MISSOURI SOCIETY OF AMERICAN FORESTERS

2019 FALL NEWSLETTER

Vol. 35, No. 2

From the Chair

By Dan Dey, MOSAF President

They say time flies when you are having fun. I must have been having too much fun as chair because the past two years have flown by like a derecho. And out of the derecho walks forth the new chair John Kabrick (inside joke as John and others survived the Missouri derecho a few years back)!

It is easy being leader of MOSAF because there are so many willing and dedicated volunteers to fill all the leadership positions and other needs of our society, for example, the many hands that make the Missouri Natural Resources Conference a success every year. I would like to thank in advance Jon Skinner and all who have pitched in to plan and implement the upcoming 2020 MNRC, which MOSAF is sponsoring. And don't forget to bring anything you have to make sure we have a great silent auction this year. I know we have many good craftsmen and women in our ranks, but all donations including forestry historical memorabilia, outdoor gear, and gag gifts make for a fun competition in the silent auction. We are electing a new secretary and chair-elect soon, so if you have interest in either of those positions let John Kabrick or Gus Raeker know ASAP.

I thank all MOSAF members for entrusting me with the leadership of this fine organization. I am not going away by any means, so I look forward to years of fellowship with you at all our events, and working with you in all our efforts to provide leadership in forestry for Missourians for generations to come.

Bugs, Barbecue, and Boards

Spring Technical Meeting highlights urban forestry issues

By John Kabrick and Jon Skinner

Hank Stelzer put together the agenda for the 2019 Spring Technical Tour and Business Meeting featuring Kansas City's biggest urban tree pest problem, its best Bar-B-Que, and its most novel forest products company, the Urban Lumber Company.

On May 29, MOSAF members met Kevin Lapoint, city forester for Kansas City, Mo., at the Anita Gorman B. Discovery Center for an Emerald Ash Borer (EAB) show-and-tell. Lapoint described EAB as an ever-increasing pest problem on the many ash trees throughout the city beginning in about 2012. Kansas City has about 20,000 ash trees on public property and about another 400,000 in private property throughout the city.

Kansas City forester Kevin Lapointe discusses the signs to look for in infested ash trees. Lapointe said EAB has been in the area since 2012.

To control EAB, city foresters have taken a proactive approach to treat healthy ash trees and to remove and dispose of infested ash trees that are declining and to replace them with other species. Treatment methods include injecting the root flares of healthy ash trees with a systemic pesticide to postpone or reduce the severity of attack by EAB. Removal methods include the use of the newest equipment that can quickly and safely remove large trees without damaging overhead powerlines, nearby streetlights, and the surrounding lawns and sidewalks that are so prevalent in urban areas.

SAF members inspect twigs for the presence of EAB.

Along a row of ash trees across the street from the Discovery Center, Lapoint talked about what he looks for in ash trees that indicates the presence of EAB. He showed MOSAF members how to look for D-shaped exit holes that are approximately 1/8th inch in diameter that will occur on the boles of infested trees. He also showed members how to look for

vertical splits in the bark of branches that are likely to be covering the tell-tale S-shaped trails made by EAB larvae.

Lapoint then led members on a short walk to a residential street northwest of the Discovery Center for a demonstration of a “Scorpion Crane” that can quickly dismantle large trees in about 20 minutes. At the end of the crane’s telescoping shaft is a rotating, double-grapple head with a chainsaw cutting bar. It is used to securely hold large branches or tree bole sections so they can be sawn and removed. The crane and saw head are operated remotely with buttons and joystick located on a control panel that can be fastened with a belt to the operator’s waist. This arrangement allows the operator the freedom to stand or move about on the ground away from the crane to best see how to remove tree sections without damaging powerlines, streetlights, street signs, or other obstacles. The demonstration was given by staff of the Safety Tree Service, currently the only company in Kansas City to operate this kind of equipment.

Left: Safety Tree Service staff demonstrate the agility of the scorpion crane, which is a huge benefit for removing trees in tight spaces. Right: The cutting head features a double-grapple head and chainsaw cutting bar.

After the demonstration, members reconvened back at the Discovery Center for a brief business meeting. Topics that were discussed included the upcoming fall election to fill the secretary and chair-elect vacancies, a theme for the upcoming fall technical tour, and committee reports. The 2019 Spring Business Meeting adjourned and attendees headed to Gates on Main Street for some of Kansas City’s best barbecue.

The next morning MOSAF members convened at The Urban Lumber Company, 7200 E. Hwy 40, Kansas City, Mo. This mill and retail store was founded in 2005 by Tim O’Neill and partners Kevin and Jason Anderson. It offers unique boards and other pieces of wood cut from logs that were harvested from urban trees in the Kansas City area. It specializes in unusual cuts from a variety of hardwood species. In addition to

black walnut and a variety of oaks, other species include hickory, mulberry, honey locust, soft maple, ash, sweet gum, and sycamore.

SAF members view unique pieces of wood in the Urban Lumber Company's retail store.

Most sawyers would not consider milling urban trees for fear of ruining saw blades with nails and other pieces of metal in the boles. However, O'Neill cuts his lumber using a portable band sawmill with blades that are relatively easily sharpened or replaced.

Services offered by the Urban Lumber Company include custom milling of in-store logs and of logs brought in to the mill. They can also pick up logs and bring them in for custom milling. They provide air-dried (10-16% moisture) and kiln-dried lumber (6-11% moisture) as well as green lumber in a variety of dimensions.

O'Neill and partners also are woodworkers and artists themselves. In addition to boards and wood pieces, you can find various projects like tables, décor, and other items made from unusual pieces of wood in their shop. They also sell table legs and other accessories for customers working on their own projects.

Left: Urban Lumber Company embraces the unique risks of milling urban trees in part thanks to its portable mill, which has blades that can be sharpened and replaced easier than standard mills. Right: Owners Tim O'Neill, Kevin Anderson, and Jason Anderson are also woodworkers, who often feature one-of-a-kind art in their retail store, such as this wood pumpkin.

Fuels for Schools

Fall Technical Meeting features biomass heating system at Steelville Schools

By John Kabrick and Brad Graham

Mike Morris put together an informative and interesting Fall Technical Tour featuring the biomass heating system used by the Steelville Public Schools. The school uses wood chips to heat their facilities, which includes a total of 70,000 square feet in the elementary, middle, and high school buildings. Steelville is one of the Missouri school systems that has received support from the Fuels for Schools program to install or renovate wood-energy heating systems.

MOSAF members view the wood heating system installed in Steelville thanks to funding through the Fuels for Schools program. The school district is expecting a savings of roughly $60,000 per year.

Morris explained that the Missouri Department of Conservation's Fuels for Schools program began with John Tuttle's submission of a proposal for funding through the American Recovery and Reinvestment Act (ARRA). This grant initially provided $6 million to rural public schools for developing the use of woody biomass for heating their facilities. Other schools in Missouri that received funding from this grant included the Gainesville R-V School District, Mountain View-Birch Tree Liberty High School, Eminence R-I Elementary School, Southern Reynolds County R-II School District, and the Perry County School District. Additional support for this program is being provided by the Missouri Department of Conservation, which recently helped the Summersville R-2 School renovate their wood-heating capability by installing a system that utilizes cordwood. The program also recently helped the Houston R-1 School with renovations.

Steelville Public Schools superintendent Mike Whittaker and maintenance director Leon Callahan explained that the heating system was installed roughly nine years ago at a cost of about $1 million. The system uses an average of 270 to 360 tons of wood chips per season to heat the school buildings. This requires about 30 to 40 trailer loads of chips to be delivered. Whittaker explained that they are purchasing chips for $24.50 per ton and at this price the school district is saving $60,000 per year compared to heating with propane.

A conveyor belt takes paper-quality chips to the furnace.

The facility at the Steelville School is a state-of-the-art heating system operating at an 80% efficiency level according to Callahan. School personnel consulted with staff from the Missouri Department of Conservation and the US Forest Service Wood Education and Resource Center in West Virginia for technical assistance with the design of the system. The system can produce 1 million BTUs and heat a space twice as large as it is currently heating. Thus, it will easily accommodate planned expansions to the school buildings.

The paper-quality chips used in the process are purchased from Richards Wood Products located about five miles south of Steelville. According to Callahan, these are produced by chipping slab wood from debarked logs. Lower quality chips can be used but they produce more ash and burn more unevenly than paper-quality chips. The Hurst Heating System can be adapted to use sawdust or other forms of wood energy by changing the grates inside of the furnace.

Left: The computer-controlled system requires minimal maintenance as the wood chips are fed in to the furnace according to heating demand. Right: The boiler heatsfluid stored in a large tank, which transfers this heat via a closed-loop system of tubing, and is circulated to heat exchangers throughout the school buildings.

The heating system is in a free-standing metal building near the school buildings. Wood chips are stored in one side of the facility and are brought to the furnace with an automated auger and conveyor belt. The computer-controlled system feeds chips in to the furnace according to heating demand. The boiler then heats fluid stored in a large nearby tank and transfers this heat via a closed-loop system of tubing. The fluid passes through the tank and is circulated to heat exchangers throughout the school buildings.

It may not be evident to people passing by that wood is being burned because very little smoke is produced. Emissions from system are captured in a flu and scrubbed before being released as water vapor. Solids, ash, and other particulate matter in the smoke are captured in a hopper which later can be removed and discarded.

The emissions system installed in Steelville captures solids and ash from the smoke.

The system used by the Steelville Schools requires little maintenance to operate. Callahan says that he spends five to 10 hours per week on its maintenance. This includes cleaning ash from the furnace three mornings per week and occasionally cleaning and inspecting the whole system. Once a year, the flu hopper is emptied and the small amount of creosote that accumulates in the chimney is cleaned.

2020 Missouri Natural Resources Conference: "Exploration, Exploitation, and Conservation: Comparing History and Current Management"

MNRC to be held Tuesday, February 4 through Thursday, February 6

By Jon Skinner, MNRC 2020 Chair

The Missouri Natural Resources Conference (MNRC) covers research from many disciplines and promotes wise use and management of Missouri's natural resources. This year we have two exciting plenary sessions for Wednesday morning. James Guldin, Senior Research Silviculturist with the U.S. Forest Service, will speak on the title topic of "Exploration, Exploitation, and Conservation: Comparing History and Current Management." In the second plenary session, members of the four societies will participate in a round table panel to further the discussion of this topic. Workshops and contributed paper sessions will take place on Wednesday and through Thursday afternoon. The conference helps fill voids in many professional natural resources careers and those voids can be summed up in one word: "networking". It is as important today as it was in the past to bring these diverse disciplines together not only to learn from each other but to focus on how a common goal has brought us together in careers to conserve what we have. We look forward to the various presentations covering a wide variety of natural resource topics and allowing all natural resource professionals the opportunity to broaden their knowledge.

The MNRC steering committee invites all natural resource professional to not only attend, but to present their efforts at the 2020 conference. Come and participate, educate, and help grow the mission of this conference. You can visit www.mnrc.org to register for the conference, which is open. See you there!

Student Chapter Update

By Lauren Connor, SAF Student Chapter President

The Mizzou Student Chapter of SAF has kept busy this fall. Our primary focus was to prepare our student organization for the SAF National Convention. This included fundraising efforts to offset the cost of the trip. This year we raffled off two different donated, engraved, whiskey barrel tops and a Yeti cooler to raise money for the convention. We promoted these at both the annual MU South Farm Showcase and the HARC Chestnut Roast. These different events also gave us great opportunities to engage with the public and explain the way that forestry impacts them. We also had activities for kids, such as leaf rubbings and crosscut sawing with the Forestry Club.

We held bi-weekly meetings this semester in order to plan for convention, discuss matters for graduating seniors, and present opportunities for career development. Dr. Lauren Pile, a Forest Service research forester, came and spoke to us about tips and information related to Forest Service job applications and interviews. Foresters from the Pennsylvania Department of Natural Resources also came to speak to us about the possible forestry careers that they offer.

The Mizzou Student Chapter of SAF worked to raise money this fall through raffles and activities at the MU South Farm Showcase and HARC Chestnut Roast.

Our trip to Kentucky for the SAF National Convention was successful. We had the opportunity to attend many interesting sessions on new innovations and research in forestry, while experiencing the rich culture of Louisville. Our quiz bowl team placed in the top 8 out of over 30 teams, answering a variety of forestry practice related questions. In addition to these events, we were also able to attend the career fair and network with different forestry companies and schools. This was a valuable experience for those who are about to graduate and are looking for careers or graduate school.

We hope to continue the success of this fall in the coming spring semester, with more career development and enrichment for our student organization.

SAF members (from left) Jacob Hart, Catlin Bender, Aidan Cornelison, Nathan Waller, Lauren Connor, and Drew Anderson attend the career fair at the national convention in Kentucky.

Mizzou's 2019 Quiz Bowl Team included (from left) Drew Anderson, Lauren Connor, Jacob Hart, and Dominic Stelzer.

(The following article is for you to share with your local paper. Modify as appropriate for your locality.)

Nutty for Trees!

It is becoming more common for individuals to want to look for food from their landscape. While a new concept to many, this was a way of life for Native Americans and settlers. There are many plants that can provide nutrition, but in this article, common nuts will be reviewed.

Black walnuts are one common Missouri nut that may be consumed, and have a stronger flavor than English walnuts sold in grocery stores. Photo credit: MDC.

Most people are familiar with pecans. We see them used in candies, when baking, and they can be eaten raw. They are sweet and available at the store.

Pecans are grown in both wild and planted orchards. Those that really enjoy this nut often plant their own trees in their yard. Yet it is not the only edible nut suitable for Missouri.

Pecan is a tree in the hickory group, which has several cousins that have edible nuts. Shellbark hickory nuts can easily be substituted for pecan. Shagbark hickory is another good one to collect. Pignut and mockernut hickory are edible and relatively sweet, but do not provide a lot of nutmeat for the effort.

Black walnut is another delicacy commonly consumed. Its flavor is stronger than the English walnuts commonly sold in stores. Black walnut should have the husk removed as soon as possible as the tannins from it will soak through the hull, making the nut bitter. Like pecan, black walnut is grown in both planted and native orchards.

White oak is an unusual nut most people do not think of as edible. These nuts require work to prepare them to reduce the taste of the tannins, but they can be made into a crude flour meal or glazed.

If you are interested in promoting some of these trees to grow your own nuts, contact a forester for assistance.

The Missouri Society of American Foresters (MOSAF) is a State Society of The Society of American Foresters (SAF). MOSAF and SAF is a professional society dedicated to sound forest management and conservation.