



Forest Resources — 2010 Florida's Statewide Strategies



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I. Introduction

The Florida Division of Forestry, along with partnering forest resource agencies and individuals, has developed this strategy document to provide an updated systematic approach to addressing forest resource issues important to Florida. This process has been implemented nationally as a component of the Forestry Title of the 2008 Farm Bill.

The 2008 Farm Bill, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978, to include the mandate that each state develops a long-term, state-wide assessment and strategies for forest resources. These assessments and strategies should focus on three national priorities:

Conserve - Working Forest Landscapes
Protect - Forests from Harm
Enhance - Public Benefits from Trees and Forests

Assessments and strategies should also include multi-state or regional priority information and incorporate and coordinate with existing forest management plans.

Through the Southern Group of State Foresters a regionally significant issue set has been developed and include:

Forest Health – insects, diseases, invasives
Fire – wildfire and prescribed burning
Economics – Traditional and Emerging Markets
Working Forests – forest loss, changing ownership, incentives
Urban/Wildland Urban Interface
Ecosystem Services – water, air biodiversity, native ecosystems
Climate Change – adaptation and mitigation
Public Education and Awareness

Emerging multi-state issues have also been discussed and incorporated into this document where applicable. Florida has also incorporated existing plans including the State Wildlife Action Plan, the Division’s Forest Resources Plan, the Critical Lands and Waters Project, the Community Wildfire Protection Plan and Florida components of the Forest Futures Project, under development by the USDA Forest Service.

Florida’s statewide forest resources strategy document has been derived from the Statewide Assessment of Forest Resources developed during the past year. This strategy document outlines, by issue, specific actions to address the issues of concern outlined in the assessment. Additionally, Division of Forestry programs are also summarized with specific Division activities that promote national themes as well as respond to the issues. Timelines have been developed to indicate appropriate timing for development and delivery of activities on an annual basis and can be translated into annual work plans and reports. A matrix of action items, State and Private Forestry programs, national priorities, and partner resources is also included in this document.

II. Strategic Issues

Issue 1: Wildfire Threat/Use of Prescribed Fire

1. Issue Description

A wildfire can ignite at any time during the year in Florida. The peak of wildfire season occurs during the driest time of the year – March, April, and May. Over the past ten years, Florida has averaged almost 5,000 wildfires annually (approximately 3,900 of these are human caused) that burn over 234,000 acres. Due to the high population density, over 70% of all wildfires threaten some type of structure.

The future of prescribed fire in Florida is uncertain. Public perception, population growth, EPA regulations and related issues are challenging our ability to use the safest and best tool that we have available for applying a natural and essential process to the land.

About six of every ten acres in Florida—nearly 22 million acres—are considered fire-dependant. Research suggests that the optimum range of fire frequency ranges from one to five years, depending upon the types of plant and wildlife communities. Currently, about two million acres are permitted for burning each year. If that number approximates what is actually being burned, we are achieving an average 11-year fire return interval, dramatically longer than what fire-dependant ecosystems require. The lack of more frequent, but less intense fires could mean serious consequences for fire-dependant species, natural communities, and ecosystems, leading to ecosystem dysfunction at a staggering level.

In addition to its environmental benefits, prescribed fire reduces the risk of catastrophic wildfires, ensuring a safer environment and a greater measure of protection for human lives and property. In many places around Florida, prescribed fire has aided immensely in controlling or preventing wildfires. Prescribed fire reduces the build-up of dangerous fuels from rapidly growing brush and forest litter. It also reduces the intensity of wildfires when they do occur.

2. Priority Areas

The Southern Wildfire Risk Assessment (SWRA) along with the Southern Fire Risk Assessment System (SFRAS) is used to determine areas at most risk from wildfires. Fire prevention efforts will focus on these areas.

Most ecosystems in Florida are fire dependant or fire maintained. Regular application of fire is necessary to properly manage these areas. Resources such as the Florida Natural Areas

Inventory (FNAI) are used by land managers to determine prescribed burning needs on land they manage.

3. Goals, Objectives, and Strategies

Goal 1: Maintain a prescribed fire program that protects the right to burn, encourages the wise use of prescribed fire, and promotes public understanding of prescribed fire with the effect of doubling the acres (to roughly 4 million acres/year) burned annually to bring fire-adapted systems to maintenance fire phase.

Objective 1.1: Continue to mitigate smoke impacts on air quality and vehicle traffic by better smoke management.

Strategy 1.1.1: Use latest technology to model and track smoke plumes and monitor visibility in smoke sensitive areas.

Strategy 1.1.2: Integrate defensive driving tips for smoke and fog into the state licensing process.

Strategy 1.1.3: Improve training and procedures for law enforcement personnel associated with prescribed fires.

Objective 1.2: Implement a focused, effective public communication and education campaign to garner support, acceptance and recognition of the value of prescribed fire.

Strategy 1.2.1: Create and implement a standard communication plan.

Strategy 1.2.2: Identify, develop and distribute key messages to the public showing the benefits of prescribed fire.

Strategy 1.2.3: Develop a “brand” for prescribed fire.

Objective 1.3: Establish partnerships and significantly increase available resources (personnel, equipment, and expenses) to promote and implement increased prescribed fire operations to meet the acreage goal specified.

Strategy 1.3.1: Develop a needs assessment that summarizes required resources for meeting prescribed fire needs statewide.

Strategy 1.3.2: Develop mechanism to create implementation-level partnerships for prescribed fire.

Strategy 1.3.3: Within the Division, develop increased capacity to support prescribed fire operations on private and public lands.

Strategy 1.3.4: Develop funding mechanisms to support assistance to private landowners that request fire assistance for natural habitat management.

Objective 1.4: Take a strategic, proactive role in growth management and transportation planning to mitigate future impacts of increasing urbanization on prescribed fire.

Strategy 1.4.1: Address issues of local government intervention into the prescribed fire authorization process by keeping authorizations under state forestry authority.

Strategy 1.4.2: Engage the local growth management process to preserve the ability to burn in urban and suburban environments.

Strategy 1.4.3: Develop a smoke easement template to help reduce future conflicts between prescribed fire and new development.

Objective 1.5: Establish and sustain a high priority for prescribed fire on public lands.

Strategy 1.5.1: Provide continuous funding to hire and train new prescribed fire personnel.

Strategy 1.5.2: Reflect the high priority for prescribed fire in DOF District/Center manager's performance standards.

Strategy 1.5.3: Recommend to all agencies that prescribed fire goals for managed lands are incorporated into performance standards for site management staff.

Strategy 1.5.4: Review the state prescribed fire certification program. Improve and enhance as necessary.

Strategy 1.5.5: Use regional fire strike teams to significantly increase prescribed fire management to meet the Goal.

Objective 1.6: Enhance the credibility and professionalism of our prescribed fire practitioners.

Strategy 1.6.1: Develop and implement a standard code of ethics for all prescribed fire professionals.

Strategy 1.6.2: Expedite the transfer of new prescribed fire technology to field use. Start a formal technology transfer program.

Strategy 1.6.3: Increase the number of professionally trained, experienced burn bosses to annually implement the prescribed fire goal on public lands.

Objective 1.7: Increase incentives and financial assistance to land managers using prescribed fire.

Strategy 1.7.1: Increase the amount of funding available through grants and cost share programs to private individuals to implement prescribed fire.

Strategy 1.7.2: Develop a system to inform private landowners of funding that is available for prescribed fire.

Goal 2: Maintain a wildfire mitigation and prevention program that reduces fire occurrence, hazardous conditions and the risk of loss from wildfires.

Objective 2.1: Select mitigation projects based on wildfire risk.

Strategy 2.1.1: Use SFRAS, CWPP's, Communities at Risk data, Firewise Community/USA plans, and DOF district/center mitigation action plans to prioritize local mitigation projects.

Strategy 2.1.2: Prioritize local area projects for each district/center.

Objective 2.2: Provide mitigation work – prescribed fire or mechanical treatment

Strategy 2.2.1: Significantly increase the use of prescribed fire as a fuel management and hazard mitigation tool.

Strategy 2.2.2: Increase the use Regional Fire Management Teams and/or District/Center resources prescribed fire or other fuel management assistance on private and public lands.

Strategy 2.2.3: Provide technical assistance to project managers when private contractor assistance is required for project completion.

Objective 2.3: Initiate prevention efforts prior to a developing fire season.

Strategy 2.3.1: Monitor indicators for increasing wildfire potential and focus prevention efforts in areas identified as having a high potential for wildfire occurrence.

Goal 3: Create and maintain relationships with paid and volunteer fire departments to increase their ability to assist in wildfire suppression through training opportunities and equipment acquisition.

Objective 3.1: Develop and maintain Cooperative Agreements with local, state, and federal firefighting and emergency response agencies.

Strategy 3.1.1: Maintain cooperative agreements, loan/lease agreements, and fire protection agreements with county and other local firefighting agencies to efficiently manage resources, fire response, and interagency cooperation.

Strategy 3.1.: Maintain agreements with other state and federal agencies for fire protection and all-hazard disaster incident response.

Objective 3.2: Develop and implement programs to provide training and support to local fire departments and other cooperators

Strategy 3.2.1: Provide training locally and on statewide level in Incident Command System (ICS) to improve local fire departments wildland fire response capabilities.

Strategy 3.2.2: Ensure that local fire departments and local officials are recognized as our partners in fire suppression and prevention.

Strategy 3.2.3: Design and deliver programs to increase firefighter safety.

Strategy 3.2.4: Develop program to standardize ('card') personnel and equipment for resource deployment locally, statewide, and nationally for wildfire and other all-hazard incident response.

Strategy 3.2.5: Maintain a leadership role in the wildland fire community by offering training opportunities, as well as ICS position experience on Interagency Incident Management Teams.

Objective 3.3: Develop and implement programs to provide equipment and support to establish and maintain local fire departments and other cooperators

Strategy 3.3.1: Screen and loan federal excess equipment to local fire departments and other fire agencies to assist in suppression, prescribed burning, and emergency response incidents through Federal Excess Personnel Property and Firefighter Property programs.

Strategy 3.3.2: Loan State surplus equipment to local fire departments and other fire agencies to assist in suppression, prescribed burning, and emergency response incidents.

Strategy 3.3.3: Provide efficient stewardship of program resources to effectively coordinate a minimum level of wildfire response with a minimum of bureaucracy.

Objective 3.4: Develop and implement programs to provide financial assistance to local fire departments and other cooperators

Strategy 3.4.1: Implement Rural Volunteer Fire Assistance grant programs to financially assist rural and volunteer fire departments with purchase and maintenance of wildfire suppression and emergency management resources, and to expand fire suppression capabilities.

Strategy 3.4.2: Provide assistance, coordination, and review of National Fire Plan funding, as well as other funding sources to strengthen local response capabilities.

Objective 3.5: Liaison with Volunteer Fire Departments to facilitate sharing of resources and promote interagency cooperation.

Strategy 3.5.1: Liaison with Florida Fire Chief's Association for technical assistance, idea and information sharing.

Strategy 3.5.2: Liaison with Emergency Management for firefighting (ESF4/9) and other emergency management functions for disaster response.

Goal 4: Continue to provide adequate training for emergency response to wildfires, all-hazard incidents and prescribed fire implementation.

Objective 4.1: Provide for the safety of emergency responders and citizens.

Strategy 4.1.1: Ensure agency personnel participate in appropriate training, qualifications, and credentialing systems under NIMS, ICS, NWCG and other relevant systems.

Strategy 4.1.2: Work with local fire departments to ensure minimum training needs are being met.

Strategy 4.1.3: Track all non-federal wildland fire personnel's positions qualifications.

Objective 4.2: Conduct response efforts in a cost effective and responsible manner.

Strategy 4.2.1: Incident response personnel will monitor fire activity, predicted and observed weather conditions to determine appropriate staffing levels and release unnecessary resources.

Strategy 4.2.2: Where appropriate, use suppression techniques that minimize soil disturbance

Objective 4.3: Work with cooperators to maximize the effectiveness of suppression efforts.

Strategy 4.3.1: Maintain current and develop new working groups consisting of private and public entities to pre-plan suppression strategies in areas prone to significant wildfire activity.

Objective 4.4: Emphasize aggressive initial attack to minimize fire size and duration when a limited action approach is not appropriate.

Strategy 4.4.1: Respond with appropriate resources and tactics to safely suppress wildfires with the objective to keep wildfires to a minimal size and duration. This tactic should reduce the number of large campaign fires requiring long-term resource commitments.

Goal 5: (Environmental Control) Maintain an assessment of the wildfire risk across the state by: analyzing the presence and availability of vegetative fuels, monitoring weather conditions, tracking wildfire occurrence and monitoring development in the wildland/urban interface.

Objective 5.1: Develop a strategy that will allow the current wildland fire risk assessment to be updated without intensive field study and at a substantially lower cost than the latest update.

Strategy 5.1.1: Utilize a change detection strategy that will reduce the need for taking significant plot data for both surface and canopy fuels.

Strategy 5.1.2: Inventory available Florida data that is being collected by public and private sector that can be used to assist with both the canopy and surface fuels data in place of plot data inventory by DOF on a recurring basis.

Objective 5.2: Link the developing Florida fire danger rating system and the collection of weather data through WIMS (Federal Weather information Management System) with the wildland fire risk assessment (FRAS) in Florida's Fire Management Information System (FMIS).

Strategy 5.2.1: Complete the developing wildland fire danger rating system for Florida based on the national fire danger rating (NFDRS) 1978 system.

Strategy 5.2.2: Spatially merge the wildland fire risk assessment with the NFDRS data to be displayed on the dispatch maps for both wildfire and burning authorizations. This would be good information for dispatchers when trying to make decisions on number and types of suppression equipment.

Objective 5.3: Track fire occurrence and ignition sources.

Strategy 5.3.1: Maintain and update the Fire Management Information System (FMIS) to track wildfire occurrence.

Strategy 5.3.2: Develop and maintain a prescribed fire database that tracks annual fire accomplishments across public and private lands

Objective 5.4: Disseminate assessment information to cooperators, elected officials and the public.

Strategy 5.4.1: Develop and maintain a web-based version of the Risk Assessment to make is accessible to interested parties.

Goal 6: Maintain an equipment fleet of sufficient size and ability to provide adequate fire suppression capabilities and prescribed fire support to meet the demands of increasing fire activity and intensity.

Objective 6.1: Maintain equipment for initial and extended attack response of all wildfires in Florida.

Strategy 6.1.1: Provide for cost effective general maintenance or all equipment, much of which is unique to wildland firefighting, through regular maintenance service.

Strategy 6.1.2: Establish a recurring refurbishment and purchase plan to allocate sufficient replacement equipment to maintain adequate response.

Objective 6.2: Provide Communication and Dispatch Center capabilities.

Strategy 6.2.1: Maintain communications center to facilitate dispatch and coordination of resources on incidents.

Strategy 6.2.2: Provide for safety of personnel and resources through asset tracking.

Objective 6.3: Research and Develop new technology for fire suppression.

Strategy 6.3.1: Analyze, test, adapt, and develop prototype equipment for wildfire suppression. Specifically for fuels and landscape characteristics unique to Florida.

Strategy 6.3.2: Review new techniques and strategies for effective and efficient suppression of wildfires.

Objective 6.4: Maintain support equipment to maintain firebreaks, and fuel management.

Strategy 6.4.1: Develop and maintain mitigation teams to reduce fuel hazards in interface areas.

Strategy 6.4.2: Maintain state forest firebreaks through road, bridge, and drainage equipment.

4. Performance Measures

Goal 1: Maintain a prescribed fire program that protects the right to burn, encourages the wise use of prescribed fire, and promotes public understanding of prescribed fire with the effect of doubling the acres (to roughly 4 million acres/year) burned annually to bring fire-adapted systems to maintenance fire phase.

- Prescribed burning activity increases from the current numbers
- Public awareness and acceptance of prescribed burning increases as measured by telephone surveys.

Goal 2: Maintain a wildfire mitigation and prevention program that reduces fire occurrence, hazardous conditions and the risk of loss from wildfires.

- Monitor the number of human-caused wildfires
- Track the amount of mitigation work being done
- Track the number of CWPPs

Goal 3: Create and maintain relationships with paid and volunteer fire departments to increase their ability to assist in wildfire suppression through training opportunities and equipment acquisition.

- Local fire departments acquire more equipment
- More fire department personnel assist in wildfire suppression

Goal 4: Continue to provide adequate training for emergency response to wildfires, all-hazard incidents and prescribed fire implementation.

- Track the number of qualified personnel for wildfire response and prescribed fire implementation
- Monitor average size of wildfires

Goal 5: (Environmental Control) Maintain an assessment of the wildfire risk across the state by: analyzing the presence and availability of vegetative fuels, monitoring weather conditions, tracking wildfire occurrence and monitoring development in the wildland/urban interface.

- Use of the Fire Risk Assessment increases
- Development of Florida fire danger rating system
- Development of web-based risk assessment

Goal 6: Maintain an equipment fleet of sufficient size and ability to provide adequate fire suppression capabilities and prescribed fire support to meet the demands of increasing fire activity and intensity.

- Amount of out-of-service equipment will be reduced
- Capabilities of prescribed fire teams will be increased
- Requests for out of area equipment will be reduced

Issue 2: Forest Fragmentation

1. Issue Description

Forestland ownership in Florida has changed markedly in the past decade. Industrial forestlands have been sold, often divided up as smaller parcels, creating the current majority of forestlands being held by private non-industrial landowners. This change in ownership and parcel size creates a larger mosaic of management philosophies. Coupled with recent economic uncertainty, the challenge of managing forestlands for the majority of public benefits has become of increasing concern to all natural resource managers.

This increased parcelization of forest lands creates additional challenges as it breaks up contiguous blocks of manageable land and creates smaller and smaller “islands” of both land and habitat. This loss of connectivity affects all aspects of forest land management from management practices, such as prescribed burning, to habitat management for both plant and animal species.

Many Floridians are aware of the fundamental importance of healthy forestlands to everyone’s quality of life and to the sustainability of natural resources. Programs such as Florida Forever indicate the public’s desire to maintain the quality and quantity of conserved areas of the state’s varied natural landscapes. However, continued, updated information and education is necessary to keep natural resources in the forefront of an ever increasing population base.

2. Priority Areas

The Southern Forest Land Assessment, the Critical Lands and Waters Inventory Project, Forest Legacy Analysis of need each utilize criteria that indicate areas where desired attributes converge. (Other mapping tools may also be appropriate for use in prioritizing locations for strategies as listed below.)

3. Goals, Objectives, and Strategies

Goal 1: Increased Awareness of the Importance of Sound Forest Management Practices.

Objective 1.1: Develop a coalition of interested resource professionals to develop technology transfer of information to forest landowners, the general public, and policy makers.

Strategy 1.1.1: Provide service to landowners through the DOF Forest Stewardship Program, Southern Pine Beetle Program and through NRCS, FSA, USFWS, and FWCC programs, to assist forest landowners in making informed decisions regarding forest management options.

Strategy 1.1.2: Develop a unique message to reach urban and exurban dwellers regarding the connection of forest management practices to their daily quality of life.

Strategy 1.1.3: Engage policy and decision makers in educational sessions regarding the public benefits of forest management across the landscape. Introduce the principals of green infrastructure to these groups and assist them in establishing working examples of how to implement green infrastructure.

Strategy 1.1.4: Continue to promote existing land conservation efforts such as Florida Forever, Forest Legacy and the Farm and Ranchland Protection Program as a component of service foresters and others outreach.

Goal 2: Increased Support of Sustainable Forest Markets.

Objective 2.1: Promote results of Woody Biomass Economic Study provided to the Florida Legislature in March of 2010.

Strategy 2.1.1: Provide information to forest management entities for inclusion in their newsletter or other media information services.

Strategy 2.1.2: Present results at educational venues as appropriate across the state.

Objective 2.2: Reach broader audience in promoting incentive and other programs for emerging and traditional forest markets through partnerships with USDA Rural Development, NRCS, FFWCC, and other agencies.

Strategy 2.2.1: Utilize and expand upon existing networks including printed and web based media to provide up-to-date information regarding cost-share, incentive and other information for non-industrial private landowners.

Strategy 2.2.2: Provide a portal for landowners to explore and understand additional non-timber markets (i.e. ecosystem services.)

Goal 3: Promote local ordinances and tax structures that support healthy forests for all public benefits (not just timber revenue).

See Strategy 1.1.3 for action under this goal.

Goal 4: Fragmentation of longleaf pine ecosystems (LPE) by linear facilities and development is being avoided on public lands. Existing fragmentation is being addressed through restoration and acquisition.

Objective 4.1: Explore options to reduce fragmentation of public lands caused by incompatible utility placement and land use. Promote awareness of this issue and encourage compatible alternate routes and land uses.

Strategy 4.1.1: Continue to work with partner agencies and the Acquisition and Restoration Council, and through the Efficient Transportation Decision Making process to avoid sensitive public land with the siting of linear facilities, and to minimize and mitigate effects where avoidance is not possible.

Objective 4.2: Target acquisition funding for securing from willing sellers inholdings and critical additions to existing public lands to better enable management of LPE at the landscape level.

Strategy 4.2.1: Work with Florida Natural Areas Inventory and other state land managing agencies to identify and present to the Acquisition and Restoration Council the importance of targeting acquisition funding to acquire inholdings and additions critical to LPE conservation.

Strategy 4.2.2: Use conservation easements effectively to support protection of LPE on private land with willing landowners.

Strategy 4.2.3: Continue funding of Rural and Family Lands Protection program and include LPE targets.

4. Performance Measures

Goal 1: Increased Awareness of the Importance of Sound Forest Management Practices.

- Landowners increasingly actively managing forest lands.
- Public awareness of importance of forest management for their benefit is improved.
- Conservation Programs become more adequately funded.

Goal 2: Increased Support of Sustainable Forest Markets.

- Woody Biomass Economic Study spurs additional interest in sustainable forestry activities.
- DOF and other partners formalize information network for existing and potential incentive programs for emerging forest market development.

Goal 3: Promote local ordinances and tax structures that support healthy forests for all public benefits (not just timber revenue).

- New or revised local ordinances that provide incentive for private landowners to keep their land as healthy working forests for public benefits.

Goal 4: Fragmentation of longleaf pine ecosystems (LPE) by linear facilities and development is being avoided on public lands. Existing fragmentation is being addressed through restoration and acquisition.

- Participation by multiple agencies in Efficient Transportation Decision Making Process and in Acquisition and Restoration Council review of easement requests has resulted in fewer linear facilities fragmenting LPE, and those linear facilities that do are properly minimized and mitigated to reduce the effects of fragmentation.
- Multiple agency presentations to the Acquisition and Restoration Council emphasize the need to make as a priority the acquisition or protection through easements and agreements the inholdings and additions on public lands that facilitate management of LPE.

Issue 3: Forest Health: Insects, Diseases, and Non-Native Pest Plants

1. Issue Description

Florida's forest resources, both urban and rural, have been and continue to be challenged by numerous insects, diseases and non-native invasive pest plants. These forest/ecosystem stressors can be categorized into two major groups representing completely different types of issues with respect to the types of threats they represent and/or the damages they inflict. Native or indigenous insect and disease stressors have co-existed with their indigenous host tree species (suscepts) for centuries. As a result, these pest/pathogen – host relationships occur in relatively innocuous “natural” balances, altered by 1) extreme weather events (hurricanes, floods, droughts, etc.), 2) mismanagement or neglect in managed forest systems such as off-site plantings, deployment of low quality genetic stock, overstocking, insufficient management of competing vegetation, injury and/or disturbance due to silvicultural operations and/or intermediate tree harvests (thinnings, etc.), and fire damage during prescribed burning due to heat stemming from excessive fuel loads, 3) wildfires, and 4) host over-maturity and/or cohort senescence. Non-native insect and disease (pathogen) stressors represent a “horse of a completely different color”. These organisms are newly introduced to hosts with no innate natural resistance and into ecosystems lacking effective predators or parasites capable of suppressing or controlling their populations and activity (the populations and activity of the non-native exotic pest organisms. Native insects and pathogens are in many respects “response stressors” – responding to predisposing factors (above). They can and do influence forest management and occasionally cause significant economic losses. However, they do not possess the capability to extirpate host species or decimate ecosystems. The latter group, on the other hand, does possess the capability to completely eliminate host species and permanently alter native ecosystems. Non-native invasive pests- have recently and rightly become a hugely important issue nationwide (Presidential Executive Order 13112, February 3, 1999) and especially in the State of Florida.

Given the realities highlighted above, this assessment and response strategy/plan will address a few native/indigenous insect pests and diseases of historical or anticipated importance, particularly with respect to how those pests are factors in a larger resource management context. More importantly, this document will focus on the larger threats posed to Florida forests and ecosystems by non-native/exotic pests including insects, pathogens, and invasive pest plants.

2. Priority Areas

Specific **geographic areas** related to particular pests (insects, pathogens, and NNIPPs) are very difficult to identify outside of 1) the risk and/or distribution maps provided as part of the accompanying Statewide Forest Resource Assessment or 2) simple distribution maps of certain NNIPPs available from sources such as the Florida Invasive Species Partnership's (FISP) EDDmaps web site (<http://www.eddmaps.org/florida/>). However, priority **program emphases** are somewhat more identifiable and can be prioritized a bit more systematically as indicated below. Caution is advised when considering these priorities as catastrophic environmental

events (hurricanes, floods, etc.), the introduction of new non-native pest species, and unpredictable outbreaks of endemic pest organisms alter even the most well intended priority hierarchies. For the most part, program activities are ongoing and/or “maintenance” endeavors. Insect, disease, and NNIPP issues and problems are constant and/or cyclically recurring. They cannot be “fixed” as a result of one action or another. Well-established invasive species may require perpetual control to minimize their impacts, and thus the most effective strategies involve early detection and eradication of newly established invasive species, and (most importantly) prevention of new invasive species introductions. With these realities in mind, we provide below an attempt to identify meaningful and overarching program priorities (both ongoing and targeted).

3. Goals, Objectives, and Strategies

The goals and objectives of Florida’s Forest Health Program are to protect the State’s vast and diverse forest resources from serious and/or damaging impacts of forests pests (insects, pathogens, and NNIPPs) and to provide Florida forest resource owners and managers with information and resources to facilitate forest resource management in such a way as to minimize the harmful effects of such pests. All of these program goals and objectives are compatible with and supportive of the three broad national goals of 1) conserving working forests, 2) protectin forests from harm, and 3) enhancing public benefits. Our overall approach is to maintain and implement a comprehensive program emphasizing prevention of, early detection of and rapid response to, and management/control of damaging agents (both native and non-native) as dictated by circumstances and associated economic and/or environmental threats. To accomplish specific goals and objectives, the Forest Health Program Staff implements and will continue to implement a variety of strategies targeting priority pests and needs as they arise and change over time.

Goal 1: Maintenance and enhancement of staff capacity and capabilities.

Objective 1.1: Maintain current Section staff positions to deal with forest health issues (“tri-disciplinary” to cover insects, diseases, and NNIPs).

Strategy 1.1.1: Seek and staff competent individual for vacant Forest Health Specialist position in Gainesville.

Strategy 1.1.2: Define and staff two regional (West Florida and South Florida) Forest Health Program Coordinators.

Goal 2: Continuation of comprehensive DOF staff training and public education efforts regarding native and non-native biotic threats to forest health in Florida.

Objective 2.1: Continue educational venues for forest health issues across the state.

Strategy 2.1.1: Work with existing partners (UF, Co-op Extension Service, DEP, NRCS, DPI, FFA, ISA, SAF, TNC, etc.) to efficiently maximize public awareness of forest health issues via workshops, printed materials, PSA's, etc.

Strategy 2.1.2: Complete current "Re-design" project re age-specific forest health educational materials for 4-H, FFA, and Vocational Agriculture classes.

Strategy 2.1.3: Provide annual update training to Division of Forestry service foresters statewide.

Strategy 2.1.4: Identify and contract translation of appropriate forest health circulars/leaflets etc. into Spanish to communicate to the State's growing Latino population.

Strategy 2.1.5: Conduct one NNIPP awareness workshop in each of the DOF's four regions annually.

Strategy 2.1.6: Enhance awareness of the cogongrass threat to forest resources via 1) appropriate internet links and information sites and 2) public service announcements (billboards, radio/TV spots, etc.)

Goal 3: *Continuation and expansion of meaningful cost-share programs for private forest landowners and other appropriate publics to promote risk reduction for and/or management of threatening forest pests (e.g., Southern Pine Beetle, NNIPPs such as cogongrass, etc.)*

Objective 3.1: Continue to collaborate with existing organizations (UF, Co-op Extension Service, The Nature Conservancy, DEP, NRCS, Florida DOT, FFWCC, CWMAs and CISMAs, neighboring states, and FISP), municipal and county governments, and forest landowners, to minimize the spread and proliferation of cogongrass within Florida.

Strategy 3.1.1: Continue to encourage and recruit County Road Departments to treat cogongrass on county-maintained property.

Strategy 3.1.2: Emphasize treatment/control/management in county road borrow pits and along county road ROWs.

Strategy 3.1.3: Conduct necessary training workshops to ensure appropriate recognition and management (one per county as counties link to program).

Strategy 3.1.4: Continue and expand current private landowner pilot cost-share program for treatment of cogongrass infestations in northern Florida through 2013 at a minimum.

Strategy 3.1.5: Review and continue current SPB prevention program.
a. Conduct annual SPB trapping
b. Conduct annual SPB aerial detection survey flights

- c. Provide landowner cost-share funding to qualifying forest landowners for preventive silvicultural practices

Strategy 3.1.6: Consider development of additional pest specific cost-share programs as dictated by circumstances and available funding (may be accomplished through CFA cost-share programs where site treatments may include treatment of non-native invasive pest plants, for example).

Goal 4: *Minimize impacts of non-native invasive pest plants (and other pests) on State Forests and other public and private properties.*

Objective 4.1: Facilitate management of NNIPS on State Forests.

Strategy 4.1.1: *Prevention:* Assist Florida State Forest personnel with procedures/practices to reduce the threat of invasive non-native species by promoting and implementing decontamination procedures to prevent spread of new and established infestations.

Strategy 4.1.2: *Control:* Develop maintenance/suppression programs for priority NNIPs on State Forests as need dictates and within feasibility and budgetary realities.

Strategy 4.1.3: Continue supporting NNIPP survey/management crews on State Forests

- a. Provide salary support
- b. Provide equipment and supplies

Objective 4.2: Minimize risk of introduction of unwanted non-native insects and pathogens to State Forests (and other public lands) via indiscriminate movement of firewood.

Strategy 4.2.1: Inventory state forests and parks for status of publicity/awareness.

Strategy 4.2.2: Prepare and distribute posters and brochures for highlighting issues as warranted.

Objective 4.3: Continue provision of technical assistance re forest health issues to public personnel, private forest landowners, and citizens throughout the State of Florida.

Goal 5: *Early Detection of and Rapid Response to Invasive (and other pest) Species.*

Objective 5.1: Provide continued support to Florida's natural resource managers with respect to identifying, locating, and responding to new and damaging non-native biotic threats to forest health.

Strategy 5.1.1: Continue support of The Nature Conservancy's "Central Florida *Lygodium* Strategy" to prevent the northern advance of old world climbing fern (*L. microphyllum*); support ongoing detection surveys and suppression treatments.

Strategy 5.1.2: Work with partners (USFS, APHIS, Division of Plant Industry, CAPS, CISMAs, etc.) to quickly detect threatening invasive pests (insects, pathogens, NNIPPs, etc.)

- a. participate in EDRR programs (national, state, Cisma) as requested and within capabilities of time/personnel limits
- b. continue participation in Sudden Oak Death (S.O.D.) stream baiting surveys as requested and within capabilities of time/personnel limits.

Strategy 5.1.3: Work with state foresters to create early detection lists for invasive non-native species for each District. These lists will include invasive species that have not yet been detected in the District but are nearby and/or likely to arrive there, and those that are present at an early or incipient level. Assist with the development of eradication programs for early detection species as need dictates and within feasibility and budgetary realities.

Objective 5.2: Continue and enhance participation in national FHM program.

Strategy 5.2.1: Acquire DASM (Digital Aerial Sketch Mapping) hardware for each of the DOF's four Regions.

Strategy 5.2.2: Acquire one Trimble GPS unit for each of DOF's fifteen Districts/Forestry Centers.

Strategy 5.2.3: Provide technical training (initial and update) for utilization of digital equipment for use in geo-referencing, recording and reporting of forest pest data for submission to the national program.

Strategy 5.2.4: Provide support to appropriate aerial survey programs to estimate the range and extent of NNIPPs throughout the state.

Strategy 5.2.5: Design and conduct additional appropriate surveys, monitoring, and evaluations of forest/shade tree pests and their impacts statewide (native and non-native pests).

Goal 6: Regional Ranking of Longleaf Pine Seed Sources for resistance/susceptibility to Fusiform Rust (and possibly pitch canker disease).

Objective 6.1: Provision of support to regional initiative(s) to screen longleaf pine seed sources for resistance to fusiform rust (and possibly pitch canker disease).

Strategy 6.1.1: Provide technical advice and communication regionally.

Strategy 6.1.2: Supply local seed source samples to the U.S. Forest Service's Resistance Screening Center in Asheville, NC.

Strategy 6.1.3: Collect and supply aeciospores from longleaf pine infections to U.S. Forest Service Screening Center.

4. Performance Measures

Goal 1: Maintenance and enhancement of staff capacity and capabilities.

- Enhanced program delivery enabled by employing regional forest health program coordinators.

Goal 2: Continuation of comprehensive DOF staff training and public education efforts regarding native and non-native biotic threats to forest health in Florida.

- Number of workshops, publications, PSAs completed/developed with partners to promote forest health awareness by the public.
- Annual training provided to Division of Forestry Foresters in each of four regions
- 3-day workshops held for new foresters biennially
- Number of publications translated into Spanish
- Number of billboards, internet articles, PSAs developed to enhance public awareness of cogongrass threat to forest resources.

Goal 3: Continuation and expansion of meaningful cost-share programs for private forest landowners and other appropriate publics to promote risk reduction for and/or management of threatening forest pests (e.g., Southern Pine Beetle, NNIPPs such as cogongrass, etc.)

- Number of county borrows pits inspected/treated, number of infestations and acres of cogongrass treated.
- Number of counties added to cogongrass program and number of workshops held.
- Number of private landowner program participants, number of cogongrass infestations and acres treated.
- Number of Southern Pine Beetle traps deployed/serviced, acres surveyed, number of private landowners participating, number of acres treated.
- Development of additional pest specific cost-share programs as dictated by circumstances.

Goal 4: Minimize impacts of non-native invasive pest plants (and other pests) on State Forests and other public and private properties.

- Number of state forests, etc. with decontamination plans and programs.
- Number of NNIPP programs and acres treated, number of acres under maintenance-level control.
- Number of NNIPP personnel hired/retained, number of acres surveyed and treated.
- Completed inventory of awareness of indiscriminant movement of firewood, number of posters or brochures printed/distributed.
- Numbers of assists to public regarding forest health issues.

Goal 5: Early Detection of and Rapid Response to Invasive (and other pest) Species.

- Acres surveyed and acres treated for old world climbing fern (*L. microphyllum*), number of sentinel sites on public conservation lands for early detection of *L. microphyllum* along the northern limit of known infestations.
- Number of traps or sentinel sites deployed/serviced for Sudden Oak Death
- Number of regions with early detection/rapid response programs, number of acres or invasion sites eradicated - if new species are found.

Goal 6: Regional Ranking of Longleaf Pine Seed Sources for resistance/susceptibility to Fusiform Rust (and possibly pitch canker disease).

- Technical advice provided and communicated regionally
- Local seed source samples provided to the USDA Forest Service's Resistance Screening Center in Asheville, NC.
- Aeciospores from longleaf pine infections collected and supplied to U.S. Forest Service Screening Center.

Issue 4: Meeting the Challenges of Climate Change

1. Issue Description

Florida's gross emissions of greenhouse gases (GHG's) equaled roughly 337 million metric tons of carbon dioxide equivalent in 2005. This amounts to a 35% increase over 1990 levels and parallels the state's population growth rate during that time. Sources of GHG's have primarily included carbon dioxide, methane, nitrous oxide, hydro-fluorocarbons, primary fluorocarbons, and sulfur hexafluoride. Without the implementation of measures to control GHG emissions, the level of carbon dioxide equivalent is projected to increase by 86% over 1990 levels by 2025 (Florida Governor's Action Team on Energy and Climate, 2008).

Florida's forests, which account for 47% of Florida's land area, have the potential to both reduce GHG emissions and mitigate the impacts of increased GHG's in the atmosphere. These forests sequestered an estimated 21 million metric tons of carbon dioxide equivalent in 2005. This includes carbon sequestered in both forest and urban trees, as well as other forms of forest biomass, wood in landfills, and harvested wood products. Carbon emissions from wildfires and prescribed burns reduce the net total sequestered by forests to 20 million metric tons of carbon dioxide equivalent (Florida Governor's Action Team on Energy and Climate, 2008).

The report of the Florida Governor's Action Team on Energy and Climate Change (hereinafter referred to as "The Governor's Report") was published in 2008. This report identifies 50 recommended policy actions to significantly reduce Greenhouse Gas Emissions (GHG's) by 2025. These policy actions are grouped under six focus areas, including Agriculture, Forestry, and Waste Management. If fully implemented, the policy actions specifically related to forestry practices account for as much as 27% of the potential total reduction in GHG's listed in the report. These policy actions are incorporated as part of the goals, objectives, and strategies contained in this section.

2. Priority Areas

Florida's ratio of coastline to land area is among the highest of any state in the US. Since rising sea levels are predicted to be one of the most significant consequences of climate change, implementing strategies to mitigate these changes in coastal areas needs to receive a high priority. Maintaining healthy forested buffers in coastal areas can help to stabilize conditions there. Rising sea levels, however, may still inundate these areas in spite of our best efforts due to external factors. For that reason, paths of migration need to be established to allow coastal forested communities to move upslope.

Transitional areas within the state where plant communities change based upon temperature gradients and site factors also need to be given a high priority for attention. Plant communities need to have an unobstructed path of undeveloped natural areas to allow them to migrate northward and inland as temperatures increase and sea levels rise. Otherwise, extirpations of these species and the fauna that depend upon them for habitat will occur at an increased rate.

All urban areas, which are defined by the US Forest Service as any developed area with a population density greater than 500 residents per square mile, need to implement strategies that will increase their percentage of canopy cover, create optimal conditions for the continued growth and overall health of their urban trees, select species for planting that are best adapted to the area and the specific planting site, and locate these trees where they will provide the most benefit in reducing and mitigating the effects of climate change. The condition of unique vegetation communities, regardless of their location in the state, also need to be actively managed in a way that maintains their essential components. Communities where longleaf pine is a predominant overstory component serve as examples of such communities.

3. Goals, Objectives, and Strategies

Goal 1: Develop a climate change adaptation strategy for Florida forests.

Objective 1.1: Develop or compile climate change models specifically for Florida.

Strategy 1.1.1: Conduct or help sponsor research to more accurately predict the impact of climate change on Florida forests.

Objective 1.2: Identify key regions that are most desirable and conducive for implementing forestry adaptation strategies.

Strategy 1.2.1: Identify scenarios and models to predict areas/vegetation communities that are most susceptible to loss or spatial displacement due to sea level rise and climate change.

Strategy 1.2.2: Provide resources to actively manage these areas to facilitate forest conservation and migration.

Objective 1.3: Develop effective strategies involving scientists and public and private landowners that promote adaptation to climate change by forested vegetation communities, as well as public recognition of the importance of implementing these strategies.

Strategy 1.3.1: Cooperate with other scientific and land management entities to compile the most accurate information on climate change impacts to Florida forests and make it available to all concerned entities through various venues.

Strategy 1.3.2: Help sponsor conferences to achieve Strategy 1.3.1.

Goal 2: Maintain the current level of forested acreage statewide in Florida to increase greenhouse gas absorption.

Objective 2.1: Continue support for programs that encourage private non-industrial forest landowners to retain ownership of their properties and continue land uses that optimize carbon storage.

Strategy 2.1.1: Advocate for new and continued funding of state and federal programs that encourage the retention of forest lands through either fee simple purchase or less than fee arrangement.

Strategy 2.1.2: Prioritize conservation of forested areas adjacent to identified susceptible communities, using the programs described in the above strategy.

Strategy 2.1.3: Prioritize conservation of forested areas in a manner that maintains the continuity of contiguous forested and riparian areas and provides for the adaptation and migration of communities in response to climate change.

Strategy 2.1.4: Provide landowners with information about conservation easements, land trusts, estate planning strategies, and ways to ensure agricultural assessment for property taxes.

Strategy 2.1.5: Provide landowners with information about various alternative means of deriving income from their forested properties.

Strategy 2.1.6: Participate in efforts to develop carbon credit programs for public and private forest landowners, and educate landowners about the benefits of participating in these programs. Advocate that forested lands be a component of such programs on the state level. This would include land that was previously non-forested, as well as existing forested lands.

Objective 2.2: Continue to provide information to local governments about the value of trees to urban areas as a means of mitigating climate change impacts to human populations.

Strategy 2.2.1: Encourage local governments to conduct and maintain inventories of trees within their incorporated limits.

Strategy 2.2.2: Encourage local governments to use those inventories to determine the value of ecosystem services currently provided by forests, especially carbon sequestration and storage.

Strategy 2.2.3: Encourage local governments to adopt and enforce “tree friendly” development ordinances and land-use codes.

Strategy 2.2.4: Encourage local governments to maintain greenspace and riparian buffers within their incorporated areas.

Strategy 2.2.5: Encourage local governments to develop a plan for acquisition of properties to increase their future network of greenspace, and make them aware of sources of assistance such as Florida Forever.

Strategy 2.2.6: Continue to provide technical assistance to local governments and non-profit groups that will encourage them to establish or maintain active local urban forestry programs.

Goal 3: Take advantage of all available opportunities to increase tree canopy cover to increase greenhouse gas absorption.

Objective 3.1: Provide financial incentives for private non-industrial forest landowners to reforest cutover areas and plant trees on other idle lands.

Strategy 3.1.1: Advocate that federally sponsored conservation programs contain funding for tree planting practices.

Strategy 3.1.2: Continue to provide technical assistance to private non-industrial forest landowners to help them establish tree plantings for various uses including carbon storage.

Objective 3.2: Encourage local governments to increase their average tree canopy coverages to 40%.

Strategy 3.2.1: Create urban greenspaces where none currently exist, or enhance existing greenspaces with additional trees.

Strategy 3.2.2: Plant trees in strategic locations around buildings to reduce energy consumption and resulting GHG emissions.

Strategy 3.2.3: Encourage principles that help to keep urban trees healthy, such as proper site selection and preparation, right tree/right place, and the use of drought-tolerant species and landscaping regimes (xeriscaping).

Strategy 3.2.4: Establish a fund to provide cost-shares to landowners and communities to replant trees following a natural disaster such as wildfire or hurricane. Funds can come from a combination of public and private sources.

Goal 4: Encourage forest management activities on public and private lands that optimize forest health and tree growth to mitigate environmental stresses caused by climate change.

Objective 4.1: Continue to improve wildland fire management.

Strategy 4.1.1: Encourage increased prescribed burning under favorable weather conditions in forest stands that would benefit from this practice.

Strategy 4.1.2: Develop wildfire management strategies for perpetually drier conditions resulting from predicted climate change conditions.

Strategy 4.1.3: Maintain increased fire readiness with adequate personnel and equipment to account for hotter and drier conditions.

Objective 4.2: Continue to protect riparian and coastal forested areas.

Strategy 4.2.1: Maintain adequate ground cover, shading, and erosion protection within watersheds surrounding key riparian areas.

Strategy 4.2.2: Maintain and actively manage forests and trees within developed areas in proximity to the Atlantic Ocean and Gulf of Mexico coastlines.

Strategy 4.2.3: Be prepared to alter water control structures to account for altered water regimes.

Strategy 4.2.4: Maintain forested linkages between riparian areas.

Objective 4.3: Protect trees from pest infestations.

Strategy 4.3.1: Continue to conduct aerial and ground monitoring of various insect and disease pest populations.

Strategy 4.3.2: Either treat the pest infestation aggressively, or establish alternative tree or vegetative cover that is less susceptible to pest infestation.

Strategy 4.3.3: Conduct thinnings to remove unhealthy trees and give the surrounding healthy trees room to grow.

Objective 4.4: Manage timber stands for a variety of forest products.

Strategy 4.4.1: Manage stands at various densities and thinning regimes that include large, long rotation trees to store carbon.

Strategy 4.4.2: Establish trees initially at a high enough density to encourage desirable stem form and allow for commercial thinnings, but not so high as to detract from wildlife habitat and other ecosystem services on more than a temporary basis. Higher densities will be emphasized in particular on previously disturbed sites with low vegetational diversity.

Objective 4.5: Provide recognition to landowners and cities that actively manage their rural and urban forests, respectively.

Strategy 4.5.1: Continue to provide recognition to worthy entities and individuals through the Forest Stewardship and Tree City USA certification programs.

Strategy 4.5.2: Create an additional recognition program for cities that increase their tree canopy cover over a given period of time by a certain percentage.

Goal 5: Protect the integrity of Florida's indigenous forested communities, particularly those that are the most unique and endangered in the face of potentially adverse changes in climate.

Objective 5.1: Control the spread of invasive exotic vegetation.

Strategy 5.1.1: Identify and monitor known areas of invasive exotic vegetation. Continue to conduct surveys and participate in those conducted by other entities.

Strategy 5.1.2: Conduct eradication measures on state forest properties.

Strategy 5.1.3: Secure cost-share funds for private non-industrial forest landowners to control invasive exotic infestations.

Objective 5.2: Monitor biodiversity and supplement vegetation community components as they begin to disappear.

Strategy 5.2.1: Obligate state lands management funds to replace vegetation community components, or to relocate them to a more adaptable location.

Objective 5.3: Facilitate species migration as climate change occurs.

Strategy 5.3.1: Continue to monitor reference plots on state forests, make note of trends, and develop strategies as the need arises.

Strategy 5.3.2: Develop and implement adaptive management strategies to allow forest communities to shift spatially in response to climate change impacts.

Strategy 5.3.3: Enter into cooperative agreements with private landowners adjacent to potential transitional areas to where their properties can be used to facilitate vegetation community migration.

Goal 6: Increase the use of woody biomass from public and private forests as a source of feedstock for electricity generation and transportation fuel manufacturing. This is intended to supplement fossil fuel sources that contribute more significantly to the volume of Greenhouse Gas emissions (GHG's) for each energy unit produced.

Objective 6.1: Set reasonable and attainable statewide goals for woody biomass production.

Strategy 6.1.1: Set a goal for the percentage of Renewable Portfolio Standard (RPS) that is desirable and obtainable for woody biomass production. This goal will be based upon the current estimated statewide supply of woody biomass, the production capability of existing forest lands or available non-forest lands to produce additional biomass

volume, and the compatibility of various biomass production and harvesting practices with other landowner management objectives.

Strategy 6.1.2: Improve current forest inventory procedures by developing a method to assess the available volume of woody shrubs that are desirable for biomass harvesting and are found in the forest mid-story and understory. These procedures should be applicable on both the statewide level and for individual tracts.

Strategy 6.1.3: Improve current forest inventory procedures by developing a method to assess the available volume of invasive exotic overstory species that could be used for biomass production, such as Melaleuca and Brazilian Pepper, or to incorporate this information from other sources.

Objective 6.2: Incorporate the growth and harvest of woody biomass into forest management programs for both private and publicly owned forests.

Strategy 6.2.1: Provide technical assistance to private non-industrial forest landowners, other public agencies who manage forest land, and companies who may be involved in either harvest or utilization of forest biomass.

Strategy 6.2.2: Identify opportunities to grow and harvest woody biomass when preparing written forest management plans for public and privately owned lands.

Strategy 6.2.3: Utilize woody biomass harvesting as a means of restoring indigenous forested communities.

Strategy 6.2.4: Emphasize the harvest of existing invasive exotic tree and shrub species for woody biomass production, as well as other species and types of woody vegetation that are not potentially useful for timber production or do not provide essential habitat components.

Strategy 6.2.5: Encourage woody biomass harvest, as well as silvicultural regimes that emphasize woody biomass growth of the overstory trees, in isolated areas where the proximity of the forest to smoke-sensitive areas precludes the use of prescribed fire.

Strategy 6.2.6: Protect the integrity of indigenous forest vegetation communities, as well as wetland or riparian areas, particularly those containing rare and sensitive species of flora or that help provide critical wildlife habitat.

Objective 6.3: Increase the available supply and demand for volumes of woody biomass from various sources.

Strategy 6.3.1: Encourage the increased use of urban wood waste from routine arboricultural operations for biomass production. Involve the Florida chapter of the International Society of Arboriculture (ISA) member companies and local government entities in strategy development.

Strategy 6.3.2: Encourage the establishment of plantations of short rotation woody crops primarily for future biomass harvests on both suitable public and privately owned lands.

Strategy 6.3.3: Provide financial assistance to forest landowners to either establish biomass plantations or implement practices to improve the marketability of their forest lands to those who harvest woody biomass.

Strategy 6.3.4: Develop initiatives and minimize impediments to power producers and related industries to use woody biomass for power production or transportation fuel.

Strategy 6.3.5: Develop a strategy for utilizing both forest and urban woody storm debris for biomass production.

Objective 6.4: Encourage and participate in research to promote the use of biomass from forests as a source of feedstock for electricity generation and transportation fuel manufacturing.

Strategy 6.4.1: Develop methods and equipment to expedite the harvest, transportation, and storage of forest biomass to improve the economic viability of biomass operations for landowners and producers.

Strategy 6.4.2: Enter into research partnerships with the University of Florida, Florida Forestry Association member companies, Florida Farm Bureau, power producers, waste management companies, and other entities involved with encouraging biomass harvest.

Objective 6.5: Increase public awareness and acceptance of woody biomass growth and harvesting as an environmentally desirable and economically viable source of energy.

Strategy 6.5.1: Utilize the informational and marketing resources of the Florida Department of Agriculture and the entities listed in Strategy 6.4.2 to initiate media campaigns and use other available tools to accomplish Objective 6.5.

Strategy 6.5.2: Establish woody biomass growth and harvesting demonstration areas on state forests and other suitable public lands. Use these areas for field demonstrations and tours.

4. Performance Measures

Goal 1: Develop a climate change adaptation strategy for Florida forests.

- Division of Forestry and other natural resource entities have the capability to identify climate induced changes to forested communities, as well as the most likely places where these changes will occur.
- Adequate funding is available to implement forest management practices in response to climate change.

Goal 2: Maintain the current level of forested acreage statewide in Florida to increase greenhouse gas absorption.

- Forested acreage levels in Florida maintained as the result of carbon credit and other incentives programs.
- Local governments have tools in place to evaluate their urban forests and enhance their ability to mitigate local impacts of climate change.

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Goal 3: Take advantage of all available opportunities to increase tree canopy cover statewide to increase greenhouse gas absorption.

- Tree canopy cover increases to a measurable extent in both rural and urban forests.
- Adequate technical and financial assistance is available to rural and urban forestry entities to help them increase tree canopy cover.

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Goal 4: Encourage forest management activities on public and private lands that optimize forest health and tree growth to mitigate environmental stresses caused by climate change.

- Statewide acreage lost to wildfire annually does not exceed previous 30 year averages.
- Statewide acreage prescribed burned annually increases by five percent over previous ten year average.
- Water quality and quantity in riparian and coastal areas remains consistent with standard metrics commonly used for evaluation in Florida.
- Extent of pest infestations do not exceed previous 30 year averages.
- Reforestation acreages, particularly those of longleaf pine, remain consistent with previous 10 year averages.
- Exceptional forest management practices continue to be recognized through the Forest Stewardship and Tree City USA programs.

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Goal 5: Protect the integrity of Florida's indigenous forested communities, particularly those that are the most unique and endangered in the face of potentially adverse climate changes.

- Infestations of invasive exotic vegetation do not exceed 2010 baseline averages.
- Acreages of ecologically significant forest vegetation communities remain at a level above where their extinction does not become a concern.

Goal 6: Increase the use of woody biomass from public and private forests as a source of feedstock for electricity generation and transportation fuel manufacturing.

- Accepted agency goals are adopted for statewide woody biomass production.
- Accepted statewide inventory procedure for assessing available woody biomass for harvest is adopted.
- Harvest of woody biomass is incorporated into public and private forest management plans as a viable strategy, where applicable.

- Adequate markets for woody biomass products are identified, as well as primary vendors available to perform harvesting.
- Power and transportation fuel producers recognize the potential for using woody biomass and are working to incorporate them into their processes.
- Woody biomass plantations are established using the most desirable species and silvicultural systems for this purpose.
- Woody biomass from conventional timber harvesting and ecological restoration practices are utilized for energy production throughout the state.
- An increased amount of urban wood waste is utilized for woody biomass production.

Issue 5: Economic Viability of Forests

1. Issue Description

For more than 12,000 years, Florida's forests have been sustaining people and enhancing their quality of life; from the earliest indigenous people, to Spanish explorers, to the 18 million people who call Florida their home today. We look to forests as a source of wood, a filter to clean our water, employment, financial return, cultural stability, recreational opportunities, economic growth, and environmental sustainability. The pressure on this resource has grown with the population and is creating a changing landscape. The challenge is to conserve these working forests while at the same time protecting this valuable heritage and enhancing the economic benefits derived from the resource.

For decades, Florida's forests provided a place for loggers to cut trees, hunters to harvest game, and campers and hikers to enjoy nature. While these activities are still vital to many, new opportunities for this resource are developing rapidly. Not only do the forests continue to meet traditional needs, the land itself has become increasingly valuable for many other uses.

2. Priority Areas

For decades, Florida's forests have provided timber products, habitat for wildlife, and recreational opportunities for campers, hikers, and hunters. While these activities are still important to many, new opportunities for this resource are evolving rapidly because of advanced wood product technologies, changing demographics of landowners, urban sprawl, and other more recent political/social issues. While the Forest inventory and Analysis (FIA) data show steady to marginal decreases in acres of forest land, greater demands on Florida forest resources warrant wise management to ensure sustainability. Priority area of focus for economic viability is indicated by Figure 5-1, Page 41.

3. Goals, Objectives, and Strategies

Goal 1: Ensure forests remain in sustainable forest production.

Objective 1.1: Provide incentives to encourage forest ownership and management.

Strategy 1.1.1: Support increased funding for conservation easement programs.

Strategy 1.1.2: Increase financial assistance programs for forest landowners implementing sustainable silvicultural practices.

Strategy 1.1.3: Support conservation and agriculture use assessments for property tax relief.

Strategy 1.1.4: Support improvements to federal income tax structure to encourage forestry practices.

Strategy 1.1.5: Seek elimination or deferral of estate taxes on forests.

Strategy 1.1.6: Quantify and promote the economic value of social and ecological benefits of forests as justification for incentive programs.

Strategy 1.1.7: Collaborate with natural resources agencies to provide streamlined land management recommendations and assistance.

Strategy 1.1.8: Provide framework for improving landowner understanding and utilization of non-timber markets and new timber market opportunities.

Objective 1.2: Educate public and policy makers on forest benefits and risks.

Strategy 1.2.1: Actively manage and promote state and federal forests as demonstration areas.

Strategy 1.2.2: Hire public relations specialist to formulate and implement large scale information and education programs.

Objective 1.3: Protect valuable working forests.

Strategy 1.3.1: Prioritize forests based on productivity and ecosystem services values.

Strategy 1.3.2: Work with local and regional governments and developers to define most appropriate locations for development.

Strategy 1.3.3: Promote incentives to protect high priority working forests.

Goal 2: *Monitor the sustainability of Florida forests.*

Objective 2.1: Analyze how improved regeneration scenarios can impact the sustainability of Florida's forests.

Strategy 2.1.1: Develop a report containing long-term projections of various regeneration scenarios on wood supply in Florida.

Strategy 2.1.2: Communicate knowledge on advancements in regeneration practices.

Objective 2.2: Monitor regeneration activities within Florida forests.

Strategy 2.2.1: Conduct surveys of landowners within Florida.

Strategy 2.2.2: Conduct surveys of land management organizations in Florida.

Strategy 2.2.3: Conduct surveys of seedling nurseries within Florida and neighboring states.

Objective 2.3: Determine harvest rates within Florida.

Strategy 2.3.1: Conduct annual surveys of mills on wood utilization and production rates.

Strategy 2.3.2: Prepare a summary report based on the surveys.

Goal 3: Determine the potential of carbon and biomass markets to forest landowners.

Objective 3.1: Increase the ability of landowners to analyze how carbon markets can impact their economic investments.

Strategy 3.1.1: Educate landowners on the availability and use of carbon markets.

Objective 3.2: Conduct an analysis determining the economic feasibility of managing resources for carbon markets.

Strategy 3.2.1: Prepare a report containing projections and associated economic costs and returns of managing forests for carbon.

Strategy 3.2.2: Present results at meetings and disseminate the report at meetings and through the Internet.

Goal 4: Monitor the demographics of forest landowners and their desires.

Objective 4.1: Determine the range in age, salaries, and interests of Florida forest landowners.

Strategy 4.1.1: Utilize existing data and conduct surveys to identify characteristics of Florida landowners.

Strategy 4.1.2: Maintain a presence at forestry meetings throughout the State.

Objective 4.2: Educate the forestry community about landowner demographics.

Strategy 4.2.1: Prepare summary reports of landowner surveys.

Strategy 4.2.2: Present results at meetings and disseminate reports at meetings and through the Internet.

Goal 5: Determine the impacts of additional wood processing facilities on Florida timber supply.

Objective 5.1: Evaluate how new mills will impact long-term timber supply of Florida forests.

Strategy 5.1.1: Prepare a report of long-term timber supply projections based on FIA data and likely wood utilization rates of the proposed mills.

Strategy 5.1.2: Monitor the impacts of hurricanes on timber supply.

Objective 5.2: Quantify the impact from the addition of proposed biomass utilizing facilities on long-term timber supply of Florida forests.

Strategy 5.2.1: Create a report presenting results of projected long-term wood supply using FIA data and proposed biomass utilization rates.

Strategy 5.2.2: Identify other economically viable sources of biomass besides standing trees.

Goal 6: Promote incentives for diversification and improvement to Florida's forest industries.

Objective 6.1: Promote Florida's forest resources products and productivity.

Strategy 6.1.1: Maintain vigorous forest inventory to identify opportunities.

Strategy 6.1.2: Utilize DOACS marketing specialists to enhance marketing of all Florida forest products.

Strategy 6.1.3: Partner with industry, universities and others to educate the public about forest utilization improving human and forest health.

Objective 6.2: Seek additional forest industries to locate in Florida.

Strategy 6.2.1: Collaborate with energy, forestry, and academic communities to better utilize waste, biomass and other forest resources.

Strategy 6.2.2: Identify other economically viable sources of biomass besides standing trees.

Goal 7: Improve Florida's forest research efforts.

Objective 7.1: Maintain and enhance Florida's forest research efforts

Strategy 7.1.1: Identify forestry research needs related to sustainability, markets, etc.

Strategy 7.1.2: Identify ways to facilitate research.

The goals, objectives, and strategies given above help to accomplish the S&PF National Priorities. First, strategies to address this issue help to conserve working forest landscapes since the strategies identify how manipulations of the existing forest resource (such as changes in

reforestation efforts or the establishment of additional wood-processing facilities) can impact long-term sustainability. Second, strategies to address this issue help to protect the forest from harm because the Sustainable Forestry program identifies those operations or manipulations that can reduce sustainability. Third, strategies to address this issue enhance public benefits from trees and forests because the strategies identify those practices resulting in regional-scale economic development, increases in return on investments by investors and landowners. The program determines the long-term sustainability of the resource ultimately helping others to determine recreational opportunities and habitat for both terrestrial and aquatic wildlife.

4. Performance Measures

Goal 1

- Managing forest lands remains a profitable venture.
- Forest industries have adequate supplies of forest based raw materials.

Goal 2

- Increase the number of landowners who actively and sustainably manage forestland and utilize annual harvest trend publications from FDOF in their decision-making process.
- Forest industry depends on FDOF reports to analyze the impacts of various regeneration scenarios on timber supply.

Goal 3

- Landowners participate in carbon markets.

Goal 4

- New market information is readily available to forest landowners.
- FDOF adapts programs to adjust to changing landowner demographics.

Goal 5

- Completion and dissemination of long-term timber supply report for Florida.
- Completion and dissemination of biofuels/bio-energy long-term timber supply report for Florida.

Goal 6

- Completion and dissemination of long-term timber supply report for Florida.
- Completion and dissemination of biofuels/bio-energy long-term timber supply report for Florida.

Goal 7

- Research needs related to forestry's economic viability and sustainability are identified.
- Research funding is available and allocated based on agreed to priorities.

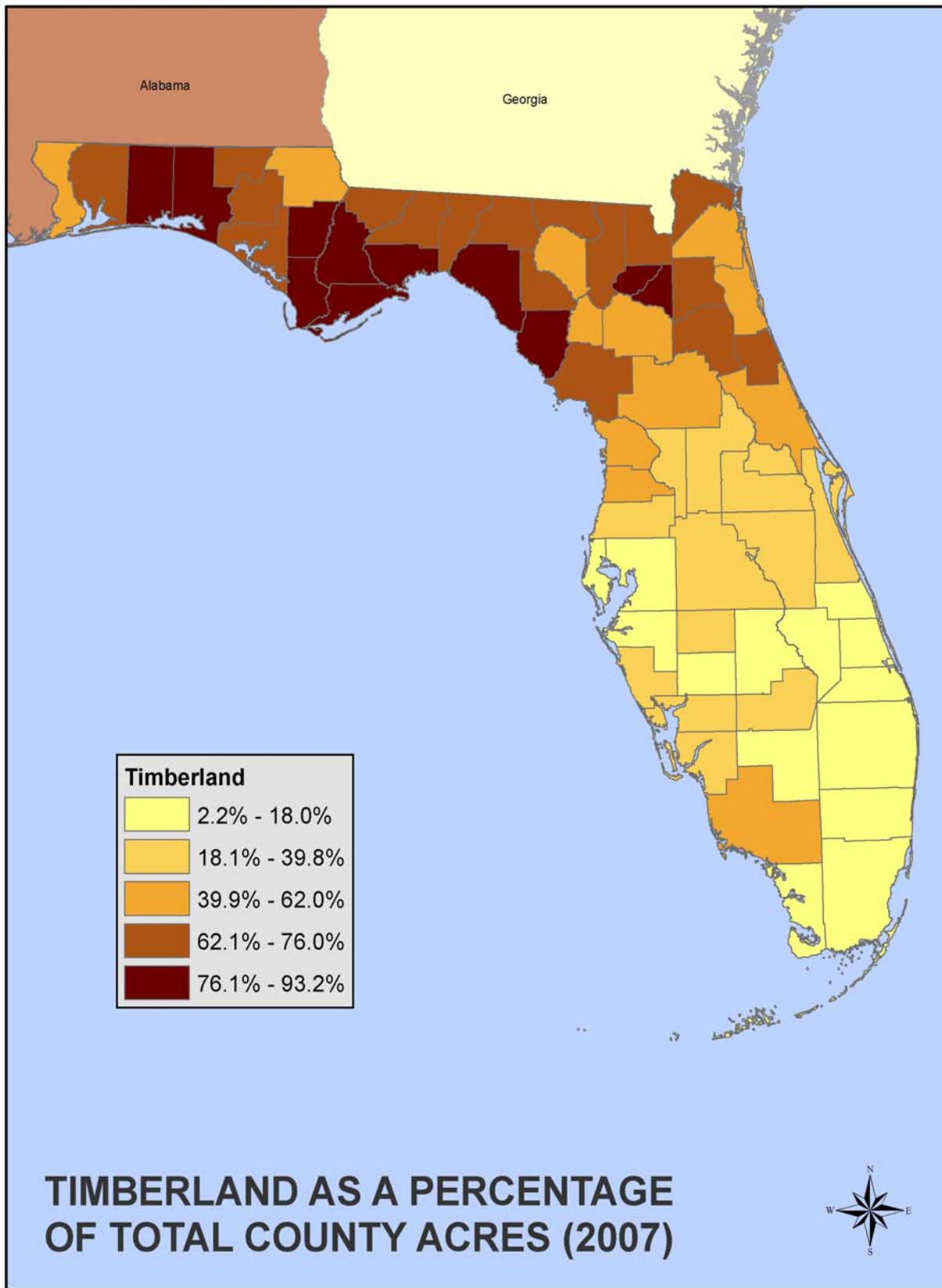


Figure 5-1. Percent of Land classified as Timberland for Florida's Counties, 2007.

Issue 6: Water Quality and Quantity

1. Issue Description

As the fourth most populous state in the country, Florida has averaged over 800 new residents per day, for several decades. With a current population of over 18 million, the state is projected to move into the third place by 2020, with 23.5 million residents. By 2060, the state's population is projected to be 36 million, and it is estimated that an additional 7 million acres will be developed. Based on projections, Florida's water supply will not be adequate to support this population growth. Most problematic for Florida's future water supply is that population growth and urbanization leads to an increase in impervious surface area, which decreases the amount of water that infiltrates into the soil.

In Florida, 87 percent of the public water supply and 94 percent of the dispersed private rural water supply is derived from ground water – rainfall that is “filtered” through the ground cover, soil and geology. The quantity and quality of that ground water is significantly influenced by the type and condition of the ground cover encountered by precipitation at the land surface. Currently, Florida is about 47 percent forested, but the amount of forest land has diminished by over 6 million acres since the 1930's – an average of over 80,000 acres per year. In addition, significantly large forested areas of the state generally coincide with higher groundwater recharge areas. Consequently, forest land losses, especially those lost to urbanization, has resulted in a disproportionately significant need to maintain, or even increase, the acres of forest land cover in the state, in order to protect groundwater recharge areas and provide a sustainable quantity of high quality water.

In addition, many areas of high groundwater recharge are relatively nutrient poor, and generally less productive in terms of forest growth and yield. Fertilization operations that may be conducted to improve forest productivity may also represent a disproportionately higher threat to groundwater, because of the high infiltration rates on these sites. Florida's Silviculture Best Management Practices (BMP) address forest fertilization, and compliance with these BMPs has been excellent. However, the practices have not been adequately tested for effectiveness in protecting groundwater, especially cumulative effects.

2. Priority Areas

The most critical areas in the state are Central and North Florida, where most of the state's forest land and principal water recharge areas are located, and where forest loss is likely to be the highest. In addition, these areas are generally more problematic, in terms of the potential for forest fertilization to have negative impacts to groundwater. Considering the location of existing forests, the potential for development pressure and the groundwater recharge potential, Figure 6-1, Page 45 shows the specific priority areas where the key strategies will provide the greatest public benefit.

3. Goals, Objectives, and Strategies

Goal 1: Protect water quality through research and development

Objective 1.1: Expand and extend current efforts to verify the effectiveness of silviculture Best Management Practices (BMP) related to forest fertilization and nutrient management.

Strategy 1.1.1: Extend the time frame for the current research and monitoring project involving forest fertilization, to better characterize nutrient input and export scenarios.

Strategy 1.1.2: Develop outreach and training programs for professional forestry fertilizer applicators.

Strategy 1.1.3: Develop outreach and training programs for pine straw producers and landowners.

Objective 1.2: Target TMDL watersheds for increased landowner and logger educational efforts.

Strategy 1.2.1: Conduct targeted BMP implementation monitoring within watersheds where impaired waters have been identified and forestry is a significant land use.

Strategy 1.2.2: Develop and deliver landowner and logger workshops to address deficiencies identified during targeted monitoring above.

Goal 2: Protect water quantity through information dissemination and land acquisition

Objective 2.1: Reduce forestland conversion by developing information for distribution and presentation to policy makers on the value of forest land cover for protecting and sustaining water resources.

Strategy 2.1.1: Customize information from the Regional Investment Project to Florida specific conditions – create brochures, etc.

Strategy 2.1.2: Organize and conduct presentations to policy makers at the local, state and federal level, emphasizing the value of forests as well as trees in developed areas for water resource protection.

Objective 2.2: Develop water resource-based protection incentives for forest landowners and urban developers.

Strategy 2.2.1: Work with state and federal partners to develop incentives for forest landowners to maintain forested watersheds - target high groundwater recharge areas.

Strategy 2.2.2: Work with local governments to redesign land use regulations to better protect and promote the forestry land use.

Strategy 2.2.3: During the development process, ensure that site plans provide adequate protection for existing trees and provisions to create a favorable environment for retained and planted trees.

Objective 2.3: Provide for additional public forest land acquisition and management.

Strategy 2.3.1: Give high priority to forested, high groundwater recharge areas for acquisition.

4. Performance Measures

Goal 1

- Verify BMP effectiveness for forest fertilization practices
- Conduct training for fertilizer applicators, landowners and pine straw producers
- Conduct special BMP implementation monitoring within certain TMDL basins
- Conduct BMP training on implementation deficiencies identified during monitoring of TMDL basins – follow up with additional implementation monitoring

Goal 2

- Produce customized information on the forest-water relationship
- Conduct presentations to key policy makers
- Establish forestry incentives in high groundwater recharge areas of the state
- Propose site development and land use (zoning) changes to key local governments
- Propose reprioritization of land acquisition efforts



Figure 6-1. Forested lands, water recharge areas and developed lands.

Sources: Florida Department of Environmental Protection
Southern Forest Land Assessment

Issue 7: Longleaf Pine Ecosystems

1. Issue Description

Longleaf Pine Ecosystems (LPE) have one of the richest species diversities outside the tropics due mainly to the contribution of herbaceous and understory plants (Jose *et al.* 2006). The most important functional attribute of these systems is the occurrence of frequent ground fires. Structurally, the forest is open-canopied with a grassy and low, discontinuous shrub understory maintained by frequent fire. Naturally occurring longleaf pine forests are typically an uneven-aged mosaic of even-aged patches distributed across the landscape, which vary in size, shape, structure and density (Brockway *et al.* 2005).

LPE once accounted for about 60% of the landscape of the southeastern Coastal Plain and were strongly linked to the functions of the remaining ecosystems, including wetlands. LPE are now among the most threatened ecosystems in the United States; they once occupied an estimated 92 million acres in the southeastern United States prior to European settlement, but now occupy less than 2.5 million acres (Jose *et al.*, 2006). Of the original range, only about 0.2% is being managed with fire sufficient to perpetuate the open structure and species diversity of this ecosystem (Jose *et al.*, 2006).

The public benefits of LPE include a variety of economic, cultural, ecological and recreational benefits. Longleaf pine has been called the “tree that built the south”; its wood products and naval stores supported the growth of our nation. Aesthetics and recreation are important values attached to LPE. Biodiversity may be the most important public benefit provided by LPE.

The primary threat to the remaining LPE is the absence of frequent fire. This problem is likely to grow worse as population growth creates more wildland-urban interface zones (Brockway *et al.* 2005). Population growth in Florida over the past 50 years has been remarkable; from less than three million people to more than 18 million. Conversion to other uses and the building of linear infrastructure, such as roads and powerlines, to accommodate Florida’s population growth has affected all types of LPE.

Florida provides an ideal habitat for non-native invasive species from both the tropical and temperate zones. Non-native invasive species constitute an ongoing threat to LPE and other ecosystems in Florida. The list of non-native plants and animals that have become invasive pests in Florida is long and wide, including trees, herbs, grasses, invertebrates, reptiles, amphibians, fish, birds and mammals.

The potential effects of climate change on longleaf ecosystems, including effects on structure, function, the herbaceous layer, pollinators, animals, non-native invasive plants and carbon storage have received insufficient scientific investigation (RWCP 2009). This is a serious research gap in light of the complex interactions that occur with prescribed fire, the potential changes in range given the possible affirmative role of longleaf pine in climate change mitigation, and the suggestion that longleaf pine could play a role in mitigating climate change and in carbon storage.

Of the 11 significant landscapes for Longleaf Pine Conservation identified by the Range Wide Conservation Plan for Longleaf Pine (RWCP 2009), six occur wholly or partially in Florida. Based on data in the RWCP, Florida has the largest number of existing acres, 1,198,248 acres, in longleaf forest types considering all ownership categories. Florida has the largest number of acres in State and Department of Defense ownership among the states, the second largest number in National Forests, and the third largest number in private ownership. The number of acres in both State and private ownership is thought to be seriously underestimated.

Many of the Goals, Objective, and Strategies outlined below were borrowed from, inspired by or taken directly from the RWCP (2009) and from Florida's Comprehensive Wildlife Conservation Strategy (FWC 2005). Although these sources are gratefully acknowledged, their restatement and reworking here are the responsibility of the Division of Forestry.

2. Priority Areas

The argument could be made that all remaining stands of longleaf pine with a moderately intact groundcover component and the feasibility of maintenance with prescribed fire should be considered priority areas for conservation. Similarly, the argument could be made that all Florida counties within the range of longleaf pine should be considered as priorities for LPE conservation. A recommendation could also be made that all stands of LPE on public lands should be maintained with prescribed fire as LPE even if that meant adjusting land management objectives. Another recommendation could be made that all stands that were historically in LPE be actively evaluated and a decision made as to whether restoration is feasible; these decisions then, of course, should be followed by active restoration. The priority for private land owners could be the offering of a menu of available management options and outcomes coupled with incentives to inform their decision on whether to maintain and restore existing or former longleaf pine stands.

In order to contribute a focus and a means for developing and informing priorities, the map in Figure 7-1, Page 65 was developed with information from the Range-wide Conservation Plan for Longleaf Pine, the Landowner Survey Focus Areas map provided by FWC, and managed areas mapped by the Florida Natural Areas Inventory. The boundaries should not be interpreted as hard lines, but rather as general lines that can be expanded or contracted as needed to facilitate management and restoration of LPE at the parcel and landscape scale. With the success of regionally focused land management working groups in Florida, these areas could serve as the core for developing a series of such groups whose focus included restoration and management of LPE.

The Goals, Objective and Strategies listed below and in the Performance Measures and Timeline that follows include those that are both short term (2 – 3 years) and near term (5 years), as well as those that are long term and ongoing. The time at which a Strategy is expected to be implemented is broadly indicated in the Timeline.

Specific priorities have not been assigned because all Goals, Objectives and Strategies listed can be considered a high priority in the management and restoration of LPE. However, the order in which they are listed is meant to suggest priority among the Objectives and Strategies. The first two Goals should be considered the highest priority among the Goals because of the need to identify where and how LPE exist and are currently being managed in Florida and the absolute imperative to apply frequent prescribed fire wherever safety and logistical concerns can be met.

3. Goals, Objectives, and Strategies

Goal 1: Reliable and accurate inventories and assessments of Longleaf Pine Ecosystems (LPE) on public and private land on public and private land exist in accessible databases.

Objective 1.1: Develop central and accessible repositories of data on LPE collected with standardized methods to facilitate communication and coordination of efforts, to frame the scope of the issue, and to identify sites where land managers and landowners can observe restoration projects at various stages and interact with practitioners to develop realistic expectations for restoration efforts and site potential.

Strategy 1.1.1: Survey public land managing agencies in Florida to determine:

- whether LPE have been identified and inventoried,
- if and how condition class is measured,
- if and how fire frequency and intensity are measured,
- planned and actual fire frequency in LPE units;

and, to identify:

- ongoing LPE restoration projects for reforestation, groundcover and wildlife,
- LPE restoration plans,
- sites suitable for restoration,
- LPE restoration and management demonstration projects,
- LPE ecological reference sites.

Strategy 1.1.2: Follow up the survey with a meeting of agencies and partners to evaluate results and to determine if development of a consistent methodology, common definitions and common metrics across jurisdictional lines is feasible and desired.

Strategy 1.1.3: Work with Auburn University, Longleaf Alliance and Florida Natural Areas Inventory to insure the flow of existing information on LPE occurrences.

Strategy 1.1.4: Evaluate the utility of LANDFIRE, The Ecological Classification System and other fire condition and management tools, e.g., as being developed by the National Forests in Florida, for LPE in Florida.

Strategy 1.1.5: Survey public land managing agencies in Florida to determine whether a program for public land manager incentives for protection and restoration of LPE is needed.

Goal 2: Fire return intervals in LPE range from 1 to 5 years with a mode of 3 years (depending on the ecosystem type) and occur in all months of the year where feasible and based on condition and location in the landscape.

Objective 2.1: Accomplish fire return intervals in LPE burn units on public lands in Florida that range from 1 to 5 years with a mode of 3 years (depending on the ecosystem type) within the next 10 years.

Strategy 2.1.1: Expand prescribed burning at Blackwater and Goethe state forests by a total of 5,000 acres in 2010 using American Recovery and Reinvestment Act (ARRA) funding.

Strategy 2.1.2: Increase and maintain prescribed fire plans and accomplishment levels on state forests to between 200,000 and 500,000 acres, based on a 5-year running average, within the next 5 years.

Strategy 2.1.3: Manage all stands identified as LPE on state forests with a fire return interval of 1 to 5 years with a mode of 3 years (depending on the ecosystem type).

Strategy 2.1.4: Within the next 5 years, identify, prioritize and harvest timber in stands that need thinning to promote burn frequency on public lands in Florida, where consistent with approved management plans.

Strategy 2.1.5: Using historic aerials from University of Florida archives, Civilian Conservation Corp timber type county maps, Florida Natural Areas Inventory historical condition and current condition maps, and timber inventory data, identify stands that will be restored or managed as LPE with prescribed fire.

Strategy 2.1.6: Support the development of prescribed fire planning and management tools using Geographical Information Systems (GIS) mapping and their integration with the collection and verification of other types of field data.

Strategy 2.1.7: Determine what programs and assistance from the DOF are needed and desired by other public land managing agencies in the inventory, thinning, restoration and prescribed burning of LPE units.

Strategy 2.1.8: Develop and distribute informational materials that demonstrate the value of a comprehensive fire management program, including protection from wildfire and value of frequent fire in LPE.

Objective 2.2: Increase the capacity to apply fire management on private lands by providing the training, services, and financial incentives to facilitate landowner's ability to apply fire management treatments.

Strategy 2.2.1: Develop and maintain online databases of certified burn managers in Florida.

Strategy 2.2.2: Continue development of DOF-led prescribed fire strike teams and to support development and utilization of additional prescribed fire strike teams to achieve public and private prescribed fire management objectives.

Strategy 2.2.3: Address capacity for prescribed burning and fuels management particularly in the wildland-urban interface within Priority Areas for LPE.

Strategy 2.2.4: Expand and leverage wildland fire control resources to expand planning and application of fire management.

Strategy 2.2.5: Provide information to private land owners about the techniques and advantages to managing with a 1 to 5 year fire return interval.

Goal 3: *Reforestation of longleaf pine is planned or in progress on all sites that have been identified as suitable.*

Objective 3.1: Reforest longleaf pine over the next 10 years on LPE sites where it is historically or functionally appropriate.

Strategy 3.1.1: Reforest 1000 acres of LPE by 2011 with longleaf pine using ARRA funding and state match on Indian Lakes, Withlacoochee, Blackwater, Pine Log, Big Shoals, and J.M. Bethea state forests.

Strategy 3.1.2: Assist Division of Recreation and Parks in reforestation of 100 acres of LPE with longleaf pine by 2011 using ARRA funding.

Strategy 3.1.3: Assist Florida Fish and Wildlife Conservation Commission in reforestation of 100 acres of LPE with longleaf pine by 2011 using ARRA funding.

Strategy 3.1.4: Develop guidance with partners for area-specific feasible LPE restoration goals defined relative to area and spatial context for landowners and resource managers.

Strategy 3.1.5: Use mechanical and chemical methods to control competitive and invasive/encroaching midstory and promote prescribed fire in out-of-fire return interval LPE stands while causing as little damage as possible to individual old growth trees and remnant groundcover. The purpose should be to promote native groundcover and to facilitate future management with prescribed fire.

Strategy 3.1.6: Encourage groundcover restoration prior to pine planting to increase fine fuel availability for fire management and to improve wildlife habitat.

Strategy 3.1.7: Clearcut LPE sites where stands of off-sites species have reached maturity or merchantability. Reforest with longleaf pine while causing as little damage as possible to remnant groundcover.

Strategy 3.1.8: Gradually transition LPE sites currently forested with off-site species to fire management and longleaf pine. These sites have existing nearly mature or productive forests of pines other than longleaf, but can provide fuel for prescribed fire and timber for economic return. Encourage selection harvests of off-site species and favor longleaf pine regeneration or plant longleaf pines as necessary. Gradually increase fire frequency.

Strategy 3.1.9: Use mechanical and chemical methods to control invasive/encroaching midstory and accumulation of fuels in stands that cannot be maintained with prescribed fire because of safety, management effectiveness or logistical concerns while causing as little damage as possible to remnant groundcover.

Objective 3.2: Develop a plan that adequately funds management programs over the long term after restoration.

Strategy 3.2.1: Prioritize among stands, units and landscapes that can be managed over the long-term with frequent fire for LPE to develop a realistic assessment of the funding levels necessary for restoration and long-term maintenance.

Strategy 3.2.2: Prioritize among stands that will be managed with mechanical and chemical methods and without frequent fire over the long term because of safety, management effectiveness or logistical concerns to develop a realistic assessment of the funding levels necessary to manage the stands and protect them from wildfire.

Strategy 3.2.3: Include funding to control non-native invasive flora and fauna in all plans for managing LPE.

Objective 3.3: Increase longleaf tree seed and seedling production in the public and private sectors.

Strategy 3.3.1: Increase the number of longleaf pine cone collection sites; improve access for collection by prescribed fire and mechanical means on three State Forests for a total of about 1500 acres; and increase genetic diversity of seed resources by 2011 using ARRA funding yielding 5000 pounds of seed.

Strategy 3.3.2: Increase Andrews Nursery capacity for producing containerized seedlings by constructing a new suspension field to produce 800,000 additional seedlings by 2011 using ARRA funding.

Strategy 3.3.3: Continue to support existing public and private nurseries that supply longleaf pine seed and seedlings and expand the capacity of existing or new public and private nurseries.

Strategy 3.3.4: Encourage seedling producers to advertise seed origin by ecosystem type (e.g., sandhill or flatwoods) and geographic area.

Strategy 3.3.5: Coordinate seed collection and related seed collection work, and exploration of new technologies in seedling production by public and private nurseries.

Goal 4: *Functional and diverse groundcover vegetation exists or is being restored in stands that can be maintained with prescribed fire.*

Objective 4.1: Place a priority on identifying, inventorying and maintaining those forests with intact ground cover.

Strategy 4.1.1: Develop a “map” of groundcover conditions in LPE on public lands using a consistent methodology across jurisdictional lines or, if not available, a qualitative system for categorizing groundcover conditions determined using various methods.

Strategy 4.1.2: Integrate collection of relevant groundcover condition data in ongoing forest and wildlife inventories.

Strategy 4.1.3: Prioritize among groundcover condition classes to determine which can be managed with prescribed fire over the long-term, which can be restored to fire management, and which can be managed with other means.

Objective 4.2: Develop with partners the seed and plant production technologies, standards, and guidance needed to produce understory plant materials.

Strategy 4.2.1: Create 120 acres of groundcover seed collection areas on six state forests and collect 1200 pounds of seed by 2011 using ARRA funding.

Strategy 4.2.2: Expand capacity of Andrews Nursery to produce 400,000 containerized wiregrass and groundcover species by 2011 using ARRA funding.

Strategy 4.2.3: Work with other public land agencies to create groundcover seed collection areas; coordinate seed collection and related seed collection work, and exploration of new technologies in seedling production by public and private nurseries.

Strategy 4.2.4: Continue to support existing and encourage new public and private nurseries producing groundcover seed and seedlings.

Strategy 4.2.5: Work with partners to implement accreditation standards for producers of seeds and seedlings to assure genetic and physiological quality of seeds and plants used in restoration. Encourage seedling producers to advertise seed origin by ecosystem type (e.g., sandhill or flatwoods) and geographic area.

Strategy 4.2.6: Work with partners to develop guidelines for collection methods and frequency in LPE with high quality groundcover for use by public and private sectors.

Strategy 4.2.7: Work with oil, gas, and power companies as well as conservation partners to provide seed and plant material from and on linear facilities rights-of-ways.

Strategy 4.2.8: Participate in the development of a native seed market in the longleaf pine range.

Strategy 4.2.9: Encourage private landowners to identify incentives that will promote management and improvement of groundcover in LPE and identify potential barriers to these efforts.

Strategy 4.2.10: Develop programs and materials through the DOF Plant Conservation Program that support conservation of listed plant species in LPE.

Strategy 4.2.11: Continue to address pine straw harvest impacts to native groundcover through research, demonstration projects and publications.

Objective 4.3: Control non-native invasive species in LPE.

Strategy 4.3.1: Treat 200 acres for non-native invasive plant species by 2011 using ARRA funding.

Strategy 4.3.2: Work with partners to compile and distribute sources of information for the identification, potential threat, control, and removal of non-native invasive plants and animals.

Strategy 4.3.3: Continue to engage with non-native invasive species programs, *e.g.*, Cogongrass taskforces, Florida Exotic Pest Plant Councils and Cooperative Invasive Species Management Areas, within the longleaf range to identify areas of mutual interest.

Objective 4.4: Work with partners to update information related to groundcover restoration research and implementation and build on information compiled in Trusty and Ober (2009).

Strategy 4.4.1: Continue to update contact list identifying resources for groundcover restoration. Include Native Plant Societies, Botanical Gardens, Garden Clubs, other NGO's, water management districts, state and federal land managing agencies and university-based resources.

Strategy 4.4.2: Continue to catalog existing demonstration projects and ecological reference sites where land managers can see what reference sites and restoration projects look like at various stages and can talk with someone who is restoring a site. Such opportunities will help land owners and managers develop realistic expectations for restoration efforts and site potential.

Goal 5: *Restoration of wildlife characteristic of or dependent or partially dependent upon LPE is occurring. Existing populations are managed for long-term viability and are appropriately monitored.*

Objective 5.1: Participate in efforts to coordinate LPE restoration and management with wildlife restoration and management in consultation with public and private partners.

Strategy 5.1.1: Enhance existing red-cockaded woodpecker populations and 300 acres of habitat at Blackwater River, Tate's Hell and Goethe state forests by 2011 using ARRA funding.

Strategy 5.1.2: Survey selected state forests for gopher tortoises and sandhill reptiles by 2011 using ARRA funding.

Strategy 5.1.3: Work with Florida Fish and Wildlife Conservation Commission and other partners to develop Guidelines for Restocking Gopher Tortoises on Public Lands and to identify priority restoration areas for gopher tortoise mitigation.

Strategy 5.1.4: Coordinate with Southern Range Translocation Cooperative to restore red-cockaded woodpeckers on state forests to reach planning goals.

Strategy 5.1.5: Coordinate LPE restoration and management with augmentation, reintroduction and introduction efforts, where appropriate, for wildlife and plants.

Strategy 5.1.6: Encourage fire management that increases edge and ecotone burning and places constraints on the maximum size of burn units to benefit wildlife.

Strategy 5.1.7: Encourage strict law enforcement protections for sandhill reptiles, particularly regarding gopher tortoise burrow gassing.

Strategy 5.1.8: Encourage medium-sized predator reductions to facilitate gopher tortoise, RCW and other listed species restoration.

Strategy 5.1.9: Develop programs that support rare and imperiled amphibians that are associated with or dependent on LPE during their life cycles.

Goal 6: *Fragmentation of LPE by linear facilities and development is being avoided on public lands. Existing fragmentation is being addressed through restoration and acquisition.*

Refer to Issue 2, Forest Fragmentation Goal 4:, for the Goals, Objectives and Strategies relevant to Longleaf Pine Ecosystems.

Goal 7: *Seek better understanding of the likely effects of climate change on LPE as well as the role LPE management and restoration could possibly play in mitigating or adapting to climate change.*

Objective 7.1: Encourage more extensive scientific study of the potential effects of climate change on LPE, including tree species, plants and animals, and ecosystem functions.

Strategy 7.1.1: Identify to the US Forest Service and others conducting climate change research the need to better understand the potential effects of climate change on plants, animals and ecosystem function in LPE, especially with respect to southern range contraction and non-native invasive exotics.

Strategy 7.1.2: Identify to the US Forest Service and others conducting climate change research the need to gain a better understanding of the climate change impacts of frequent fire management versus catastrophic wildfires.

Objective 7.2: Encourage more extensive scientific study of the potential role that LPE, both at the level of ecosystem function and at the level silvicultural management of the species, could play in mitigating or adapting to climate change.

Strategy 7.2.1: Identify to the US Forest Service and others conducting climate change research the need for determining the contributions that LPE restoration and management could play in carbon sequestration and adaptation to climate change.

Strategy 7.2.2: Identify to the US Forest Service and others conducting climate change research the need for determining impacts from the increased level of prescribed burning done to restore and maintain healthy LPE.

Strategy 7.2.3: Monitor state and federal climate change legislative proposals to assess opportunities (as well as possible constraints) presented to private landowners and to the landscape-level initiative to restore LPE.

Strategy 7.2.4: Promote and demonstrate range-wide and site-based conservation planning for LPE restoration to support ecosystem adaptation (resilience and resistance) and integrate the results with other climate change planning efforts.

Goal 8: *Economic opportunities for longleaf forest products and ecosystem services are enhanced for landowners, local communities and society.*

Objective 8.1: Identify and promulgate with partner agencies appropriate silvicultural techniques and tools to provide a sustainable supply of products while maintaining ecosystem values and services.

Strategy 8.1.1: Work with the Florida Forestry Association to determine whether the Master Logger Program needs to be expanded to smaller timber companies that work in LPE.

Strategy 8.1.2: Work with partners to determine whether LPE management and restoration can be updated into the Master Tree Farmer Program.

Strategy 8.1.3: Continue to refine research, development and communication efforts concerning uneven-aged management so these techniques become applicable and efficient in public and private LPE management.

Strategy 8.1.4: Continue to coordinate with federal, state and private research organizations to develop long-term funding for research and application development.

Strategy 8.1.5: Develop demonstration sites on public and private land that show uneven-aged silvicultural systems.

Strategy 8.1.6: Meet with USFS, academic and institute forestry researchers, and other partners to review and update existing growth and yield models for longleaf pine forests or develop new ones, if necessary.

Strategy 8.1.7: Meet with USFS, academic and institute forestry researchers, and other partners to review existing actuarial analysis tools and to develop new ones, if necessary.

Objective 8.2: Develop Private Landowner Incentive Program for protection, management and restoration of LPE in 2010 using ARRA funding.

Strategy 8.2.1: Develop technical guidelines for the Incentive Program, solicit applications, and select and notify awardees in 2010. Restore 100 acres of groundcover, prescribe burn 3,000 acres, reduce midstory on 500 acres, and treat 200 acres for non-native invasive plants by 2011 using ARRA funding.

Strategy 8.2.2: Develop private lands geodatabase of longleaf pine acreage in Significant/Priority Landscapes by 2011 using ARRA funding.

Strategy 8.2.3: Develop an outreach program by 2011 using ARRA funding for private landowners interested in restoration of longleaf pine or LPE.

Strategy 8.2.4: Encourage private landowners to assist in developing additional incentives for other landowners to manage and restore LPE.

Strategy 8.2.5: Support local communities and communities of interest in determining economic and related objectives and where compatible, assist in the development of new markets to produce premium longleaf products.

Strategy 8.2.6: Support and supplement studies of landowners (non-industrial, investment and industrial owners) that are key to longleaf restoration including demographic characteristics and values as well as investment and other objectives.

Strategy 8.2.7: Develop public and private land demonstration areas for LPE conservation and to showcase opportunities for private land managers.

Strategy 8.2.8: Promote development, acceptance, and use of various and/or “stacked” ecosystem market payments, for example, hunting leases and watershed quality trading credits for longleaf forests and their values. Provide relevant information to service foresters, consulting foresters, and other resource service providers.

Strategy 8.2.9: Promote development of conservation banking instruments for longleaf forests, for example, gopher tortoises and wetlands. Provide outreach to landowners to develop and clearly communicate these incentives.

Strategy 8.2.10: Promote development, application, and acceptance of new economic models that incentivize longleaf restoration at landscape scales, models that can capture public/private ventures, cross multiple ownerships and provide longer-term stability to restoration efforts.

Strategy 8.2.11: Assess development of wood-to-energy industries, their potential effects on longleaf restoration efforts, and opportunities to make them more compatible and/or less competitive.

Objective 8.3: Develop a pine straw market that is compatible with LPE management approaches on public and private land.

Strategy 8.3.1: Educate the forest management consulting community about the illegality of selling pine straw bales contaminated with Japanese climbing fern, and appropriate control methods.

Strategy 8.3.2: Create a system where landowners can voluntarily have their plantations certified as *Lygodium*-free. Provide incentive programs so that landowners increase profits by having certified pine straw.

Goal 9: *Partnerships among public agencies and non-governmental organizations, including state and regional fire councils, state and federal fire and resource management agencies and other natural resource conservation and management organizations, support LPE conservation and achieve fire management goals on public and private land for LPE.*

Objective 9.1: Integrate public lands programs to prioritize and support LPE conservation in the areas of fire management, smoke management, silviculture, nursery operations, non-native invasive species control, wildlife management and restoration.

Strategy 9.1.1: Work with public land management agencies and private land management organizations to support increased cooperation and coordination.

Strategy 9.1.2: Identify and work to amend policies that restrict management activities across jurisdictional and ownership boundaries.

Objective 9.2: Continue to advance awareness of the influence of fire in shaping and sustaining native ecosystems in Florida and the benefits of frequent fire as a means to reduce wildfire through education and outreach.

Strategy 9.2.1: Reevaluate existing educational and training materials and distribute in relevant venues.

Strategy 9.2.2: Work cooperatively with the U.S. EPA and the Florida Department of Environmental Protection to address smoke management for fire management and to facilitate increased burning while complying with state air quality laws.

Strategy 9.2.3: Assure that the positive aspects of fire management on air quality are recognized in plans of other state agencies and local governments.

Strategy 9.2.4: Participate in the development and/or updating of Smoke Management Programs prepared by state air quality and land management agencies.

Objective 9.3: Form and facilitate new partnerships, alliances, and networks of organizations and landowners willing to research, conserve and manage LPE.

Strategy 9.3.1: Work to develop partnerships to encourage conservation of significant LPE on lands encompassed by federal/state base closures.

Strategy 9.3.2: Work to develop partnerships to encourage implementation of comprehensive management and mitigation plans that protect high quality LPE and natural resources.

Strategy 9.3.3: Work with America's Longleaf initiative as a potential structure and mechanism to guide restoration through public and private coordination within LPE Priority Areas.

Strategy 9.3.4: Work with single issue advocacy groups (National Wild Turkey Federation, Quail Unlimited) to accomplish broad ranging LPE management.

Goal 10: *The public and policy makers are informed about economic and ecological values of LPE and support budgets and management structures that accomplish LPE conservation. State and federal air quality regulators, key policy makers and planners at state and local government levels understand the importance of and support the use of frequent prescribed fire in LPE.*

Objective 10.1: Inform policy makers and legislative leaders concerning LPE management and restoration on public and private lands.

Strategy 10.1.1: Involve partners from the public land managing agencies and universities and from the environmental, research and forestry communities, e.g., Society of American Foresters, Florida Forestry Association, Longleaf Alliance, Tall Timbers, The Nature Conservancy, Defenders of Wildlife, CFEOR, SERRPAS, in development of communication and education materials and approaches concerning economic and ecological values and management and restoration of LPE for policy makers and legislative leaders.

Strategy 10.1.2: Continue to educate landowners, the public, policy makers and legislative leaders about the proper use and values of Silviculture Best Management Practices (BMPs).

Strategy 10.1.3: Evaluate and communicate the values added by restoring the native groundcover in LPE targeting landowners and policy makers.

Strategy 10.1.4: Continue to hold ground cover workshops and field days for private landowners and public land managers.

Strategy 10.1.5: Develop brochures that communicate the values of native groundcover.

Strategy 10.1.6: Continue to fund County Foresters in landowner assistance programs.

Objective 10.2: Work with partners to guide the maintenance of existing high quality groundcover communities, avoid continued loss, raise awareness of significance of existing habitats, and influence management policy development.

Strategy 10.2.1: Develop educational and training materials to communicate the effects of common management practices on high quality groundcover. Emphasize the extreme importance of retaining groundcover horizontal continuity as fuels for fire and effects of various silvicultural/site preparation treatments on soil disturbance and related effects on fuels continuity.

Strategy 10.2.2: Develop training and information materials regarding silviculture systems, groundcover management, wildlife management, and non-native invasive species control appropriate to LPE restoration and management.

Strategy 10.2.3: Develop information materials that describe the economic side of uneven-aged silvicultural systems.

4. Performance Measures

Goal 1. Inventories, assessments and databases

Survey of public land managers in Florida of LPE and partner agencies (Florida Natural Areas Inventory, University of Florida, Auburn University, Longleaf Alliance) has been conducted and analyzed.

Follow-up meeting held with public land managers and partner agencies to determine how to facilitate information flow and to develop common definitions and metrics concerning Longleaf Pine Ecosystems (LPE).

Goal 2. Fire return intervals

A total of 5,000 acres are burned at Blackwater River and Goethe state forests using ARRA funding.

Monthly and annual collection of data on prescribed burning in state forests is maintained in a database.

Stands whose Desired Future Condition is restoration to and long-term management for LPE and desired fire frequency in stands and burn units on state forests are being determined and identified in geodatabases used by DOF for forest management.

Harvesting plan that supports increased fire frequencies in LPE has been developed and is being implemented.

Best available data shows that prescribed burning trends are approaching a 1-5 year fire return interval with a mode of 3 years on state forests with LPE by 2014.

Online database of certified prescribed burners in Florida is maintained and available.

Fire frequency and burn unit condition classification on other public lands have been accessed and evaluated; programs to offer assistance from DOF have been implemented.

Best available data shows that prescribed burning trends are approaching a 1-5 year fire return interval with a mode of 3 years on public lands with LPE where this interval is the objective by 2014.

Interagency training in prescribed burning is ongoing, of high quality, and sufficient to meet demands.

Goal 3. Reforestation of longleaf pine

Reforestation of 1000 of LPE has been accomplished with longleaf pine using ARRA funding at Indian Lakes, Withlacoochee, Blackwater River, Pine Log, Big Shoals and J.M. Bethea state forests.

Reforestation of 100 acres of LPE has been accomplished on State Parks managed by the Division of Recreation and Parks using ARRA funding.

Reforestation of 100 acres of LPE has been accomplished on Wildlife Management Areas managed by the Florida Fish and Wildlife Conservation Commission using ARRA funding.

Restoration priorities have been developed among agencies managing LPE, including stands that will be restored and managed with prescribed fire and with mechanical and chemical means, including control of non-native invasive flora and fauna, and a realistic funding plan has been developed.

Full-cost accounting for restoration and management of LPE on state forests has been determined and funding plan has been developed. Prescribed burning, reforestation, groundcover restoration, and non-native invasive species control are included.

The number of longleaf pine cone collection sites has been increased; access for collection has been improved on three State Forests for a total of about 1500 acres; and genetic diversity of seed resources has been increased using ARRA funding. Five thousand pounds of additional longleaf pine seed has been produced.

The capacity of Andrews Nursery and other public and private nurseries to produce longleaf pine seedlings has been expanded and is adequate to meet the demand. Longleaf pine seedling producers are able to identify seedlings based on origin by ecosystem type.

Goal 4: Groundcover

Survey has been conducted and analyzed of public land managing agencies and partners in Florida to determine whether groundcover in LPE has been identified and inventoried and how condition class is measured. If feasible, a map of conditions is being created.

Relevant groundcover data is being collected in forest and wildlife inventories.

Groundcover restoration priorities have been identified by partner agencies. Plans for restoration have been developed by condition class and the necessary funding amounts have been identified.

At six state forests, 120 acres of groundcover seed collection areas have been created and 1200 pounds of seed collected using ARRA funding.

The capacity of Andrews Nursery was increased by 400,000 containerized seedlings of wiregrass and groundcover species using ARRA funding.

Groundcover restoration is considered in oil, gas, and powerline easements across public land.

Surveys of private landowners to determine incentives and barriers for groundcover restoration and management has been implemented and analyzed.

An outreach program for private landowners interested in restoration of longleaf pine or LPE has been implemented with incentives developed in consultation with the landowners.

Surveys of nurseries and groundcover restoration companies to discuss and review seed collection, accreditation and marketing have been implemented and analyzed.

Groundcover seed and seedling availability is sufficient to meet demand. Suppliers are able to identify materials based on origin by ecosystem type.

Groundcover restoration is included in workshops and field days, with brochures and training materials available.

Pine straw harvest is a viable industry, is used in LPE restoration on suitable sites, and is conducted in a manner that does not damage native groundcover or spread non-native invasive species.

A total of 200 acres of LPE has been treated for non-native invasive plants using ARRA funding.

Goal 5. Restoration of wildlife

Red-cockaded woodpecker populations and habitat have been enhanced at Blackwater River, Tate's Hell and Goethe state forests using ARRA funding.

Selected state forests have been surveyed for gopher tortoises and sandhill reptiles using ARRA funding; ongoing surveys are planned and funded.

Information and assistance is available for private land owners and public land managers to restore and manage LPE for the benefit of wildlife.

The Southern Range Translocation Cooperative continues to coordinate donors and recipients in the translocation of red-cockaded woodpeckers.

Guidelines for the Restocking of Gopher Tortoises have been developed and implemented; restocking of public lands is occurring.

Goal 6: Fragmentation

Refer to Issue 2, Forest Fragmentation, for the Performance Measures relevant to Longleaf Pine Ecosystems.

Goal 7. Climate change

Research on the relationship between climate change and restoration and management of LPE is being conducted and supported by CFEOR, SERRPAS and USFS SRS, based on input from partners in public and private land management of LPE. Research includes potential effects on LPE species, ecosystem functions, carbon sequestration, and prescribed burning.

Goal 8. Economic opportunities

The Master Logger Program and Master Tree Farmer Program have been reviewed and updated as necessary to address LPE restoration and management.

Needs for research and application techniques and for training and information materials in silvicultural methods compatible with efficient LPE management and restoration on public and private land have been identified by Conserved Forest Ecosystems: Outreach and Research (CFEOR), SERRPAS, USFS SRS and others.

Demonstration sites on public and private land show uneven aged management and other silvicultural systems compatible with LPE.

Growth and yield models and actuarial analysis tools have been identified for LPE and are being update as appropriate by CFEOR, SERRPAS, USFS SRS and other partners.

An ongoing LPE Incentive Program has been developed and implemented using ARRA funding. The first two years of the program have resulted in 100 acres of groundcover restoration; prescribe burning of 3,000 acres; reduction of midstory on 500 acres; and, treatment of 200 acres for non-native invasive plants.

Training and informational materials have been developed for private landowners with their input that describe stacked ecosystem market payments, promote conservation banking instruments and economic models that create incentives for LPE restoration and management.

Assessments have been made of wood-to-energy industries, their potential effects on longleaf restoration efforts, and opportunities to make them more compatible and/or less competitive.

Pine straw harvest is a viable industry, is used in LPE restoration on suitable sites, and is conducted in a manner that does not damage native groundcover or spread non-native invasive species.

Goal 9. Partnerships

Strong partnerships are maintained with state and regional fire councils, state and federal fire and resource management agencies, and other natural resource conservation and management organizations to achieve cooperatively and across jurisdictional boundaries agency objectives for prescribed fire, management and restoration goals for LPE.

Educational materials that describe the influence of fire in shaping and sustaining native ecosystems in Florida and the benefits of frequent fire as a means to reduce wildfire and pollution are updated and available in all relevant venues.

State and federal air quality regulators, key policy makers and planners at state and local government levels understand the importance of and support the use of frequent prescribed fire in LPE.

Federal and state air quality regulations and plans recognize and account for the difference between frequent prescribed fire and wildfire in their effects on air quality, pollution and global climate change.

Active participation is occurring in the Gulf Coastal Plain Ecosystem Partnership, Apalachicola Regional Stewardship Alliance, Lake Wales Ridge Ecosystem Working Group, Sandhill Working Group, Gopher Tortoise Restocking of Public Lands Working Group, Southern Region Translocation Cooperative, Longleaf Alliance, etc. Development of new partnerships is occurring where appropriate.

Working groups centered on LPE restoration and management have been developed, where appropriate, in northeast Florida (Okefenokee/Bethea/Osceola and Jennings/Blanding/Belmore Longleaf Pine Priority Areas), west central Florida and other Longleaf Pine Priority Areas.

Meeting held with America's Longleaf staff discuss strategies for LPE conservation in Florida.

Cooperative work continues with Turkey Unlimited, Quail Unlimited and other single issue groups on projects that can integrate with LPE.

Goal 10. Public and policy makers are informed

Brochures and educational materials concerning prescribed fire, LPE restoration and management, non-native invasive species control and Silvicultural BMPs are endorsed by multiple partners and are regularly distributed to policy makers and legislators in appropriate venues.

Training and workshops in LPE restoration and management, prescribed fire, and groundcover restoration and management are ongoing, updated, high quality and adequate to meet demands. Updated LPE training materials are distributed in workshops, training courses and field days.

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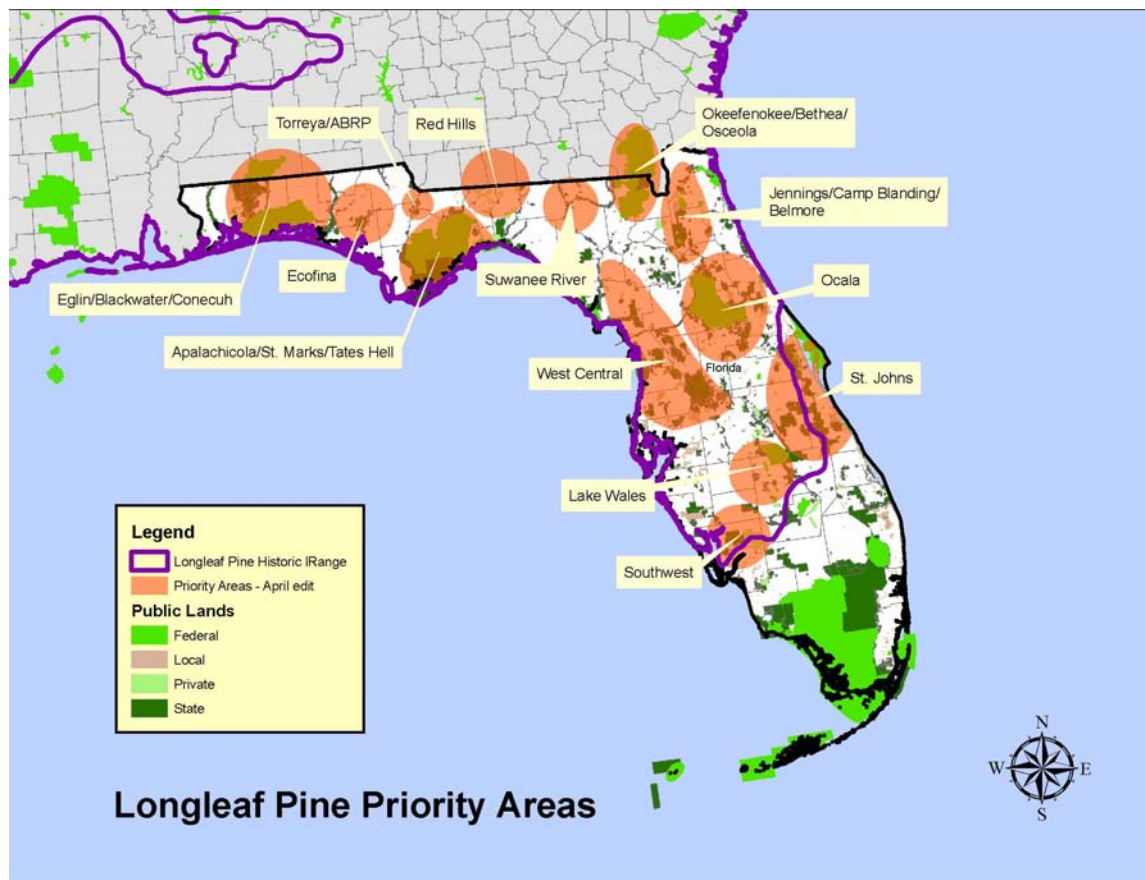


Figure 7-1. Florida Longleaf Pine Priority Areas. Sources: Range-Wide Conservation Plan for Longleaf Pine, Florida Natural Areas Inventory, Florida Division of Forestry.

III. Multi-State or Regional Priority Opportunities

Several multi-state efforts to address issues important to Florida as well as neighboring states or the southern region have been outlined in the previous section. Through sharing of information regionally it was found that all of Florida's issues of concern are shared by other states specifically in their assessment and strategy documents. These common concerns can create a greater stimulus for innovative approaches to address issues as well as providing increased leverage of resources to accomplish strategic projects. Below is a brief summary of Florida's issue set and the number of total states that had the same or a similar topic issue.

Issue or Topic	Number of Southern Region States Addressing Issue in State Assessment/Strategy Process
Wildfire Threat/Prescribed Fire	12
Forest Fragmentation/Parcelization/Sprawl	10
Forest Health/Invasive Species	13
Climate Change	8
Economics/Changing Markets	10
Water Quality/Quantity	10
Longleaf Pine/Other Ecosystems	3

IV. State Forestry Programs

The Florida Division of Forestry includes many programs that either directly, or indirectly support and deliver State and Private Forestry Programs. These state programs are described in detail in the following section as they are vital components for implementation of the issue strategies outlined in the previous section.

These programs include:

- Forest Protection
- State Lands Management
- Forest Inventory and Analysis
- Forest Health
- Forest Stewardship
- Urban & Community Forestry
- Water Resources
- Forest Legacy

Forest Protection Program

1. Program Description

The mission of the Florida Division of Forestry (DOF) is to protect Florida and its people from the dangers of wildland fire and manage the forest resources through a stewardship ethic to assure they are available for future generations. Fire is both good and bad for Florida's Forests. Proper fire management requires protecting the forest and citizens from devastating wildfires while at the same time promoting the use of prescribed fires to maintain healthy ecosystems. The first part of the mission statement describes the primary concern for DOF... protection. Protection is a very broad concept that can be broken down into three main categories; prevention, detection and suppression.

Wildfire Prevention / Mitigation

Florida has a year round wildfire season. March through June are typically the most active months for wildfires. Approximately 70% to 80% of wildfires in Florida are caused by humans with arson and escaped debris burning being the top two causes. The Division of Forestry has a very proactive fire prevention program that uses innovative campaigns to address various human wildfire causes. Federal grants play a big role in funding the various statewide prevention campaigns using billboards, radio, movie ads and newspapers as a conduit to deliver the prevention message. An interactive online prevention educational program has also been introduced into public and private schools for 4th – 6th grades. A more localized prevention approach can be found in each of the Division's 15 field units. Each field unit has a District prevention committee with representatives from each county within the District. The committee plans and implements the District's prevention program and also delivers numerous Smokey Bear and other fire prevention programs to local schools, day cares and summer camps throughout the year. The committee also sets up prevention displays at county fairs and other events. The committees have a great relationship with the community as well as their local partners.

Prevention works! Because of its successful wildfire prevention program, the Florida Division of Forestry was selected for the first ever in-depth wildfire prevention study conducted by the U. S. Forest Service Southern Research Laboratory in North Carolina. Their research has shown that the Division of Forestry's wildfire prevention efforts saves the State of Florida millions of dollars each year that would have been spent on suppression costs of wildfires.

Florida's wildfire mitigation program has three major components: information, education, and fuel management. Each of these components has the same goal – to reduce the wildfire risk for a home or a community.

The information and education portion of the program is designed to impart knowledge about research proven methods available to homeowners, community developers, and local planners to reduce wildfire risk. These programs seek to create a paradigm shift to engage the homeowner as the one responsible for the decision to live in wildland urban interface areas and therefore the one responsible for taking action to increase the probability that homes will survive a wildfire disaster even without the assistance of fire services. The fuel management portion of the Florida program is achieved through prescribed burning and mechanical fuel reduction projects on both

private and public land. The projects are designed to create buffer areas in and around urban interface areas that result in reduced wildfire risk.

Wildfire risk planning is key to program success. Planning is accomplished utilizing the Florida Firewise Community program, Community Wildfire Protection Plans, Local Mitigation Strategy Planning groups, and direct work with local governmental and private planning groups. Each local field unit is responsible for the development of a yearly mitigation action plan detailing wildfire risk areas targeted for mitigation projects during the year.

Community Wildfire Protection Plans

The Florida Division of Forestry assists local county governments to develop a comprehensive Community Wildfire Protection Plan (CWPP). CWPPs are authorized and defined in Title I of the Healthy Forest Restoration Act (HFRA), passed by Congress on November 21, 2003, and signed into law on December 3, 2003. The CWPP is a written document mutually agreed upon and signed by all representatives and stakeholders. CWPPs provide an action plan for communities to reduce their community wildfire risks. Florida is currently developing nine county wide CWPPs in counties determined to have the highest wildfire risk as rated by the Southern Fire Risk Assessment System (SFRAS). This project is funded through the American recovery and Reinvestment Act (ARRA). Additional CWPPs are being developed through the efforts of the local DOF Mitigation Specialists. The goal is to have a county wide CWPP completed for each of Florida's 67 counties.

All CWPPs have three minimum requirements:

1. **Prioritized Fuels Reduction** – The CWPP must Identify and prioritize wildland areas for hazardous fuels management and recommend actions to complete and maintain hazardous fuel management on both private and public lands.
2. **Treatment of Structural Ignitability** – CWPPs recommend measures for reducing structural ignitability throughout the community at risk and provides a thorough needs assessment and review of local fire service capacity to respond to community structural wildfire threats. Required changes, training needs, and an action plan for improvement are identified in the plan.
3. **Collaboration** – CWPPs are developed in a collaborative effort of community and state government representatives in consultation with federal agencies and other interested parties.

Project partners in the community collaboration process include Florida Emergency Management Agency, U.S. Forest Service, local fire services, private non-profit partners, local county governments, and community representatives.

Florida Firewise Communities Program

Florida has been actively engaged in the Firewise Communities/USA program since 1999. Currently Florida has over 40 active communities and many other communities engaged in the progress to receive this national designation. Local mitigation specialists are assigned to each of the Division's local field offices and serve as the point person for all Firewise community planning and development projects. These specialists also assist with Firewise Community

workshops for local communities and assisting with the logistics of completing community Firewise projects. The Firewise program is an integral part of the total Florida wildfire mitigation program.

Disaster Hazard Mitigation

Work with CWPP development and with the Local Mitigation Strategy groups complements the work of the Florida Emergency Management Agency's Hazard Mitigation Division. The Division of Forestry assists EM with the preparation of a comprehensive threat reduction and loss avoidance program that protects people and property from exposure to natural and technological hazards. As a member of the State Hazard Mitigation Plan Advisory Team (SHMPAT) the Division assists with the update of the State Hazard Mitigation Plan.

As a SHMPAT member the Division is currently assisting with the re-writing of the State Hazard Mitigation Plan for submission to FEMA as an “enhanced” plan. An approved “enhanced” plan qualifies Florida to receive higher funding levels from FEMA post-disaster grants. The Division also is completing a wildfire annex to the State Hazard Mitigation Plan which further defines Florida’s wildfire hazard and needed mitigation actions.

Locally, the Division provides technical assistance to local governments developing their Local Mitigation Strategy plans and projects. The work to identify, plan, and prioritize local wildfire hazards and to coordinate these needs on a statewide level strengthens the ability of Florida counties to compete successfully for FEMA Pre-Disaster Mitigation Grants (PDM) and other available funding.

Burn Authorizations

All outdoor burning in Florida, with the exception of yard waste is authorized through the Division of Forestry. Annually we authorize an average of 120,000 burns for agriculture, silviculture and land clearing consisting nearly 200,000 piles and over 2 million acres each year. Florida’s authorizations are issued and tracked real-time using GIS-based software. This allows DOF to issue authorizations while minimizing air quality impacts. When fire danger is high, outdoor burning can become the cause of wildfires. On those days, authorizations can be restricted to reduce the threat of wildfires.

Prescribed Fire

Florida has played an important role in the prescribed fire community. The first prescribed fire council in the nation was formed in South Florida. Florida now has three councils which hold annual and semi-annual meetings. Prescribed Fire Councils have played a pivotal role in prescribed fire legislation in Florida.

The Prescribed Fire Act of 1990 (Florida Statue Chapter 590.125) was the first legislation that provided liability protection to certified prescribed burners. In addition to liability protection, this statute guarantees landowners the right to use prescribed fire and considers prescribed fire to be in the public interest and does not constitute a public or private nuisance.

The Administrative Code 5I-2 outlines a Certified Burn Manager program which is administered by the Division of Forestry. The Florida Certified Prescribed Burn Manager Program has certified over 4,000 burn practitioners since its inception in 1987. In 2006 DOF implemented a Certified Pile Burner Program. To date there have been over 600 individuals certified in this program.

Over two million acres are authorized to be burned annually in Florida. This includes agriculture, silviculture and land clearing. Burning is essential to many ecosystems in Florida. To be able to use prescribed burning in the future it is essential to gain Public acceptance. With that in mind, in 1997 the Governor and Cabinet declared the second week of March as prescribed fire awareness week. We use that time each year to promote prescribed burning throughout Florida. In addition we use statewide radio, TV and billboard campaigns. Recently we have just completed a region-wide campaign called 'One Message-Many Voices'. This campaign is to be used by all 13 States in the Southeast to promote the use of fire in land management.

Fire Detection

Over the years fire detection in Florida has evolved. In years past fire tower were the primary means of detecting wildfires. Aircraft were added later to patrol wildland areas during high fire danger. With the advent of cellular telephones, many fires are reported by concerned citizens. Fire towers are still in use; DOF currently has 24 Primary, 40 Secondary and 26 Reserve fire towers. Aircraft are also a valuable tool for detecting fires. DOF uses fixed wing single engine aircraft to patrol areas looking for fires. They are also valuable during suppression efforts giving the ground units an eye in the sky.

Fire Suppression

The majority of the DOF budget is for Forest Protection programs, and the majority of its personnel are employed in fire suppression positions. DOF is mandated to manage and extinguish all wildfires in the State of Florida. Florida experiences roughly 3,400 wildfires per year that burn nearly 136,000 acres. Florida has a strong fire suppression capacity with more than 670 fire management personnel. The DOF firefighter workforce consists of the following:

Position	Filled	Vacancies	Total
Forest Ranger	371	15	386
Senior Forest Ranger	124	2	126
Forest Area Supervisor	59	1	60
Operations Administrator	10	0	10
District/Center Manager	15	0	15
Duty Officers	67	4	71
Duty Officer Supervisor	15	0	15
Staff (other fire Positions)	12	1	13

The Florida Division of Forestry equipment fleet consists of 336 fire suppression crawler tractors, 175 wildland fire engines, 22 patrol aircraft and nine fire suppression helicopters. We also use a variety of other vehicles to maintain roads for firebreaks, pickup trucks and other personnel transportation, as well as some unique equipment fitted to Florida's landscape. Our equipment is kept in a state of readiness for all-hazard mitigation and wildfire suppression, and

maintained by the firefighter assigned to the crawler, transport or engine, and our mechanic staff. The cost of material to maintain and build this unique equipment needed continues to rise. In an effort to save money and time on repairs and maintenance, we staff mechanics over constantly taking the equipment to costly dealers for service. The average operational cost to the division's firefighting equipment fleet is \$11 million annually. Also, State funds to purchase new equipment are very limited. So having a good maintenance plan is essential.

Suppression Support:

Communications

Having excellent communications with resources in the field and with field operation support is essential.

Meteorological Support

The Florida Division of Forestry employs a full time meteorologist who supports the activities of the Forest Protection Bureau. The meteorologist monitors weather conditions, notifies field units of significant weather events, and acts as a liaison with the National Weather Service. The meteorologist also assists in plan development for smoke management, pre-suppression, and prescribed fire; the position also assists in wildland fire prevention efforts.. The meteorologist is also responsible for developing short and long term fire weather forecasts which are posted to the Division's website for use by Division personnel and the general public. This site includes specialized fire weather information that is not produced by the National Weather Service. The meteorologist also conducts fire weather training. The site also contains data from a mesoscale model which is maintained and evaluated by the meteorologist.

Rural Fire Defense and Emergency Response

Our Rural Community Fire Protection program supports Florida's fire departments by offering leased and loaned fire trucks to at no cost. The Division has over 720 trucks loaned to assist volunteer and rural fire departments throughout the state. This cooperative effort and partnership provides the backbone for emergency response and wildfire suppression in our rural communities. The Firefighter Program (FFP) and Federal Excess Personal Property (FEPP) program are also used to supply usable equipment to support our Fire Program. The Division also administers the Volunteer Fire Assistance grant program to help the neediest fire departments purchase communication equipment, conduct training, buy personal protective equipment (PPE), and water handling equipment for their engines. This 50/50 grant doubles their buying potential for necessary items to their fire program and greatly assists us in our wildfire program. We generally support over 100 of these grants each year.

Incident Management

The Florida Division of Forestry, Forest Protection Bureau provides direct oversight for four different Inter-Agency Management Teams. All four are nationally qualified Type II and Type I State Incident Management Teams. Each team is highly trained and experienced to work together

using the Incident Command System, to accomplish a common set of objectives and strategies developed jointly by all agencies having jurisdictional or functional responsibility for an incident regardless of the incident type. Each IMT reflects the interagency and cooperative nature of today's incident management philosophy with team members coming from federal, state, and local agencies. These teams were designed over 20 years ago to assist & support state & local emergency services with unusually large, complex, or long-term emergency incidents. Some of the most recent deployments for the management teams have been for numerous Hurricane Disaster Responses, Wildfire Response, Urban Search & Rescue, Fruit Fly Eradication, Mouse Population Reduction, Citrus Canker, Tornado Response, and Equine Virus Outbreak. In addition to the management teams, the Division of Forestry is tasked with supporting the State Emergency Operations Center through the Emergency Support Function, ESF 4 & 9 Firefighting / Search and Rescue and ESF 11 Food & Water.

2. Program Priority Areas

Program priority areas for the Florida Division of Forestry's Forest Protection Program are outlined in detail under "Issue 1: Wildfire Threat/Use of Prescribed Fire."

3. Program Objectives, Goals, and Strategies

Program objectives, goals and strategies for the Florida Division of Forestry's Forest Protection Program are outlined in detail under "Issue 1: Wildfire Threat/Use of Prescribed Fire."

4. Program Performance Measures

Program performance measures for the Florida Division of Forestry's Forest Protection Program are outlined in detail under "Issue 1: Wildfire Threat/Use of Prescribed Fire."

State Lands Management

1. Program Description

The State of Florida is very unique with respect to state lands management. For the past twenty years Florida has had a very aggressive land acquisition program which has resulted in the purchase of nearly six million acres of coastline, wetlands, forestland, and lands of cultural and historical significance. There are several state agencies that are designated lead agency managers for state lands in Florida and their resource management objectives vary primarily because each agency has a specific mission unique only to that agency. All of these managing agencies cooperatively work together in information sharing and management activities when it is beneficial to the management of these state lands. Additionally DOF provides land management expertise to the various other agencies through an Other Public Lands program. Delivery of this service is executed by strategically located personnel that coordinate management activities with the respective lead agency manager for these state lands.

The Florida Division of Forestry (DOF) is the designated lead agency manager for the State Forests in Florida. DOF manages 35 State Forests totaling 1,052,850 acres. Title to these state lands is either held by the State of Florida/Board of Trustees of the Internal Improvement Trust Fund (BOT), or by a Water Management District (WMD). At one state forest the title to a portion of that land is held by the United States Department of Agriculture/Natural Resource Conservation Service (NRCS). In some instances title to the state land is held jointly between the BOT and a WMD and at one state forest, title to the state forest is held jointly by the BOT, WMD, and NRCS.

The primary mission of the DOF in managing the state forests is to protect and manage the unique resources of the forest through a stewardship ethic to assure these resources will be available for future generations. This will be accomplished by implementing sound multiple-use management principles. The goals of which will be to:

- To restore, maintain, and protect in perpetuity, all native ecosystems;
- To ensure long-term viability of populations and species considered rare, endangered, threatened, or of special concern;
- To restore, maintain, and protect hydrological functions related to the quality and quantity of water resources and the health of associated wetland and aquatic natural communities;
- To integrate human use through the multiple-use concept, not emphasizing any particular use over the others or over restoration, maintenance, and protection of native ecosystems;
- To protect known archaeological and historical resources; and
- To practice sustainable forest management utilizing sound silvicultural techniques.

All state forests offer some level of resource based passive recreational opportunities such as bicycle riding, bird watching, camping, canoeing, equestrian use, geocaching, fishing, hiking,

hunting, plant ecology, picnicking, and wildlife viewing, to the citizens of Florida and also to the public citizen visitors external to the state.

2. Program Priority Areas

DOF State Forest Management is operationally addressed by dividing the state into four Management Regions. Within these Management Regions there are established Forestry Centers or Districts which have specific Florida Counties assigned to them. Center/Districts have wildland fire protection responsibilities, cooperative forestry assistance responsibilities, and also land management responsibilities for State Forests if these state lands are in their respective Center/District area. Program Figure 1, Page 77 is a map of Florida and all State Forest's are depicted in green color and all other Florida public lands are depicted in tan color. All federal lands in Florida are depicted with the color purple.

3. Program Goals, Objectives, and Strategies

As previously stated in the Program Description section, the primary mission of the DOF in managing the state forests is to protect and manage the unique resources of the forest through a stewardship ethic to assure these resources will be available for future generations. Implementation of DOF's mission will be executed by utilizing sound multiple-use management principles. Multiple-use management as defined in Chapter 253.034 (1)(a). Florida Statutes, "means the harmonious and coordinated management of timber, recreation, wildlife, forage, archaeological and historic sites, or water resources so that they are utilized in the combination that will best serve the people of the state, making the most judicious use of the land for some or all of these resources and giving consideration to the relative values of the various resources." All State Forests are managed under this multiple use designation. Section (2) of the same statute states, "All lands owned by the Board of Trustees of the Internal Improvement Trust Fund shall be managed in a manner that will provide the greatest combination of benefits to the people of the state. All such lands not designated in the land-management plan required by subsection (4) for a specific single use shall receive multiple-use management." Chapter 589.04(3), Florida Statutes, states, "The Division of Forestry shall provide direction for the multiple-use management of forest lands owned by the state; serve as the lead management agency for state-owned land primarily suited for forest resource management; and provide to other state agencies having land management responsibilities technical guidance and management plan development for managing the forest resources on state-owned lands managed for other objectives. Multiple-use shall include, but is not limited to, water-resource protection, forest-ecosystems protection, natural-resource based low-impact recreation, and sustainable timber management for forest products." It is clear from this language that the Florida Legislature wants an emphasis on multiple-use management on state lands, and that expectation will be the foundation for our management standards.

Florida's State Forests belong to the people of Florida and will be managed in a manner which will allow those forests to remain accessible for their enjoyment and benefit. This means that practically all parts of all State Forests are open to the public. This does not mean that every acre

of State Forest is open to vehicular access. This does mean that public access can be controlled, restricted or even prohibited when such access threatens to disrupt native ecosystems, e.g., by destroying sensitive areas through misuse or overuse.

All of DOF forest management practices must positively answer to a four-part test. These tests are given below in no particular order; all are of equal importance.

Is it good silvicultural science? To the best of our ability, we should manage according to broadly accepted techniques that are taught by accredited schools of forest and natural resource management, enhanced by current research, and practiced by other landowners with similar interests and responsibilities. Where appropriate, we will employ new techniques so long as they meet our management objectives and are not in conflict with our standards.

Is it good ecological science? Our State Forests should each be managed as complete, diverse, biological systems, with each management decision made with consideration of the effect on the system, and not just individual parts. Successful management of the variety of multiple uses we practice is dependent on total forest health. Total forest health includes timber, microorganisms, water resources, and all animal and plant life. No part of our management operation can succeed without emphasis on the total forest system health.

Is it good economics? Forest management decisions should be made with consideration on economic return to the citizens of Florida. The timber resource should be managed in order to produce optimum volume, as determined by the site and the other values associated with that site. Not all sites are suitable for timber production, just as all sites are not suitable for other multiple uses that we practice. However, in concert with the other three management tests, revenue should receive due consideration in approaches to management, in order to off-set the cost of operation.

Is it sustainable? Forest Management practices should ensure that not only timber resources but also all biological and ecological features of the forest system will be sustained for the future. Only through sustainable management can we ensure a continued revenue return, total forest system health, recreational opportunities, and any other benefits that we value. Sustainable practices should encompass harvest rates that consider growth rates, provision for immediate reforestation, adherence to Best Management Practices, and ecosystem protection.

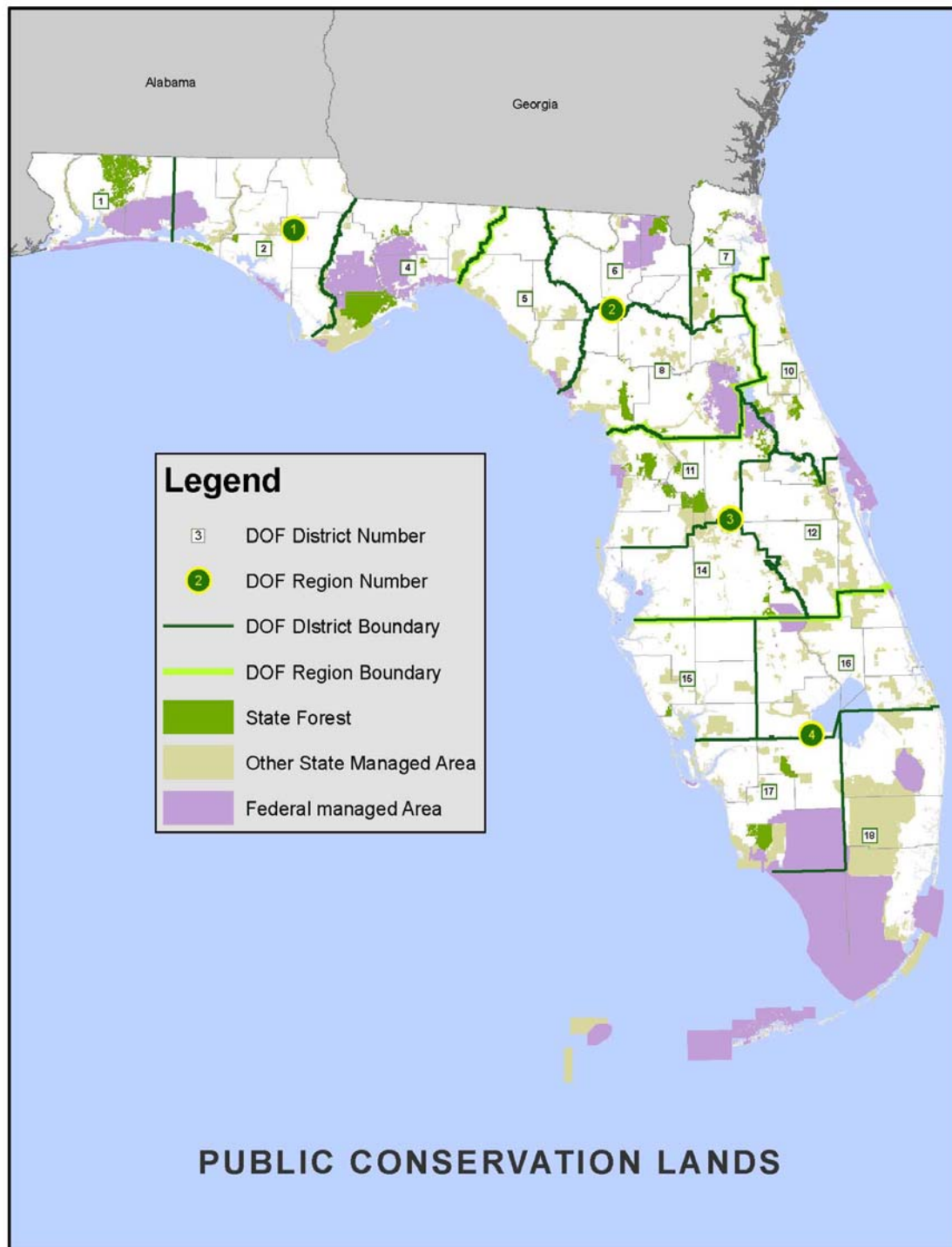
After positive answers to this four-part test, forest management practices should further be guided by the following principles:

1. Forest health and sustainability will be enhanced through the use of prescribed fire, exotic species control, restoration and maintenance of natural water flow, threatened and endangered species protection, and a silvicultural emphasis on natural regeneration of site-defined species.

2. State Forests will be managed for a variety of natural resource based uses and benefits, including but not limited to timber production, wildlife management, outdoor recreation, information and education, research projects, demonstration areas, threatened and endangered species, and archaeological and historic site protection.
3. Florida's State Forests belong to the people of Florida and will be managed in a manner that will allow those forests to remain accessible for their enjoyment and benefit. Also, the public will be provided access to the decision making process.
4. The Division of Forestry shall cooperate with applicable federal, state, and local agencies to ensure State Forest programs operate effectively.

4. Program Performance Measures

The effectiveness of DOF's State Forest management program is evaluated in two primary methods. First the DOF provides "Performance Measures" information to the Florida legislature on a quarterly basis. These performance measures include: (1) percent of State Forest timber producing acres adequately stocked and growing; (2) number of acres of state forests managed by the Department (of Agriculture, Division of Forestry); and number of state forest visitors served. There is support documentation for each of the performance measures that have been reviewed both internally and externally for objective methods of measuring and estimating these performance measures. The second "Performance Measure" the DOF utilizes as a method of determining effectiveness of the State Forest management program is the "10 Year Resource Management Plan. According to Chapter 253.034, Florida Statutes, each agency managing lands owned by the BOT must submit to the Division of State Lands, Department of Environmental Protection, a land management plan at least every ten years in a form and manner prescribed by rule. Every five years the State Forests are reviewed by a land management review team whose composition is outlined in Florida Statutes. They review the management plan and on the ground activities to determine if the property is being managed for the purpose for which it was acquired and consistent with the management plan.



Program Figure 1. Florida's Public Conservation Lands

Source: Florida Division of Forestry

Forest Inventory and Analysis Program

1. Program Description

The Forest Inventory and Analysis (FIA) Program supports the mission of the Florida Division of Forestry by delivering current and credible information about the status, composition, and trends of the state's forestland. The Florida Division of Forestry, in cooperation with the USFS, conducts forest inventory data research throughout the state. There are approximately 6,000 permanently located plots across Florida that are re-measured on a 5 year cycle. Every year, FIA crews in Florida collect data on 20% of those plots which each represent approximately 6,000 acres. The data gathered in this inventory is available in published reports as well as through an online database maintained by the USFS.

2. Program Priority Areas

According to the McSweeney-McNary Forest Research Act of 1928, the task of the FIA program was to *"make and keep current a comprehensive inventory and analysis of the present and prospective conditions of and requirements for the renewable resources of the forest and rangelands of the US"*. Until 2001, the inventory was periodically measured exclusively by the USFS. There have been several modifications to the program over the years, but a 1998 Farm Bill changed the inventory from a periodic survey to an annual survey. This would allow available data to be much more current by using a rolling average. In order to assure that data was collected on an annual basis, the USFS formed partnerships with individual states.

In 2001, the Florida Division of Forestry entered into a partnership with the USFS Southern Research Station. Florida began collecting data for the eighth cycle of inventory plots that year and completed the measurement in October, 2008. Measurement for the ninth cycle of inventory plots began November 2008 and is currently ongoing.

3. Program Goals, Objectives, and Strategies

The FIA program consists of one Program Coordinator and four, two-person crews located strategically throughout the state. Each crew has one Forester and one Park Ranger. The FIA Coordinator serves as the point of contact between the field crews and the USFS Southern Research Station. Annual goals of the FIA program are to re-measure 20% of the state's inventory plots while maintaining above average quality assurance scores.

Data produced by the FIA Program is utilized by federal and state resource management agencies, academic institutions, and private companies. The data can also be used to assess the status of resources following major hurricanes and wildfires. By examining FIA data, Forest Industry can make informed business decisions when looking to expand their company. Expanding technologies and alternative energy markets increase the need for credible and current information for Florida's resources.

Forest Health Program

1. Program Description

DOF maintains an active and professionally staffed Forest Health Section as part of its Forest Management Bureau. The Section's Forest Health Program operates under the combined authorities of the Cooperative Forestry Assistance Act of 1978 (PL 95-313; esp. Sec. 5), Florida Statutes, Chapter 589 (esp. Secs .04, .09, .11, .18, and .30) and related sections of recent federal farm bills (PL 10-624 and sequels). Program staff is highly trained (typically at a Masters Degree or higher level) in disciplines specific to forest entomology, forest pathology and forest ecology. Program functions cover issues related to forest/shade tree insect and diseases and non-native invasive pest plants (NNIPPs); specific activities including survey/detection and evaluation of forest/shade tree pests and NNIPPs, training of DOF (and other) personnel, technical assistance to DOF staff, public and private forest land owners and managers, and the general public. These functions are carried out in cooperation with the University of Florida and Cooperative Extension personnel, other State or federal Agencies (FWCC, DEP, FDACS-DPI, USDA Forest Service, CAPS) as well as NGOs such as the Society of American Foresters, the International Society of Arboriculture and the Nature Conservancy, various CWMA's, CISMA's, etc.).

In recent history, Florida's Forest Health Program staff has been centralized in Gainesville and has been comprised of a Forest Entomologist, a Forest Pathologist, and Biological Scientist assigned to the issue of NNIPPs. Changes are in the offing as specific staff positions are undergoing an evolution of sorts, becoming identified more broadly as Forest Health Specialists. This change will allow more flexibility in staffing and assignment of specific staff responsibilities (responding to specific needs). One critical need for the Program is the addition of at least two regional Forest Health Program Coordinators (South and West Florida) to facilitate program delivery and efficiency across the extensive diverse geography of the State. This need will only be met as sufficient and permanent funding for support of these positions becomes available.

2. Program Priority Areas

Program priority areas for the Florida Division of Forestry's Forest Health Program are outlined in detail under "Issue 3: Forest Health: Insects, Diseases, and Non-Native Pest Plants."

3. Program Objectives, Goals, and Strategies

Program objectives, goals and strategies for the Florida Division of Forestry's Forest Health Program are outlined in detail under "Issue 3: Forest Health: Insects, Diseases, and Non-Native Pest Plants."

4. Program Performance Measures

Program performance measures for the Florida Division of Forestry's Forest Health Program are outlined in detail under "Issue 3: Forest Health: Insects, Diseases, and Non-Native Pest Plants."

Forest Stewardship Program

1. Program Description

The Forest Stewardship Program in Florida serves as an umbrella program in that all resource concerns relevant to a particular property are addressed through the development of a forest stewardship plan. The State Forester is guided in the administration of the Forest Stewardship program by the Forest Stewardship Coordinating Committee.

Authorized by the Cooperative Forestry Assistance Act of 1978, the Forest Stewardship Program (FSP) provides technical assistance, through state forestry agencies, to non-industrial private forest (NIPF) owners to encourage active long-term forest management. Florida Division of Forestry works closely with the USFS Region 8 office in Atlanta, GA and the USFS Washington Office to guide funding formulas and develop program guidelines. A primary focus of the FSP is to work with NIPF landowners to develop comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for products and services.

NIPF Landowner Assistance activities include:

- Facilitating the State Stewardship Coordinating Committee (SSCC) which provides direction and guidance for ensuring that a balanced and effective program reaches landowners statewide. The SSCC meets at least once per year and consists of members from state, private, and natural resource conservation organizations.
- Recognizing landowners for exemplary efforts through our Certified Forest Steward Program.
- Providing rural forestry technical assistance to landowners including forest management plans, reforestation, marketing and promotion, surveys of tracts to determine treatment needs, measurements of treatment areas, seedling procurement, training and certification of private vendors, and inspection of plantings to certify compliance with technical guidelines.

While the goal of the Stewardship Program has remained the same, new and innovative ways of reaching landowners and delivering services have been developed to meet the needs of both traditional landowners and new types of landowners. Events such as the Florida State Fair, a variety of demonstration practices on FDOF state lands, the use of conservation easements in the Rural & Family Lands and Forest Legacy Program, and Conservation Education programs for adults and children are a few examples.

Effort to conserve and restore native ecosystems in Central in South Florida such as pine rocklands or south Florida Slash Pine, as well as Central and North Florida's Longleaf Pine ecosystems continues to be a priority.

Any forest landowner owning 20 acres or more of forestland is eligible to participate in the FSP. While FDOF, NRCS, Florida Institute for Food & Agriculture Extension Service (IFAS), and FFWCC have a shared goal of landowner assistance, conservation education, and protecting Florida's natural resources, each agency commonly coordinates with the other agencies at local, state, and national levels to reduce duplication of efforts. Specifically, FDOF is jointly funding

positions with IFAS: a Forest Stewardship program coordinator, an urban forestry specialist, and a Project Learning Tree program leader. FDOF has utilized a cooperative agreement with FWC to provide statewide wildlife expertise for preparation of Forest Stewardship Plans and to provide training and other educational opportunities to FDOF foresters and Florida landowners.

FDOF has a MOU with NRCS to assist them with forest management planning and reforestation efforts. This MOU mirrors a national MOU signed by NRCS, NASF, NACD, and USFS in 2008.

NRCS, IFAS, and FFWCC manage natural resource conservation programs that provide environmental, societal, financial, and technical benefits. As these entities focus on research, recreation, and agriculture, FDOF coordinates with them at the local, state, regional, and national level to supply the forestry and wildland fire protection components to their programs. An example of this cooperation is also found in CFEOR (Conserved Forest Ecosystems: Outreach and Research).

Because of the federal requirements of the program to form the FSCC, FDOF works frequently at the state level with all of the natural resource conservation and related agencies in the state. FDOF field staff coordinates landowner services and programs with the field offices of the other natural resource conservation related agencies in the state.

2. Program Priority Areas

Priority areas for Forest Stewardship are currently defined by the Spatial Analysis Project (SAP), which in the South took the form of the Southern Forest Lands Assessment (SFLA) Program Figure 2, Page 85.

Figure 10. Florida Map Identifying Forest Stewardship Priority Areas in the State

3. Program Goals, Objectives, and Strategies

Goal 1: Ensure the Forest Stewardship Program is viewed by partners and the public as a core program for private land forest management planning.

Objective 1.1: Engage each primary partner organization for stakeholder input about Forest Stewardship program implementation and their role in it.

Strategy 1.1.1: Hold annual meetings of the SSCC, where issues and roles are discussed; engage members to encourage ownership in the program; ensure roles of each partner are substantive and understood.

Strategy 1.1.2: Produce a quarterly newsletter for stakeholders.

Objective 1.2: Engage traditionally underserved groups and landowners in priority areas.

Strategy 1:2:1: Work closely with FDOF communications and conservation education program to create marketing material that peaks the interests of non-traditional NIPF landowners.

Objective 1.3: Build on existing partnerships and create new ones with stakeholder organizations.

Strategy 1.3.1 Develop MOUs and Contribution Agreements or create new ones with partner agencies such as NRCS, FFWCC, Florida IFAS, and State Historical Commission

Goal 2: Ensure that the Forest Stewardship Program remains relevant and useful to non-industrial private landowners and the forest resource.

Objective 2.1: Ensure that the Forest Stewardship Program is useful to NIPF landowners.

Strategy 2.1.1: Forest Stewardship Plans are up to date and relevant to meet landowner needs statewide.

Strategy 2.1.2: Work with partner agencies such as NRCS, FFWCC and Tree Farm Foundation to develop Forest Stewardship management plans that are useful to all partners.

Strategy 2.1.3: Continue to recognize landowners as Certified Stewards when status is obtained.

Objective 2.2: Ensure that landowners have access to FDOF field staff and contractors.

Strategy 2.2.1: Continue to work with county landowner associations and Florida Forestry Association to host workshops and field tours about forestry practices.

Strategy 2.2.2: Maintain a well-trained field staff statewide.

Objective 2.3: Continue to offer interest-specific programs to landowners.

Strategy 2.3.1: Explore with landowners non-traditional programs such as ecosystem services or niche programs such as medicinal plant production.

Strategy 2.3.2: Develop a longleaf pine sub-committee of the Stewardship committee to focus on longleaf pine restoration in Florida.

Goal 3: Ensure that the Forest Stewardship Program remains relevant and useful as a statewide program.

Objective 3.1: Continue to strive for a well-funded program.

Strategy 3.1.1: Work with Region 8 (R8) and the Washington office of the USFS to ensure equitable funding formulas for Florida.

Strategy 3.1.2: Continue to submit project proposals when competitive funding is available.

Strategy 3.1.3: Enforce the monitoring program and make adjustments in guidance as needed.

Strategy 3.1.4: Submit required reports to R8 before deadlines.

Strategy 3.1.5: Build partner support for the Stewardship program locally and nationally by demonstrating results quantitatively and telling success stories qualitatively.

Objective 3.2: Coordinate efforts between FDOF, NRCS, and other state headquarter offices.

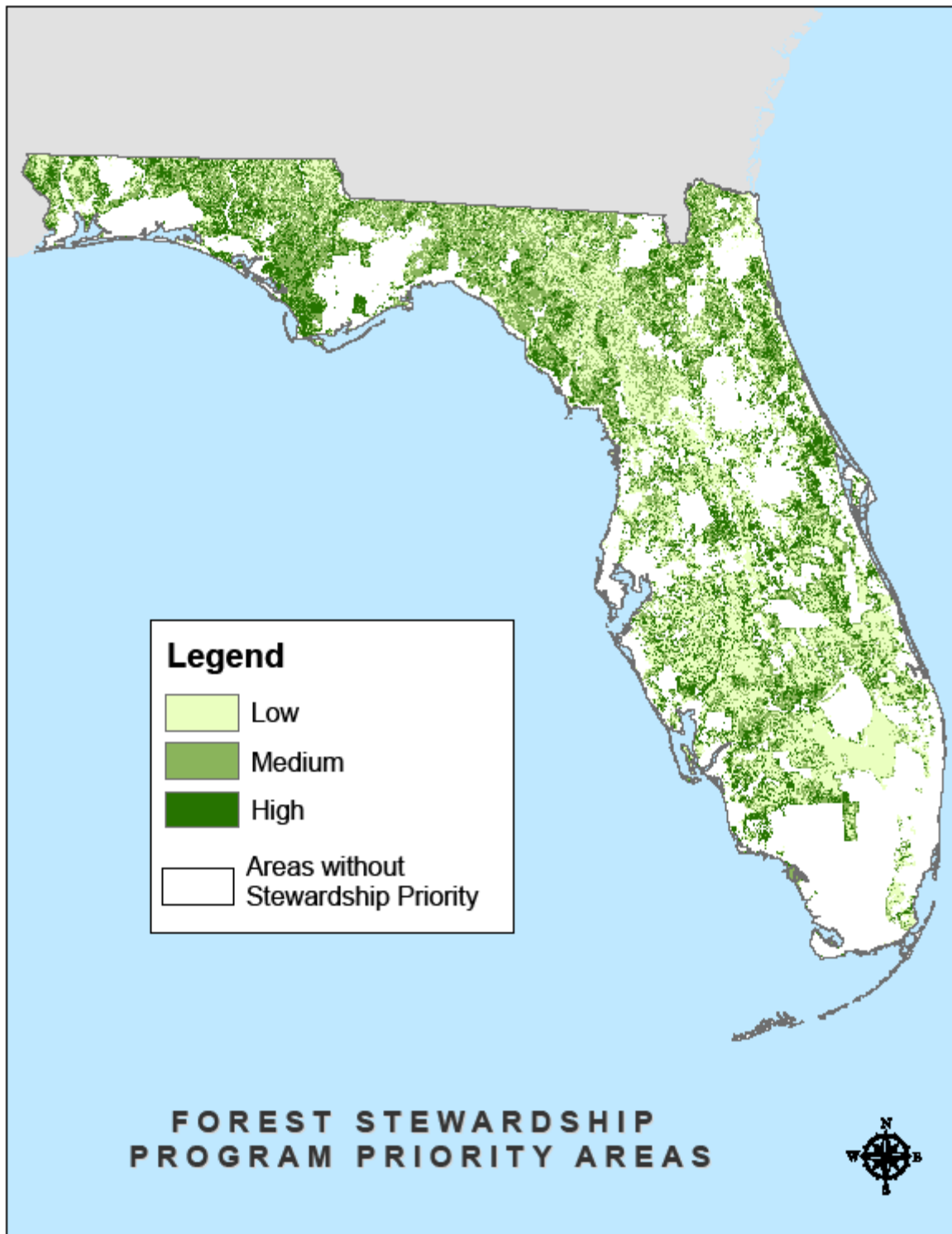
Strategy 3.2.1: Within MOUs and Contribution Agreements, place staff in other agency headquarter offices to serve as liaison for forestry programs and provide technical assistance to those offices.

Strategy 3.2.2: FDOF will become a member of the wildlife and forest working group of the State Technical Committee.

4. Program Performance Measures

In the field, the reporting requirements such as number of acres under FSP management, number of landowners served, are listed in Florida Program Delivery and are used to gauge performance. At a higher level, the effectiveness of the Stewardship Program is reflected in the USFS funding formula and consequential allocations to Florida. Florida's ability to receive funding from the USFS reflects the effectiveness of the program.

- Number of new or revised Forest Stewardship Management Plans completed.
- Number of new or revised Forest Stewardship Management Plans completed in important forest resource areas.
- Number of acres covered by current Forest Stewardship Management Plans (cumulative).
- Number of acres in important forest resource areas covered by current Forest Stewardship Management Plans (cumulative).
- Number of landowners receiving Forest Stewardship Program technical assistance.
- Number of landowners participating in Forest Stewardship Program educational programs.
- Total number of acres in important forest resource areas being managed sustainably, as defined by a current Forest Stewardship Management Plan through a monitoring program.
- Number of new Certified Forest Steward awards.



Program Figure 2. Florida's Forest Stewardship Program Priority Areas

Source: Florida Division of Forestry

Urban and Community Forestry Program

1. Program Description

The goal of the Florida Division of Forestry's Urban and Community Forestry Program (UCF) is to encourage the establishment and enhancement of active local community forest management programs in all counties and municipalities within the state that have a population density exceeding 500 residents per square mile. This effort involves technical and financial assistance to the above named government entities, as well as to tree related non-profit groups and educational institutions. It also involves educational programs directed particularly at urban residents, who comprise approximately 75% of Florida's population, emphasizing the ecological and economic benefits that trees provide to their everyday lives. Those who achieve exceptional results receive recognition, either through the Tree City USA program or the Florida Urban Forestry Council's annual *Friends of the Urban Forests* awards.

Program cooperators include local government officials and natural resource managers, non-profit citizens' and tree groups, homeowner associations (HOA's), and various sources of urban forestry expertise such as the Florida Chapter of International Society of Arboriculture (ISA), University of Florida Cooperative Extension Service (IFAS), Landscape Inspectors Association of Florida (LIAF), and the Florida Nursery Growers and Landscape Association (FNGLA). Professionals from related disciplines such as the American Planners Association and the Florida Department of Transportation (FDOT) also assist with program delivery.

The Division's urban forestry coordinator, along with the volunteer/partnership coordinator, have responsibility for Florida's statewide urban and community forestry program. A statewide network of 41 County Foresters handles local requests for program assistance, with additional oversight from three regional CFA field coordinators. The Florida Urban Forestry Council (FUFC) serves as an advisory group to the Division of Forestry as well as a delivery partner. The Council consists of over 400 members statewide, represented by an executive committee of 25 members. Their main focus is carrying out an educational program for the various sectors of the urban forestry community and the general public. The Council also develops a five year *Urban and Community Forestry Strategic Plan* that the Council and the Division of Forestry carry out together. As of this writing, the 2010-2015 revision of this plan will be completed by the end of June, 2010. The goals, objectives, and strategies contained in this summary reflect those contained in the strategic plan.

2. Program Priority Areas

To the greatest extent possible, program funds and resources are directed to the areas in the state where they are needed the most. Resources are first focused on blighted areas of larger cities and smaller rural communities which have limited funds and available technical resources. Other communities who have specific needs also receive priority for assistance. These could include funding or training for staff, development of a management plan or tree inventory protocol, development or revision of a tree management ordinance, or enhancing the effectiveness of a tree

advisory board. Educational programs directed at all citizens also receive priority. These include preparing trees to minimize storm damage, proper tree planting and care practices, trees and energy conservation, the Florida Champion Tree Program, and the new *American Grove* social networking site.

3. Program Goals, Objectives, and Strategies

Goal 1: Continue to increase the number of urban residents who live in communities with active local urban and community forestry programs.

Objective 1.1: Increase the number of city and county programs that meet either the “developing” or “managing” criteria.

Strategy 1.1.1: Initiate programs to promote the importance of urban tree inventories, ecosystem services analysis, tree ordinances, and trained staff.

Strategy 1.1.2: Promote the use of iTree suite and other electronic urban forestry tools for conducting inventory and assessing ecosystem services.

Strategy 1.1.3: Continue local efforts to provide technical urban forestry assistance to various sectors of the community.

Objective 1.2: Increase the number of homeowner associations and unincorporated developed entities that have active urban forestry programs.

Strategy 1.2.1: Identify homeowner associations that would be receptive to receiving urban forestry assistance.

Strategy 1.2.2: Develop communications strategies targeted specifically at HOA’s, and carry out those strategies.

Goal 2: Continue to increase the level of awareness among urban residents and local officials of the value that trees provide to their local communities.

Objective 2.1: Continue to improve and increase awareness of urban forestry educational venues available at various on-line locations.

Strategy 2.1.1: Compile a list of on-line urban forestry resources, and update the list periodically.

Strategy 2.1.2: Transmit this list to classroom teachers during January and April so that they can incorporate these materials into Arbor Day celebrations.

Strategy 2.1.3: Transmit this list to local government officials and allied groups who could make use of this information.

Strategy 2.1.4: Promote participation in the new *American Grove*, and implement other portions of the Southern Region UCF Communications Plan.

Objective 2.2: Develop written materials, videos, webinar formats, and other items that urban foresters can use to carry out educational programs in the field.

Strategy 2.2.1: Assess materials that are currently available and still contain timely material.

Strategy 2.2.2: Identify areas in need of additional program materials, prioritize needs and secure sources of funding for production.

Objective 2.3: Establish a network of journalists who have a particular interest in environmental matters and would promote urban forestry.

- Strategy 2.3.1: Work with the Department of Agriculture Division of Marketing to develop a list of potentially receptive journalists.
- Strategy 2.3.2: Make contacts with these journalists and establish rapport.
- Strategy 2.3.3: Work with Radio Disney and other more prominent media outlets.

Goal 3: Provide recognition to exceptional individuals, groups, and communities who are involved in urban forestry.

Objective 3.1: Maintain active urban forestry awards programs.

Strategy 3.1.1: Increase the number of eligible entities enrolled in the NADF Tree City USA, Tree Line USA, and Tree Campus USA Programs each year.

Strategy 3.1.2: Continue to support the Florida Urban Forestry Council's annual *Friends of the Urban Forests Awards*.

Strategy 3.1.3: Promote the new *Community Forest Designation (CFD)* in South Florida, and continue to recruit participating HOA's and similar residential communities.

Goal 4: Strengthen partnerships between the Division of Forestry, Florida Urban Forestry Council, and other entities involved in urban and community forestry in Florida.

Objective 4.1: Identify non-profit groups in Florida who are either actively involved in urban forestry or could be persuaded to do so.

Strategy 4.1.1: Assess the level of participation of these groups in urban forestry projects, and provide guidance to interested groups on how they can increase their tree-related activities.

Objective 4.2: Identify allied professions who work with trees as part of their purview.

Strategy 4.2.1: Work with these professions to promote the benefits of trees in their projects, how they can accommodate trees and still accomplish their own objectives, and dispel myths such as the adverse impacts of trees to infrastructure.

Objective 4.3: Initiate joint educational and promotional activities with the major urban forestry entities in Florida.

Strategy 4.3.1: Develop joint initiatives with the ISA, Cooperative Extension Service, Society of Municipal Arborists, FUFCA, etc to promote active local urban forestry programs. Or, conduct educational events without these other entities.

Goal 5: Help communities minimize potential tree damage from storms, and help communities to mitigate damage following storms.

Objective 5.1: Promote tree care practices that minimize the amount of future storm damage to trees.

Strategy 5.1.1: Use all available resources and avenues for statewide dissemination of this information to interested parties.

Objective 5.2: Make the Florida Division of Emergency Management and local communities aware of the existence of the Region 8 Urban Forestry Strike Teams and the assistance they can provide following storms, particularly to limited resource areas.

Strategy 5.2.1: Use existing contacts with DEM to make state and local emergency officials aware of the capabilities and availabilities of these teams.

Objective 5.3: Make communities aware of the online tools currently available to prepare for hurricane season and respond to storm damage afterwards.

Strategy 5.3.1: Use the Division of Emergency Management, Florida League of Cities, Association of Counties, etc as conduits to disseminate this information.

4. Performance Measures

Goal 1: Continue to help communities improve the number and quality of local urban and community forestry programs.

- Increased number of communities with programs in both the developing and managing stages of development.
- Increased number of communities with urban forestry ecosystem services analyses completed.

Goal 2: Provide urban forestry educational venues to various sectors of the urban forestry community and the general public.

- Increased awareness by local officials, allied professions, educators, and the general public of the benefits of urban trees, and how to achieve them.
- Increased use of available urban forestry informational resources.

Goal 3: Provide recognition to exceptional individuals, groups, and communities who are involved in urban forestry.

- Increased number of eligible entities participating in these programs.

Goal 4: Strengthen partnerships between the Division of Forestry, Florida Urban Forestry Council, and other entities involved in urban and community forestry in Florida.

- Increased number of local non-profit groups actively involved in urban forestry.

Goal 5: Help communities minimize potential tree damage from storms, and help communities to mitigate damage following storms.

Increased number of communities aware of the assistance available and benefits from the available storm preparedness and response tools.

Water Resource Program

1. Program Description

The Water Resource Program supports the Division of Forestry (DOF) mission through the development, implementation and monitoring of silviculture Best Management Practices, and through the implementation of hydrologic restoration projects. The principal objective of these actions is to protect and sustain Florida's ground water, surface water and wetlands within the scope of forestry operations and activities. Florida's silviculture Best Management Practices (BMP) program consists of three primary functions: BMP development, implementation and monitoring. This program is administered by the Division of Forestry, which is the lead agency for statewide control of silviculture related sources of nonpoint pollution.

Silviculture BMPs were first developed in 1979 in response to the federal Clean Water Act of 1972. The practices were revised significantly in 1993 by a Technical Advisory Committee (TAC) appointed by the Florida Commissioner of Agriculture. The TAC which continues to meet biennially has a diverse representation of forestry interests including industry, government, university and conservation groups. The recent 2008 revision of the BMP Manual represents the TAC's continuing effort to establish sound, responsible, guiding principles for silviculture operations in Florida.

Implementation of silviculture BMPs is accomplished primarily through education, training and field demonstration. BMP training workshops are routinely conducted for loggers, landowners, regulatory agencies and professional foresters throughout Florida, and in neighboring states. Since 1979, DOF has conducted hundreds of workshops involving thousands of participants throughout the state. Most recently DOF developed a "logger tailgate training" program, where audiovisual technology is brought to logging sites and administered directly to crew members in the field.

To monitor BMP implementation, DOF has conducted a statewide Survey of both public and private forest lands, every two years since 1981. The Survey is conducted on a random sample of recent forestry operations that meet the site selection criteria. In 2009, DOF completed the fifteenth such Survey, which evaluated 4,127 practices on 185 individual forestry operations. The Survey determined that no operations scored below 70% in overall BMP implementation, and most sites scored 100% implementation bringing the statewide implementation rate to 98.1%. The average implementation rate since 1981 is 94%.

In addition, DOF conducted a multi-year, cooperative project to monitor Florida's silviculture BMP's for effectiveness. The project evaluated BMPs associated with clearcut harvesting, intensive mechanical site preparation and forest chemical applications and concluded that silviculture BMPs were effective in protecting water quality, aquatic habitat and overall stream ecosystem health. The results were presented at an international conference and published in the *Forest Ecology and Management* (2001) and in *Water, Air and Soil Pollution: Focus* (2004). Currently, DOF is conducting two additional BMP effectiveness monitoring projects: one

designed to evaluate BMPs associated with wetlands and another designed to evaluate BMPs associated with forest fertilization and pine straw harvesting.

DOF also works closely with the Department of Environmental Protection (DEP) to administer the states Total Maximum Daily Load Program (TMDL). Specifically, DOF has and continues to provide input to DEP for establishing TMDL's in forested watersheds where impaired waters have been identified. In such watersheds, special BMP implementation efforts have been initiated along with enhanced monitoring for BMP compliance.

Hydrologic restoration on Florida's 1 million acres of State Forests was formally initiated in 2000, and has resulted in over 60 individual projects and almost 70,000 acres of wetlands restored. This is significant given that the State Forests collectively occupy approximately 1/35 of the state's total land mass – a considerable portion of the "Florida Watershed". In addition, the State Forests alone receive (on average) about 4.35 billion gallons per day from rainfall, which is enough to supply the city of Tallahassee's annual water needs about every eight days. However, in some areas of our State Forests, the hydrology has been significantly altered, typically by historic drainage of wetlands. As these wetlands collectively contribute to surface water flows and groundwater recharge, Florida's drinking water supply is negatively impacted, both in terms of quality and quantity.

To combat these negative impacts, the DOF is actively working to restore altered wetlands and other water resource features where they occur on State Forests. The most common type projects include removal of unnecessary sections of above-grade roads, plugging ditches, installing low water crossings and installing culverts. In some cases, bridges have been lengthened, or new bridges installed and when necessary, weirs or other water control structures are installed to allow for water level manipulation. These structures provide for areas to be rehydrated, while still allowing for multiple use management on the Forests. In addition, all forestry operations on State Forests are carried out in compliance with Best Management Practices (BMPs) to protect water quality. Given the magnitude of Florida's State Forest land base, the opportunities for enhancing and protecting the state's water resources is significant. As Florida's population continues to grow, this part of the DOF's mission has become increasingly critical.

2. Program Priority Areas

Program priority areas for the Florida Division of Forestry's Water Resource Program are outlined in detail under "Issue 6: Water Quality and Quantity."

3. Program Objectives, Goals, and Strategies

Program objectives, goals and strategies for the Florida Division of Forestry's Water Resource Program are outlined in detail under "Issue 6: Water Quality and Quantity."

4. Program Performance Measures

Program performance measures for the Florida Division of Forestry's Water Resource Program are outlined in detail under "Issue 6: Water Quality and Quantity."

Forest Legacy Program

1. Program Description

The Forest Legacy Program (FLP), a Federal program in partnership with States, supports State efforts to acquire and protect forest lands with natural resource values. Designed to encourage the protection of privately-owned forest lands, FLP is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of fee simple or partial interests in privately-owned forest lands. Conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, while allowing for continued private management and ownership of the remaining interests in the property. Most FLP conservation easements restrict certain types of development, require sustainable forestry practices, and protect other natural resource values. The Forest Legacy Program complements private, Federal, and State programs focusing on conservation. In Florida there are a wide range of partnerships the \$6 billion acquisition programs in the state that included Preservation 2000 and Florida Forever, and focuses on supporting efforts to acquire working forest in fee simple or conservation easements depending on what the participating agency providing the match is proposing.

The federal government may fund up to 75% of project costs, with at least 25% coming in the form of a match for the federal funds that can come from a wide variety of sources that includes private, State, or local sources. The U.S. Forest Service administers the Forest Legacy Program in cooperation with State partners and FLP is a grant type of land acquisition program.

On February 10, 2003, Florida Governor Jeb Bush petitioned U.S. Department of Agriculture Secretary Ann M. Veneman to allow Florida to participate in the Forest Legacy Program with the Florida Division of Forestry in the state Department of Agriculture and Consumer Services as the Lead Agency. The Forest Service approved the request pending the development of an Assessment of Needs document and its approval.

Statewide Resource Strategy

Following a meeting with the State Forest Stewardship Coordinating Committee (SFSCC), a working group was formed consisting of members and representatives of the SFSCC and the Florida Natural Areas Inventory to discuss and layout the direction of Forest Legacy in Florida. Utilizing data developed for the new agricultural lands conservation initiative and other successful conservation programs in Florida, the working group recommended a set of measurable criteria to be used as a basis for establishing Forest Legacy Areas and qualifying individual tracts for Forest Legacy.

In an effort to secure broad support for Forest Legacy in Florida and to seek further input into potential criteria and focus areas, the Lead Agency held a series of eight Public Participation Workshops around the state. A comprehensive plan was developed to allow maximum participation by Florida citizens and potential stakeholders, including nearly 900 letters to

potential stakeholders; news releases; public notices; and, a web site to provide program updates and a response form for providing input on-line.

Input from the Public Participation Process supported the recommendations of the SFSCC Working Group with respect to the natural resource based criteria, and urged a broad approach when considering Forest Legacy Area (FLA) boundaries. Based on the recommendations of the SFSCC Working Group and public input, Florida has established two Forest Legacy Areas (North Florida and South Florida).

The Forest Legacy Program in Florida follows the National Forest Legacy Program guidelines. The Florida Forest Legacy Program will help to support the national mission while providing an incentive to partners to direct limited resources to the conservation of forest resources under threat of conversion through the acquisition of voluntary easements and outright purchases, focusing solely on forested lands that might not be otherwise conserved without Forest Legacy.

Florida's Forest Legacy Goals are to:

1. Conserve important forested communities to enhance the environmental, social, and economic health of the state.
2. Seek established public conservation partners to leverage federal funding.
3. Pursue high quality forest lands that support statewide strategic conservation efforts.
4. Mitigate the state's rapid loss of environmentally important forests, focusing on those which are threatened by conversion from all sources.
5. Respect the property rights of private landowners by limiting participation to willing sellers.

"Environmentally important forests" will be defined by the eligibility criteria selected for identifying Forest Legacy Areas through the public participation process.

"Threatened" is defined as those forested areas that have development potential between 2005-2030 based on the Geoplan Growth Allocation Model, and forest resources under threat of conversion from parcelization and fragmentation.

Florida's Assessment of Need (AON) which contains an assessment of the forests and forest uses, a description of forces that are converting forests to non-forest uses, describes Eligibility Criteria developed by the State to identify important forest areas to be proposed as Forest Legacy Areas (FLA), and acts as a guide to implementation of FLP in the State was approved by the US Department of Agriculture Secretary Mike Johanns on April 11, 2005. The complete AON document can be found at: http://www.fl-dof.com/forest_management/fm_pdfs/ForestLegacy_AON.pdf.

2. Program Priority Areas

North Florida FLA

General Description:

This 42-county area contains some of the most productive commercial forestland in the state. Sustainable forestry is the key to much of the region's economic stability. Dozens of processing mills provide jobs to thousands in local communities.

Most of the land conservation is undertaken by the State and the state's five water management districts (only small areas in the southern ends of this FLA fall within the boundaries of the Southwest and South Florida Water Management Districts). County land conservation programs are also very active in the eastern portion of the area, with several counties expressing strong support for the Forest Legacy Program.

North Florida FLA Goals

1. Support sustainable forestry practices important to the area's economic viability.
2. Focus on riverine systems, aquifer recharge, and natural spring protection.
3. Conserve critical fish and wildlife habitat including threatened and endangered species such as the black bear and red cockaded woodpecker.
4. Outreach to private, non-industrial forest landowners to participate in FLP, where practical.

South Florida FLA

General Description:

There are only 8 counties in this Forest Legacy Area. The counties in this region lies mostly south of the prime, forested areas of the state, but contains unusual natural communities critical to the state's ecosystems. It is an area characterized by heavy development along the Gulf coast from Tampa-St Petersburg to Naples, with large tracts of undeveloped farmland, citrus groves, sugar cane, wetlands, and large private ranches. Florida's National Scenic Trail Corridor passes through most of this area. While the area still supports a viable commercial forest industry, forest vegetation is generally non-commercial, but contains pockets (some quite large) of critical forest habitat.

At the southern end of the area are the famous Everglades National Park and Big Cypress Swamp. Many of the waterways in the northern part of this area feed these great ecosystems and are vital to their health.

Although commercial forestland is not a prominent feature of the landscape, there is still an interesting mix of forested natural communities. In general, wetlands, canals, citrus groves, agriculture, and pockets of forest characterize the landscape.

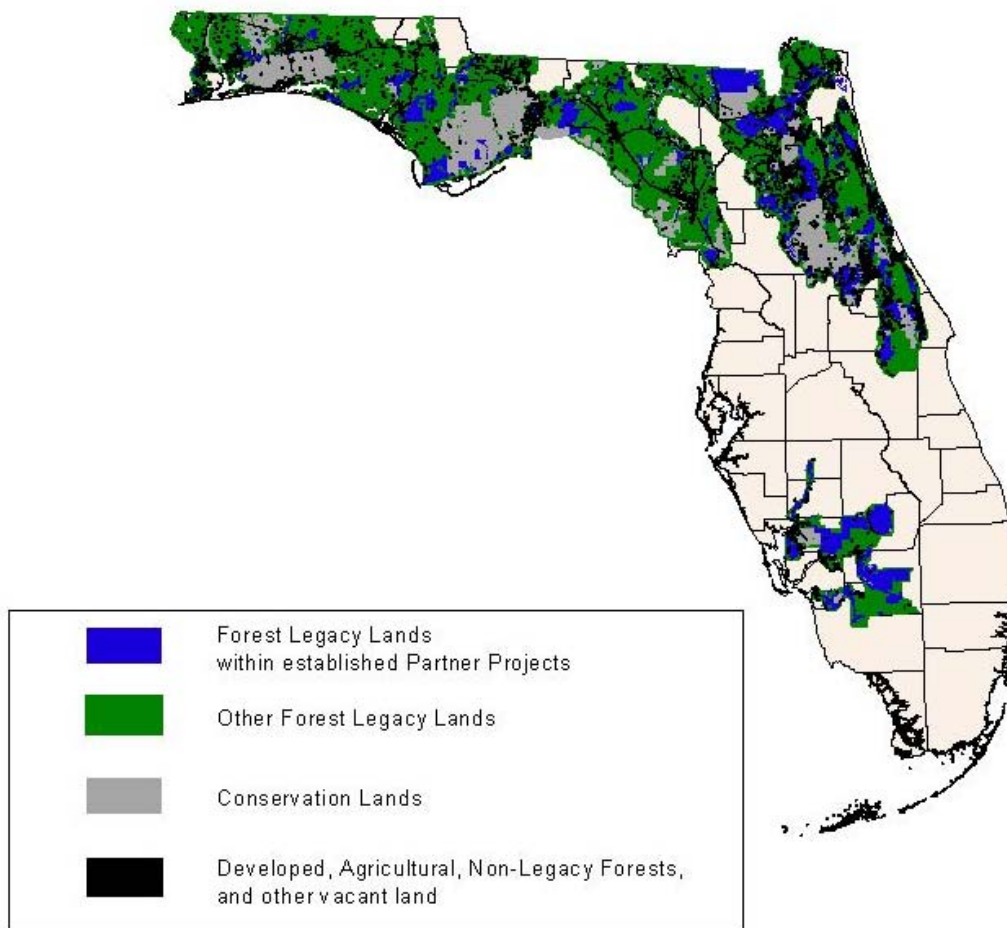
South Florida FLA Goals

1. Maintain a healthy flow of clean water vital to rapidly expanding coastal communities and the Everglades Natural Communities, flora and fauna.
2. Conserve critical fish and wildlife habitat including threatened and endangered species such as the Florida Panther, black bear, and whooping crane.

Forest Legacy Area Acreage Breakdown Chart by Region

	A	B	C	D	E	F	G	H
FLA	FLA Acres	Already Conserved Forest with Resources	% of FLA (1)	Private Forest with Resources	% of FLA (2)	Private Forest in Partner Projects	% of FLA (3)	% of Column D (4)
North Florida	15,004,270	3,820,291	25%	9,352,156	62%	1,591,164	11%	17%
South Florida	1,580,977	266,935	17%	554,774	35%	282,115	18%	51%
Total	16,585,247	4,087,226	25%	9,906,930	60%	1,873,279	11%	19%
(1) Percent of FLA with forest cover already conserved. [B/A]								
(2) Percent of FLA with forest land with resources not already conserved [D/A]								
(3) Percent of FLA with forest land with resources in Partner Projects [F/A]								
(4) Percent of remaining private forest lands in Partner Projects [F/A]								

FLORIDA FOREST LEGACY AREAS



NOTE: The first Forest Legacy Program Assessment of Need (AON) was approved by USDA in 2005, and are to evaluate the AON every 5 year for possible update and modifications. With changes in national guidance and the 2008 Farm Bill, it was determined that states may include the Forest Legacy Program in their State Assessments and State Strategies in lieu of completing new or revised AONs. It is intended that this section meet the requirements that this has been evaluated and does not need a revision to the 2005 AON.

V. Agency And Organization Roles/Needed Resources

Needed Resources: Agency & Organizational Roles Matrix, Correlation to Programs, and Correlation to National Priorities

Goals by Issue	State & Private Forestry Programs						Collaborating Organizations																	National Priorities				
	Forest Protection Program	Forest Health Program	Forest Stewardship Program	Urban & Community Forestry Program	Forest Legacy Program	Outreach Program	USFS National Forest System	USFS Research and Other USFS	NRCS/FSA & Other USDA	Other Federal Agencies	Florida Fish & Wildlife Conservation Commission	Florida Department of Environmental Protection	Florida Water Management Districts	Other Florida State Agencies	The Nature Conservancy	Tall Timbers	Other Land Trusts, Wildlife, & Conservation Orgs.	Universities and Schools	Florida Forestry Association	Forestry Consultants, Forest Industry	Florida Urban Forestry Council	Municipalities & Cities	Local Fire Departments & VFDs	Protect	Conserve	Enhance		
Issue 1	Use of Prescribed Fire/Wildfire Threat																											
Goal 1	X	X	X	X		X	X			X	X	X	X	X	X	X	X	X	X	X				X	X		X	
Goal 2	X		X				X			X	X	X	X	X	X	X								X	X			
Goal 3	X						X																	X	X			
Goal 4	X						X																	X	X			
Goal 5	X																							X				
Goal 6	X						X			X	X	X	X	X	X		X			X			X	X				
Issue 2	Forest Fragmentation																											
Goal 1			X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X					X	X	X
Goal 2			X						X	X	X							X							X	X	X	
Goal 3			X	X														X			X	X			X		X	
Goal 4			X		X						X	X	X	X	X		X	X							X	X	X	
Issue 3	Forest Health: Insects, Diseases, and Non-Native Pest Plants																											
Goal 1		X																										
Goal 2		X	X	X			X	X	X		X	X	X	X	X	X		X				X	X		X		X	
Goal 3		X	X				X		X		X	X	X		X			X						X				
Goal 4		X					X			X	X	X	X	X								X			X	X		
Goal 5		X					X	X			X	X	X	X	X									X				
Goal 6		X						X																			X	
Issue 4	Meeting the Challenges of Climate Change																											
Goal 1						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X	
Goal 2			X	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		X	
Goal 3			X	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X					X	
Goal 4	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Goal 5		X	X	X	X		X		X	X	X	X	X	X	X		X						X		X			
Goal 6			X	X				X										X					X				X	

V. Agency And Organization Roles/Needed Resources (Continued)

Needed Resources: Agency & Organizational Roles Matrix, Correlation to Programs, and Correlation to National Priorities

Goals by Issue	State & Private Forestry Programs						Collaborating Organizations																National Priorities				
	Forest Protection Program	Forest Health Program	Forest Stewardship Program	Urban & Community Forestry Program	Forest Legacy Program	Outreach Program	USFS National Forest System	USFS Research and Other USFS	NRCS/FSA & Other USDA	Other Federal Agencies	Florida Fish & Wildlife Conservation Commission	Florida Department of Environmental Protection	Florida Water Management Districts	Other Florida State Agencies	The Nature Conservancy	Tall Timbers	Other Land Trusts, Wildlife, & Conservation Orgs.	Universities and Schools	Florida Forestry Association	Forestry Consultants, Forest Industry	Florida Urban Forestry Council	Municipalities & Cities	Local Fire Departments & VFDs	Protect	Conserve	Enhance	
Issue 5 Economic Viability of Forests																											
Goal 1			X						X		X	X	X							X					X		
Goal 2			X			X	X	X						X				X	X	X						X	
Goal 3			X	X				X										X	X	X							X
Goal 4			X			X		X										X		X						X	X
Goal 5			X							X								X		X					X		
Goal 6			X						X	X								X		X					X		X
Goal 7			X					X										X							X		X
Issue 6 Water Quality and Quantity																											
Goal 1																											
Goal 2			X	X	X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X
Issue 7 Longleaf Pine Ecosystems																											
Goal 1	X		X				X	X	X		X	X	X	X	X	X	X	X	X	X		X			X	X	
Goal 2	X	X	X				X		X	X	X	X	X	X	X	X				X					X	X	X
Goal 3		X	X				X			X	X	X	X	X	X		X					X					X
Goal 4		X	X				X			X	X	X	X	X	X	X	X					X					X
Goal 5			X				X			X	X	X	X	X	X	X	X					X					X
Goal 6					X		X			X	X	X	X	X	X		X					X			X	X	X
Goal 7								X										X							X		
Goal 8			X						X	X								X	X	X					X		X
Goal 9	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X		X	X	X
Goal 10		X	X	X		X			X	X	X	X	X		X	X		X	X	X	X	X			X	X	X

Appendix A: Strategy Process

1. Process Overview

This document has been developed through direct support from stakeholder and partner organizations and others. An original team of stakeholders were requested in December of 2008. Many stakeholder organizations were represented on the current State Forest Stewardship Coordinating Committee. The group of stakeholders and others met in June 2009 to review preliminary issue set. The State Technical Committee of the Natural Resources Conservation Service was also presented information on the assessment and strategy process and encouraged to provide input. A more expanded stakeholder group met again in July to finalize the issue set for Florida in a facilitated session. DOF staff developed draft language for the document with input from stakeholders and others familiar with the specific issue. The entire group was requested to review and provide input to the document and the group met again in February 2010.

Issue strategies were then drafted by DOF staff and interested stakeholders. Written comments were solicited from the entire group and a final stakeholder meeting was held on April 8, 2010 to further refine the document. Final stakeholder comments and request for strategy assistance by agencies/organizations under section “IV. Agency and Organization Roles/Needed Resources” in the matrix were solicited to complete this document.

2. Public and Partner Involvement

As previously indicated, Florida’s Forest Stewardship Coordinating Committee created the majority of the background of original stakeholders for the assessment process. Additional stakeholders were included starting with the issue refinement stage of development of this document. The complete listing of included stakeholders included representation from the following organizations:

Association of Consulting Foresters
Defenders of the Environment
Department of Community Affairs
Department of Environmental Protection
Department of Defense/Air Force
F&W Forestry Services, Inc.
Florida Fish and Wildlife Conservation Commission
Florida Association of Conservation Districts
Florida Audubon Society
Florida Chapter International Society of Arboriculture
Florida Farm Bureau
Florida Forestry Association
Florida Forestry Council

Florida Natural Areas Inventory
Florida Urban Forestry Council
Georgia-Pacific Corporation
Green Circle Bio Energy, Inc.
Longleaf Alliance
National Wild Turkey Federation
Natural Resource Planning Services, Inc.
NOAA Coastal Services
NW Florida Water Management District
Plum Creek Timber Company
University of Florida School of Forest Resources & Conservation
Southern Forestry Consultants, Inc.
St. Johns River Water Management District
Suwannee River Water Management District
Tall Timbers Research Station
The Nature Conservancy
US Fish and Wildlife Service
USDA Farms Service Agency
USDA Forest Service
USDA Natural Resources Conservation Service

3. Primary Data Sources

1. Sustainable Forestry

The number of acres acquired that are available for sustainable forest management; and the number of acres of state-owned forestland managed for economic return in accordance with current Best Management Practices (BMPs).

Source: Florida Areas Inventory and Division of Forestry based on Water Management District Land Use and Land Cover Data. June 2008

www.fnai.org

2. Forest Patch Size

The Forest Patches layer (Figure 2) is intended to emphasize forest patches of ecologically and/or economically-viable size.

Source: Southern Forest Land Assessment

A cooperative project of the Southern Group of State Foresters. Produced by Texas A&M University System, Spatial Sciences Laboratory Texas Forest Service. 2008.

3. Development Risk

Development level Emphasizes areas that are projected to experience increased housing development in the next 10 years.

Source: Southern Forest Land Assessment 2008

David Theobald of Colorado State University 2000.

4. Wildfire Risk (Levels of Concern)

Source: Southern Wildfire Risk Assessment 2006

5. Wildland Urban Interface

Low, Medium, and High Interface and Intermix Areas

Source: SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin-Madison. U.S. Census and USGS National Land Cover Data using the Federal Register definition of WUI (Federal Register 66:751, 2001).

<http://www.silvis.forest.wisc.edu/Library/WUILibrary.asp>.

6. Florida Open Burning Authorizations

Source: Florida Fire Information Systems

7. Wildfire Fire Occurrence

Source: Florida Fire Risk Assessment 2004

8. Forest Distribution

Source: Southern Forest Land Assessment 2008

9. Population Density

Source: US Census Bureau 2008 Data

10. Longleaf Pine Priority Areas

Source: Dennis Hardin (FLDOF)

11. Forest Type History Map 1934

Source: USDA Forest Service (1934)

http://www.fgdl.org/metadata/metadata_archive/fgdc_html/fortype1934.fgdc.htm

12. Aquifer Recharge Areas

Source: Critical Lands and Waters Identification Project. Database Version 1.0. To the Century Commission for a Sustainable Florida and Florida Fish and Wildlife Conservation Commission. May 2008.

13. Forest Resource Priority

Source: Southern Forest Land Assessment 2006
State Breaks

14. Forest Resource Richness

Source: Southern Forest Land Assessment 2006
State Breaks

15. Forest Resource Threat

Source: Southern Forest Land Assessment 2006
State Breaks

16. Priority Areas (CLIP)

All aggregated CLIP priority levels: combining the 9 layers of the Biodiversity, Surface Water, and Landscape Resource Categories.

Source: Critical Lands and Waters Identification Project. Database Version 1.0. To the Century Commission for a Sustainable Florida and Florida Fish and Wildlife Conservation Commission. May 2008.

CLIP Priority Category	Land/Water Category*	Acres	Percent of Land in Florida
Priority 1 Private Land		7,970,590	22.9%
Priority 1 Existing Conservation Land		9,357,432	26.8%

4. Integration of Other Plans and Assessments

A major basis for the development of this document was “Florida’s Statewide Assessment of Forest Resources – 2010”, which was recently completed as a companion document to this strategy component. Additionally, the Florida State Wildlife Action Plan, the Critical Lands and Waters Inventory Project, Florida’s Forest Resources Plan (2006), as well as preliminary information from the Forest Futures Project, were utilized in the development of resource strategies in this document.

5. List of Preparers

The Florida Division of Forestry utilized in-house staff to prepare this document. The primary authors included, John Saddler, Bonnie Stine, Ed Barnard, Charlie Marcus, Tony Grossman, Jeff Vowell, Dennis Hardin, and Jarek Nowak. Additionally, a collaborative effort in development of the Strategic Issues section was utilized and many of the partners listed above in section 2 provided guidance and recommendations in the development of broad reaching strategic responses.

Appendix B: National Program Guidance

Forest Stewardship

http://www.fs.fed.us/spf/coop/library/fsp_standards&guidlines.pdf

Forest Legacy

http://www.fs.fed.us/spf/coop/library/flp_guidlines.pdf

Urban & Community Forestry

<http://www.fs.fed.us/spf/coop/library/SPF-CF%20handbook.pdf>