

# FOREST STEWARDSHIP BRIEFINGS

Timber ◇ Wildlife ◇ Water ◇ Soil ◇ Best Management Practices ◇ Forest Health ◇ Recreation ◇ Aesthetics

## HOW MUCH ARE TREES WORTH?

by Hughes Simpson, Program Coordinator, Texas A&M Forest Service, Lufkin, TX; and Eric Taylor, Silviculturist, Texas A&M Forest Service, Overton, TX

For more information:

- <http://texasforestservice.tamu.edu/main/default.aspx?dept=news>
- <http://texasforestinfo.com/>

It's easy to figure out how much a tree is worth when it is harvested for lumber, paper, or firewood. But what about when it's still standing tall in the forest, providing shade on sunny days, giving homes to woodland animals, and helping clean the air you breathe and the water you drink? Just how much is that worth? Almost \$93 billion each year, according to a first-of-its-kind study for Texas conducted by Texas A&M Forest Service.

The figure was derived through the *Texas Statewide Assessment of Forest Ecosystem Services*, a compilation of the environmental benefits and their monetary value provided by Texas' more than 60 million acres of forestland.

"Forests provide services that humans can't live without," said Forester Hughes Simpson, who coordinates the Texas A&M Forest Service's Water Resources program.

As part of the study, researchers looked at how Texas forests help regulate local climate, protect water resources, purify the air, and improve wildlife habitats and species diversity. The researchers also surveyed residents from across the state to better understand their thoughts, views, and values of Texas forests.

"Cultural values are more esoteric. It's the value people place on a forest for just being there and knowing it's going to be there for their kids and grandkids," Simpson said, noting that it carried the highest monetary value. "They felt better just knowing that the forests were there, even if they never intended to visit a forest."

The five core ecosystem services and their annual, statewide values are listed below:

- ◆ **Climate Regulation, \$4.2 billion/year** - the affect forests have on regional and local climates by absorbing and storing atmospheric carbon dioxide - a greenhouse gas.
- ◆ **Watershed Regulation, \$13.2 billion/year** - the ability of forests to provide a continuous, stable supply of clean drinking water through various hydrological processes (aquifer recharge, purification, flood and storm protection, etc.).
- ◆ **Biodiversity Services, \$14.8 billion/year** - the capacity forests have to promote essential biological diversity and provide sustainable habitats for plants and animals.
- ◆ **Cultural Services, \$60.4 billion/year** - the non-material benefits (spiritual enrichment, cognitive development, reflection, and aesthetics) obtained from forest ecosystems.
- ◆ **Air Quality Services, \$190.3 million/year** - the ability of forests to remove particulates and other pollutants from the air.

The online version of the study - found at [TexasForestInfo.com](http://TexasForestInfo.com) - allows residents to see the ecosystem values for their location.

This assessment looked only at forested, mostly-rural lands. The agency soon will study the benefits provided by trees in urban areas, such as those that line parks and streets.

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## iTREE - COMMUNITY FOREST TOOL

*from The Washington Post website article dated July 30, 2013*

*For more information:*

- <http://goo.gl/O70Zag>
- <http://itreetools.org/>
- <http://goo.gl/qFWXH7>

The U.S. Forest Service reported last year that the number of trees in 17 of 20 major American cities surveyed is declining, a development that has negative consequences for air and water quality, energy usage, and air temperatures.

David Nowak, a Forest Service researcher who co-authored the study that estimates the loss of urban trees to be about four million a year, is focused on reversing this trend.

To accomplish his goal, Nowak, along with private industry and non-governmental organizations, created an innovative web-based tool known as i-Tree ([itreetools.org](http://itreetools.org)) that uses field data on the size, species, and number of trees along with local air pollution and meteorological information to quantify urban forest structure, environmental effects, and the value to communities.

With the data entered into the web-based tool, Nowak said communities can obtain

better information about the health of their trees, the ecosystem benefits, how many new trees would be desirable, and where they should be planted.

Nowak sees urban forestry as the future, with more than 80 percent of the population living in urban areas. “We tend to focus on cars and roads and development, but in the background is always nature that also affects people’s lives,” said Nowak.

Nowak has helped a number of cities complete urban forest surveys and assess the data using the iTree web tool, including Chicago, Philadelphia, Baltimore, Atlanta, Boston, Kansas City, Los Angeles and San Francisco. He said trees in these and other urban areas are being lost to old age, insects, disease, and to development.

The 2012 survey of 20 cities, for example, showed the biggest losses in New Orleans, Houston, and Albuquerque. Only Syracuse showed a gain in tree coverage.

## TREE TIPS - A TREE IN ITS PLACE

Money may not grow on trees, but by planting them in the right places, they could be saving you money. With a new tool from Texas A&M Forest Service as well as opportunities from partnering organizations, you can ensure that you are getting the most out of your trees.

Simply landscaping your yard and planting trees strategically can help keep your home cool, protect it from cold winter winds, and save energy—thus saving you money.

“Air temperatures can be as much as 20 degrees cooler in the shade and surface temperatures up to 40 degrees cooler,” said Gretchen Riley, Texas A&M Forester and Tree Line USA Coordinator. “Trees are a simple and effective way to reduce heat in and around our homes.” To find the best planting locations for a tree in

your yard, check out the animated graphic at the first site listed in the sidebar.

Oncor Electric and CenterPoint Energy are two major utility companies that have partnered with the Arbor Day Foundation to bring the Energy Saving Trees program to Texas. This free tree program has a web-based mapping tool that allows homeowners to compare energy savings based on the amount of shade different types of trees are capable of providing their home.

Partnering utility companies will provide up to three trees for you to plant in the area of your yard that allows for optimal energy savings. This sponsored program allows homeowners to save money on bills in a way that may not have been considered before.

*from Texas A&M Forest Service website*

*For more information:*

- [http://texastreeplanting.tamu.edu/energy\\_efficiency.html](http://texastreeplanting.tamu.edu/energy_efficiency.html).
- <http://energysavingtrees.arborday.org/#Home>

## HEALTHY RIPARIAN AREAS

A riparian area is often described as the “river bank,” but it is much more; it’s the interface between land and water along a body of water. Dense vegetation (native trees, shrubs and grasses) and an active floodplain are necessary to slow water down (dissipate energy) and trap mobile sediment. Interlaced roots and trapped sediment, rich in water-storing organic material, help to stabilize banks and conserve flood water, delivering it back to the channel in the form of clean base flow.

Ecosystem Services provided by healthy riparian areas:

- Provide habitat (food, shelter, and water) for aquatic and terrestrial organisms.
- Intercept direct solar radiation, create shade, and increase the depth to width ratio to help maintain or restore suitable water temperatures for fish and other aquatic organisms while providing a milder microclimate for wildlife.
- Improve and protect water quality by reducing the amount of sediment and other pollutants (pesticides, organic matter, and nutrients) in surface runoff as well as nutrients and chemicals in shallow ground water flow.
- Provide food in the form of plant debris for aquatic insects which are important food items for fish.
- Help stabilize the channel bed and stream bank and provide room for watercourses to meander.
- Serve as wildlife corridors to provide linkages between existing habitats.
- Clean the air by sequestering and storing atmospheric carbon.
- Catch and store floodwaters, releasing it slowly into streams and recharging groundwater aquifers during drought.

Where riparian function has become impaired, it is important to recognize any on-going activities that may be hindering recovery and to change or stop them from continuing. Some heavily disturbed areas may require restoration by man in order to speed the natural recovery process.

Activities that can hinder the natural recovery of a riparian area:

- Farming, mowing, spraying, or grazing too close to the creek and creek bank.
- Excessive deer, exotics, hogs.
- Burning in riparian area.
- Low water dams.
- Poorly designed stream crossings.
- Excessive recreational foot or vehicle traffic.
- Excessive alluvial pumping or other withdrawals.
- Proliferation of invasive non-native species in some instances.

*from Hill Country Alliance website*

*For more information:*

- <http://www.hillcountryalliance.org/uploads/HCA/RiparianIP.pdf>
- <http://texasforests.tamu.edu/main/article.aspx?id=15306>

## OUTLOOK FAVORABLE FOR DEER SEASON

Things are looking up in many parts of the state this year for deer and deer hunting. Biologists can provide some general predictions each year based on rainfall and general habitat conditions that are applicable at a landscape level scale, but whether those predictions hold true for individual properties is uncertain. Factors like rainfall, availability of native foods like acorns or mesquite bean crops, habitat quality and availability, even hunting pressure, play a role in shaping hunting success. Some managers provide supplemental feed to buffer against nutritional impact

resulting from drought. However, research in South Texas has shown that native habitat is crucial to deer nutrition even when supplemental feed is provided. So maintaining quality native habitat on your property is important.

One factor hunters should also keep in mind is the good carryover of deer from the 2012 season as harvest was down resulting from heavy acorn and mast crops in several regions of the state. For hunters this translates into plenty of opportunities to harvest a deer.

*from Texas Parks and Wildlife website; News Release dated Sept. 26, 2013*

*For more information:*

- <http://goo.gl/3JSjCc>

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## CORRECTIONS ON HUNTING INFO

Several errors in the 2013-14 Texas Parks and Wildlife Department Outdoor Annual were uncovered after the booklet had already gone to press (see News Release at <http://goo.gl/vsQASZ>).

Probably the most glaring miscue that should provide hunters with a chuckle indicates a mule deer season and a pheasant season for Cass County in Northeast Texas. Neither game species have been documented in the wild there, much less in huntable numbers. However, the listing also indicates white-tailed deer and turkey seasons that are incorrect, and omits the squirrel season. Other counties that have incorrect season information in the printed version are: Anderson, Bexar, Carson, and Milam.

The correct information can be found on the Outdoor Annual website area at <http://tpwd.texas.gov/outdoor-annual>, where the most updated information is always posted. This site has also been redesigned to improve usability and offer more interactive features. Most notably, the site supports mobile browsing so that the web pages now fit themselves to the size of any screen. The site now offers hunters the ability to search by county and see the regulations for that county or to search by animal and see seasons and regulations for that species. Anglers can also find regulations information more easily on the new site.



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