyer's Salt Lick Point were able to capitalize on the program.

More recently, again with Wayne's help, Clifftop enrolled nearly 300 acres at the Paul Wightman Nature Preserve in USDA's Conservation Reserve Program, and with cost-share program monies, established one of the largest, pollinator-friendly prairie restorations ever undertaken in southern Illinois.



The prairie installation at PWSNP began by treating the existing vegetation with herbicide then broadcasting native grass and forb seeds in May, 2015, as seen above. Photo courtesy Susan Rick.

Wayne whole-heartedly assisted with the prairie conversion at Wightman. The highly-erodible, heavily karstified terrain on the tract has quickly benefitted soil and water quality improvements by conversion to native grassland.

In retirement, Wayne Johanning is now working his ancestral family farm a mile south of Wightman Preserve and remains a loyal and strong supporter of Clifftop.



As can be seen in this photo, our native prairie planting at PWSNP has been wildly successful. Germination was so high that second year mowing was required only once. Photo courtesy Pen DauBach.

Overshadowed: A Total Eclipse in the Heartland

By Rev. Sheldon Culver

On August 21, 2017, two weeks before Labor Day, life in the Heartland of America will pause.

Office workers may step outside to look up at the sky. Children, already back in school, will stop chasing balls or running around the track to see what happened to the sun. People driving cars may pull over to the side of the road to look at the darkening skies, and the headlights on light-sensitive cars, as well as light-sensitive streetlights, and dusk-to-dawn lights at home, will automatically turn on, if only for a few minutes. All this and more will occur as people stop their daily activities to witness the amazing moments when the moon overshadows the sun.

The total eclipse of the sun occurs around the globe on a regular basis, but since our earth is mostly water, the band of earth effected by the moon overshadowing the sun is relatively narrow, and the minutes of darkness so brief, the opportunity for people on land to witness this event is quite rare. Many will have seen a partial eclipse of the sun, and even more may have watched the moon grow deep orange in color during a total eclipse of the moon, but August 21st's spectacular celestial event will provide a completely different experience. We are fortunate to be in the line of the moon's shadow this summer and we need to take advantage of this very rare opportunity.

Across Central Missouri and Southern Illinois, we will be privileged to experience a total solar eclipse, which means that we will observe the moon completely covering the sun's rays until only a small ring of light, a corona, shows forth around the edges of the moon, and the world turns dark. The last time this happened in our region was in the 1400's when the Mound Builders were living and building their communities of commerce and religious observance along the banks of the Mississippi River.

There is more to the story in our small corner of the world. The total solar eclipse of August 21, 2017, will be truly exceptional, the first in 99 years to cross the entire breadth of the continental United States. David Baron, author of the recently published book *American Eclipse: A Nation's Race to Catch the Shadow of the Moon and Win the Glory of the World*, writes about the eclipse of 1878. Baron has been fascinated with the phenomenon of the total solar eclipse, to the point of traveling around the world to experience five of them, so far.

In the prologue to *American Eclipse* he describes the experience:

"A total eclipse pulls back the curtain that is the daytime sky, exposing what is above our heads but unseen at any other time: the solar system. Suddenly, you perceive our blazing sun as never before, flanked by bright stars and planets."

Baron elaborated on this description in an interview with Don Marsh, host of *St. Louis on the Air*. "You can see what's up there, you can look toward the center of the solar system. That's what blew me away in 1998. I could see the sun, although it looked like a shimmering wreath in outer space, and I could see the planets at the same time. You can see the planets and stars at night, but the sun is on the other side. This allows you to look into the solar system, which you can't do at any other time."

A total solar eclipse is the most unnatural natural phenomenon you will ever experience. Without the charts astronomers and celestial scientists compiled over eons of sky-watching, we would be overwhelmed by this event even today, because it is so different from any other natural experience.

It is not radar-predictable, like major weather-related events, and it does not have the extended impact of hurricanes, tornadoes, tsunamis, or earthquakes. It simply happens and then it is over.

What makes this experience so spectacular, so unnerving, so awe inspiring is that "it is like visiting a different planet for the two minutes it happens. Right now, there's blue sky outside," Baron said to Don Marsh. "When a total solar eclipse comes in, it strips the blue sky away. The sky will be strange colors, it will be twilight overhead but on the horizon it will be orange like sunset all around you, 360 degrees. You'll see the planets, you'll see the solar corona, a glorious wreath, but you'll also see flames leaping off the sun, solar prominences, which are rosy pink. In the moments before the total eclipse, you'll see shadow bands, ripples of light like you see under water, but over land. All the critters will be acting strange. Birds will act as if there's a sudden, perplexing dusk. Bats may come out. Fireflies may come out. It is about 10 minutes before the total eclipse sets in that you really start to notice changes in the light and animals."

When E. C. Krupp, director of the Griffith Observatory in Los Angeles, California speaks of a total solar eclipse and says, "It's always a disruption of the established order." And thus the stories found in mythologies, world-wide, reflect this overwhelming experience. Krupp illustrates his comment with this image: "In Vietnam, a frog or a toad [eats] the moon or the sun...while people of the Kwakiutl tribe on the western coast of Canada believe that the mouth of heaven consumes the sun or the moon during an eclipse." Consuming or swallowing the normal order of things is at the heart of the cultural experience of a total solar eclipse. In fact, the earliest word for eclipse in Chinese, *shih*, means "to eat." Other myths tell of deception and theft to explain the sun's disappearance during an eclipse. For example, Korean eclipse mythology involves fire dogs that try to steal the sun or the moon.

We may believe that our astronomical explanations are superior to such mythic tales, since we can easily predict the occasions of eclipse, past and future, which may give us a sense that we know what it's all about. But the language of science will never capture the awe-inspiring mystery of day turned into night by the shadow of the moon.

Rev. Culver recently retired as Conference Minister at the Illinois South Conference, United Church of Christ. An avid outdoor person, Shelley is a life member and volunteer with Clifftop.

Clifftop is hosting a total solar eclipse viewing event at the Paul Wightman Subterranean Nature Preserve from 11 am to 3 pm on Monday August 21st. The Nature Preserve offers a natural setting for viewing this most unnatural natural phenomenon. Experience this rare event among the prairies, woodlands, and ponds along with the creatures that make their homes on the preserve.

Solar and planetary scientist Dr. Michael Krawczynski, Washington University, St. Louis, will make a presentation and also offer extraordinary close-up viewings through solar telescopes. Rev. Dr. Culver will touch on the spiritual aspects of a total solar eclipse. Fiddle player Jerry Wylie will be on hand to entertain.

Clifftop is providing safe solar eclipse viewing glasses, as seen below, for this event which is free and open to the public. Reservations are limited to 200 and attendees must pre-register by calling (618)-935-2542 or by email to cliffmbr@htc.net no later than August 19th. You can find safe viewing tips on our website at: <http://www.clifftopalliance.org/2017/07/safety-first-notes-for-safe-eclipse-viewing/>



Got Amphibs? Got Fish?

A symphony of frog and toad calls resounds close to nearly every pond at the PWSNP. Bob Weck and Mike Marlen, Southwestern Illinois College, recently surveyed several ephemeral ponds to see which amphibians were where. They found that these temporary ponds offer excellent breeding areas for many species. Bob and Mike spent about 30 minutes at each of four different ponds. They found Eastern newts, cricket frogs, southern leopard frogs, green frogs, bullfrogs, gray tree frogs and pickerel frogs. Several of the species were found as tadpoles, some as transforming – or metamorphosing – from tadpole to adult form, and Bob and Mike also found floating egg masses. The breeding success of all these species indicates that most of the PWSNP ponds, both permanent and ephemeral, offer healthy habitat for amphibians.

The shallow ponds, even with turbid, muddy water, offer plenty of food for young amphibians. Frog and toad tadpoles are herbivores, often consuming algae and bacteria and decaying organic matter. Adult frogs and toads switch their diet to insects and other invertebrates, catching and consuming nearly any insect that gets close enough. Bullfrogs occasionally take even larger prey, including other frogs and have been observed feeding



A mat of cricket frog eggs. Photo courtesy Bob Weck.



Pickerel frog tadpoles. Photo courtesy Bob Weck.

on small birds, mammals and reptiles that ventured too close to a pond edge. Newts, like most salamanders, are predatory and willingly eat just about any animal they can fit into their mouths. Eastern newts undergo a three-part life: initially a larval form develops from eggs attached individually to underwater plants by an adult female. In mid- to late summer the aquatic larvae transform into efts, which depart the ponds and move to wooded areas where they spend one to three years. Once mature, adult Eastern newts return to ponds, where they live and breed. Tadpoles, larval newts, and adult frogs and toads also are prey, as herons, egrets, snapping turtles, raccoons, or other critters in search of a meal know that life-filled ponds like those of the PWSNP holds lots of good eats. Additional aquatic animals find the ponds of the PWSNP good larders as, for example, a careful observer can sometimes spot a tadpole with freshwater leeches attached.

A couple of our ponds host a primary amphib predator. Fish were recorded at only one pond during the first herptile survey at the PWSNP in 2014. But we were curious about the large pond that will be a focal point for the primary public engagement area. In late May, Fred Cronin and Shawn Hirst, IDNR Fisheries biologists, launched a boat and did some electro-shock work to see if this pond has fish. As Fred and Shawn scooped up buckets of water, they began calling out "Greenies!" The green sunfish is native to Illinois and can survive in very poor water conditions. Fred and Shawn noted that the very shallow three-to-four foot water depths would doom most fish as the water freezes top to bottom in winter. They thought the pond had been stocked many years ago, perhaps with a more diverse fish population as they found one hybrid individual, a bluegill x green sunfish. They added that our remnant population of greenies was managing to hang on by expanding the limited food supply to include consuming – cannibalizing -- their own kind.



Fred Cronin and Shawn Hirst check for fish at the pond near our planned public engagement area at the PWSNP, left. On the right, Shawn displays one of the greenies found in the pond. Photos courtesy Pen DauBach.

The greenies, of course, also are part of the food web in this pond. While they undoubtedly consume amphibians at all life stages, the greenies themselves certainly are food for the Green Heron that nested near the pond this year and certainly the greenies are a prime reason for the regular visits of Great Blue Herons and the occasional visit of a Great Egret.

We want the shallow waters of the PWSNP ponds to remain productive of wildlife, and, most particularly, to remain a herp heaven, as herps have declined greatly in our state due to habitat loss. We wouldn't have stocked a pond with fish, but won't take any action to remove the greenies, because the only way to remove fish is to poison them, and that could easily transfer into the watery wilderness of the Fogelpole Cave system. Besides, one or two ponds with greenies also is wildlife productive. So, got amphibians? Sure. Got fish? Yeah, a few.

Upcoming events...

Saturday, October 14, 10 am until 2 pm—
 Membership Day at PWSNP. Watch your email for details.



Saturday, October 28, 9:30 am start time—
 Monroe County YMCA-HTC Center Illinois Ozarks 10K Bluff Trail Run
 For more information or to register, visit: <http://www.active.com/valmeyer-il/running/trail-run-races/monroe-county-ymca-illinois-ozarks-10k-bluff-trail-run-2017?cmp=23-126>

Photo gallery...



Frog Frolic

In addition to the amphibian survey, Bob Weck and Mike Marlen led the Frog Frolic at PWSNP on May 13. Above left, Bob and Mike can be seen using a large net to catch pond dwellers. Above right, our young attendees got a closer look at newts, tadpoles, cricket frogs, dragonfly and damselfly nymphs, water boatmen, water scorpions, snails, and other aquatic critters. At left, Bob shows observers two stages of a tadpole. Photos courtesy Joann Fricke.



Prairies at PWSNP

At right, the PWSNP is beautifully blooming. The ~15 acre unit that was burned in March has responded with countless numbers of flowers. Below right, Dr. Michelle Schutzenhofer, McKendree University, who is leading a research team to survey for bees, pauses with her son, Caiden, while collecting information. Below, Caresse Hollendoner, student at McKendree, ties netting around flower blooms to exclude pollinating insects to compare seed production between flowers that cannot be visited by bees and those that are open to visiting bees. Photos courtesy Pen DauBach.



Baebler Educational Farm & Natural Area Awarded ICECF Community Challenge Grant

Clifftop is pleased to share the news that our friends at the Baebler Educational Farm & Natural Area have been awarded the Illinois Clean Energy Community Foundation Community Stewardship Challenge Grant. They will use the money to control invasive species, repair dam problems and improve the roadway—all to create healthy wildlife habitat and enhance visitor enjoyment.

In 2014, Vera Baebler donated her farm to the Monroe County Extension and 4-H Education Foundation in hopes that the land would be used as a place where the youth of Monroe County could learn about and enjoy nature. While they have made great strides toward that goal—meeting and working with IDNR and NRCS to improve the natural features of the land for the benefit of the environment and wildlife and enjoyment by the public—many stewardship needs remain. This grant will help fulfill those needs.

Please consider helping our friends at Baebler Educational Farm by making a tax deductible donation using the form below. We thank you in advance for your support.

Baebler Educational Farm & Natural Area Receives Community Challenge Grant



Funds from this grant will be applied to various stewardship activities including controlling invasive species in our forest and around the ponds, repairing the overflow and dam problems of the four ponds to prevent flooding, improving the roadway and erosion problems along Fountain Creek, etc creating healthy forest with improved wildlife habitat and enhancing the enjoyment of our visitors.



The ICECF grant provides funds 3 ways:

- * Cash donations - \$3 for every \$1 contributed with a max of \$21,000
- * Recognition of volunteer stewardship hours (\$4000 for 400 hours) and promotion of the site and stewardship activities on social media
- * Equipment purchase- refunding 80% cost up to \$5000

Please consider helping Baebler Educational Farm & Natural Area meet this challenge. Fill out the form and attach a check payable to Monroe County Extension & 4H Education Foundation. Please put "Challenge Grant" in the memo line.

Name: _____
Address: _____
Phone: _____ email _____



Send payment to Baebler Educational Farm, PO Box 246, Waterloo, IL 62298

Monroe County Extension & 4H Education Foundation is a 501(c)(3) non-profit organization. Donations are tax deductible to the extent the law allows.