

# Trinity-Neches Forest Landowner

## Association Newsletter Third Quarter, 2014

### Next Meeting

To be determined at a later date. Look for an announcement in the mail this fall.

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### ***New Report - Vines Hamper a Forest's Ability to Capture***

***Carbon*** – Smithsonian Tropical Research Institute, May 27, 2014, <http://www.stri.org>



Photo from Wikipedia

Tropical forests are a sometimes-underappreciated asset in the battle against climate change. They cover seven percent of land surface yet hold more than 30 percent of Earth's terrestrial carbon. As abandoned agricultural land in the tropics is taken over by forests, scientists expect these new forests to mop up industrial quantities of atmospheric carbon. New research by Smithsonian scientists show increasingly abundant vines could hamper this potential and may even cause tropical forests to lose carbon.

In the first study to experimentally demonstrate that competition between plants can result in ecosystem-wide losses of forest carbon, scientists working in Panama showed that lianas, or woody vines (Editor's note: such as *Clematis* or grape vines), can reduce net forest biomass accumulation by nearly 20 percent. Researchers called this estimate "conservative" in findings published this month in *Ecology*.

"This paper represents the first experimental quantification of the effects of lianas on biomass," said lead author Stefan Schnitzer, a research associate at the Smithsonian Tropical Research Institute and professor at the University of Wisconsin-Milwaukee. "As lianas increase in tropical forests, they will lower the capacity for tropical forests to accumulate carbon."

Previous research by Schnitzer and others demonstrated that lianas are increasing in tropical forests around the globe. No one knows why. Decreased rainfall is one suspect, but lianas, which are generally more drought-tolerant than trees, are increasing in abundance even in rainforests that have not experienced apparent changes in weather patterns.

Lianas climb trees to reach the forest canopy where their leaves blot out the sunlight required for tree growth. They account for up to 25 percent of the woody plants in a typical tropical forest, but only a few percent of its carbon. They do not compensate for displaced carbon due to relatively low wood volume, low wood density and a high rate of turnover.

Machetes in hand, Schnitzer and colleagues chopped lianas out of forest plots for this study. After collecting eight years of data comparing liana-free plots with naturally liana-filled plots in the same forest, they quantified the extent to which lianas limited tree growth, hence carbon uptake. In gaps created by fallen trees, lianas were shown to reduce tree biomass accumulation by nearly 300 percent. Findings by Schnitzer and colleagues, also published this year in *Ecology*, showed that liana distribution and diversity are largely determined by forest gaps, which is not the case for tropical trees.

## ***Wooden Sponge Takes On Oil and Chemical Spills*** – Rebecca Wallace, Public Affairs Specialist, “Newsline”, USDA Forest Service, Forest Products Laboratory, Madison, WI

Pollutants beware! Nanotechnology researchers have developed a cellulose-based aerogel that’s thirsty for oil and chemicals while turning its nose up at water.

This collaborative effort between Forest Products Laboratory (FPL) and University of Wisconsin (UW) researchers offers the potential for a “green” method of cleaning up oil spills and heavy metal contamination using nanocellulose, or wood fiber broken down to the nanoscale.

“Initially we were looking to develop air or water filters made from nanocellulose,” explains Zhiyong Cai, FPL research engineer. “But the challenge there is that wood readily soaks up water. We were looking for ways to treat the fibers so they would repel water and be a suitable material for filter production.”

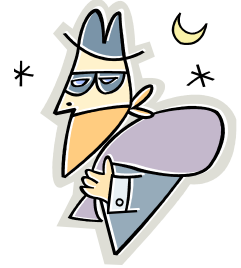
In his search for a solution, Cai reached out to Shaoqin “Sarah” Gong, who runs a biotechnology–nanotechnology lab at the UW’s Wisconsin Institutes for Discovery. There, researchers used a freeze-drying process to produce an aerogel made of cellulose nanofibrils. Aerogels are highly porous materials and the lightest solids in existence.

Working with the cellulose-based aerogel, UW graduate student Qifeng Zheng made an interesting discovery. By treating the material with specific types of silane, it acquired water-repelling and oil-absorbing properties. When Zheng presented Cai with this phenomenon, his thoughts went back to the Gulf of Mexico oil spill in 2010. In the midst of that disaster, BP contacted the Forest Products Laboratory looking for help in cleaning up the spill. At the time, the only materials Cai could suggest would soak up water as readily as the oil, and would sink with the weight of the liquids.

“The cellulose aerogel can absorb 50–100 times its own weight, but is so low-density that it would still float for easy collection and clean-up,” says Cai. Additionally, the contaminants could be squeezed out of the aerogel and the material could be used again, albeit with somewhat less effectiveness.

The results of this study were published in the *Journal of Materials Chemistry A*. The aerogel technology has been patented, and researchers are now looking for paper or petroleum industry partners to scale-up and further develop the technology.

## ***Advice to Landowners Regarding Timber Theft Prevention*** – TFS News Release, May 28, 2014



Timber theft is a crime that potentially affects everyone. Timber owners incur monetary loss and the removal of natural resources without reforestation methods to ensure new forests for the future.

To help property owners avoid timber theft tactics, the Texas A&M Forest Service advises:

- Have someone you know and trust report any cutting on your land immediately.
- Never sign a contract without checking several references of the buyer.
- For the best price insist on getting bids for your timber.
- Mark all property lines to assure cutting on adjacent property does not encroach on yours.
- If you are unfamiliar with selling timber, you are urged to contact your local TFS office. Our field staff will assist you with securing the assistance of a professional resource manager to help determine trees for harvest, estimated values, and potential buyers.

To report suspected timber theft activity call the Timber Theft Hotline **1-800-364-3470** or contact Texas A&M Forest Service at (936) 639-8113.

## Forestry Terminology 101 –



Texas A&M Forest Service:

<http://tfsweb.tamu.edu/main/popup.aspx?id=187>

This list is the twentieth **and final** edition in a series of forestry definitions that will be useful to forest landowners and others interested in better understanding forestry.

**Water Quality Standards-** Texas Water Quality Standards and criteria contained therein

**Watershed Area-** all land and water within the confines of a drainage divide or a water problem area consisting in whole, or in part, of land needing drainage or irrigation

**Waterway-** a way or channel for water or the movement of water

**Wetlands-** the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency jointly define wetlands as *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of*

*vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

**Wildfire Control-** actions taken to contain and suppress uncontrolled fires

**Wildfires-** uncontrolled fires occurring in forestland, brushland, and grassland

**Windrow-** slash, residue, and debris raked into piles or rows

**Wing Ditch-** a water turnout or diversion ditch constructed to move and disperse water away from the road and side ditches into adjacent undisturbed areas so that the volume and velocity of water is reduced on slopes

**Yarding-** Method of log transport from harvest area to storage landing



## Market Report, March-April, 2014

Product	Statewide Ave. Price		Previous Ave. Price		Price/Ton Difference
	Weight	Volume	Weight	Volume	
Pine-Sawlogs	\$20.84/ton	\$213.12/mbf	\$23.91/ton	\$192.67/mbf	+11%
Pine-Pulpwood	\$7.56/ton	\$20.41/cord	\$7.76/ton	\$20.94/cord	-3%
Pine-Chip'n'Saw	\$12.15/ton	\$32.79/cord	\$11.63/ton	\$31.39/cord	+4%
Mixed Hardwood-Sawlogs	\$30.30/ton	\$272.73/mbf	\$29.45/ton	\$265.04/mbf	+3%
Hardwood-Pulpwood	\$10.38/ton	\$29.07/cord	\$8.13/ton	\$22.78/cord	+22%

*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>.

Conversion factors between volume and weight vary from sale to sale, so the differences in volume prices above may not equal differences in weight prices.

Stumpage price statistics include gateway sales (estimated by subtracting cut-and-haul costs, other expenses and profits provided by reporter).

Statewide data excludes U.S. Forest Service sales.

Price calculated from specific conversion factor reported for each sale if available; otherwise, average conversion factors listed on page 4 of *Texas Timber Price Trends* (<http://texasforests.tamu.edu/main/article.aspx?id=145>) are used. MBF = thousand board feet. Doyle Log Scale used for board foot measurements.

## ***Literally - Living in a Vertical Forest –***

*Global Construction Review, May 16, 2014,*

[http://www.globalconreview.com/innovation/worlds-first-vertical-forests-bloom-milan2towers66/?utm\\_source=WIT052314&utm\\_medium=Email&utm\\_campaign=WeekInTrees](http://www.globalconreview.com/innovation/worlds-first-vertical-forests-bloom-milan2towers66/?utm_source=WIT052314&utm_medium=Email&utm_campaign=WeekInTrees)

The world's first "vertical forests" have bloomed on two towers in Milan. They'll act as lungs for residents of a hot, polluted city, but a key challenge was working out how the buildings would handle all that greenery blowing in the wind.

The Bosco Verticale residential towers are 110m and 76m high respectively and their outsized balconies will be home to 900 trees, 5,000 shrubs and 11,000 floral plants.

The project, in the Porta Nuova district of Milan, aims to deliver a new model for sustainable housing and urban regeneration in one of Europe's most polluted cities.

The greenery will boost oxygen and humidity while absorbing CO<sub>2</sub> and dust. It will also passively cool people down – the designers say the shading could lower the inside temperature by 2°C in the hot summer.

The towers have two-room apartments, duplexes and penthouses all with extra-large balconies – they stick out 3.35m to accommodate the greenery – staggered across the facades.

The biggest challenge was calculating the loads created by all that greenery blowing in the wind, and they had to use a wind tunnel to test the idea.

"There is very little available literature on the subject of trees growing on facades," said Arup project manager Luca Buzzoni.

"In strong winds there was a danger they would create a significant bending moment on the slabs, so we tried to assess the forces based on available knowledge on wind engineering, and wind tunnel tests using a 1:100 scale model of the building and a full scale set of different tree types to confirm our estimations of generated forces."

Another challenge was that the design precluded columns on the corners, which increased the length of the cantilever span of the balconies. But Arup's tests confirmed that it all would work with a fairly conventional, post-tensioned concrete frame.

### **Special little trees**

Each plant was chosen by botanists to thrive in its particular microclimate. The trees were cultivated in a Milan nursery to limit their growth and prevent damage and excessive weight on the structure.

They are fed with treated water taken from a rainwater recycling system. The pumping system is powered by integrated photovoltaic panels.

The greenery will need a specialist company to keep it in good health in the years to come.

With the planting complete, fit-out of the towers is now underway. Hand-over is scheduled for the end of the year.

The Bosco Verticale building is part of the Porta Nuova Isola complex, a redevelopment of an area previously dedicated to light industrial activities.

The new residential area includes five main buildings for public, residential and commercial use and three underground parking levels.

Investors in the project include Coima XXI, Domo Media, Hines European Development Fund.



## ***Water Resources Websites***

**Texas Water Resources Institute –**

<http://agrilife.org/blog/2014/06/03/will-texas-be-in-troubled-waters/>

**Texas Well Owner Network –** <http://twon.tamu.edu/>

**Water Education Network -** <http://water.tamu.edu/>

**Rainwater Harvesting -** <http://rainwaterharvesting.tamu.edu/>

**Save Water at Home -** <http://water.tamu.edu/save-water-at-home/>

**How We Protect Streams, Rivers and Lakes -** <http://water.tamu.edu/protect-streams-rivers-lakes/>

**25 Years of Protecting Water Resources -** <http://tfsweb.tamu.edu/uploadedFiles/Sustainable/bmp/Publications/Articles/Texas%20Water%20Source%20-%20January%202014-for%20website.pdf>

**Land Stewardship: Providing Water for Texans -** <https://www.tsswcb.texas.gov/en/media/20140422>



## ***Vines Choke a Forest's Ability to Capture Carbon, Smithsonian Scientists Report - continued from Page 1.***

Arid conditions in gaps are similar to recently reforested areas. "The ability of lianas to rapidly invade open areas and young forests may dramatically reduce tropical tree regeneration — and nearly all of the aboveground carbon is stored in trees," said Schnitzer. Lianas have been shown to consistently hinder the recruitment of small trees, and limit the growth, fecundity and survival of established trees.

"Scientists have assumed that the battle for carbon is a zero-sum game, in which the loss of carbon from one plant is balanced by the gain of carbon by another. This assumption, however, is now being challenged because lianas prevent trees from accumulating vast amounts of carbon, but lianas cannot compensate in terms of carbon accumulation," said Schnitzer. "If lianas continue to increase in tropical forests, they will reduce the capacity for tropical forests to uptake carbon, which will accelerate the rate of increase of atmospheric carbon worldwide."

- The Smithsonian Tropical Research Institute, headquartered in Panama City, Panama, is a unit of the Smithsonian Institution. The Institute furthers the understanding of tropical nature and its importance to human welfare, trains students to conduct research in the tropics and promotes conservation by increasing public awareness of the beauty and importance of tropical ecosystems. Website: <http://www.stri.si.edu>.

## ***All about Geocaching -***

<http://www.geocaching.com/guide/default.aspx>

Do you remember enjoying scavenger hunts? If so, you might like the modern-day version called "geocaching". Geocaching is a real-world, outdoor treasure hunting game using GPS devices to navigate to a specific set of coordinates to try to find the geocache (container) hidden at that location.

You can hunt for caches on other people's property or you can place a cache on your property. You can limit the searches to folks you know (perhaps for a family reunion activity or to teach your children/grandchildren to feel comfortable in the forest) or, if you don't mind strangers on your property, you can post the coordinates online.

For more information about hiding or hunting geocaches, please see <http://www.geocaching.com/guide/default.aspx>.

## ***Websites of Interest***



### **Science & U! – Keeping pine beetles in check in the New Jersey Pine Barrens -**

<http://www.youtube.com/watch?v=97mMNZW2b1M&feature=youtu.be&t=35s>

**World War I: 10<sup>th</sup> and 20<sup>th</sup> Forestry Engineers, digital collection created by The Forest History Society.** 100 photographs of the largest regiment of the U.S. Army. Includes images of their activity in France. The regiment helped supply timber in large quantities to the American Expeditionary Forces. - <http://digital1418.wordpress.com/2014/05/12/world-war-i-10th-and-20th-forestry-engineers/>

### **Groundwater 101 -**

<http://twri.tamu.edu/publications/txh2o/summer-2014/groundwater-101/>

### **Did You Know? Q&A about groundwater in Texas -**

<http://twri.tamu.edu/publications/txh2o/summer-2014/did-you-know/>

### **Texas Drought Map -**

<http://www.tceq.texas.gov/assets/public/response/drought/drought-map.jpg>

### **Secret Ingredient in Burgers – Wood Pulp -**

<http://qz.com/223742/there-is-a-secret-ingredient-in-your-burgers-wood-pulp/>

## ***Around the World***



### **Climate Change, Other Factors May Reshape Central Appalachian Forests -**

[http://news.psu.edu/story/316956/2014/05/28/research/climate-change-other-factors-may-reshape-central-appalachian?utm\\_source=WIT053014&utm\\_medium=Email&utm\\_campaign=WeekInTrees](http://news.psu.edu/story/316956/2014/05/28/research/climate-change-other-factors-may-reshape-central-appalachian?utm_source=WIT053014&utm_medium=Email&utm_campaign=WeekInTrees)

### **8 Mysterious Forests of the World (includes Texas' Caddo Lake) -**

[http://www.travelpulse.com/news/features/8-mysterious-forests-every-true-nature-lover-must-see.html?utm\\_source=WIT062714&utm\\_medium=Email&utm\\_campaign=WeekInTrees](http://www.travelpulse.com/news/features/8-mysterious-forests-every-true-nature-lover-must-see.html?utm_source=WIT062714&utm_medium=Email&utm_campaign=WeekInTrees)

### *Calendar of Events*

- August 14, 2014 Estate Planning Seminar, 8:30 a.m. – 3:30 p.m., Lottie & Arthur Temple Civic Center, 601 Dennis Street, Diboll, TX. FREE, lunch included; but **pre-registration is required**. RSVP to Shane Harrington, Texas A&M Forest Service by calling (936) 546-1470 or e-mailing [sharrington@tfs.tamu.edu](mailto:sharrington@tfs.tamu.edu). CFEs and CEUs are available for foresters and loggers. For more information, please see: <http://origin.library.constantcontact.com/download/get/file/1102418437760-501/planning+for+the+future+august+14+workshop.pdf>.
- October 21-23, 2014 SAVE THE DATE - TFA Annual Meeting – 100<sup>th</sup> Year Celebration – Lufkin, TX

**Garden Seminars**, Ina Brundrett Conservation Education Building, Pineywoods Native Plant Center, SFASU, 2900 Raguet Street, Nacogdoches, TX. For more information, please contact Elyce Rodewald, (936) 468-1832 or [erodewald@sfasu.edu](mailto:erodewald@sfasu.edu).

- September 13, 2014 Propagation. Join Dawn Stover, SFA Mast Arboretum Research Associate to learn the secrets of successfully starting garden plants from seeds and cuttings. 9:00 a.m. – noon. Location: TBA. \$20 SFA Garden member, \$25 non-members.

**Theresa and Les Reeves Lecture Series**, Ina Brundrett Conservation Education Building, Pineywoods Native Plant Center, SFASU, 2900 Raguet Street, Nacogdoches, TX. 7:00 p.m. – 8:30 p.m. For more information, please contact [sfagardens@sfasu.edu](mailto:sfagardens@sfasu.edu).

- August 14, 2014 Ethan Kauffman, Director Moore Farms Botanical Garden, Lake City, South Carolina – “Green Roofs, Green Walls, the South Carolina Way.” - [ekauffman@moorefarmsbg.org](mailto:ekauffman@moorefarmsbg.org).
- September 11, 2014 Dawn Stover and Greg Grant with an introduction by Dave Creech – “Upcoming Plant Sale Preview – Picking the Best of the Best.” [dawnstover@sfasu.edu](mailto:dawnstover@sfasu.edu), [ggrantgardens@yahoo.com](mailto:ggrantgardens@yahoo.com), [dcreech@sfasu.edu](mailto:dcreech@sfasu.edu).
- October 9, 2014 Jenny Wegley, Dallas Arboretum – “I think if I hear the word “Color one more time, I’m changing my profession.” [jwegley@Dallasarboretum.org](mailto:jwegley@Dallasarboretum.org).

Texas A&M Forest Service  
1015 SE Loop 456  
Jacksonville, TX 75766