

Project Proposal:

USDA State & Private Forestry Grant



Applicants: Florida Division of Forestry

Project: STEWARDSHIP ECOSYSTEM SERVICES STUDY (SESS)

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Project Proposal Abstract: Approximately, 60,000 acres of forestland are deforested annually in Florida, negatively impacting the State's environmental quality, wildlife populations and habitat, and the overall quality of life for the State's residents. Leading factors in forestland conversion are high land values, devalued timber prices as a result of increased transportation costs, and an abundant supply of salvage timber from recent fires and hurricanes. The Forest Stewardship Program has long been recognized as an opportunity for forest landowners to voluntarily manage their forests for multiple-uses. The program has also served as a framework for forest conservation, thus maintaining the ecosystem services derived from these lands. Ecosystem services are often used as a means to assign value to lands. However, promoting the success of this program and quantifying the ecosystem services provided by these lands is challenging. This project proposes to use field data from Stewardship Program forests and an ecosystem service quantification model of the USDA Forest Service to quantify the range of ecosystem services currently being provided by lands managed under the State's Stewardship Program. The projects results will be developed into a series of materials that will inform and educate landowners on ecosystem services and the benefits of the Forest Stewardship Program in maintaining and enhancing the value of their land. The project's results will also enable the State to promote and justify the effectiveness of Florida's Forest Stewardship Program to private landowners.

Partnering Agencies and Groups: The University of Florida, The USDA Forest Service, Conserved Forest Ecosystems: Research and Outreach (CFEOR) Cooperative, The Florida Fish and Wildlife Commission, Private Florida Forest Landowners-Stewardship Landowners

Project Location: State of Florida

Expected Completion Quarter: Q4 2010

Total Federal Funding Request: \$158,000 (FY '08 - \$48,000, FY '09 - \$71,000, FY '10 - \$39,000)

Total Proposal Budget (Including Matching Funds): \$318,500

Cost Category	REQUESTED	MATCH
Personnel	\$94,000	\$123,000
Materials & Supplies		\$1,500
Equipment		\$33,000
Travel	\$53,000	
Contracts		
Printing/Publication/Design/Graphics	\$11,000	\$3,000
Administration		
TOTALS	\$158,000	\$160,500

Project Description and Benefits: Florida's forest lands have become increasingly vulnerable to land use change. Approximately, 60,000 acres of forestland are deforested annually in the State, negatively impacting the State's drinking water quality and quantity, wildlife populations and habitat, and the overall quality of life for the State's residents. Leading factors in forestland conversion are high land values, devalued timber prices as a result of increased transportation costs, and an abundant supply of salvage timber from recent fires and hurricanes.

The Forest Stewardship Program has long been an opportunity for recognizing forest landowners who voluntarily manage their forests for multiple-uses. The program has also served as a framework for forest conservation, thus maintaining the services derived from these lands. Florida currently has approximately 2,700 private forests enrolled in the Stewardship Program. Of these, roughly 370 or 14% of the properties have been "certified", having completed their management plan practices. With approximately 763,000 acres of Stewardship properties across the State it is of vital importance to determine the quantitative value of the ecological services that these properties provide to the residents of the State. In order to communicate the full value of the State's private forests it is necessary to first understand the complete range of services and benefits provided, including non-traditional forest services.

Quantifying the ecological services that forests provide to society has historically been challenging, however, with recent advancements in ecosystem services modeling, services such as carbon sequestration, air pollution removal, and ground water recharge, can now be more reliably quantified. As the State's forest resource diminishes and the level of urbanization continues to increase, these non-traditional forest services become increasingly important. The Florida Division of Forestry proposes to design and conduct a forest ecosystem services study that will quantify and assess the landscape level services provided by the State's Stewardship Properties. These values will enable the State to more accurately define the services and overall success of Florida's Forest Stewardship Program.

Ecosystem services are important since they are directly related to basic life quality concerns such as the availability of fresh drinking water and clean air. However, these services have not been traditionally quantified when determining forestland values. Defining what ecosystem services Florida's private forests offer to the public and placing an economic value to them will enable the State's private forest landowners to make sound land use decisions.

The Florida Division of Forestry proposes to design and conduct a statistically valid study that will quantify the landscape level range of ecosystem services provided by properties that are part of the State's Stewardship Program. Random one-tenth acre study plots will be established on stewardship properties whose owners agree to participate. Forest ecosystem services such as air pollution and ground water recharge, and carbon sequestration will then be modeled and analyzed on a species, stand, and State level. The results of the study will be developed into University of Florida IFAS Extension publications and serve as the basis for new outreach workshops promoting The Ecosystem Services of lands under the Florida Forest Stewardship Program. Data revealed in this study also has the potential to influence land use decisions across the State and may even affect land tax legislation. Ultimately, this project will illustrate the role of ecosystem services in management, the value of the Forest Stewardship Program, and lead to reduced fragmentation, improved water quality, and increased wildlife and related habitat.

National Relevance: The Stewardship Ecosystem Services Study (SESS) will directly address the three National Themes of relevance by using results from the study to increase State outreach efforts. Educating private forest landowners on the advantages of accounting for the ecological service that their forest lands offer through the Florida Forest Stewardship Program will ensure continued program delivery and success.

Conserve Working Forest Landscape – The more that forest landowners are aware of the ecosystem services that their lands provide the more likely they will be to maintain their properties forested, thus protecting and conserving critical natural resources on a national level. Income generation from emerging markets such as carbon trading and biomass production for fuel can also provide forest land owners with new opportunities and goals for management of their private forests.

Protect Forests from Harm – Benefits of the project include the reduction of forest fragmentation, which would result in a decrease in the wildland-urban interface, thus reduced wildfire hazard. Forest health issues such as insect/disease and invasive exotic species are more manageable in areas where forest fragmentation is minimized.

Project Evaluation Criteria Discussion: (Continued)

Enhance Benefits Associated with Trees & Forests – Quantifying the public benefits of rural forestlands and the urban forests, which include air and water quality, non-point source pollution, and carbon sequestration will provide forest landowners and communities with additional tools to make sound resource management decisions. Optimal outcomes would be an increase in the amount of healthy forested landscapes providing enhanced environmental benefits for all citizens.

Regional Relevance: The SESS will directly address the Regional Priority Issues. The critical forest areas that are identified in the Southern Forestland Assessment will help target and focus on the specific issues of **Fractured Forests, Wildland Fire and Forest Fuels, Changing Forest Products Markets, Forest Health and Water Quality and Quantity**. Once the project's deliverables are implemented and landowners receive outreach information produced through this study, the goals of reduced forestland conversion and minimized forest fragmentation can be achieved.

Prioritization – Currently, there is no State-wide Assessment of Forest Stewardship properties or the ecosystem services being provided by these lands. The Stewardship Program, however, is a highly important conservation tool for the State and is the key outreach mechanism between State and private partners. The SESS project will provide a State assessment of ecosystem services derived from keeping private stewardship forests in forests. This assessment is a priority to the State since all residents benefit from the services provided by private forests. Private forests account for approximately 50% of the total forested area in the State of Florida.

Meaningful Scale – The SESS project will be landscape-based covering multiple counties from the northern, central, and southern portions of the State. While the largest percentage of stewardship properties are located in the northern part of the state, the high population and continued rate of urbanization in the southern portion of the state make the ecosystem services derived from the stewardship properties in this section even more important to quantify and promote.

Collaboration – The SESS project will be led by the Florida Division of Forestry (DOF) with strong support from the University of Florida Institute of Food and Agricultural Sciences (IFAS), School of Forest Resources and Conservation. The DOF will also enjoy the partnership of the USDA Forest Service's Southern Research Station's Center for Wildland-Urban Interface Research and Information. The USDA Forest Service has conducted similar projects in the Baltimore, MD area and throughout the Florida panhandle region and Gainesville, FL area. We look forward to their support with study methods and data analyses. Additionally, the DOF will collaborate with the Florida Fish and Wildlife Conservation Commission (FWC) for wildlife habitat and species population evaluations. Lastly, the Florida Division of Forestry is proud to have the support of its private Stewardship landowners. Please see attached letters of support for more details.

Outcomes – Project deliverables will include the development of extension papers and educational workshop materials that communicate the ecosystem services provide by private forests to the residents of the state. Research results will be made available to the public through a series of landowner workshops and through the development, printing, and distribution of educational materials aimed at private forest landowners.

Technology – The SESS project will incorporate the use of Global Positioning System (GPS) data points and Geographical Information System (GIS) remote imagery technology. Existing State GIS cover layers, including Forest Inventory Analysis (FIA) data will be utilized were appropriate. Data collected for this project will be geospatially analyzed and archived using ArcGIS 9.2 software. Study data will be evaluated at the stand and state level in order to analyze ecosystem services from the State's Stewardship properties at multiple scales.

Integrated Delivery – This project aims to quantify the ecosystem services that private Stewardship properties across the State provide and then then2b

**Project Evaluation Criteria
Discussion (Continued):**