EMBARRAS VOLUNTEER STEWARDS CONSERVATION DAYS FOR FALL 2018

SEE OUR FALL SCHEDULE BELOW

Peter Wohlleben, The Hidden Life of Trees. Discoveries from a Secret World. What They Feel, How They Communicate. Greystone Books, 2016

Do trees communicate with each other? Do they nourish their offspring? Are they "aware" of environmental stimuli? Peter Wohlleben, a forest manager in Germany, doesn't go as far as claiming that trees "think," but does suggest that they have sorts of natural, calculating responses as they react to stimuli. Their "communication" is through symbiotic relationships with fungi and other organisms in the underground mat as well as through the air. For example, tree trunks vibrate during water scarcity, expend unusually high amounts of energy to produce blossoms, and communicate with the young of their species that grow nearby through chemical changes and very slow electrical impulses. Acacia trees in Africa give off a gas that warns nearby acacias when giraffes are eating their leaves, and the trees pump toxins into their leaves that are distasteful to the giraffes. Wohlleben's suggestion that these reactions constitute making choices in a calculating fashion is perhaps a stretch; but we know from recent research that up to half of the forest biomass is underground, and that there is continuous interaction down there. A handful of forest soil contains more life forms

than there are humans on earth! Fungi connected to tree roots direct a tree's cell growth to produce sugar and carbohydrates that nourish the fungi. Trees can tell their own roots from the roots of other species and have synergistic relationships that help them all get nourishment.

Wohlleben says that a forest creates its own ideal habitat as trees, plants, and other organisms that can live well together naturally appear over time. The human manager who thins crowded trees or clears out "unwanted" species is viewing forest "health" over a painfully short time period compared with the long, slow lives of trees, and is therefore working against forest health. The clearing of birch trees in Pacific Northwest Douglas fir forests has resulted in slower growth of the firs, as they no longer receive nutrients from birches though links in their roots. We clear sugar maple from our oak-hickory woodlands in Illinois to reduce shade and allow young oaks to grow where the absence of fire has allowed sugar maples to proliferate. Are we wrong to ignore long-term, natural development in favor of our short-term idea of what a forest should look like?

Larry Thorsen

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Tri-colored Bat

AS ONE OF THE LONGEST HIBERNATORS, THE ADORABLE ‘PIP’ VALUES BEAUTY REST

If bats were social media stars, the tri-colored bat would be a beauty influencer. This bat’s style game is on point, boasting individual strands of hair that exhibit a beautiful tryptic of colors. And like all good social media influencers, this bat has a catchy nickname—Pip. “I know at least three bat biologists who named their pets after the tri-colored bat. There are definitely a few cats and dogs out there named Pip,” says Winifred Frick, BCI’s Chief Scientist. “This species definitely holds a place in people’s hearts.”

A healthy tri-colored bat (*Perimyotis subflavus*) roosts in Ellison's Cave, Georgia.
Courtesy of Pete Pattavina/ USFWS

This adorable nickname is a reference to the bat’s original designation as the eastern pipistrelle. Though it is now classified in the genus *Perimyotis* (the sole member), the nickname has stuck. After all, it’s a fun nickname for such a small bat species.

In fact, the tri-colored bat is one of the smallest species of bat found in North America. Coming in at a minute 4–6 grams, it is roughly the same weight as a quarter. And this bat loves to hibernate. The tri-colored bat is

one of the first species to enter hibernation each fall and among the last to emerge in spring. Hibernation sites are found deep within caves or mines in areas of relatively warm, stable temperatures. Once these bats find a winter hibernation site they like, they will often return to the same exact location year after year.

Tri-colored bat (*Perimyotis subflavus*) in Reeves Cave, Indiana.
The droplets are condensation, not fungus.
Courtesy of R. Andrew King/ USFWS

“Tri-colored bats stand out when you do your hibernacula surveys. You can have hundreds in a site, but they tend to hang out by themselves, not in a big cluster. They will tuck themselves into little cracks and crevices,” says Frick. “When they hibernate, they will get some water condensation on them, and it looks like they’re bejeweled.” Tri-colored bats are among the first to emerge at dusk, darting around the treetops in

search of moths, beetles, mosquitoes, midges, bugs, ants and other insects.

The bat's penchant for grain moths and beetles suggests that it holds important agricultural value. Tri-colored bats typically live around 4 to 8 years, with one bat found in the wild at the ripe old age of 14. These bats will commonly give birth to twins after a gestation period of roughly 60 days. Pups will usually be flying within a month after birth.

This species was once one of the most common bats found throughout the east coast of Mexico into northern Central America. However, tri-colored bats face myriad threats from habitat loss, impacts from wind turbines and White-nose Syndrome. Because of this, the species is currently being considered for listing under the Endangered Species Act.

Tri-colored bats join little brown bats and northern long-eared bats as one of the species most heavily impacted by White-nose Syndrome. "We're worried about the tri-colored bat, as we've seen populations decline rapidly in most places where tri-colored bats hibernate. They are a species we definitely need to learn more about," Frick adds.

BCI is partnering with bat physiology experts Dr. Liam McGuire and Dr. Justin Boyles to conduct experimental research on the microclimate preferences of tri-colored bats exposed to the fungus that causes White-nose Syndrome. This research will hopefully inform future ways to mitigate the devastating effects of the disease on tri-colored and other bat species.

For more information, see BCI – Bat Conservation International @ http://www.batcon.org/

FALL CONSERVATION DAYS

Our conservation work days are on Saturdays from 9:00 to 11:00 a.m. Everyone is welcome and no prior experience is necessary. We do not have formal membership or dues. Just come as often as you like and help us do our small part to maintain the health of prairie remnants, prairie restorations and woodlands. Visit this page from time to time to get updates. To receive email notifications of updates and cancellations send your email address to Larry at thorsenhutton@gmail.com with a request to be added to the list.

We advise sturdy footwear and gloves at work days. Tools are provided but bring your own loppers and shovels if you have them.

September 8 - We will help Barb and Dave Hunter remove bush honeysuckle from their place overlooking Lake Charleston. As you come down the river hill on Route 16 from Charleston, turn into the steep driveway on the left before you get to the lake entrance. Easier parking is available next door at the entrance to Lake Charleston.

September 15 - Woodyard Conservation Area for removing various invasives. Woodyard is 1.8 miles south of Route 16 on Route 130.

September 22 - Lakeview Park for removing various invasives. The Lakeview parking area is at the end of McKinley Avenue in Charleston.

September 29 - Coneflower Hill Prairie. We are helping remove woody species at this IDNR site. Take the Bruce-Findlay road about 5 miles west from Coles Station, turn right at the electric substation, go 2 miles to the "T," then turn left and go one mile to the parking area.

October 6 - We will help Grand Prairie Friends remove invasives at Warbler Ridges. Take Route 130 south from Charleston to Daileyville Road (CR 1470N). Follow the road about one mile through the gate to the parking area on the right.

October 13 - Invasives removal at the Tolle property in Cumberland County. The address is 787 N. CR 900 E. From Charleston, take Route 130 south to Cumberland County Road 1200 N., turn right (west), and go 6 miles to CR 1200 E. (Burma Road), turn left (south) to Toledo, turn right (west) on Route 121, go 3 ½ miles to CR 900 E., turn right (north) and go 0.8 miles to the first house on the left.

October 20 - Fox Ridge State Park. We will remove autumn olive near Hanley Prairie. Take CR300N off of Route 130 and drive to the hunter parking at the end of the road.

October 27 - Lafferty Nature Center. We have made good progress on keeping bush honeysuckle at bay in this little woods. Park behind Carl Sandberg School on Reynolds Drive in Charleston.

November 3 - Douglas-Hart Nature Center. This is a volunteer day at our nature center. Douglas-Hart is at the corner of Lerna Road and DeWitt Avenue in Mattoon.

November 10 - Another invasives removal day at Woodyard Conservation Area.

November 17 - Another invasives removal day at Lakeview Park.

December 1 - Lafferty Nature Center