a voice
for the natural
landscaping
movement

Wild Ones®
NATIVE PLANTS, NATURAL LANDSCAPES

Reprinted from the
Wild Ones Journal,
May/June/July 2013
issue.

For more information, or to join Wild Ones Natural Landscapers, here's how to reach us:

Phone
(920) 730-3986
(877) 394-3954 (Toll-Free)

Mail
PO Box 1274
Appleton, WI 54912-1274

E-Mail
ExecDirector@wildones.org

WebSite
www.wildones.org

Celebrating natives
plant and natural
landscapes
since 1979.

Grapevine

By Maryann Whitman

Yet another reason to remove buckthorn from wetlands
Researchers at Lincoln Park Zoo and Northern Illinois University have discovered a new culprit contributing to amphibian decline throughout the Midwest region – the invasive plant European buckthorn. This non-native shrub, which has invaded twothirds of the United States, has long been known to negatively impact plant community composition and forest structure, but these two innovative studies slated to publish in upcoming editions of the Jo urnal o f Herpeto lo gy and Natural Areas Jo urnal demonstrate how this shrub negatively impacts native amphibians.

Lincoln Park Zoo Reintroduction Biologist Allison Sacerdote-Velat, Ph.D. and Northern Illinois University Professor of Biological Sciences Richard King have identified European buckthorn as a contributor to amphibian decline in the Chicagoland area. The plant releases the chemical compound emodin, which is produced in the leaves, fruit, bark and roots of the plant, into the amphibian breeding pond environment at various times of year. Sacerdote-Velat and King's research has found that emodin is toxic to amphibian embryos, disrupting their development, preventing hatching.

"Levels of emodin in the environment are greatest at leaf out, which is occurring right now in early spring. This coincides with breeding activity of several early-breeding Midwestern amphibian species including western chorus frogs and blue-spotted salamanders," explained Sacerdote-Velat. "Several amphibian species exhibit low hatching rates in sites that are heavily infested with European buckthorn."

For more information on buckthorn's secondary metabolite, emodin, please see the January/February 2010 issue of the Wild Ones Journal. http://www.wildones.org/download/Journold/2010Vol23No1Journal.pdf

The Cicadas are coming
This year marks the end of a 17 year long life-cycle for one species of the cicada (*genus Magicicada*), in the eastern United States. After spending nearly two decades burrowed in the ground as nymphs, they are due to emerge from the ground to mate and lay eggs for the next generation of cicadas. The periodic cicadas have one of the longest life spans of all insects. When the ground temperature reaches 64 degrees, cicadas that have burrowed deep in the ground around trees, surrounded by undisturbed soil, will emerge. Scientists are expecting

that billions of cicadas will emerge with the warm weather. Cicadas are harmless and won't bite or sting you, though their loud buzzing noises will let you know that they have arrived.

For the five or six week period after they emerge they are the most abundant herbivore in the broadleaf forests of North America in both number and biomass. They feed exclusively on tree sap and actually do very little damage to their environment. During their life underground the nymphs feed on the sap of tree roots. They grow very slowly and have no visible impact on the host trees. There is, however, evidence that the decaying bodies of the cicadas (an estimated 800 tons per square mile), contribute a massive amount of nitrogen to the soil. It is quite likely that over a five year period after their deaths, the nutrient enrichment their bodies offer, more than compensates for any damage they may have done during their long lives.

Wild Ones Natural Landscapers
PO Box 1274 •Appleton, Wisconsin 54912-1274 •www.wildones.org
Reprinted from the *Wild Ones Journal*, May/June/July 2013 issue