

Newsletter

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Volume 10 Issue 3

Preliminary Report Submitted on Mt. Kessler Old-Growth Forests

We reported in the previous issue that FNHA was sponsoring a tree-ring analysis of the ancient woodlands on Mt. Kessler, conducted as part of the research for a master's thesis by Alan Edmondson, a graduate student in geosciences at the University of Arkansas. Edmondson's preliminary report has been submitted to FNHA and is excerpted below.

The main goals of his study are 1) to document the existence of old-growth forests on Mt. Kessler, 2) to locate areas of intact remnant old growth and 3) to study the species composition, abundance and age structure of the forests to provide an in-depth baseline study that can be used for future comparisons and for a local long-term ecological monitoring site of global change for Northwest Arkansas.

The forest on Mt. Kessler is largely second-growth oak-hickory hardwoods with some original growth trees scattered throughout. There are several areas where remnants of old-growth forests have escaped logging, leaving uncut stands of old-growth post oak and chinkapin oak. The 1,856' elevation, wide-ranging temperatures and the complex geology of the site allow for great biodiversity.

Permanent study plots were established at two sites: Site A, a shale glade on an east southeast-facing slope dominated by post oak and Site B, a limestone escarpment dominated by chinkapin oak and sugar maple with a number of hickories.

Initial visual surveys assessed the health and possible history of the forest and selected the two best study sites. Site A is 50m x 50m and Site B is 20m x 100m;. Each was divided into 10m x 10m grid squares. Within each square, every tree equal to or larger than 10cm diameter at breast height (DBH, 1.4m from the ground) was considered an overstory tree and was flagged, assigned an ID number, measured and its species was recorded. At each four-corner intersection of grid squares, a 5m radius plot was used to sample the understory. All trees within that radius that were less than 10cm in diameter and at least breast height were considered understory trees and were further divided into two size classes, greater than or less than 5cm and their species and abundance were recorded.

All overstory post oaks in Site A were cored, using a 5mm diameter increment borer. Cores were taken at a height of 1.4m on the northwest side of the tree to increase the chance of detecting frost rings. All chinkapin oaks in Site B and within a 10m radius of the plot were cored, as was every second sugar maple. The cores were air-dried, glued to mounts and sanded to obtain a well-polished surface that can be analyzed with a microscope. The cores will be dated to reveal the approxi-

mate ages of the trees and further analyzed to study the past climate of the region.

Initial results from Site A show a dominance of post oak and northern red oak with some white oak, blackjack oak and an understory dominated by northern red oak. A significant portion of the understory trees that have not yet reached 1.4m in height are black locust. Site B is dominated by sugar maple, which are nearly four times as abundant as chinkapin oak. It also has a number of eastern red cedars and various hickories.

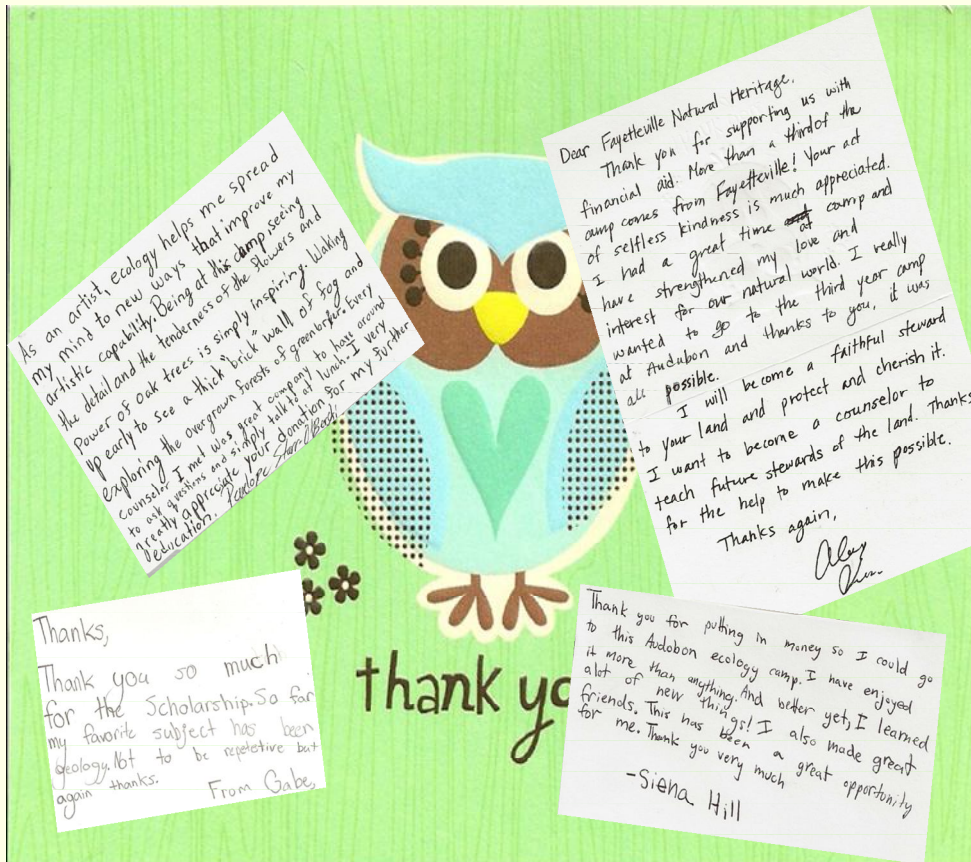


The understory of this site is dominated by eastern red cedar and northern red oak., with a relatively high number of sugar maple trees. The relative scarcity of chinkapin oak in the understory suggests that they may not be regenerating at a rate necessary to maintain dominance in the future. Although age data are yet to come, there are definitely some very old pre-settlement post oaks at Site A. One of the oldest-looking post oaks was cored and dated with an inner ring year of 1724. However, the core sampling did not reach the tree's pith and the sample was taken at breast height so its estimated age is more than 300 years. A cross section of a dead chinkapin oak taken with a chainsaw near Site B shows a ring count of 216 years.

Watch the FNHA Newsletter for a comprehensive final analysis and further reports on this interesting study of a most remarkable site. -BGT

Recipients of Founders' Scholarships Send Their Thanks –Contributed by Bob Caulk

FNHA supported six local students attending Arkansas Audubon Society Hallberg Ecology Camps this summer, two Junior, two Senior and two Advanced campers. We've received thank-you notes telling about their experiences.



From AAS Newsletter *Arkansas Birds* Vol. 58, No. 3 September 2013

Ecology Camp 2013: the 34th year

"Everything here makes learning fun. I loved learning about ecology: nature, and how the plants, animals, and all of nature is hooked together. There was so much information to take in and so much to learn, it makes me so curious." - Camper

The last event on Thursday evening of each session was a review of camp based on images taken by co-director (or co-"camp boss" as he was affectionately called during camp) Paul Lowrey and other camp staff. Set to music to help set a mood, the week in review also was presented to parents on Friday morning to provide them a glimpse of the camp. Though many songs are used in the slideshow, one song by Alabama has remained a constant as it exemplifies the camp philosophy: "Pass It On Down".

[See page 6 for You Tube links to the videos](#)

Bush Honeysuckle Strike Force Hits Gulley Park

Pete Heinzemann and his Bush Honeysuckle Strike Force had a good first foray on Saturday, August 24th, going into Gulley Park, hitting the beaches (riparian areas) and mowing down bush honeysuckle ("the evil invader") on both sides of Niokaska Creek all the way to the first bridge. Neal Sloan from the Fayetteville Parks Department was there to spray the stumps, but the dirty work was done by a crack first assault team including Duane and Judy Woltjen, Lawrence Berry, Michael Rehtin (who was working on his Boy Scout badge and whose picture appeared in the local paper), Pete and Margo Heinzemann, Juan Rivera and Sandi Formica.

The first segment along the creek looks really good now and you can see and enjoy the beautiful creek which was previously restored and stabilized by Sandi Formica of the Watershed Resource Conservation Center.

Pete and his team plan to continue their war on "the evil invader" in an on-going effort to restore our natural habitats. To join the Strike Force, contact the recruiting office: petemargo@cox.net.

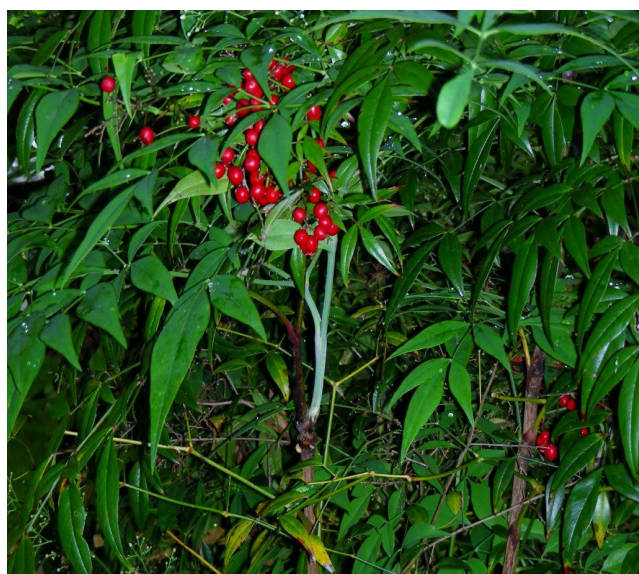
-Report and military language provided by Pete Heinzemann



The 'evil invader' in bloom (*Lonicera japonica*)

Nandina Berries Kill Birds

You know this shrub as “Nandina”, “Sacred Bamboo” or “Heavenly Bamboo”. *Nandina domestica* is found in most landscaping mixes in yards, parks, hospital grounds, and other locations in the lower 48 states. Its bright red berries and contrasting dark green foliage is planted for color and texture by commercial landscapers. Some home owners plant *Nandina*



Nandina domestica “Heavenly Bamboo”

Photograph by Jerry W. Davis

to provide food for Cedar waxwing, American robin, Northern mockingbird, Eastern bluebird and other birds that depend on winter fruits to survive. *Nandina* berries last for months attracting hungry birds when food is in short supply.

When dozens of Cedar waxwings were found dead in Thomas County Georgia, Moges Wolderemeskel and Eloise L. Styer (2010), College of Veterinary Medicine, University of Georgia, found the cause to be *Nandina* berries, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3005831/>. All birds had intact berries of *N. domestica* in their crops. There was hemorrhaging in the heart, lungs, trachea, abdominal cavity and other organs (Figure 1).

Nandina berries contain cyanide and other alkaloids that produce highly toxic hydrogen cyanide (HCN) which is extremely

poisonous to all animals. Sudden death may be the only sign of cyanide poisoning and death usually comes in minutes to an hour, Wolderemeskel and Styer report.

The US Department of Agriculture and most states classify *Nandina domestica* as a noxious non-native invasive weed from China and Japan. It has naturalized and invaded our National Parks, Wildlife Refuges, National Forests and other habitats throughout the United States. Home owners and commercial landscapers are still planting this toxic species without constraint. In addition to bird deaths in Georgia, bird deaths have been reported in Houston and other parts of the country. Hydrogen cyanide (HCN) is a painful, and unnecessary way for birds and other animals to die.

“Over 220 bird species nationwide are in serious decline, including our most common birds. Birds are being killed on all fronts” Davis said.

“For people to ignore poisoning birds and other wildlife is inexcusable. By working together we can eliminate this toxic and noxious invasive plant. If you are not doing your part, the job is not getting done.”

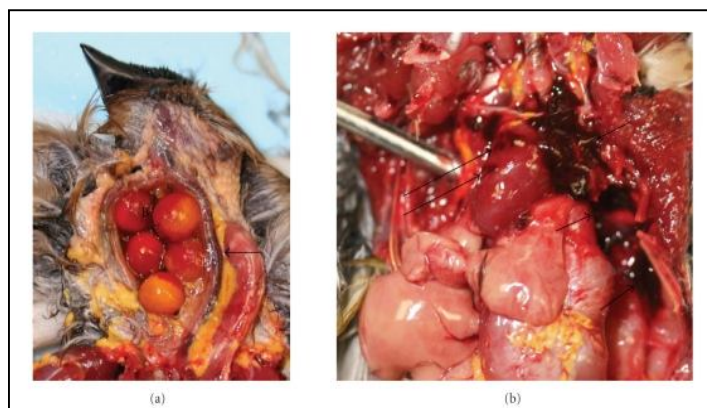


Figure 1 Toxicity of *Nandina domestica* in Cedar Waxwings. (a). Photograph showing berries of *N. domestica* in a crop of dead Cedar Waxwing. The arrows show congested and hemorrhagic trachea. (b). Photograph showing mediastinal and pulmonary hemorrhage.

- Article by Jerry W. Davis, Certified Wildlife Biologist, Hot Springs, AR
jwdavis@cablelynx.com.

Editor's Note:

Jerry Davis asks that his information be shared widely; it certainly alarmed me. I have only one *N. domestica* in my yard, but I feel sentimental about it because it was a gift from my late husband, planted shortly after we moved here, more than 19 years ago. I'll probably remove it eventually, but this year, I cut off all the berry-bearing bloom stalks instead. It took some time and quite a bit of patience, but the berry stalks are separate from and easily distinguishable from the leaf stalks. At least as an interim measure, it's a technique that may be worth trying.

Where Are All the Hummingbirds?

Hummingbirds: jeweled acrobats and conquerors of the air. All of the more than 300 species reside only in the Western hemisphere. Arkansas has ten. Only one, the Ruby-throated Hummingbird, nests here. The other nine are Fall and Winter vagrants, just passing through.

Every spring people ask me about the scarcity of hummingbirds: "Where are they?" Yet the American Bird Conservancy has announced that Ruby-throats are abundant and holding steady. So what's happening?

I'll explain. In Springtime some of the individuals pass through our area, heading northward, while others stay here to nest. Those that stay are distracted by courtship, mating and nesting. Males are courting, but only females build nests and raise the young. While females are busy nesting, males visit native flowers. Hummers consume small flying insects too.

Crowds of birds at feeders occur when hordes of young birds, newly out of the nest, follow adults to known feeders. They all feed voraciously to store fat, the fuel for their hummingbird migration to Central America, crossing the Gulf of Mexico to Yucatan, traveling 600 miles in 24 hours.

That large population last Fall is what we remember when we talk about the paucity of Ruby-throats each Spring. Actually most of the young birds perish over Winter and more are lost during the long Fall flight and then Spring return over the Gulf. The population is much smaller in the Spring, when the birds are still migrating and otherwise distracted, than in the Fall.



© Al Lemieux 2013

Marguerite Baumgartner, a hummingbird bander, reported when she resided in Jay Oklahoma, that one Summer she had five to ten Ruby-throats in her yard at any one time, yet she banded a passing parade of around 400 that

summer. So a few hummingbirds in our yard at a time can really add up over the course of a Summer.

- Article by Doug James, adapted from the Summer, 2013, issue of the Northwest Arkansas Audubon Newsletter

FNHA Members and Friends Are Invited to Upcoming Events!

Mark your Calendars

Kessler Trail Run

Fayetteville Natural Heritage Association, Fayettechill, and the Pack Rat Outdoor Center are hosting the

First Kessler Trail Run
Saturday
November 2, 2013
9:00AM



There will be a 10k and a 20k run on Mt. Kessler, with all proceeds going to the preservation of Mt. Kessler. FNHA Board member John Coleman has organized the event. For more information, contact John at: john@ViridianUSA.com, 479-301-2517

PACK RAT PINT NIGHT SERIES FALL 2013



SEPTEMBER 18, 2013
5:30-8:00PM
PACK RAT OUTDOOR
CENTER
BENEFITTING: OZARK OFF
ROAD CYCLISTS

OCTOBER 9, 2013
5:30-8:00PM
PACK RAT OUTDOOR
CENTER
BENEFITTING: BEAVER
WATERSHED ALLIANCE



OCTOBER 30, 2013
5:30-8:00PM
PACK RAT OUTDOOR
CENTER
BENEFITTING: FAYETTE-
VILLE NATURAL HERITAGE
ASSOCIATION



Bend an Elbow
for FNHA!

Chairman's Corner *by Bob Caulk*

In previous editions of this Newsletter, I began sharing my thoughts on the essential common elements of the significant successes that FNHA has been part of, now that we have reached our 10th birthday. We've documented these successes in this newsletter over the years, including land conservation projects, integrating conservation into land use planning, restoring important habitats and raising citizen awareness of habitat quality. The essential common elements are **Partners** ([Volume 10 Issue 1](#)) who share our vision and provide the key ingredients when needed to ensure a successful outcome, **Champions** ([Volume 9 Issue 2](#)) who have the passion to overcome obstacles and complete the undertaken task when others grow weary and, finally, **Community Support**.

Community support is the source of the Fayetteville Natural Heritage Association's energy and influence. Financial support is important, but members of the community committing their time is essential. The hundreds of citizens who attended the City Council meeting on preserving Mt. Sequoyah Woods, the two dozen folks who stayed till after midnight for the City

Council meeting on preserving Brooks-Hummel or the 116 stakeholders who attended the Green Infrastructure Planning kickoff assured the necessary support by decision-makers. The over 300 community members who worked on parts of the Urban Forest Conservation Assessment or the Green Infrastructure Plan Linking Arkansas Communities insured the high-quality outcomes of those projects that are being used across Northwest Arkansas today.

Community members making the biggest commitment of their time are the group who provide leadership to FNHA. Over the last ten years, we have had a terrific group. Some individuals have moved on and new folks, sharing our core values, have been attracted. My confidence in the future of the Fayetteville Natural Heritage Association is based on the fact that our accomplishments have attracted tomorrow's leaders!

As Chairman for the past five years, I thank you, community supporters, for making my tenure so rewarding.

Woolsey Wet Prairie - Wet and Wild-(ly) Successful

Photographs by Joe Neal

Scenery by Mother Nature



White-faced Ibis 4-24-2013



Le Conte's Sparrow 10-10-2008



Brewer's Sparrow 12-9-2011



Goldenrod and Bees 8-21-2013

FNHA annual memberships are due in January of each year. You will receive a renewal reminder sometime during the year. Memberships at the Landmark level and above are Lifetime memberships. Since 2003, with support from so many levels, FNHA has been able to preserve natural areas, start an education endowment for children, influence land use and conservation policy, and in doing so we have gained national support and recognition. None of this would have been possible without you, our amazing members, and we hope you will continue to support FNHA as we continue to preserve our natural heritage. Thank you!

Have a question?
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Want to comment?
Like to volunteer?

Fill out the contact form at
www.fayettevillenatural.org
or contact us directly

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Editor - Barbara Taylor (see above)

Help us to continue making exemplary natural areas accessible to everyone by supporting our conservation, stewardship, policy, and education efforts.

Please join FNHA or renew your membership today

Annual dues are:

- ☐ Landmark \$1000 ☐ Steward \$500 ☐ Sustaining \$250
☐ Supporting \$100 ☐ Family \$40 ☐ Single \$20

Membership is for the calendar year,
and dues are payable January 1,

Use your PayPal account on the web at www.fayettevillenatural.org "Join Us"
or

Make your check payable to **Fayetteville Natural Heritage Association (FNHA)**
and mail to **PO Box 3635, Fayetteville, AR 72702-3635**

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FNHA is a 501(c)3 nonprofit corporation comprised of a group of citizens dedicated to conserving the natural areas of Fayetteville and its environs for the benefit of present and future generations



Amazing stand of Indian grass on the Callie's Prairie restoration project
Lake Fayetteville

Photo by Joe Neal
9-3-2013

From page 2

Watch videos of the two camp sessions and
you're bound to agree with us —

These young campers had an unforgettable and
perhaps life-altering experience at the Hallberg
Camp! Some tunes by musicians and entertain-
ers extraordinaire **Still On The Hill** (former
camper Kelly Mulhollan and Donna Stjerna)
can be heard in the background of these vid-
eos.

<http://www.youtube.com/watch?v=bEDXrYJozjU>

<http://www.youtube.com/watch?v=Im6Uhmhpg20>

http://www.youtube.com/watch?v=WUR5_i7OIFo

<http://www.youtube.com/watch?v=bEDXrYJozjU>