

FLORIDA LAND STEWARD



A Quarterly Newsletter for Florida Landowners and Resource Professionals

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Water Quality Benefits from Agroforestry Practices

By Ryan DeSimone, Lauren Butler, and Chris Demers

Water quality has never been a more important topic of discussion for residents and officials in the state of Florida. Algal blooms are killing marine life and jeopardizing the balance of coastal ecosystems in Florida. While algal blooms occur naturally, the blooms off Florida's coasts and in Lake Okeechobee are being exacerbated by high concentrations of nutrients in the water, according to the Florida Department of Environmental Protection¹. Nutrient rich water flows into our lakes and bays without going through a natural filtration process that would decrease the nutrient levels in the water². Sources of excessive nutrients include: agriculture runoff³ and an increase in urban and suburban area, where more impermeable surfaces reduce the area of water filtration and increases runoff of nutrients to the watershed.

Traditional forms of agriculture such as monoculture systems that

consist of a single row crop species or improved pasture communities that consist primarily of grasses, dominate the agricultural landscape throughout the state of Florida. These systems are largely efficient from a production and water quality standpoint, as they participate in Best Management Practices (BMPs) that reduce nitrogen and phosphorous loads in the water leaving the properties. Monoculture crop or forage systems do filter nutrients, however the addition of trees to farm operations could potentially further decrease the nutrient loads into the watershed.

Agroforestry, which is the integration of trees or shrubs into row crop or livestock farming systems, is an underutilized system solution. Alley cropping is an agroforestry practice that incorporates trees into row cropping systems. Similarly, silvopasture is the agroforestry

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Silvopasture, photo by Alabama Cooperative Extension Service

practice of adding trees to improved pasture communities used for live-stock grazing. Silvopastoral and alley cropping systems provide greater environmental services in regards to water-quality protection compared to treeless pastures and monoculture cropping systems^{3,4}. The roots from hardwood tree or shrub species capture nutrients from deeper soil horizons, enhancing nutrient storage in the plant-soil system⁴. This process reduces the amount of nutrients that might otherwise be transported to ground and surface water runoff that intensifies algal blooms.

Many of the benefits of agroforestry practices, including the water quality enhancements, are scientifically proven in this region. Several studies have been performed on these agroforestry practices including research by the University of Florida to compare the nutrient losses from an alley cropping site and from a silvopastoral site with monoculture systems under Florida conditions.

Results from the studies show that alley cropping and silvopastoral practices will reduce nutrient loss from an agriculture field when compared to monocultural practices^{3,4,5}. Implementing these agroforestry practices will lower the nutrient levels of water leaving agriculture production systems and in turn improve the quality of water entering and leaving Lake Okeechobee and coastal estuaries.

The benefits of agroforestry systems are not limited to water quality improvements alone. Alley cropping and silvopastoral systems can reduce runoff and surface erosion, reduce wind erosion, improve yields, decrease inputs, increase biodiversity, and improve wildlife habitat connectivity⁶. In addition to the environmental benefits, agroforestry practices may include economic benefits that can be achieved by the landowner through the diversification of other income generating opportunities, such as timber harvest. Cost share programs for

the adoption and implementation of agroforestry practices may be available in your area. If you are interested in more information regarding agroforestry practices, please contact your local United States Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) Service Center (<http://offices.sc.egov.usda.gov/locator/app>) or your county forester with the Florida Forest Service (<https://www.freshfromflorida.com/CountyForester>).

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- ¹Florida Department of Environmental Protection. 2016. Freshwater Algal Blooms. Frequently Asked Questions. <https://floridadep.gov/sites/default/files/freshwater-algal-bloom-faq.pdf>
 - ²Reddy K.R., Diaz O.A., Scinto L.J., and Agami M. 1995. Phosphorus dynamics in selected wetlands and streams of the Lake Okeechobee Basin. *Ecological Engineering* 5: 183-207
 - ³Nair V.D. and Graetz D.A. 2004. Agroforestry as an approach to minimizing nutrient loss from heavily fertilized soils: The Florida Experience. *Agroforestry Systems* 2004; 61: 269-279
 - ⁴Michel G.A., Nair V.D., and P.K.R. Nair. 2007. Silvopasture for reducing phosphorus loss from subtropical sandy soils. *Plant Soil* July 2007; 297: 267-276
 - ⁵Nair V.D., Nair P.K.R., Kalmbacher R.S., and Ezenwa I.V. 2007. Reducing nutrient loss from farms through silvopastoral practices in coarse-textured soils of Florida, USA. *Ecological Engineering* 29:192-199
 - ⁶United States Department of Agriculture, Natural Resources Conservation Service. Alley Cropping and Silvopasture Conservation Practice Standard. August 2018.
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Alley cropping, photo by USDA Natural Resources Conservation Service

Hurricane Michael Aftermath: The Case for Reforestation with Native Trees

By Mark Milligan, President, Florida Association of Consulting Foresters

If you're a forest landowner impacted by Hurricane Michael, you are sure to hear lots of ideas about what to do with your land. There is chatter all around regarding eucalypts, tung oil, alternative crops, and the like. It is understandable that for some landowners, one or more of these may prove a viable option. I am sure some others are looking into the possibility of development. All of these land use alternatives are certainly worthy of consideration and of course understandable given the devastating aftermath of the storm.

However, serious consideration should be made for the case to reforest these lands with native trees such as slash, loblolly, sand and longleaf pines. This is not meant in any way to diminish or criticize the above substitute land uses, just provide a solid case for keeping the land use in forestry. Let's consider three perspectives for making the decision to reforest with native trees: economic, biological/ecological and resiliency over the long term.

Economics

First, we will explore the economic case. The area impacted by the storm, with an estimate of almost

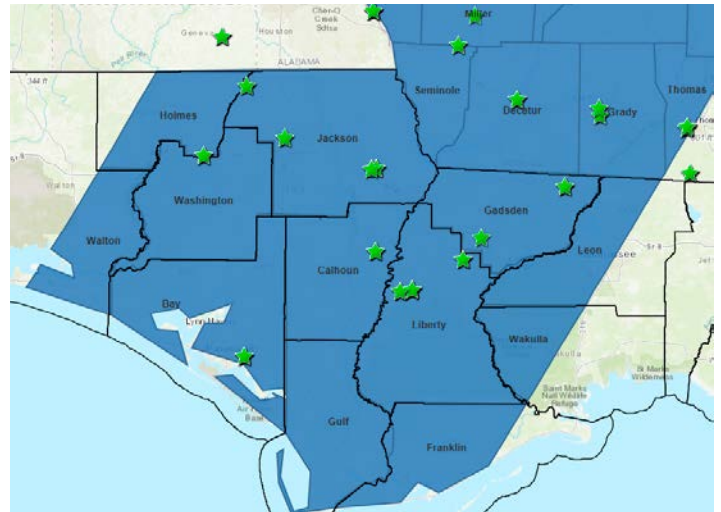
3 million acres in Florida alone, is situated in a part of the state where forest markets are very strong. According to a study conducted at the University of Florida, the Florida Panhandle's timberland owners, by maintaining their properties as forests, have significantly contributed to the total economic output of the forest industry in Florida equal to over \$25 billion annually. There are no less than twelve wood utilizing mills within 50-miles of the storm's path in Florida, with several more just over the border in both Alabama and Georgia (See Figure 1 below).

These mills are going to have less available timber to consume in the coming years, so stumpage prices will likely be expected to rise. They are all set up to consume native trees, so it makes sense from an existing market perspective to make that investment. Of course, this brings up the obvious question of how to fund this investment given that so much timber has been destroyed and the high costs of debris removal.

Well, here is where the news gets even better. A comprehensive \$19.1 Billion Federal Disaster Aid Package was passed over the summer for wildfires, hurricanes and other

recent natural disasters, with a potentially significant portion to be allocated to recovery from damage caused by Hurricane Michael. Details are soon to be forthcoming. The Department of Agriculture and Consumer Services and Florida Forest Service is pursuing funding for agricultural crops, including forests, under the Agricultural Programs section of the aid package. A well-funded Emergency Forest Restoration Program (EFRP), a total of \$480 million was allocated nationally, will provide landowners with funding for debris removal, restoration of forest roads and fuel breaks and site preparation and planting though we will have to wait and see what is available for the area of Michael's impact. It is expected, however, that most of those EFRP funds will be allocated to Florida's hurricane-impacted forest landowners. This program is administered by the Farm Service Agency. Details on these funds will first be provided by the Florida Forest Service, the Florida Forestry Association, and in the Florida Land Steward email updates as they are available. Contact cde-mers@ufl.edu to subscribe to these updates if you are not on the list. More information will also be posted

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Left: Considering what to do with your former wooded area damaged or destroyed by the storm? Consider the many economic, habitat and resiliency benefits of native trees, UF/IFAS file photo. Right: Figure 1. Wood Utilizing Mills Within 50-miles of Hurricane Michael's Path

on the Florida Forest Service (FFS) website www.floridaforestservice.com, from your FFS county forester at <https://www.freshfromflorida.com/CountyForester>, or the Florida Forestry Association at www.floridaforest.org.

Biology and Ecology

Second, let's consider the biological/ecological case for planting native trees after the storm. Southern pines, such as slash, loblolly, longleaf, sand and even native hardwoods are indigenous to the area. They are well adapted to survive drought, diseases, insect pests and yes, even storms. These forests are home to a wide variety of both game and non-game species we enjoy – bear, deer, turkey, red-cockaded woodpecker, bobcat, just to name a few. The timber industry is well aware of these benefits, and it's a good reason you are seeing landowners, with many thousands of acres, busy making preparations to replant as soon as possible.

Resiliency

Finally, we conclude with the perspective of forest resiliency. Native trees and forests have proven over time to be very resilient. Let's consider two similar disasters in the past: Hurricane Hugo (South Carolina, 1989) and Hurricane Katrina (Louisiana and Mississippi, 2005). Both hurricanes each impacted several million acres of timberlands. Today, however, timber is the leading cash crop in South Carolina and



Longleaf pine is adapted to fire at a young age and is a good choice for landowners with wildlife habitat objectives. Photo by Chris Demers.

the top manufacturing industry. For Mississippi, it's the state's number two agricultural commodity.

Florida's Association of Consulting Foresters (ACF) member forestry consultants successfully manage millions of acres of Florida's forests. Our members stand ready, willing and able to help any landowner requiring assistance after Hurricane Michael. We understand the

reforestation effort that we will be facing in the coming years is unlike anything we have ever experienced or likely to experience again in our careers. Florida ACF member consultants are determined to help embrace and meet that challenge. By working together, we can ensure our native forests recover, the area economy remains strong, and biological and ecological benefits are restored to our forest lands.

Good with email?

Sign up for the regular updates! Send an email to cdemers@ufl.edu to be added to the email listserv. Email updates are sent once a week or every other week and include the latest calendar of workshops, tours and other events; a link to the current issue of this newsletter; updates on cost-share and other assistance programs, opportunities, and resources; and other stewardship related news and information.

A Tribute to a Pioneer in Land Conservation and Forestry

By Charles L. McKelvy

On April 17, 2019 Florida lost one of their true conservationists and land stewards. Dennis Evans Andrews, 83 was born in Day, Florida on April 6, 1936. Following his father's accidental death in 1958 Dennis left college returning to Chiefland, Florida to run the family land and logging business his father had started in the early 1940s.

I met Mr. Andrews in 1980 when he requested technical advice regarding deer management on his Levyville tract near Chiefland, and his River tract, which is now Andrews Wildlife Management Area near Fanning Springs. From our initial meeting it was obvious he had a keen knowledge of wildlife and a strong land ethic. Although I had the formal training, I joked with him over our 39 year friendship that I probably benefited from our outings as much or more than he. Mr. Andrews was generous with his time and resources, allowing state agencies and other NGOs to use his property for field days and workshops. This provided other nonindustrial forest landowners an opportunity to see firsthand an example of land stewardship, and how you could successfully integrate timber and wildlife management.

His Levyville property was perhaps the best example of how to balance the need for timber revenue with wildlife conservation. He left areas natural that were not suited for pine production to break up the existing habitat. This created a mosaic of different age pine stands, stringers of hardwoods and depressional wetlands that were scattered throughout the 3,800~ acre property. This strategy created a diversity of plant communities and productive wildlife habitat with only minimal trade-offs with timber production. Dennis was recognized as the Florida Outstanding Tree Farmer of the Year in 2008.

Dennis also shared his love of the land and outdoors by teaching the experience of hunting to many friends and family. His woods knowledge and hunting skills were sharp but he enjoyed and respected all wild things. A respected forester and wildlife ecologist Aldo Leopold once wrote: ***"There are some who can live without wild things and some who cannot"***. Dennis Andrews was one that could not!

When I was notified of Dennis's passing I reflected back on our friendship and lessons I learned. He

was a humble man that led by example, inspiring others through his love of the land, his genuine demeanor and his experience gained through a lifetime of caring for the land.

His legacy continues through his children, grandchildren and any who had the privilege to meet him. A lifetime of conservation reflected his understanding that we are merely caretakers of the land for those that follow us in the future.

Any Interest in Newsletter Subscription?

Due to rising postage and printing costs and limited funding we are not able to send hard copies of this publication in the mail every quarter as we have in the past. We have strongly encouraged the newsletter readership to join the Florida Land Steward email listserv to receive this publication electronically as a part of the Florida Land Steward email updates. This is the most efficient method of distribution and many have taken advantage of this service. However, many have not and have been left out of important information and events. Some have commented that they really like receiving the hard copy in the mail. So we are considering offering the hard copy mailing of the newsletter for a nominal subscription fee of around \$10 per year for 4 quarterly issues. We will consider this only if enough people express interest. If this interests you please contact Chris Demers at (352) 846-2375 or cdemers@ufl.edu so we can gauge interest.



Dennis Andrews, photo by Chuck McKelvy

TIMBER PRICE UPDATE

The timber pricing information below is useful for observing trends over time, but does not reflect current conditions at a particular location. Landowners considering a timber sale are advised to solicit the services of a consulting forester to obtain current local market conditions.

Average stumpage prices for the three major products in Florida, as reported in the **2nd Quarter 2019** Timber Mart-South report were:

Florida Stumpage Prices

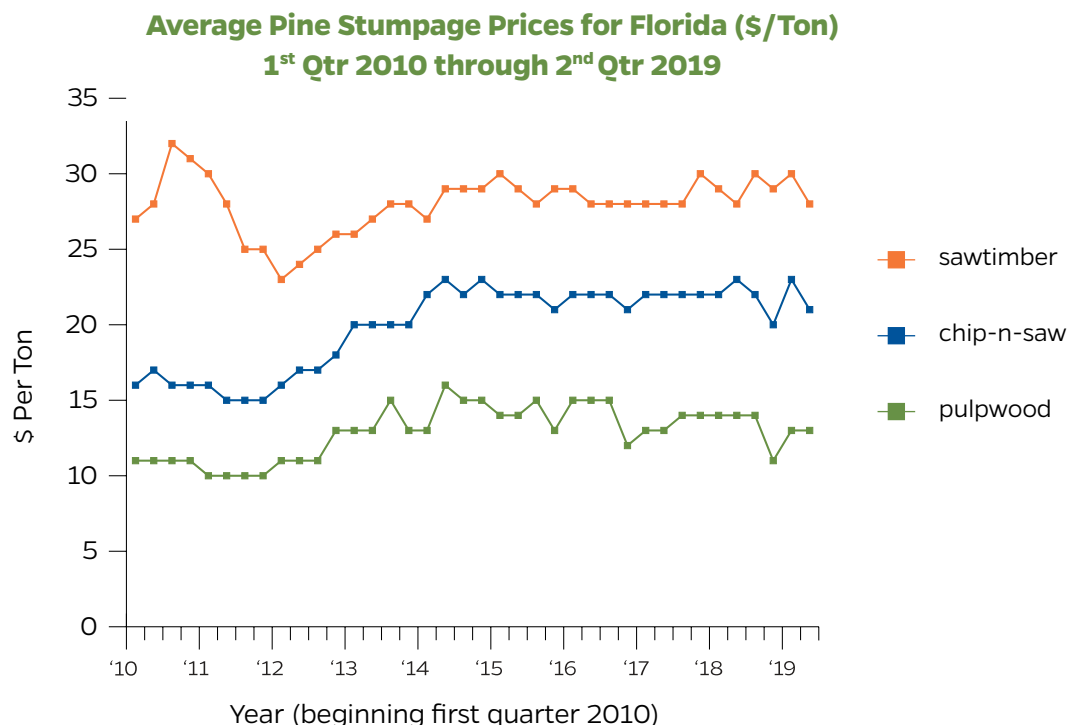
Pine pulpwood: \$13/ton, same as 1st Qtr. 2019

Pine C-N-S: \$21/ton, ↓

Pine sawtimber: \$28/ton, ↓

Trend Report

Note that the price trend graph below is now price per ton units. In line with second quarter trends over the last several years, South-wide average stumpage prices were down for all 3 major products in the second quarter of 2019. Most market indicators such as lumber and pulp prices, construction starts, and log exports were all down a bit in the second quarter. The central panhandle region continues its slow recovery from Hurricane Michael. Average pulpwood prices in west Florida are about \$6/per ton below that of east Florida, most likely as a result of the oversupply and operational constraints. We will share information on the disaster recovery assistance package that recently passed the legislature in Florida Land Steward email updates. Send an email to Chris Demers, cdemers@ufl.edu to be added to the distribution if you are not on it. This is the best way to stay current on news, opportunities, and events.



Timber Mart-South is compiled and produced at the Center for Forest Business, Warnell School of Forest Resources, University of Georgia, under contract with the Frank W. Norris Foundation, a non-profit corporation serving the forest products industry. See <http://www.tmart-south.com/> for information on subscriptions.

CONGRATULATIONS

CERTIFIED FOREST STEWARDS AND TREE FARMERS

For more information about becoming a Certified Forest Steward or Tree Farmer, contact your Florida Forest Service County Forester, consultant or learn about it at:

<http://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/For-Landowners/Programs/>

or

http://www.floridaforest.org/tree_farm.php

These landowners have achieved certification in the Tree Farm, Forest Stewardship, and/or Forces Forest Programs and demonstrate excellent stewardship of their land resources.



Elaine and Ames Prendergast,
Hamilton County



Chet and Patty McMaster,
Chet (R) pictured with Joe MacKenzie,
Levy County



Ed and Laurel Csenge with Joe
MacKenzie (R), Levy County



Jack and Jamie Dillon,
Escambia County



Keith Wynn (R) with Greg Staten,
Hamilton County



Leonard Dicks, Columbia County



Mary and Charles Weekley,
Jackson County

Upcoming Stewardship, Small Farm and Other Events

Date	Event, Location, Contact
Aug 19	Agriculture & Conservation Easement Workshop , 7:00 pm to 9:00 pm EDT, UF/IFAS Extension Nassau County, 543350 US. Hwy 1, Callahan, FL 32011. Provided by UF/IFAS Extension Nassau County and North Florida Land Trust. Got land? Want to save money? Attend to learn how conservation easements work, benefits and more. See https://easements.eventbrite.com/ for details and registration. For further questions, please call the Nassau County Extension office at (904) 530-6353 or email jdacey@ufl.edu .
Aug 20-22	2019 Florida Forestry Association Annual Meeting and Trade Show: Forest Strong , Sandestin Golf and Beach Resort, Miramar Beach, FL. See http://floridaforest.org/annual-meeting/ for details and registration.
Aug 27-28	Florida Forests & Drinking Water Partnership Workshop , Apalachicola and Eastpoint, FL. Join us to learn about and engage in the connection between forest management and drinking water quantity and quality. Details and registration at https://www.eventbrite.com/e/florida-panhandle-forests-and-drinking-water-workshop-august-27-28-tickets-64387641168 Registration required by August 16.
Sept 19	Florida Forest Stewardship Tour at RFM Farms , Property of Bob and Frances McGranahan, Suwannee County, 9 am to 2 pm ET, RFM Farms, Suwannee County. Topics will include slash and longleaf pine management, pine straw, forest health, invasive species, wildlife management, assistance, resources, and hurricane preparedness and recovery. \$15/person. See link above for details and directions. Register online at https://fsp-tour091919.eventbrite.com/ .
Sept 30-Oct 2	Public Land Acquisition & Management Partnership 2019 Conference , World Golf Village Resort, 500 S Legacy Trail, St. Augustine, FL. Hosted by Florida Dept. of Environmental Protection. See http://www.ces.fau.edu/plam2019/ for details and registration.
Oct 3	Forest Stewardship Tour at Property of Billy and Marcia Booth , Gadsden County, Note all times Eastern. Topics will include longleaf pine forest restoration, promoting pollinators, sources of assistance, hurricane recovery, and more. \$15/person. See link above for details and directions. Register online at https://fsp-tour100319.eventbrite.com .
Oct 25	Florida Outstanding Tree Farmer of the Year Tour at Russell Brothers Farm , Escambia County. Details to be posted on email updates. Contact Florida Forestry Association at (850) 222-5646 to register.

More events and information are posted at floridalandsteward.org

The Florida Land Steward Newsletter is joint project of the UF/IFAS Extension, Florida Forest Service, Florida Fish & Wildlife Conservation Commission, US Fish & Wildlife Service, USDA Natural Resources Conservation Service and Florida Tree Farm Program:

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