Renewable Electricity in Florida from Woody Biomass - An Economic Study

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In 2008, the Florida legislature passed a bill requiring the Department of Agriculture and Consumer Services, in conjunction with the Department of Environmental Protection to conduct an economic impact analysis on the effects of granting financial incentives to energy producers who use woody biomass as fuel, including an analysis of the effects on wood supply and prices and impacts on current markets and forest resource sustainability.

The University of Florida’s School of Forest Resources and Conservation (SFRC) and the Food and Resource Economics Department (FRED) were contracted to complete the needed analyses and prepare detailed technical reports. A public forum was held on April 14, 2009, in order to allow conservation groups, forest industry, land managers and other stakeholders to provide input on the methodology for the studies proposed by the UF researchers. These two studies focused on the use of woody biomass fuels for electrical generation and evaluated the potential for Florida’s private timberland contributions to supplying biomass feedstocks under varying scenarios. Private lands were chosen due to individual landowners’ ability to quickly adapt their management practices to meet market changes. Florida is made up of nearly 16 million acres of timberland, of which approximately 10 million acres are held by private forest landowners.

The study conducted by FRED analyzed the economic impacts in the state from expanded use of woody biomass as a feedstock for energy production under selected policies and incentives. This study concluded that financial incentives such as renewable energy production tax credits and subsidies for forestry biomass producers would increase state GDP, employment and forest sector output while reducing fossil fuel imports, provided feedstock availability can be secured. The existing wood products manufacturing sector would face higher competition for timber products resulting in higher prices for raw material, while timberland owners would benefit from higher timber prices.

The study conducted by SFRC utilized the Sub-regional Timber Supply (SRTS) model to analyze woody biomass demand, supply and timber prices resulting from implementation of a hypothetical renewable portfolio standard (RPS) in Florida. Currently in Florida, electricity generation from wood and wood waste contributes 0.6% of total capacity. To sustainably achieve 1% to 3% of electricity production from wood sources, logging residues and urban wood waste have to be utilized in addition to merchantable timber along with an enhanced reforestation program. Reforestation must at least keep pace with forest harvest removals. Beyond 3% of electricity generation from wood sources, short rotation energy crops need to make up a larger share of the fuel mix in addition to all other feedstock sources mentioned above.

Therefore, it appears that a 7% RPS as modeled in the SFRC study would be both feasible without much disruption of timber supply to existing forest products industry, and economically beneficial to the economy of the state, and especially to timber producers and forestry in general. A modest mandate of this kind would facilitate increases in stumpage timber prices landowners receive for their products and increase chances of keeping “forests in forest”. Any clean portfolio standard or RPS mandate should also incentivize tree planting including short rotation energy crops establishment on acreage proportional to the magnitude of the mandate. With increased reforestation, afforestation and planting of high-yielding short rotation woody crops on up to 15% of non-forested lands, a 12% and higher RPS could be achieved without depletion of the forest resources of the state, or significant impacts to the existing forest industries. More details on this report and the two UF technical reports can be found at http://www.fl-dof.com/
Longleaf Pine (*Pinus Palustris P. Mill.*) Restoration Using Herbicides: Overstory and Understory Vegetation Responses on a Coastal Plain Flatwoods Site in Florida, USA


A study was conducted on a Coastal Plain flatwoods site in Florida to determine the effects of common forestry herbicides on Longleaf pine seedling survival and growth and on the understory vegetation. Following removal of the overstory slash pine, five low-rate herbicide treatments were applied over the top of planted Longleaf pine seedlings to provide short-term understory vegetation control and accelerate seedling growth. The objective was to increase Longleaf pine growth by reducing the shrub competition while increasing the herbaceous ground cover. Despite causing reduction in seedling survival over the control treatment, imazapyr (0.21 ae kg/ha) resulted in the highest seedling growth (height and volume). The significant reduction of shrub cover, density, and height by imazapyr was believed to be responsible for the improved seedling growth in this treatment. Both hexazinone (0.56 ai kg/ha) and sulfometuron methyl (0.26 ai kg/ha) + hexazinone (0.56 ai kg/ha) treatments also reduced cover of Runner oak, a major shrub species, but the response was evident only 8 months after treatment. Although sulfometuron methyl (0.26 ai kg/ha) and sulfometuron methyl + hexazinone treatments did not result in any significant change in overall grass, forb, and shrub cover, both treatments resulted in greater Longleaf pine growth compared to the control. None of the herbicides significantly affected the major understory grasses and forbs. Overall, imazapyr provided the best desired results with significant increase in seedling growth and better control of shrub species with no significant effects on grass and other herbaceous species cover. © 2008 Society for Ecological Restoration International. To read the full article members click here.
Upcoming Events


- Rare Plant Task Force Meeting April 29-30, 2010 at Bok Tower Gardens, Lake Wales, Florida. The Rare Plant Task Force serves Florida’s professional plant conservation community. This year’s meeting will showcase current rare plant conservation efforts in Florida and focus on rare plant introductions. In addition, on Friday, April 30, there will be a field workshop on rare plant monitoring. For more information, go to: http://boktowergardens.org/conservation/rare-plant-task-force-meeting/

- UF-IFAS Aquatic Weed Control Short Course May 3-6, 2010 at Coral Spring Marriott Hotel, Coral Springs, FL. The Aquatic Weed Control Short Course is designed to benefit those new to the industry and experienced professionals seeking a comprehensive update on all things related to aquatic weed control. For more information go to http://www.conference.ifas.ufl.edu/aw/.

- Planning for the Future of your Family’s Land May 11, 2010; 9:00 am-2:30 pm ET at Hillsborough Community College Trinkle Center, Plant City, FL. IFAS Extension and Florida’s Forest Stewardship Program host this interactive workshop for landowners to learn practical steps for passing their land to the next generation. To register go to http://pfyfl.eventbrite.com/.

- Florida Native Plant Society 30th Annual Conference May 20-23 in Tallahassee, FL. Conference includes field trips, workshops, research and restoration presentations and posters, special events, children’s activities, and native plant, book, and art sales. For more info go to www.fnps.org.

- 40th Annual SAF/SFRC Spring Symposium: Sustaining Forests, Fisheries and Aquatic Resources in a changing World June 2-3, 2010 at the Paramount Plaza Hotel in Gainesville, FL. The program brochure and registration link are at: http://sfrc.ifas.ufl.edu/events.html.

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