

Trinity-Neches Forest Landowner Association Newsletter

Quarter II 2016

Next Meeting

*To be announced
in next newsletter!*

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*If you haven't already
make sure you order
your seedlings early to
ensure you get the
species and number
you want especially
hardwoods*



Emerald Ash Borer Now in Texas

Texas A&M Forest Service

<http://tfsweb.tamu.edu/eab>

The invasive emerald ash borer (EAB) beetle that has killed tens of millions of ash trees across the U.S. has been detected in Texas. State and federal agencies are preparing people and communities with information, education and preventative measures to fight the pest.

Earlier this month, the U.S. Forest Service (USFS) and Texas A&M Forest Service (TFS)—agencies leading the U.S. Department of Agriculture's (USDA) EAB survey in the state—trapped four adult beetles in Harrison County just south of Karnack, Texas. Although the ash trees in the immediate vicinity of the trap did not exhibit symptoms of the pest, the USDA's Animal and Plant Health Inspection Service (APHIS) laboratory confirmed the specimens were emerald ash borers. Efforts are underway to identify any infested trees.

Texas has anticipated the arrival of the EAB and has strategically placed beetle detection traps across the state for the past four years in an effort to provide an early warning if and when the invasive pest arrived.

“Early detection of this destructive pest minimizes its spread and enables us to effectively work with those affected by providing information and science-based solutions to potential attacks,” said Texas A&M Forest Service Forest Health Coordinator Shane Harrington. “TFS is working with other state and federal agencies to ensure that the general public, home- and landowners know fact from fiction and what to look for when monitoring for EAB.”

The EAB is a destructive, non-native, wood-boring pest of ash trees and poses a significant threat to urban, suburban and rural forests, killing both stressed and healthy ash trees. The trees typically die two or three years after becoming infested. Native to Asia, the EAB was first discovered in southeast Michigan in 2002. Since then, infestations of this invasive pest have been found in 26 states and have killed tens of millions of ash trees.

In the United States, there are 16 ash species susceptible to attack—Texas is home to seven of these species. Ash trees make up less than 5 percent of rural Texas forestlands but comprise a large population of the state's urban forests. Texas A&M Forest Service is working with APHIS, the Texas Department of Agriculture, and the U.S. Forest Service, among other state and federal agencies, to implement a response plan.



EAB Continued on Page 2

Cont. EAB...

“The Texas Department of Agriculture, through our biosecurity program, is committed to defending Texans from invasive species like the EAB, which have the power to decimate our crops and landscapes,” Texas Agriculture Commissioner Sid Miller said. “Working together with Texas A&M Forest Service and our federal counterparts, we will implement a comprehensive response plan to tackle this threat to all Texans.”

Texas A&M Forest Service is also working with the state’s forest industry, rural landowners, urban communities and homeowners on detecting possible infestation and taking measures to slow the movement of the beetle. Measures of control include protecting ash trees through the use of insecticide tree injections and soil drenching and bolstering the urban forests with other tree species not susceptible to the emerald ash borer.

“Proper planning can reduce the impact of EAB in our communities,” said Texas A&M Forest Service Urban and Community Forestry Program Coordinator Paul Johnson. “Removal of poor quality ash, planting trees that aren’t susceptible to EAB, and protecting high value ash by treating them will help us weather this attack. Work with a forester or an ISA-certified arborist to help you assess your EAB risk and care for your trees.”

To learn more about EAB, please visit www.emeraldashborer.info and <https://tfsweb.tamu.edu/eab/>



*EAB Gallery
in Infested
Ash Tree
(Picture taken
in North
Louisiana,
Shane
Harrington,
TFS)*

Planting Trees with Drones

*Morning Ag Clips, Texas Edition, May 26, 2016
www.morningagclips.com*

BioCarbon Engineering, a drone start-up, plans to counter industrial scale deforestation using industrial scale reforestation. Former NASA engineer Lauren Fletcher and his team recognize that emerging technologies including unmanned aerial vehicles (UAVs, or drones), remote sensing and machine learning can be combined to enable rapid landscape reforestation and restoration.

BioCarbon Engineering wants to use drone technology to seed up to one billion trees a year, all without having to set foot on the ground.

Throughout the world, 26 billion trees are currently being burned down every year while only 15 billion are replanted. If successful, the initiative could help address this shortfall in a big way.

BioCarbon's system for planting is really quite sophisticated, and should provide better uptake than traditional dry seeding by air. Fletcher doesn't pretend that the method is as good as hand-sowing, but he says it would be much quicker.

Websites of Interest



**Southern Forest Health – Southern
Regional Extension Forestry**
www.southernforesthealth.net

Texas Forest Information Portal
www.texasforestinfo.com

**Texas Wildfire Risk Assessment Portal
(TxWRAP)**
www.texaswildfirerisk.com

The Importance of Forests to Water Resources – Part 2 of 4

Hughes Simpson, Texas A&M Forest Service

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Forests play an integral role in maintaining a continuous supply of clean drinking water for millions of people. While it may be surprising, this fundamental service has actually been recognized and well understood for many years. In 1903, Gifford Pinchot, the first Chief of the USDA Forest Service (USDAFS), wrote in a small *Primer of Forestry* “A forest, large or small, may render its service in many ways. It may reach its highest usefulness by standing as a safeguard against floods...moving sands, or especially against the dearth of water in streams.”

Forests are very effective at capturing, storing, and steadily releasing water over time. Tree canopies intercept precipitation, controlling the amount that reaches the ground during intense rain events. Forest soils function like a sponge, absorbing large amounts of water that reaches the ground through a process called infiltration. As a result, the amount of surface runoff from forested watersheds is relatively low. Water that is absorbed into the soil either filters down into underground aquifers, or is slowly released over time into nearby creeks, streams, and rivers. The cumulative effects of these functions result in much more stable and consistent flows from forested watersheds.

With increasing population growth and ever increasing demands on the state’s water supplies, particularly drinking water supplies for urban areas, greater pressure is exerted on forested watersheds. Increased urbanization stemming from population growth will likely lead to significant changes in land use, resulting in impacts to water quality and supply. As the population expands, urban areas will grow and begin to encroach on forests in the Wildland Urban Interface – a place where subdivisions, businesses, and transportation networks meet the surrounding forests and fields. The *Southern Forest Futures Project*, conducted by the USDAFS, forecasts that up to 22 million acres of forestland (almost the size of Indiana) throughout the South will be lost to development and urban sprawl over the next 50 years. In the absence of mitigating actions, this conversion of forest lands can have substantial impacts on water supply.

Urbanization results in increases in impervious areas (buildings and associated roads, sidewalks, parking lots, driveways, and rooftops). Development that removes forest vegetation, converts permeable forest soils to impermeable surfaces, grades and compacts the land surface, and constructs drainage networks, reduces the amount of water that infiltrates into the soil and greatly increases storm water runoff and peak flows (the maximum channel flow, or stage, reached during rain events). This results in a flashier hydrology for urban streams. Large volumes of runoff flowing quickly into nearby streams and rivers also increase the chance that flows will exceed local channel capacities and cause more frequent and intense flooding. While there are short term increases in streamflow, there is a reduction in the amount of water available for eventual utilization as potable water.

Research has shown that when impervious surface cover reaches approximately 20% of a watershed, stream quality begins to severely degrade and results in excessive deterioration of bank stability, water quality, and habitat availability. Some reports have noted significant impacts to water quality resulting from impervious surface levels as low as 5 percent or less. These studies demonstrate that care should be taken from the first stages of development to minimize impacts on water resources and the need for costly restoration projects.

Decreases in the amount of water that infiltrates into the soil as a result of urbanization can also reduce the recharge of groundwater aquifers and lower local water tables, resulting in property-damaging sinkholes in some areas. Water that runs off the landscape as surface flow, particularly if it is channeled through storm drains, never has a chance to recharge ground water.

Continued on Page 4

Forest Fun Facts

American Forest & Paper Association
www.afandpa.org

Two-thirds of the nation's drinking water comes from forests

In the U.S., forests and forest products store enough carbon each year to offset approximately 10 percent of the nation's CO₂ emissions

Paper was invented by the Chinese around 105 A.D. and was kept a secret for many years

During the American Revolution, paper was so hard to find that soldiers ripped pages from books to use them as wadding for their rifles

The first paper merchant in America was Benjamin Franklin, who helped to start 18 paper mills in Virginia and surrounding areas

Paper bags were first measured by how many pounds of sugar they held

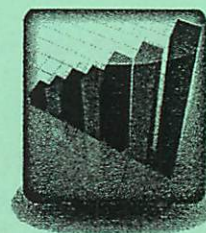
Every day, U.S. papermakers recycle enough paper to fill a 15 mile long train of boxcars

Cont. Water...

This too is problematic, as a large amount of drinking water is provided from groundwater resources. Depleted or otherwise degraded groundwater aquifers necessitates increased reservoir development, resulting in significant expense and further loss of land resources.

Reduced groundwater recharge can also have a substantial impact on the hydrology of local streams. Baseflows (flow contributed by groundwater throughout the year) can be reduced and become so low that formerly perennial streams become intermittent during periods of dry weather and can no longer provide the flows necessary to sustain healthy habitat conditions for fish and other aquatic species. Some researchers have found that for every 1 percent increase in impervious surface cover, baseflow is reduced by 2 percent.

Forest conversion, regardless of the type of new land use, results in substantial changes in watershed function. The complex interactions among natural hydrologic and ecological processes, land use, and water management underscore the need for conservation and integrated management of forestlands within the state. Partnerships between water managers and forest owners will be essential to meeting the future water needs of Texas.



Market Report, March/April, 2016

Product	Statewide Ave. Price		Previous Ave. Price		Price/Ton Difference
	Weight	Volume	Weight	Volume	
Pine-Sawlogs	\$26.78/ton	\$210.99/mbf	\$29.86/ton	\$236.14/mbf	-10%
Pine-Pulpwood	\$8.99/ton	\$24.23/cord	\$8.69/ton	\$23.41/cord	+3%
Pine-Chip'n'Saw	\$11.95/ton	\$32.28/cord	\$14.76/ton	\$39.86/cord	-19%
Mixed Hardwood-Sawlogs	\$35.89/ton	\$335.72/mbf	\$41.13/ton	\$391.37/mbf	-13%
Hardwood-Pulpwood	\$10.18/ton	\$28.50/cord	\$11.68/ton	\$32.71/cord	-13%

Texas Timber Price Trends is a bimonthly publication reporting average prices paid for standing timber in Texas. *This report is intended only as a guide to general price levels.* It should not be used to judge the fair market value of a specific timber sale, which may vary considerably due to many factors. It is recommended that you use the services of a professional consulting forester in managing any timber sale. Important factors affecting timber prices include the type, quality and volume of timber for sale, accessibility, distance to mills/markets, weather conditions, economy/market conditions, who is handling the sale or is buying the timber, and contract requirements by the landowner. Hard copies of this publication can be purchased by contacting Dawn Spencer at (979)458-6630. The complete Texas Timber Price Trends can be viewed at <http://tfsweb.tamu.edu/main/article.aspx?id=145>.

Continued Honey Bee Loss

Bee Informed Partnership

<https://beeinformed.org>



Beekeepers across the United States lost 44 percent of their honey bee colonies during the year spanning April 2015 to April 2016, according to the latest preliminary results of an annual nationwide survey. Rates of both winter loss and summer loss—and consequently, total annual losses—worsened compared with last year. This marks the second consecutive survey year that summer loss rates rivaled winter loss rates.

The survey, which asks both commercial and small-scale beekeepers to track the health and survival rates of their honey bee colonies, is conducted each year by the Bee Informed Partnership in collaboration with the Apiary Inspectors of America, with funding from the U.S. Department of Agriculture (USDA). Survey results for this year and all previous years are publicly available on the Bee Informed website.

“We’re now in the second year of high rates of summer loss, which is cause for serious concern,” said Dennis vanEngelsdorp, an assistant professor of entomology at the University of Maryland and project director for the Bee Informed Partnership. “Some winter losses are normal and expected. But the fact that beekeepers are losing bees in the summer, when bees should be at their healthiest, is quite alarming.”

Beekeepers who responded to the survey lost a total of 44.1 percent of their colonies over the course of the year. This marks an increase of 3.5 percent over the previous study year (2014-15), when loss rates were found to be 40.6 percent. Winter loss rates increased from 22.3 percent in the previous winter to 28.1 percent this past winter, while summer loss rates increased from 25.3 percent to 28.1 percent.

The researchers note that many factors are contributing to colony losses. A clear culprit is the varroa mite, a *lethal parasite* that can easily spread between colonies. Pesticides and malnutrition caused by changing land use patterns are also likely taking a toll, especially among commercial beekeepers.

A recent study, published online in the journal *Apidologie* on April 20, 2016, provided the first multi-year assessment of honey bee parasites and disease in both commercial and backyard beekeeping operations. Among other findings (summarized in a recent University of Maryland press release), that study found that the varroa mite is far more abundant than previous estimates indicate and is closely linked to several damaging viruses. Varroa is a particularly challenging problem among backyard beekeepers (defined as those who manage fewer than 50 colonies).

“Many backyard beekeepers don’t have any varroa control strategies in place. We think this results in colonies collapsing and spreading mites to neighboring colonies that are otherwise well-managed for mites,” said Nathalie Steinhauer, a graduate student in the UMD Department of Entomology who leads the data collection efforts for the annual survey. “We are seeing more evidence to suggest that good beekeepers who take the right steps to control mites are losing colonies in this way, through no fault of their own.”

This is the tenth year of the winter loss survey, and the sixth year to include summer and annual losses in addition to winter loss data. More than 5,700 beekeepers from 48 states responded to this year’s survey. All told, these beekeepers are responsible for about 15 percent of the nation’s estimated 2.66 million managed honey bee colonies.

The survey is part of a larger research effort to understand why honey bee colonies are in such poor health, and what can be done to manage the situation. Some crops, such as almonds, depend entirely on honey bees for pollination. Estimates of the total economic value of honey bee pollination services range between \$10 billion and \$15 billion annually.

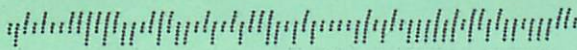
“The high rate of loss over the entire year means that beekeepers are working overtime to constantly replace their losses,” said Jeffery Pettis, a senior entomologist at the USDA and a co-coordinator of the survey. “These losses cost the beekeeper time and money. More importantly, the industry needs these bees to meet the growing demand for pollination services. We urgently need solutions to slow the rate of both winter and summer colony losses.”

Calendar of Events

August 13-17, 2016 – ISA Annual International Conference and Trade Show, Fort Worth Convention Center, Fort Worth, TX. For a complete list of conference activities visit www.isa-arbor.com/events.

August 19, 2016 – Texas Forestry Association Landowner Council Committee Meeting, TFA Office, Lufkin, TX

October 26-28, 2016 – Texas Forestry Association Annual Meeting, LaTorretta Resort on Lake Conroe.



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