



Connecting Florida's Communities with Greenways and Trails

Prepared by the
Florida Department of
Environmental Protection
and the
Florida Greenways
Coordinating Council

September 1998





Department of Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherall
Secretary

September 11, 1998

Dear Governor Chiles, President Jennings, and Speaker Webster:

The Department of Environmental Protection and the Florida Greenways Coordinating Council are pleased to submit the Five-year Implementation Plan for the Florida Greenways and Trails System.

We believe the recommendations contained in this plan constitute the next critical steps in Florida's efforts to create a statewide system of greenways and trails. The information contained in this report represents three years' worth of effort by a wide variety of people, agencies and organizations. With assistance from the University of Florida's Department of Landscape Architecture and GeoPlan Center, we have identified the existing and potential links in a statewide greenways and trails system. Through the efforts of the members of the Council and committed staff at the Department of Environmental Protection, we have developed a proposed process for prioritizing and formally designating lands and waterways as part of the system, for acquiring and managing components of the system, for involving public and private partners, and for educating Florida's residents and visitors about our natural systems, cultural and historic features, and recreational opportunities.

While this report represents the culmination of the work of the Florida Greenways Coordinating Council, we feel strongly that the effort to create Florida's greenways and trails system should be continued through a public/private partnership such as this one. To that end, we recommend the creation of a new council, the Florida Greenways and Trails Council, to be an ongoing group that promotes greenways and trails, and replaces both this council and the Florida Recreational Trails Council.

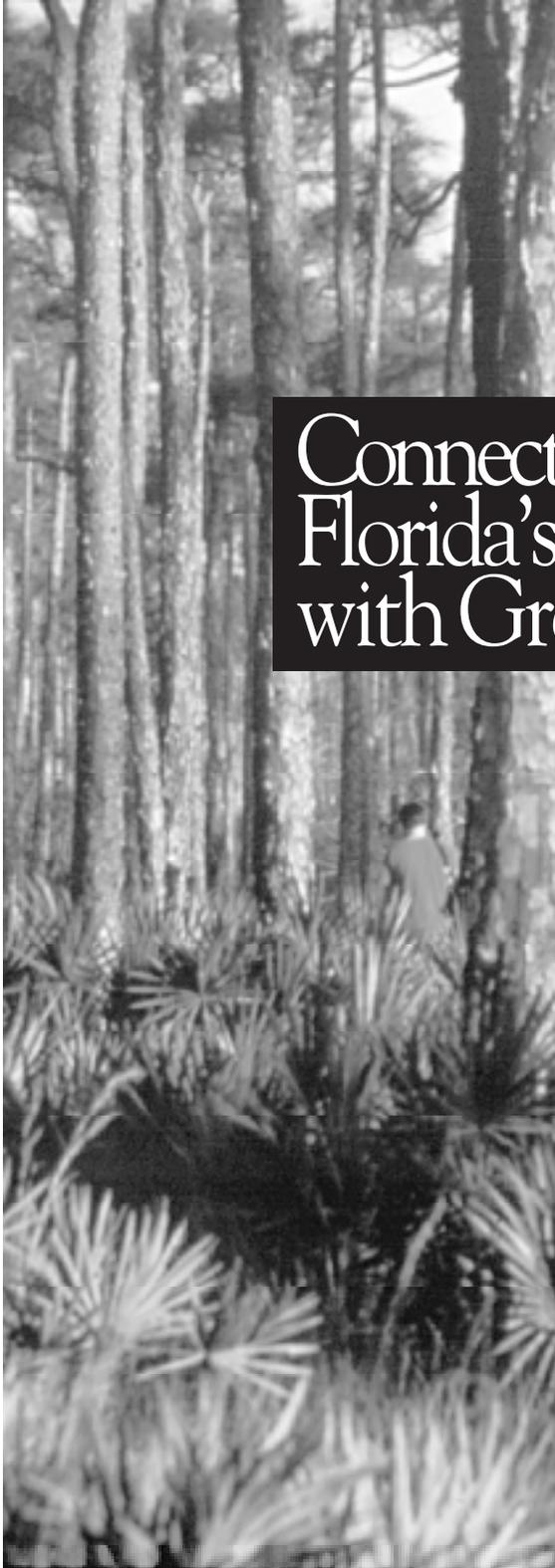
The greenways and trails movement represents some of the most important conservation and recreation work of the past decade. The people and organizations it brings together and the enthusiasm it creates have moved us toward a unified view of Florida's "green infrastructure" and the opportunities it represents for us today and for the state's sustainable future.

What is needed now is the state leadership and financial commitment that will allow us to implement the recommendations contained in this plan. We thank you for the opportunity to work together on this project, and stand ready to continue with your support.

Sincerely,

Virginia Wetherell, Secretary
Department of Environmental Protection

Clay Henderson, Chair
Florida Greenways Coordinating Council



Connecting Florida's Communities with Greenways and Trails

THE FIVE YEAR
IMPLEMENTATION
PLAN FOR THE
FLORIDA GREENWAYS
AND TRAILS SYSTEM

Prepared by the
Florida Department of
Environmental Protection
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Florida Greenways
Coordinating Council

September 1998



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Executive Summary

The Florida Greenways and Trails System has its roots in the Florida Recreational Trails System, the Florida Canoe Trail System, and the public parks, forests, refuges, wildlife management areas and water management areas created to protect Florida’s natural heritage.

In 1993, the Florida Greenways Commission began an effort to bring together public and private partners to create a statewide system of greenways and trails with recreational connections between urban and rural areas and ecological linkages between state and national parks,

forests and other protected areas, and rivers and wetland systems. This effort culminated in the 1994 report, “Creating a Statewide Greenways System: For People. . . For Wildlife. . . For Florida.”

The 1995 Legislature created the Florida Greenways Coordinating Council to continue the work of the Commission, and act as a public/private partnership promoting the creation of a statewide system. Legislators also designated the Department of Environmental Protection (DEP) as the state’s lead agency in greenways programs. DEP worked closely with the Florida Greenways Coordinating Council and the Florida Recreational Trails Council to prepare a plan to create a statewide greenways and trails system. This document includes recommendations, and addresses these three key questions:

1. What do we currently have that could support a statewide system of greenways and trails?
2. What do we need to complete a statewide system of greenways and trails?
3. How do we get it?

The future of Florida’s greenways and trails effort will require our state’s leaders to step forward with the administrative and financial commitment needed and also requires the enthusiastic support of many partners.

Statutory mandates

The plan is intended to comply with several statutory mandates:

- Chapter 253.787, (6)(c), Florida Statutes, which states that the Florida Greenways Coordinating Council (FGCC) shall assist the Department of Environmental Protection (DEP or Department) in the preparation of a 5-year Florida Greenways System Implementation Plan;
- Chapter 253.787 (6)(d), which requires the FGCC to develop benchmarks to measure progress in implementing the statewide system of greenways; and
- Chapter 253.787, (6)(g), Florida Statutes, which requires the FGCC to submit to the Governor, the President of the Senate, and the Speaker of the House of Representatives by July 1, 1999, a report making specific recommendations for action necessary to manage the Florida greenways system.
- Chapter 260.012, Florida Statutes, which declares public policy and legislative intent to establish and expand a statewide system of greenways and trails to be designated as the “Florida Greenways and Trails System.”

Recommendations

The recommendations are:

1. Focus resources toward the most significant components of the Florida Greenways and Trails System.
2. Adopt a process to designate lands and waterways as part of the Florida Greenways and Trails System.
3. Stimulate awareness, involvement and action in public and private groups that can help create and manage local greenways and trails, and components of the regional and statewide system.



What is a greenway?

The word greenway brings to mind two images: “green” suggests forest and wetlands, fish and wildlife, river floodplains and linear open spaces that generally are more natural than adjacent lands; “way” implies a route or path. But greenways come in many forms—forest corridors, waterways, working landscapes, recreational trails, urban pathways. Together they describe corridors that cross a variety of landscapes, ranging from pristine natural areas to landscapes transformed by human habitation.

“Greenway” is defined in the Florida Statutes as a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridge-line, or over land along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route; any natural or landscaped course for pedestrian or bicycle passage; an open space connector linking parks, nature reserves, cultural features, or historic sites with each other and populated areas; or a local strip or linear park designated as a parkway or greenbelt.

Within the landscape, greenways serve at least three major functions: 1. Greenways protect and/or enhance remaining natural, cultural and historic resources. 2. Greenways provide linear open space for compatible human use. 3. Greenways maintain connectivity between conservation lands, communities, parks, other recreational facilities, or cultural and historic sites. Connectivity is a critical landscape characteristic important to the health, well-being and aesthetic values of human communities, and vital to the maintenance of functional native ecosystems and landscapes.

What is a trail?

Trails are defined in law as linear corridors and any adjacent support parcels on land or water providing public access for recreation or authorized alternative modes of transportation.

Greenways have the potential to enhance the quality of the recreational experience when trails are located within them. Cultural features also have the potential to enhance the quality of the recreational experience. Compatible recreational opportunities should be actively promoted to encourage maximum usage throughout the system with due consideration for environmental and archaeological sensitivity.

4. Provide additional resources to local, regional, state and federal agencies and private landowners to acquire, protect and develop lands for greenways and trails.
5. Provide additional resources to local, regional, state and federal agencies and private landowners to manage and maintain their greenways and trails.
6. Develop mechanisms to coordinate management within the Florida Greenways and Trails System.

7. Educate and inform Florida’s residents and visitors about the value of the state’s greenways and trails system.

The future of Florida’s greenways and trails effort will require our state’s leaders to step forward with the administrative and financial commitment needed to make these recommendations a reality. It will also require the enthusiastic support of many partners, including all levels of government, public and private organizations, individual citizens, and landowners.



Florida's Greenways and Trails Vision

In 1991, 1000 Friends of Florida and The Conservation Fund created the Florida Greenways Project. The project built a statewide constituency for greenways and initiated several greenway and trail prototype projects at the regional and community levels. In early 1993, Governor Lawton Chiles created the 40-member Florida Greenways Commission (FGC) to develop a coordinated approach for protecting, enhancing and managing a statewide system of greenways. The Commission realized that many groups which had traditionally disagreed about environmental issues—conservationists and businesses, recreational enthusiasts and agribusinesses—had many of the same goals for our state. By acknowledging the interconnectedness of both our goals and our natural systems, it became easier to look at how these systems comprise a green infrastructure for the state of Florida.

The Goal: A statewide system of greenways and trails

In December of 1994, the Commission recommended to the Governor and Legislature that Florida create a statewide system of greenways, a system that would link natural areas and open spaces, conserving native landscapes and ecosystems and offering recreational opportunities across the state. This “green infrastructure” would connect residents and visitors to the state’s natural and cultural heritage, enhance their sense of place, and enrich their quality of life. The Commission created a concept of Florida’s statewide greenways system, which is shown on page 4. For more information about the Commission’s work, please see Appendix A, *A History of Greenways and Trails*.

The 1995 Legislature took two steps designed to make the Commission’s recommendations a reality:

This “green infrastructure” would connect residents and visitors to the state’s natural and cultural heritage, enhance their sense of place, and enrich their quality of life.

First, legislators created a twenty-six member Florida Greenways Coordinating Council (FGCC or Council) comprised of business, conservation, landowner, recreation, local and federal government interests, and state agency representatives. The Council was created to promote greenways initiatives throughout the state with technical support, leadership, education, advocacy and other service-oriented efforts; and to facilitate the formation of partnerships involving public agencies, private businesses, environmental organizations, community-based organizations and citizen volunteers.

Second, the Legislature designated the Florida Department of Environmental Protection (Department or DEP) as the state’s lead agency in greenways programs. DEP’s primary role is to create a statewide system of greenways and trails and to coordinate among government agencies and private individuals and organizations with programs which could contribute to the greenways and trails system. Working closely with the FGCC and the Florida Recreational Trails Council (FRTC), DEP prepared a plan to create a statewide greenways and trails system, and is developing and maintaining a database associated with the planning effort.

The beginnings of Florida’s greenways and trails system

The Florida Greenways and Trails System has its roots in the Florida Recreational Trails System, the Florida Canoe Trail System, and the public parks, forests, refuges, wildlife management areas and water management areas created to protect Florida’s natural heritage.

Created by the Legislature in 1979, the recreational trails system was intended to provide



the public with access to and enjoyment of outdoor recreation areas; and to conserve, develop and use the state’s natural resources for healthful and recreational purposes. In 1987, the Legislature amended the statute to allow the state to acquire abandoned railroad rights-of-way for conversion into trails. The Florida Recreational Trails Council was created by the Department of Natural Resources in 1988 to advise the department about issues related to the trails system, especially trail acquisition projects. In 1990, Preservation 2000 established annual funding for the Rails to Trails Acquisition Program. The program was expanded the following year to include acquisition for the Florida National Scenic Trail. The Legislature in 1996 expanded the system and the trails acquisition program to include greenways and trails and greenways and trails systems. In addition, the state’s land acquisition programs have been critical for protecting conservation lands that will be the backbone of a statewide greenways and trails system.

The Florida Recreational Trails System provided an essential legal and organizational framework for the recreational elements of today’s Florida Greenways and Trails System. The Florida Greenways and Trails Act, which has been amended a number of times since first written, sets forth the goals of the statewide system and establishes procedures for its administration and management.

What is the Florida Greenways and Trails System?

The Florida Greenways and Trails System is a designated system of greenways and trails consisting of the following components:

1. Landscape Linkages. Large linear protected areas that provide sufficiently large areas for native plants and animals to flourish while serving as corridors connecting ecosystems and landscapes. Landscape linkages can also provide space for the protection of historic sites, and may provide outdoor, resource-based recreational opportunities.
2. Conservation Corridors. Less extensive linear protected areas that serve as biological connecting corridors, and which may provide compatible outdoor, resource-based recreational opportunities and protect significant historic properties.
3. Greenbelts. Protected natural lands or working landscapes that may surround cities, serve to preserve agricultural productivity as well as to balance and direct urban and suburban growth.
4. Recreational Corridors and Trails. Linear open spaces and routes providing recreational use and access.
5. Scenic Corridors. Corridors of land protected for scenic quality and other aesthetic considerations.

6. **Utilitarian Corridors.** Corridors, such as powerline and pipeline rights-of-way and canals, and other corridors whose primary purpose is utilitarian, that may help connect recreational, cultural or natural system features.
7. **Reserves.** Large protected areas that serve as primary sites for conserving biological diversity and natural resources such as fisheries and fresh water. Reserves also can protect important historic and cultural sites and provide some nature-based recreation opportunities.
8. **Regional Parks and Preserves.** Less extensive hubs of regional significance that provide ecological benefits and may offer important recreational opportunities.
9. **Ecological Sites.** Smaller sites that conserve important or unique natural or geologic features.
10. **Cultural/Historic/Recreational Sites.** Community parks, trailheads or cultural/historic sites that provide recreational opportunities, help protect and interpret Florida's cultural/historic heritage, and can often serve as a system origin or destination.

While greenways and trails are important conservation and recreation areas in and of themselves, what sets the greenways and trails concept apart from other initiatives is its emphasis on connections.

The system is intended to maintain and restore connectivity from the panhandle to southern Florida that will maintain key ecological processes and services essential for conserving wildlife and important for people. The ecological elements of the statewide system will be critical for protecting Florida's native biological diversity in the face of rapid human population growth. The system also will create the opportunity for trail users to travel the length and breadth of the state to provide recreational opportunities, to promote appreciation of the state's natural and working landscapes, and provide opportunities for alternative transportation. The system of greenways and trails is also intended to protect sites and landscapes of cultural and historic significance.

The benefits of greenways and trails

The benefits of greenways and trails are many and varied. They can protect critical ecological functions and native biological diversity, provide outstanding recreational opportunities, conserve historic and cultural resources, protect working landscapes, and influence urban form. Greenways and trails can also provide opportunities for outdoor education, appreciation of natural and cultural features, and opportunities for alternative transportation. Linked landscapes and cultural/historic sites enhance the quality of recreational trail experiences. They also can provide economic benefits by attracting visitors. Trail use provides a hands-on opportunity to educate users about the value of preserving native landscapes and cultural/historic sites and helps create awareness and build advocacy for the perpetuation of the greenways and trails system. For a more complete description of benefits, see Appendix B.

The purpose of this plan

This document describes the recommendations for continuing Florida's greenways and trails effort. The information contained in this plan will address three key questions:

1. What do we currently have that could support a statewide system of greenways and trails?
2. What do we need to complete a statewide system of greenways and trails?
3. How do we get it?

The plan is intended to comply with several statutory mandates:

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the President of the Senate, and the Speaker of the House of Representatives by July 1, 1999, a report making specific recommendations for action necessary to manage the Florida greenways system.

- Chapter 260.012, Florida Statutes, which declares public policy and legislative intent to establish and expand a statewide system of greenways and trails to be designated as the “Florida Greenways and Trails System.”

The plan also reviews the current status of Florida’s statewide system of publicly owned greenways and trails by identifying all publicly owned lands in Florida and lands approved for acquisition on any of the state’s Preservation 2000 acquisition program lists.

The ongoing planning process

Planning for a successful statewide greenways and trails system is an ongoing process that does not end with the completion of this Five-Year Implementation Plan.

Both the mapping effort and the implementation strategies will need to be revised over time as circumstances change and opportunities arise. For example, some of the landowners not presently included within the opportunity areas shown on the maps may decide they want to be included. At that time, the maps would need to be changed accordingly.

The vision will be evaluated and revised on a continuing basis through the following:

- Prioritization of lands for acquisition or protection through government programs and other means.
- Annual identification of the most critical linkages in the statewide system.
- Adding newly designated components of the Florida Greenways and Trails System into the database.
- Ongoing maintenance and updating of the data and decision support model results related to the greenways and trails system and distribu-

Greenways can protect critical ecological functions and native biological diversity, provide outstanding recreational opportunities, conserve historic and cultural resources, protect working landscapes, and influence urban form.

tion through the Florida Geographic Data Library.

The implementation strategies will also be modified periodically through the following process:

- Annual assessments of relevant state agency programs through Performance Based Program Budgeting.
- Periodic assessments and revisions of Agency Strategic Plans.
- Periodic assessments by the Florida Greenways and Trails Council (FGTC) to measure progress in implementing the statewide system through the benchmarks established in this

plan. (For a description of this new council, please see page 30.)

- As partnerships are established (formally through memoranda of understanding or informally) to create and manage greenways and trails and coordinate activities.
- Annual work programs developed by land managing agencies for the management and maintenance of greenways and trails.

The Florida Greenways and Trails Council will play a vital role in this ongoing planning process. The council’s meetings and hearings will provide opportunities for citizen participation, and the public will be encouraged to get involved in all steps of the process.

Through the activities described above, the FGTC and DEP will evaluate the progress of implementation and revise the Greenways and Trails System vision and implementation strategies as necessary.



Developing the vision

Successful greenways and trails commonly share two key features — an outstanding natural, recreational or cultural feature and a leader or leaders with a vision. The recommendations for developing the Florida Greenways and Trails System focus on actions needed to foster the public and private leadership needed to conserve the system’s natural, recreational and cultural features. These actions are detailed in the recommendations.

Greenways and trails systems can be designed and implemented at many different scales. A local greenways and trails system can encompass natural, recreational and cultural/historic features within a single community or county. A regional greenways and trails system may link conservation areas, parks and trails within one or more watersheds. A statewide greenways and trails system can link community and regional systems. Multi-state greenways and trails systems constitute the building blocks for national conservation and recreational strategies.

Designing the system

The vision for a system of greenways and trails was developed between 1995 and 1998. Comments, ideals and concerns were solicited from scientists, recreational trail users, conservationists, cultural historians, governmental representatives, landowners, the public and the members of the Florida Recreational Trails Council and the Florida Greenways Coordinating Council. The maps included in this plan represent the product of a three-step process described below.

Step One:

A geographic information system (GIS) approach called the Decision Support Model (DSM) was developed. The DSM identifies sites, areas and corridors that have the potential to be included in the statewide system.

The DSM was designed by a team of researchers at the University of Florida working under contract with the Florida Department of Environmental Protection and the Florida Department of

Transportation. The team’s primary task was to design the system, including an ecological subsystem or network and a trails/cultural-historic subsystem or network. The result is a physical delineation of areas potentially suitable for inclusion in an integrated statewide conservation and recreation system that links Florida’s existing conservation lands and other ecologically significant areas, trails and cultural/historic sites.

The team’s work was based on the assumption that a statewide greenways and trails system is comprised of elements of statewide, regional and local significance, and that all are equally important to the formation of a complete system. The team’s charge was to identify the statewide elements of the Florida Greenways and Trails System. These statewide elements are designed to serve as the spine or major components of a complete system.

At the end of this step, the Decision Support Model results were produced.

Step Two:

Once the Decision Support Model results were developed, they were taken to a series of meetings for review and comment from the six regional greenways task forces, the general public, the Florida Recreational Trails Council, and the Florida Greenways Coordinating Council. This process resulted in slight modification of the ecological portion of the Decision Support Model Results and significant modification to the trails and cultural/historic portion. The products of step two were the Decision Support Model Results as Modified by Public Comment.

Step Three:

Step three involved review of the maps by private landowners. Due to landowner concerns about the use of the maps for purposes other than greenways and trails planning, DEP agreed to remove the opportunity data layer from private lands if the landowner so requested. Since the intent is to develop the statewide system over time, the department will work with land-owners

on an individual basis to encourage them to agree to have their lands represented on the maps in the future. The maps, included in Appendix H, are therefore entitled *Model Results as Modified by Public Comment and Private Landowner Comment*.

Since this process is not a static one, the maps will be modified as additional private properties are added within the opportunity data layer based upon a landowner's decision to become part of the planning process.

The maps show the following areas of opportunities:

Conservation/Ecological Opportunities

This map shows present implementation opportunities for a potential ecological subsystem of public conservation lands and significant private lands that could protect Florida's native biological diversity and important ecological functions and services, and conserve other important natural resources while maintaining compatible land uses.

Trail Opportunities

These maps show five sub-networks within the trails/cultural-historical network. Important cultural and historic sites of Florida have been identified on the maps, as trailheads and as significant sites in or near proposed corridors.

Maps are provided for the following:

- Hiking Trail Opportunities
- Off-road Bicycling Trail Opportunities
- Equestrian Trail Opportunities
- Multi-Use Trail Opportunities
- Paddling Trail Opportunities

Each sub-network of corridors is intended to form a spine of trails that can be linked by local and regional systems. The multi-use trail sub-network supports the others, providing each with important connecting trail segments. Each sub-network extends from southern Florida to the Panhandle with varying trailheads and trail lengths.

The team's work was based on the assumption that a statewide system of greenways and trails is comprised of elements of state-wide, regional and local significance, and that all are equally important to the formation of a complete system.

Caveats to the maps

While portions of the state park system and other public lands are shown on the maps as trailheads, this does not assume unconditional approval for recreational trails to go through or along the boundaries of any public lands. State land managing agencies will make decisions regarding the planning, design and use of state-owned lands through the unit management plan process on a case-by-case basis.

Some of the conservation/ecological opportunities shown on the maps are in areas being actively mined for phosphate or for which mining is planned. These mining

activities are subject to numerous regulatory requirements within the overall mining/reclamation approval process which may result in lands suitable for inclusion in the system. Greenways planning guidance is provided through a regional landscape restoration plan known as the Integrated Habitat Network/Coordinated Development Area concept (IHN/CDA). The IHN portion of the concept includes plans for a greenways network throughout the phosphate district which in turn would connect with regional hubs and links such as the Green Swamp and the Peace and Little Manatee rivers. The phosphate district is unique in that the potential exists for a "before, during and after mining" regional greenways system. The IHN is intended as a proposed template and final landscape/greenway configurations will be the result of dynamic processes.

Designation of phosphate mined lands as part of the Florida Greenways and Trails System shall occur only if agreed to by the landowner/mining company and the Florida Department of Environmental Protection's Bureau of Mine Reclamation.

For a more detailed description of the Decision Support Model, please see Appendix C.

Recommendations

Recommendation One: Focus resources toward the most significant components of the Florida Greenways and Trails System.

Recommendation Two: Adopt a process to designate lands and waterways as part of Florida's Greenways and Trails System.

Recommendation Three: Stimulate awareness, involvement and action in public and private groups that can help create and manage local greenways and trails, and components of the regional and statewide system.

Recommendation Four: Provide additional resources to local, regional, state and federal agencies and private landowners to acquire, protect and develop lands for greenways and trails.

Recommendation Five: Provide additional resources to local, regional, state and federal agencies and private landowners to manage and maintain their greenways and trails.

Recommendation Six: Develop formal mechanisms to coordinate management within Florida's System of Greenways and Trails.

Recommendation Seven: Educate and inform Florida's residents and visitors about the value of the state's greenways and trails system.



Prioritizing greenways and trails

Recommendation One: Focus resources toward the most significant components of the Florida Greenways and Trails System.

Prioritization involves determining the relative significance of features for potential protection and inclusion in the statewide greenways and trails system. There are several purposes for prioritization, which include guiding the selection of greenways and trails projects, the awarding of incentives, and the allocation of agency resources.

Strategy 1: Prioritize the ecological and recreational/cultural features found in the statewide vision.

The ecological element of the Decision Support Model Results as Modified by Public Comment indicates there are still large areas potentially suitable, based on ecological characteristics, for inclusion within a statewide system of greenways and trails. The University of Florida has developed a GIS process to identify areas of ecological priority that would provide a linked ecological system from southern Florida to northern Florida and west into the Panhandle. Although the University of Florida was contracted to provide an analysis for ecological aspects of the system, no similar process has been developed to rank recreational/cultural features, including trails. A thorough analysis is necessary to develop a methodology for measuring significance of recreational/cultural features and for identifying those which are most significant to the statewide system.

Action Steps

1. DEP should recommend a process for prioritization of ecological and recreational/cultural features within the vision for a

Protecting and designating the critical linkages in the statewide system of greenways and trails is essential for the system to function ecologically and recreationally.

statewide greenways and trails system for approval by the Florida Greenways and Trails Council (FGTC). (For a description of this new council, please see page 30.)

2. Upon adoption of the process by the FGTC, DEP should prepare for the FGTC a plan with specific recommendations for prioritizing greenways and trails for ecological and recreational/cultural significance.
3. Upon approval by the FGTC, DEP should use this information as a starting point for Strategy 2.

Strategy 2: Identify the most critical linkages in the statewide system of greenways and trails.

Protecting and designating the critical linkages in the statewide system of greenways and trails is essential for the system to function ecologically and recreationally. A process to identify these critical linkages should be developed and used to direct sufficient resources to ensure their protection and designation. Critical linkages would be identified and DEP would solicit proposals from landowners, other government agencies and private organizations to formulate strategies to protect and designate these linkages.

Because the system will include only lands whose owners have agreed to participate, private lands will not be identified as critical linkages in those cases where the landowner has requested removal from the areas of opportunity shown on the map.



Strategy 3: Evaluate specific greenways and trails proposals received by the Department of Environmental Protection for allocation of greenways and trails project funding.

Specific greenways and trails proposals should be evaluated based on criteria related to the following: willingness of landowners, ecological significance, recreational/cultural significance, vulnerability, acquisition considerations, management considerations, community support, ranking in statewide prioritization, benefits of the project, the extent to which the project meets an ecological or recreational/cultural need, and whether the project involves an identified critical linkage. A process for evaluation should be developed to assist the FGTC and DEP in prioritizing specific project proposals for funding. A list of criteria related to conservation/ecological

features, and recreational/cultural features can be found in Appendix D.

Action Steps

1. DEP should recommend the process for evaluation for approval by the FGTC.
2. Upon approval of a process by the FGTC, DEP should develop an administrative rule for implementing the evaluation process for the Greenways and Trails Acquisition program.
3. DEP should provide this information to those agencies and organizations with other land acquisition and conservation programs, including any private land stewardship initiatives funded under the post P-2000 program.

Action Steps

1. DEP should recommend the process for identifying the most critical linkages for approval by the Florida Greenways and Trails Council.
2. Upon adoption of a process by the FGTC, DEP should develop a list of the most critical linkages annually for approval by the Florida Greenways and Trails Council.
3. DEP should solicit proposals to protect and designate the most critical linkages through a request for proposals process.
4. DEP should encourage applications through the Greenways and Trails Acquisition program for protecting the most critical linkages.
5. DEP should provide this information to those agencies and organizations with other land acquisition and conservation programs, including any private land stewardship initiatives funded under the post P-2000 program.



Creating the Greenways and Trails System

Recommendation Two: Adopt a process to designate lands and waterways as part of the Florida Greenways and Trails System.

The Florida Greenways and Trails System has its roots in the Florida Recreational Trails System, the Florida Canoe Trail System, and Florida's public parks, forests, refuges, wildlife management areas and water management areas.

Programs for acquiring conservation and recreation lands

Florida is an acknowledged national leader in conservation land acquisition. These valuable resource areas, which will serve as the cornerstones for the development of the Florida Greenways and Trails System, have been protected through a number of innovative land acquisition programs that started over two and a half decades ago:

- Land Acquisition Trust Fund - 1963
- Land Acquisition Trust Fund Revised - 1968
- Environmentally Endangered Lands Program - 1972
- Conservation and Recreation Lands Program - 1979
- Save Our Coast (SOC) Program - 1981
- Save Our Rivers (SOR) Program - 1981
- Conservation and Recreation Lands (CARL) Program Revised - 1987
- Florida Rails to Trails Program - 1987
- Preservation 2000 Program (P-2000) - 1990

Florida's trail systems

The Florida Canoe Trail System, created by the Governor and Cabinet in 1970, consisted of thirty-six canoe trails on 949 miles of natural rivers and streams. A managing agent was identified for each canoe trail designated by the Governor and Cabinet in 1981 in accordance with the administrative rule which existed at the time. According to the 1981 Cabinet agenda item, "Trail management activities will be conducted in each case according to a written management statement to assure continued maintenance and public use of the trail." The managing agencies identified were the Division of Recreation and Parks, the Game and Fresh Water Fish Commission, and the Division of Forestry.

Management of the designated canoe trails entails the following activities: inspection of the entire length of the designated trail, clearing that is necessary to accomplish passage of canoes during times of normal water levels, maintenance of existing canoe trail facilities, and enforcement. However, for those parts of the designated trail outside the boundaries of the agency's jurisdiction, the manager would simply report conditions warranting attention and attempt to resolve the management problems by cooperative means with other agencies or groups.

Two paddling trails have been designated since 1981 – the Historic Big Bend Saltwater Paddling Trail and the Hillsborough River State Recreational Canoe Trail. The Historic Big Bend Saltwater Paddling Trail was established through legislation and has no managing agency. The Hillsborough River Greenways Task Force petitioned for designation of the Hillsborough River State Recreational Canoe Trail and has produced an outstanding management plan for the river. Management responsibilities are shared by multiple entities depending on who owns the

adjacent uplands. The uplands along the canoe trail are owned by the State of Florida, Two Rivers Ranch and Southwest Florida Water Management District (SWFWMD). SWFWMD has designated Hillsborough County as the manager for the river segment which runs through its land, and Two Rivers Ranch has a similar arrangement with a local canoe livery.

Presently very few lands or waters in Florida are designated as part of the statewide greenway system pursuant to Chapter 260, Florida Statutes. Even those which are designated (38 canoe trails and 185.5 miles of trails in state parks and forests) are not managed as a “system of greenways and trails”. For example, the Florida National Scenic Trail is recognized in state law as the official statewide trail, but it has not been formally designated.

Currently the Secretary of the Department of Environmental Protection (DEP) designates components into the system with the Florida Recreational Trails Council serving in an advisory role. In 1995, Chapter 260, Florida Statutes, was amended renaming the Florida Recreational Trails System as the Florida Greenways and Trails System. Amendments to Chapter 260, Florida Statutes, effective July 1, 1998, specify requirements for the designation process.

The designation program today

The state’s trail designation program was transferred to the Office of Greenways and Trails (OGT) from the Division of Recreation and Parks in 1993. At one time, the process for designation was specified in Rule 16D-7, but this rule has since been repealed. OGT currently manages designation through policy that requires applications to be recommended by the Florida Recreational Trails Council and then approved by the Secretary of DEP.

The amendments to Chapter 260, Florida Statutes, effective July 1, 1998, require DEP to “develop and implement a process for designation of lands as part of the statewide system of greenways and trails, which shall include:

1. Development and dissemination of criteria for designation.
2. Development and dissemination of criteria for changes in the terms or conditions of designa-

tion, including withdrawal or termination of designation. A landowner may have his or her property removed from designation by providing the department with a written request that contains an adequate description of such lands to be removed. Provisions shall be made in the designation agreement for disposition of any future improvements made to the land by the department.

3. Compilation of available information on and field verification of the characteristics of the lands as they relate to the developed criteria.
4. Public notice pursuant to s. 120.525 in all phases of the process.
5. Actual notice to the landowner by certified mail at least 7 days before any public meeting regarding the department’s intent to designate.
6. Written authorization from the landowner in the form of a lease or other instrument for the designation and granting of public access, if appropriate, to a landowner’s property.
7. Development of a greenway and/or trail-use plan as a part of the designation agreement. In any particular segment of a greenway or trail, the plan components must be compatible with connecting segments and, at a minimum, describe the types and intensities of uses of the property.”

The existing DEP process described in policy does not meet the requirements of the new legislation. Revisions will be necessary to implement the statutory changes.

Strategy 1: DEP should adopt a new process for designating lands and waterways into the Florida System of Greenways and Trails.

The objectives for the designation process are: to ensure that designated components further the purposes, goals and objectives of the system; to ensure the system is inclusive and as interconnected as possible; to encourage voluntary partnerships in conservation, development and management of system components; to provide

recognition for individual components and those partners involved; and to raise public awareness of the conservation and recreation benefits of the system components.

The publication *Florida Greenways and Trails System: Design Guidelines for Unpaved and Paddling Trails* developed by the Florida Recreational Trails Council serves as a guide for developing waterways and unpaved trails. The use of these guidelines is recommended. (See Appendix E.)

Designation is intended to be inclusive of all greenways and trails, and it is anticipated that both public and private lands will be designated as components of the statewide system. Prioritization is a separate process. The designation process proposed below is designed to be sensitive to the needs of private landowners and public land managers and to encourage voluntary participation.

Strategy 1A: Develop a streamlined designation process for public conservation lands and waterways.

In addition to those trails which are already designated, the initial elements for the Florida Greenways and Trails System should be established through a streamlined designation process that does not require designation applications to be submitted and reviewed. This process will be used for the public conservation lands and waterways included in the Florida Greenways and Trails System maps in this document, including: national parks, forests, preserves, seashores, wildlife refuges, and military reservations; state parks, forests, recreation areas, wildlife management areas, public game areas, preserves and reserves; water management lands; and local government conservation lands. Public landowners/managers would be formally requested by DEP to allow their lands or waterways to be designated as components of the system. If the public landowner/manager supports inclusion, the subject lands or waterways would be designated through an agreement entered into with

Because voluntary participation by the landowner is required for designation, the importance of including private landowners and public land managers in the initial stages of the designation process cannot be overstated.

DEP.

As an initial step, a “charter designation” program would be developed to designate many of these public lands and waterways as part of the system at one time, helping to create interest and giving people an idea of what the system will look like. However, those public lands and waterways not included in the initial “charter designation” would still be eligible for the streamlined designation process.

Strategy 1B: Develop a 4-step designation process for other lands and waterways.

This four-step designation process is proposed for all private lands and for public conservation lands and waterways not included on the Florida Greenways and Trails System maps in this document.

1. Project sponsor submits designation application

The responsibility for the designation proposal rests with the project sponsor, with DEP assisting as resources allow. The application process can be initiated by any interested person, organization, government agency or coalition acting as the sponsor. Because voluntary participation by the landowner is required for designation, the importance of including potentially affected private landowners and public land managers in the initial stages of the designation process cannot be overstated. Written expression of willingness to proceed with designation is required from all private landowners and public land managers on whose land a project is proposed.

Written applications for designation would be accepted throughout the year by the DEP Office of Greenways and Trails (OGT). A proposal for designation must meet the following criteria:

1. The requirements of Chapter 260.016(2)(d), Florida Statutes;

2. It must protect and/or enhance natural, recreational, cultural or historic resources; and
3. It must do one of the following:
 - a. Provide linear open space or a hub or a site; or
 - b. Promote connectivity between or among conservation lands, communities, parks, other recreational facilities, cultural sites, or historic sites.

The following information will be required on an application for designation:

1. Identification of the landowner(s) of the lands included in the proposal, and specific written consent to be included in the proposal;
2. A description of the available information on and field verification of the characteristics of the lands to be designated;
3. A description of how the proposal will protect and/or enhance natural, recreational, cultural or historic resources;
4. A description of how the proposal either:
 - a. Provides linear open space or a hub or a site; or
 - b. Promotes connectivity between or among: conservation lands, communities, parks, other recreational facilities, cultural sites, or historic sites.
5. A description, map and photographs of the area proposed for designation, including its area, length and points of interest or special features. When public access via trails is proposed, identify the trail alignment, public access points, trailheads and facilities to accommodate the proposed types of public uses over its length.

The proposed designation process is designed to be sensitive to the needs of private landowners and public land managers and to encourage voluntary participation.

2. DEP evaluates the application and negotiates a designation agreement

DEP will be responsible for ensuring that all criteria and requirements for designation are met. DEP will evaluate the designation application for completeness and to ensure designation criteria are satisfied, invite the public to comment on designation applications, and develop a designation agreement through negotiation with the landowner(s). The designation agreement must:

1. Be approved in writing by the landowner;
2. Identify agencies, organizations or individuals which will be responsible for management and maintenance of the area which may include volunteer-based organizations; and
3. Identify the existing and intended use(s) of the area, what management practices will be used, and how the uses of the area and management practices are compatible with its natural, recreational, cultural and historic resources; and
4. Include when public access is proposed:
 - a. Written authorization granted by the private landowner and public land manager permitting public access to all or a specified part of the property; and
 - b. A description of how impacts will be avoided or minimized in sensitive ecological, archaeological and historic areas.

3. The application is reviewed by the Florida Greenways and Trails Council.

The Office of Greenways and Trails will transmit the application, staff evaluation, and proposed designation agreement to the Florida Greenways and Trails Council for review and recommendation. The Council will consider the application during a properly noticed meeting at which the public will be invited to comment, after which it will recommend approval or disapproval of the application to the Secretary of DEP.

4. DEP Secretary approves or denies the designation.

The Secretary of DEP will consider the recommendation of the Florida Greenways and Trails Council and public comments prior to making the final determination to approve a proposed designation agreement. Official designation into the Florida Greenways and Trails System will become effective through the signing of a designation agreement by the Secretary of DEP, the private landowner(s), public land manager(s) and other parties as appropriate.

Action Steps

1. DEP should promulgate an administrative rule describing the process for designation, including minimal requirements to protect the natural, recreational, cultural or historic resources of the area. The basis for this rule will be the designation process described above as well as the requirements set forth in Section 260.016(2)(d), Florida Statutes.
2. DEP should start a process to designate public conservation lands appearing on the maps in this document.
3. DEP should identify other areas important for designation and encourage applications from landowners.
4. DEP should provide technical assistance for landowners and/or project sponsors in the designation process.

Strategy 2: DEP should develop a process for monitoring designated components of the system of greenways and trails.

DEP will monitor the designated components by requiring reports to document that the natural, recreational, cultural or historic resources identified in the designation agreement are being maintained. The reports will be submitted as specified in the designation agreements and may include reports generated for other purposes. In lieu of these reports, DEP may allow local, regional, state or federal agencies to certify that the natural, recreational, cultural or historic resources identified in the designation agreement are being maintained. DEP will provide technical and

financial assistance as available, including identifying sources of funding for management and restoration needs. As resources allow, DEP may enter into management and patrol and protection agreements and into leases if so stipulated in the designation agreement. DEP will assist in inter-organizational coordination as necessary to ensure the designated component conforms to its designation agreement.

A designated component of the system, or any portion thereof, may be removed from the Florida Greenways and Trails System by action of the Secretary of DEP or by the property owner if:

1. The component fails to accomplish or becomes unsuitable for the purposes for which it was designated;
2. The component is voluntarily withdrawn by the landowner when there has been no conveyance of interest; or
3. There is no longer an ability to manage the component as intended in the approved designation agreement and no replacement can be identified.

If a portion of a designed component is terminated as part of the Florida Greenways and Trails System, the designation agreement for the component will be modified accordingly.

Action Steps

1. DEP should develop a system for tracking receipt of reports and sending advance notice of due dates.
2. DEP should review reports in a timely manner and provide constructive comments for actions needed to ensure that the environmental and recreational qualities of the designated areas are maintained.
3. DEP should provide technical assistance as available, including identifying sources of funding for management and restoration needs.
4. DEP should modify the designation agreement, if appropriate, to provide additional management assistance.
5. DEP should assist in inter-organizational coordination as necessary to ensure designated components conform to their designation agreements.



Building partnerships

Recommendation Three: Stimulate awareness, involvement and action in public and private groups that can help create and manage community greenways and trails, and components of the statewide system.

Creating and encouraging partnerships for greenways and trails development begin with organizing and building support. Strong citizen support is the hallmark of most successful greenways and trails, especially those with public access. At the heart of nearly all successful projects is a dedicated volunteer or small group of volunteers who emerge to become the project's primary torch bearers. These core groups should be integrally involved in developing and building consensus on the objectives, including its planning, design, funding, conservation, management, and promotion.

Helping people understand the benefits provided by greenways and trails is a key element in the success of the Florida Greenways and Trails System, and critical to fostering public/private partnerships. The strategies outlined below are intended to stimulate public and private sector awareness, involvement, and action in creating and managing community greenways and trails and components of the statewide system.

Strategy 1: Gain landowner support for and participation in the creation of the Florida Greenways and Trails System by encouraging the voluntary participation, sale or donation of conservation easements or fee simple title to land that can be included in the statewide system.

Landowners whose property could be included as a greenway component of the System or whose land is adjacent to proposed components are important partners in the greenways and trails effort. We need to assure them that participation in the Florida Greenways and Trail System is strictly voluntary, and that not all components must be accessible to the public. We also need to let them know about incentives available for private landowner participation.

Action Steps:

1. Distribute greenways and trails packet discussing tax benefits, obligations, liabilities and other aspects of land or easement donations to targeted corporations. Donations can be land, cash or in-kind materials or services.
2. Implement a communications blitz with foundation support and the assistance of the Florida Association of Broadcasters, the Florida Cable Television Association, the Florida Outdoor Advertising Association, and the Florida Radio Network.
3. Include in future revisions of the *Florida Greenways Community Resource Guide* strategies on how to involve landowners, listen and be responsive to their concerns, present solutions for recurring issues, and communicate with the media when differences occur.
4. Distribute information about the statewide greenways and trails system and landowner incentives through the newsletters and publications of the Florida Farm Bureau, the Florida Forestry Association, the Florida Land Council, and other landowner groups.
5. Create a network of landowners who have had positive experiences with greenways and trails and who will meet with landowners in communities developing new greenways and trails. Record landowner testimonials.
6. Widely distribute the Florida Greenways and Trails Implementation Plan to interested parties throughout the State.
7. Approach landowners through a representative knowledgeable about all possible alternatives and coordinate with all potential agency partners in a comprehensive manner. Make it clear that public access is not necessarily required for designation.

8. Provide assistance to private landowners who are interested in setting up ecotourism-related activities on their land.
9. Continue to explore new landowner incentives.

Strategy 2: Generate support for and involvement in the creation of greenways and trails in local communities through groups involved in conservation, recreation or historical issues such as: hiking, walking, running, bird-watching, horseback riding, hunting, paddling, bicycling, fishing, youth, conservation and environmental organizations, and historical and archeological societies.

Greenways and trails must bring together conservation and recreation interests to create an over-all framework for protection and conservation of environmental resources. Collaboration and cooperation with local conservation, preservation, and recreation groups is key to developing funding and support for a successful greenways and trails system.

Action Steps:

1. Compile and maintain a list of individuals and organizations who currently are partners in the greenways and trails effort.
2. Develop press releases, graphics and photos for existing publications highlighting greenways and trails characteristics and events (e.g. recognition program, greenways and trails celebration).
3. Develop slide/video show and conduct speaker training. Offer speakers, slide/video presentations and other materials for groups to include on the agendas of their state, regional and local meetings.
4. Encourage groups to plan and implement locally sponsored field trips to promote greenways and trails education and stewardship.
5. Update the Community Resource Guide and distribute it widely.
6. Customize articles for specific user groups and specialized media outlets (examples: hunting and fishing magazines, organizations’ newspapers, Florida Naturalist, etc).

7. Encourage participation of groups in events celebrating Florida Greenways and Trails Month.

Strategy 3: Generate support and sponsorship by local and national businesses of specific public awareness projects and special events to both promote greenways and trails in their community and on their properties, and to educate the general public about the benefits of greenways.

Support of greenways and trails is good business. Businesses and their employees benefit through the creation of better communities and a higher quality of life. Involvement in the creation of greenways and trails offers a way for corporate and business owners to improve public relations by demonstrating a commitment to the environment and responsible recreational use. Major national corporations as well as local, independently owned businesses whose products and services appeal to greenways and trails users (i.e. paddlers, hikers, in-line skaters, other outdoor product users) are excellent sources of support for greenways and trails projects, as are utility companies, agricultural interests, and outfitting and ecotour businesses that have the potential to use greenways and trails or to support a local greenways and trails effort because it is good business. Lawyers, accountants, and bank trust officers who can relay information to their clients on the tax benefits available for donations of land and money to greenways and trails also should be targeted.

Action Steps:

1. Design and develop a corporate involvement and strategy planning seminar to encourage corporate participation.
2. Develop a program of recognition for businesses that contribute to the development, maintenance and/or management of greenways and trails.
3. Prepare a sponsorship proposal to attract business sponsors to fund greenway celebrations and related activities.

4. Feature corporations involved in local greenways and trails initiatives in newsletters and other publicity efforts.
5. Develop a general Florida Greenways and Trails information “kit” to encourage businesses to become involved in the development of greenways and trails.
6. Distribute a greenways and trails packet discussing tax benefits, obligations, liabilities and other aspects of land or easement donations to financial advisors and to targeted corporations. Donations can be land, cash or in-kind materials or services.
7. Develop models or statistics to show that businesses profit from private investment and participation in greenways and trails initiatives.

Strong citizen support is the hallmark of most successful greenways and trails, especially those with public access.

Action Steps:

1. Identify landowners of linear facilities having potential as greenways and trails.
2. Contact identified landowners and give them substantial information about successful examples of developing and using shared corridors, and the potential recreational and conservation benefits of sharing corridors.
3. Work with and encourage providers of linear facilities to incorporate greenways and trails as part of existing and proposed linear facilities and to take steps

to avoid fragmenting the greenways and trails system when planning, developing and improving linear facilities.

4. Work with landowners who are participating in the greenways and trails program to create news opportunities which showcase the company and the benefits of sharing corridors.

Strategy 4: Work with owners of linear facilities, such as abandoned railroad beds, pipeline and drainage corridors, canals and utility rights of way, to encourage their participation in the greenways and trails system.

Florida is crossed by thousands of miles of linear facilities containing pipelines, water and sewer lines, fiber optic lines, electric transmission lines, drainage canals and levees, roads and railroads. These corridors may provide opportunities for creating links and/or providing access to the greenways and trails system. Often, they constitute the only opportunities for greenways and trails in highly developed areas. Partnerships should be developed to take advantage of those circumstances where gaps in the statewide system can be bridged by using existing or proposed rights-of-way. Their use as greenways and trails will depend on cooperative agreements with providers of linear facilities. These partnerships can create benefits for all parties involved including providing additional recreational opportunities, improving the public perception of the parties involved, and even improving habitat through restoration.

Strategy 5: Encourage developers to include greenways and bicycle, equestrian and pedestrian trails within large developments and to link internal trail systems with the larger state greenways and trails system.

Developers planning and developing residential areas need to know that there are economic advantages to having greenways and trails within housing and other urban/suburban developments.

Action Steps:

1. Gather information on existing housing developments, including price differences between those with and without greenways and trails nearby.
2. Disseminate relevant economic data to developers.
3. Showcase successful greenway and trail communities, such as Celebration, Haile Plantation, Seaside, and others.

Strategy 6: Encourage government agencies at all levels to include greenways and trails in their planning processes. Encourage governmental entities to make land available for greenways and trails.

Local, regional, state, and federal agencies which own or manage property should be included in the statewide greenways and trails system. There are economic and social advantages to having greenways and trails in local communities. Preservation of greenways and trails will further the mission and goals of many local, state and federal agencies.

Action Steps:

1. Meet with government leaders to discuss benefits of greenways and trails.
2. Conduct multi-media presentations at city and county commission, metropolitan planning organization, and other meetings.
3. Work with chambers of commerce, Florida League of Cities, Florida Association of Counties, Florida Regional Councils Association, and other entities to educate government officials.
4. Develop a program which recognizes a city or county as a “Florida Greenways and Trails Community” when the governing body has requested such recognition by resolution and has outlined its efforts to foster local greenways and trails.
5. Increase the awareness of managers of programs that offer technical and financial assistance at the state level about how their programs can aid greenways and trails conservation.
6. Identify and resolve conflicts among programs that offer greenways and trails technical and financial assistance that will help them be more complementary.
7. Pursuant to Ch. 260.018, F.S., encourage state, regional and local government agencies to amend their comprehensive plans to recognize and protect designated greenways and trails on public lands.

8. Address motorized use of trails in the State Comprehensive Outdoor Recreation Plan and/or in a separate and specific plan.

Strategy 7: Expand the greenways and trails system by using existing greenways and trails as models for developing new components.

Current greenways and trails projects can serve as models for new segments that will connect to a statewide greenways and trails system. Existing partners can provide valuable information to each other, as well as to potential new organizations.

Action Steps:

1. Develop slide/video and multi-media presentations and handouts that feature model greenways and trails.
2. Develop a recognition program for existing partners.
3. Create a network that includes the 3,200 names currently on OGT’s mailing list, and continue to develop the web-site and other systems of sharing information among current and potential partners.
4. Continue to increase distribution of the greenways and trails newsletter and other OGT materials.
5. Continue to participate in the annual Trails And Greenways Conference and other appropriate venues for networking and exchange of information.
6. Work with regional groups to distribute information in their areas.

Acquiring, protecting and developing the Greenways and Trails System

Recommendation Four: Provide additional resources to local, regional, state and federal agencies and private landowners to acquire, protect and develop lands for greenways and trails.

Funds from public and private sources are essential to conserve the Florida Greenways and Trails System. Money is the fuel that makes things happen — be it from federal, state, local, corporate, foundation or private sources. Insufficient funding has allowed many greenways and trails opportunities to be lost or take years to be realized.

Funding for greenways and trails

Funding from local governments, special districts, the private sector, and local citizens' direct and in-kind contributions are essential for securing the Florida Greenways and Trails System. For example, 20 of Florida's local governments have passed referenda to buy environmentally sensitive lands which are key parts of local and regional greenways and trails systems.

On the state level, the Preservation 2000 Program has provided the majority of funding for state and local efforts to acquire conservation and recreation lands, many of which will serve as sites, hubs and linkages in the statewide system. In addition, the Water Management Lands Trust Fund (WMLTF) and the Land Acquisition Trust Fund (LATF) are both non-lapsing funds for the acquisition of lands under the Save Our Rivers and Conservation and Recreation Lands programs. These trust funds pre-date Preservation 2000 and continue to be utilized for land acquisition purposes. However, the current bonding authority expires in 2011.

Unfortunately, the Preservation 2000 program ends in the year 2000. State agencies, environmental organizations, business organizations, other interest groups and state legislators have already begun to outline a post-Preservation 2000 acquisition program. In November 1998, citizens will vote on a proposal to extend the bonding authority in the State Constitution and allow the legislature to authorize a new bond

program to fund the acquisition of conservation and recreation lands.

Another proposed amendment to the state constitution would allow local governments to grant ad valorem tax exemptions to owners of private property who hold the property for conservation purposes. This issue, which is similar to the greenbelt exemption used by agriculture, would provide a tax incentive for good stewardship.

Assistance programs

Many government agencies and private organizations offer assistance to help conserve greenways and trails. The DEP Office of Greenways and Trails offers assistance specifically oriented to acquiring, protecting and developing greenways and trails, including:

- Information on the role, importance and benefits of greenways and trails;
- On-site assistance for local greenways and trails planning;
- Assistance in connecting local greenways and trails to the statewide greenways and trails system;
- Information on existing grant, foundation and other funding sources for greenways and trails;
- Technical support for greenways and trails acquisition projects;
- Technical support for design and development of greenways and trails related facilities;
- Technical support for conservation of native species and ecosystems.

For a more complete look at existing resources, please see Appendix F.

Strategy 1: There should be a program to succeed Preservation 2000 which includes the concept of greenways and trails.

Funding for the establishment of a statewide greenways and trails system will need to come from varying sources, not just from state funds. However, the state needs to play the lead role in providing funding for large statewide projects, as well as some funding for local initiatives. Funding is necessary to continue acquiring key components of the greenways and trails system and to develop facilities.

Action Steps

1. The Florida Legislature should create a new acquisition and development program to succeed Preservation 2000, and it should include the concept of greenways and trails and a statewide greenways and trails system.
2. Encourage purchase of qualified lands that could contribute to the statewide greenways and trails system through less-than-fee simple acquisition methods or through fee simple acquisition.
3. Increase the acquisition priority of projects that connect and enhance portions of the statewide greenways and trails system.
4. Place more emphasis on alternatives to fee simple acquisition to help complete the statewide system. Alternatives to fee simple acquisition are defined in section 259.101(9)(b), F.S., and include purchase of development rights; conservation easements; flowage easements; purchase of timber rights, mineral rights, or hunting rights; purchase of agricultural interests or silvicultural interests; land protection agreements; and fee simple acquisitions with reservations. Additional alternatives to fee simple acquisition include leasing and management contracts.
5. Encourage a streamlined and efficient land acquisition process.

Strategy 2: Communities should pursue a combination of funding sources and other tools at the federal, state, regional and local level to support greenways and trails initiatives.

To stimulate greenway and trail activity at the local level, communities must make the best use of available funding, and develop innovative direct and in-kind funding mechanisms.

Action Steps

1. Establish community greenways and trails funds to collect and manage moneys dedicated for acquisition, operation and maintenance of sites, trails and corridors. Communities should also work with all the federal and state land acquisition programs to better link community greenways and trails with federal and state conservation lands.
2. Communities should consider using alternative sources of funding, such as a local tourist development tax, an infrastructure sales tax, or a linear tax increment district for greenways and trails.
3. Local governments should encourage the use of donations, dedications, and conservation and scenic easements to supplement their open space, recreation and/or greenways and trails systems. Donations should always be reviewed for appropriateness within the local system. Dedications of land, cash and other assets should be used to fund both acquisition and maintenance.
4. Communities should work with the Florida Greenways and Trails Council, DEP's Office of Greenways and Trails, and other supporters of greenways and trails to support adequate funding for acquisition, construction, development and maintenance of hubs, sites and links that can contribute to the statewide greenways and trails system.
5. If the constitutional amendment regarding ad valorem tax relief passes, local governments should consider using this tool to protect



greenways and trails.

6. DEP’s Office of Greenways and Trails, working in conjunction with the members of the Florida Greenways and Trails Council, should assist communities in identifying funding programs to support greenways and trails acquisition and development.
7. DEP, in conjunction with local governments, should explore using density credits to develop the statewide system of greenways and trails.

Strategy 3: The state should provide incentives for private landowners to participate in the statewide greenways and trails system and protect their lands from conversion to other uses.

The future of Florida’s natural resources and the establishment of a statewide greenways and trails system depend largely on private landowners’ willingness and ability to keep their lands in uses compatible with conservation. To gain the voluntary cooperation of private landowners, it will be essential to make their participation in the greenways and trails system more attractive by using various incentives.

Recent changes to federal law increase the tax benefits for placing lands under a conservation

easement. For example, the amount of a taxable estate that can be excluded is \$100,000 in 1998 and will increase incrementally to \$500,000 in 2002. However, this applies only to lands that are within 25 miles of a metropolitan area, National Park or Wilderness Area, or within 10 miles of a designated Urban National Forest. Even with these changes, it is anticipated that when descendants inherit valuable properties, in many cases the only way to pay the inheritance tax will be to sell the land, which often leads to more intensive uses.

Action Steps

1. If the voters approve a constitutional amendment permitting a local option tax exemption for property used for conservation purposes, the Legislature should enact the necessary enabling legislation.
2. The FGTC and its member agencies and other partners should work with our federal delegation to amend the federal inheritance tax laws to reduce the necessity to subdivide and sell a property for development.
3. The state should compensate descendants for federal inheritance taxes in return for agreeing to participate in the greenways and trails program or in exchange for a guarantee of perpetual agricultural or conservation uses.

Managing the Greenways and Trails System

Recommendation Five: Provide additional resources to local, regional, state and federal agencies and private landowners to manage and maintain their greenways and trails.

The key to helping partners conserve the state-wide greenways and trails system is to identify and use proper tools to protect particular resources. Existing assistance programs should be woven together so they focus on the resources to be protected, the objectives for the greenway or trail, and the landowner's stewardship objectives. Matching the proper assistance program to a particular situation is critical to successfully conserving greenways and trails. Because of their complexity, often many assistance programs must be blended together to develop a comprehensive greenway and trail conservation package.

Existing assistance programs

Many government agencies and private organizations offer assistance to help manage and maintain greenways and trails. The DEP Office of Greenways and Trails offers the following management-related assistance:

- Information on existing grant, foundation and other funding sources for greenways and trails;
- Technical support for operation and maintenance of greenways and trails related facilities;
- Technical support for the formation of citizen support organizations.
- Information on management programs and techniques specific to greenways and trails.

Many volunteer support organizations already are directly involved in creating and maintaining parts of the statewide greenways and trails system by providing in-kind services and innumerable volunteer hours. The Florida Trail Association and its 15 chapters have built and maintain over 1000 miles of hiking trails on public and private lands throughout the state. The Florida Canoe and Kayak Association and its affiliates adopt rivers and streams throughout Florida, undertaking periodic monitoring activities and leading

river clean-ups and outings. The Florida Off-Road Bicycling Association and the Sunshine State Horse Council build and advocate for bicycle and equestrian trails, respectively. In addition, the Florida Park Service has citizen support organizations which provide vital services for the state's parks, preserves, recreation areas, and state historic sites. The national Recreational Trails Program, DuPont Awards Program, the Florida National Scenic Trail cost-share program of the USDA Forest Service, and the Florida Recreational Development Assistance Program also provide funding for these types of activities.

For a more detailed description of assistance programs, please see Appendix F.

Managing and maintaining greenways

While funding from government agencies is important, greenways and trails involve much more than passing referenda or issuing bonds to purchase land and make capital improvements. There must be funding to provide ongoing operation and maintenance of greenways and trails, to stimulate grassroots and community efforts to develop and manage greenways and trails, to stimulate user group initiatives and public/private partnerships, and to leverage other funds or in-kind contributions.

Greenways and trails assistance is not easily available or even readily apparent to local, regional and state agencies, organizations and individuals interested in participating in the creation and enjoyment of greenways and trails in Florida. Often local and regional entities do not have sufficient expertise to efficiently and successfully implement greenway initiatives and do not know where to turn for assistance. There is a significant gap in current funding for land management.

Stewardship on private lands

Florida has approximately 11 million acres of relatively undeveloped land in private ownership used principally for agriculture, rangeland, and silviculture. Success in managing natural resources on an ecosystem basis demands that the state actively promote stewardship on these private lands. Since 1993, DEP has been trying to develop a better understanding of the challenges faced by Florida's agricultural community, to build interagency partnerships to work with private landowners and farmers, to identify and pursue alternatives to traditional agricultural regulatory processes, and to provide incentives for farmers and other private landowners to continue environmentally sound land management practices. The incentives included in the 1998 amendments to Chapter 260, F. S., were a natural outgrowth of these endeavors.

Private land managers should be encouraged to share management responsibilities with

volunteer groups to help encourage a sense of ownership and long-term commitment to greenway and trail management. The partnerships among landowners/managers and volunteers should take advantage of their respective strengths. For example, landowners and managers often provide materials, tools and expertise for volunteers to use to build and maintain the trails, boardwalks, bridges, trailheads, and other public access facilities. They also may waive entrance fees for work crews and provide meeting facilities free of charge.

Strategy 1: The Legislature should make management and maintenance funds available for greenways and trails projects.

The Florida Greenways and Trails System will include thousands of acres managed by local, regional, state and federal agencies; nonprofit organizations; and other private interests. The overall program administration should remain with the Department of Environmental Protection but without the help of managers in the field, a statewide system of greenways and trails would not be realized. Funding is needed for planning, design, development, management, and promotion of greenways and trails. While some management funds are presently available for state agencies to manage their properties, the amount is not sufficient to meet the needs. A portion of post P-2000 funding should be funneled into greenways and trails management and maintenance needs.

Action Steps



1. DEP should participate in efforts to quantify management funding needs for the greenways and trails system.
2. The post-Preservation 2000 program should include a minimum percentage to be allocated for land management.
3. The Legislature should address funding for management on lands previously purchased by the state under any of its land acquisition programs.
4. The Legislature should provide funds to implement this plan and cover necessary staffing and administrative needs.
5. DEP should research the possibilities for increased funding from existing sources, such as the state's tourist development tax.

Many volunteer support organizations are directly involved in creating and maintaining parts of the statewide greenways and trails system by providing in-kind services and innumerable volunteer hours.

technical assistance to help private landowners with habitat enhancement.

4. The department should explore other incentives for private landowners who participate in the statewide greenways and trails system.

Strategy 3: The legislature should make funds available to maintain and update the greenways and trails database.

The University of Florida has been involved in the application of Geographic Information Systems (GIS) to greenways and trails planning since 1991. As detailed in Appendix C, UF has used data layers supplied by numerous agencies, in addition to six unique data layers, to develop the Decision Support Model that identified potential areas for both a statewide ecological network and a statewide trails network.

In addition, the University has been assisting the Florida Department of Transportation and the Florida Department of Community Affairs with related GIS projects. As a consequence, it has acquired many statewide, regional and local GIS data layers from federal, state, regional, and local governmental agencies, and from private entities. The data has been compiled into a library called the Florida Geographic Data Library (FGDL).

DEP's Division of Recreation and Parks maintains the Outdoor Recreation Planning System, which is a database of public and private outdoor recreation facilities and resources, including trails.

Funding to create the datasets for the greenways and trails system planning effort will expire in December of 1998. Funding is needed to complete the restoration potential data layers and to update the existing data layers as needed. Without this funding the database will quickly lose it usefulness.

FGDL is key to distribution of GIS data in Florida, including greenways and trails related data for state, regional and local planning activities. Funding is necessary to maintain and distribute the data annually.

Strategy 2: The state should provide technical assistance to private landowners and incentives for their participation in the statewide greenways and trails system.

Efforts to work directly with private landowners must be continued and expanded to foster good stewardship practices on private lands and to maintain land uses that are most compatible with conservation and environmental protection.

Action Steps:

1. The state should provide private landowners increased protection against damages from vandalism through a mechanism such as direct payments or state insurance. Funds should also be provided to compensate off-duty law enforcement officers who patrol greenways and trails on private lands.
2. Funds should be provided through the post-Preservation 2000 program to help private landowners protect and enhance their land's natural resource values by reimbursing them for approved resource management activity costs pursuant to an approved management plan.
3. Funds should be provided for

Action Steps

1. DEP should continue to maintain the FGDL through a subcontract with the University of Florida. This will allow the effective maintenance of the designation program, evaluation of appropriate lands for inclusion in the statewide system, and relevant greenways and trails planning activities.
2. Each FGCC member organization should execute an MOU with the GeoPlan Center to contribute data toward the annual release of the FGDL. The timing of each organization's submittal of these data should be coordinated to meet with each annual release of information.
3. The Office of Greenways and Trails should continue to maintain the Trails database, the Conservation Lands database, the Points of Interest database, the Decision Support Model Results, the Model Results as Modified by Public Comment, and the Model Results as Modified by Public Comment and Private Landowners, through a subcontract with the University of Florida. These datasets will be part of the FGDL housed at the GeoPlan Center. Distribution will be uniformly handled as part of the distribution of FGDL.
4. The existing restoration potential data layer should be maintained by DEP's Office of Ecosystem Management. It is further recommended that the department subcontract with the University of Florida to expand the restoration potential data layer to public lands managed by the water management districts as well as other lands suitable to direct restoration efforts.
5. The Game and Fresh Water Fish Commission should continue to maintain its data layers, including the Landsat-based vegetation map of Florida, strategic habitat conservation areas, biodiversity hot spots, and priority wetlands for listed species. These data layers should then be made part of the FGDL housed at the GeoPlan

Existing assistance programs should be woven together so they focus on the resources to be protected, the objectives for the greenway, and the landowner's stewardship objectives.

Center and distribution will be uniformly handled as part of the distribution of FGDL.

6. DEP should maintain the Florida Natural Area Inventory data layers, which should be made part of the FGDL housed at the GeoPlan Center. Distribution will be uniformly handled as part of the distribution of FGDL.
7. Land use/land cover data should continue to be updated every five years by the water management districts, and DEP should contribute funding for the completion of these updates. These data layers should be made part of the FGDL housed at the GeoPlan Center and distribution should be uniformly handled as part of the distribution of FGDL.
8. The Division of Recreation and Parks should provide trails data within the Outdoor Recreation Planning System to the GeoPlan Center for incorporation into the FGDL.

Defining roles, responsibilities and relationships

Recommendation Six: Develop mechanisms to coordinate management within the Florida Greenways and Trails System.

A multitude of agencies, organizations, businesses, and individuals have substantial roles and responsibilities for greenways and trails in Florida, and the relationships among these partners exist at many levels. At the state level, Section 253.787(1)(7), Florida Statutes, designates the Department of Environmental (DEP) as the lead agency to create a statewide system of greenways and trails on public lands. Although DEP is the lead agency, many other entities play significant roles in creating a statewide system of greenways and trails. In particular, two councils working with DEP to create the statewide system are the Florida Greenways Coordinating Council and the Florida Recreational Trails Council.

Successful greenway projects (including development of trails and other public access facilities) frequently rely upon partnerships between the landowner/manager and volunteer user groups or other interested parties. Private volunteer organizations can provide a great deal of leadership and person-power to help managers in the field if the land managers can provide tools, materials and administrative support. Volunteers often do not have the resources necessary for trail development or greenway management, but they do have the time and dedication.

DEP is also responsible for working with users and public and private outdoor recreation providers to develop the Statewide Comprehensive Outdoor Recreation Plan (SCORP.) The purpose of the plan is to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose means for meeting identified needs.

Greenways and trails on state lands

For those components of the Florida Greenways and Trails System on state lands, management activities are governed by a land management plan which is reviewed and approved by the Land Acquisition and Management Advisory Council and, in some cases, by the Governor and Cabinet. A summary of the requirements for these land management plans is given below:

1. General information including the common name of the property, a legal description, a map showing the location, boundaries and improvements of the property, a map showing the proximity to other significant federal, state, or local land or water resources, information regarding the title to the property, and a statement concerning public involvement and local government participation in developing the plan.
2. The location and description of known and reasonably identifiable renewable and non-renewable resources of the property including soil types, fish, wildlife and their habitat, endangered or threatened species and their habitat, mineral resources, historic and archaeological resources, outstanding native landscapes, and resources that are listed in the Florida Natural Areas Inventory.
3. Usage of the property in the past and the designated single or multiple use of the property. If alternative or multiple uses of the property were considered by the managing agency and not adopted, an explanation is required. Identification of adjacent lands or parcels that should be purchased because they are essential to the management of the property. An assessment explaining whether the property or any portion thereof is not needed.

4. A description of management needs and problems complete with the responsibilities of each involved agency and how these responsibilities will be coordinated. A description of plans to locate, identify, protect, preserve, or otherwise use fragile, nonrenewable natural and cultural resources. A detailed assessment of the impact of planned uses on the resources and how those impacts can be mitigated. A priority schedule for conducting management activities to enhance the natural resource or public recreation value of the land including an evaluation of the most cost effective methods. A finding as to whether planned uses comply with the State Lands Management Plan and the local government comprehensive plan.

While state land management plans govern all land management activities on state-owned conservation lands, many other agencies also have land management plans, and what is required by the government agencies involved may differ from one greenway to another.

A more formal mechanism is needed to effectively manage canoe trails outside the boundaries of the managing agency's jurisdiction. Even within the agency's jurisdiction, there may not be adequate funding to meet the responsibilities listed in the management agreement.

Managers of the natural systems within greenways and trails currently are not required to use an ecosystem management approach. Ecosystem management recognizes that the environment is comprised of many interconnected systems and subsystems.

For a more complete look at current roles and responsibilities, please see Appendix G.

Strategy 1: Create a new council, the Florida Greenways and Trails Council, to be an ongoing group that promotes greenways and trails and replaces the two councils currently acting in an advisory capacity to DEP for greenways and trails issues – the Florida Greenways Coordinating Council and the Florida Recreational Trails Council.

The new council would:

- Advise on policies related to the Florida Greenways and Trails System;
- Promote interagency cooperation;
- Annually determine priorities for critical links in the Florida Greenways and Trails System;
- Make recommendations concerning allocation of funds for greenways and trails projects, including acquisition, development, management, and private landowner incentives;
- Review designation proposals for inclusion into the system;
- Provide advocacy and education;
- Encourage public/private partnerships;
- Review progress toward meeting benchmarks;
- Provide support for the system;
- Participate in ongoing planning to update and revise the implementation strategies for the system; and
- Promote citizen support organizations.

Members of the council would be appointed by the Governor, Speaker of the House of Representatives, and the President of the Senate. In making these appointments, the Governor, Speaker and President will assure that the appointees are qualified through the demonstration of special interest, experience or education.

The Council should be comprised of 25 members whose membership is made up in the following manner: 10 representatives of government agencies, five representatives of recreational user groups, five representatives of conservation/cultural/scientific interests, and five representatives of business/landowner interests. The selec-

tions can come from the following list at the discretion of the person appointing the member:

1. Department of Environmental Protection
2. Department of Agriculture and Consumer Services, Division of Forestry
3. Florida Game and Fresh Water Fish Commission
4. Water management districts
5. Department of Community Affairs
6. Department of Transportation
7. Department of State, Division of Historical Resources
8. Regional planning councils
9. Local governments
10. Federal land management agencies in Florida/tribal interests
11. Landowners
12. Businesses and Corporations
13. Visit Florida (Tourism Industry Marketing Council)
14. Conservation Interests
15. Hunters and Fishermen
16. Nature Study Interests
17. Paved Trail Users
18. Hikers
19. Off-road Bicyclists
20. Paddlers
21. Equestrians
22. Motorized users*
23. Disabled outdoor recreation users
24. Commercial recreational interests
25. Scientists/university experts (perhaps from the Institute of Food and Agricultural Sciences' Cooperative Extension Service)

**While the system was not designed with motorized use in mind, there are hubs such as the national and state forests which presently accommodate motorized users and which will likely be designated as part of the statewide system of greenways and trails.*

Although DEP is the lead agency, many other entities play significant roles in creating a state-wide system of greenways and trails.

Action Steps

1. Amend Chapter 253.787, F. S., and Chapter 260.016 (1) (e), F. S., to reflect the new Florida Greenways and Trails Council.
2. DEP, the Florida Greenways and Trails Council and its member agencies and organizations should enter into memoranda of understanding describing the roles and responsibilities of each, including participation in the ongoing planning process.

Strategy 2: Foster regional initiatives through the appropriate entities.

The six regional greenways task forces which were established in February 1997 will phase out of existence once they have reviewed the applications for seed grants and made their recommendations to the Secretary of DEP. During the life of the task forces, the department and the council learned about many different entities that have undertaken greenways and trails initiatives in very innovative ways. These accomplishments have been achieved with leadership from water management districts, regional planning councils, private non-profit organizations, and local governments. No one organizational structure is appropriate in all cases.

Regional partnerships are worthwhile and can perform the following vital functions:

- work with landowners to encourage their participation in the Florida Greenways and Trails System;
- encourage and support applications for designation and requests for funding;
- serve as liaison between government agencies, greenways and trails organizations and user groups;
- share information in order to learn from the experiences of others; and
- integrate recreational and ecological concerns related to greenways and trails.



Action Steps

1. DEP should provide information to those organizations involved in regional initiatives to help them understand their role in the state-wide system.
2. DEP should help local organizations establish regional initiatives when requested.
3. After the annual identification of critical linkages, DEP should encourage organizations involved in regional initiatives to help conserve these critical linkages.

Strategy 3: Improve existing management techniques to more effectively manage lands and waterways within the statewide system.

Greenways and trails and their unique resources often transcend jurisdictional boundaries, creating coordination challenges for the many local, regional, state and federal agencies that have management responsibilities for them. Effective management will entail reviewing existing tools to ensure they are coordinated, and sometimes developing new techniques.

Action Steps

1. Evaluate alternative mechanisms to effectively manage paddling trails outside the boundaries of the managing agency's jurisdiction.
2. Establish or renew management agreements for existing designated recreational trails.
3. Write or amend designation agreements and state land management plans to reflect an ecosystem management approach and to recognize the relationship with adjacent lands and the statewide system.
4. Encourage the use of designation agreements for non-state owned lands that address similar issues and topics as those in state land management plans.
5. Create partnerships between land managers and volunteer groups to help manage lands and provide recreational opportunities.

Informing and educating the public

Recommendation Seven: Educate and inform Florida’s residents and visitors about the value of the state’s greenways and trails system.

To ensure liveable communities and a sustainable, prosperous economy, Florida must sustain and expand its system of native landscapes and ecosystems that supports native plant and animal species; sustain clean air, water, fisheries, and other natural resources; and maintain the scenic natural beauty that attracts people to Florida. The strategies outlined below are intended to help sustain a healthy and diverse green infra-structure.

Strategy 1: Promote awareness, understanding, and recreational use of Florida’s greenways and trails, and make eco-tourism and heritage-tourism profitable and sustainable industries in Florida. Use Florida’s Greenways and Trails System as an educational tool for children.

For the 14 million citizens who live in Florida, and the 41 million tourists who visit Florida each year, greenways and trails offer opportunities to experience Florida’s natural environment, to develop a strong sense of identity with the land and associated historical and cultural resources, and to learn appreciation for the responsible use of natural resources in order to preserve them for future generations.

For the 12 to 14 million citizens who live in Florida, and the 41 million tourists who visit Florida each year, greenways and trails offer opportunities to experience Florida’s natural environment.

Action Steps:

1. Produce a 10 to 12 minute video on the Greenways and Trails program which is inviting and enticing to users.
2. Distribute current information regarding availability and opportunities for the use of greenways and trails.
3. Develop a speakers bureau within OGT to show the video, make presentations and answer questions about greenways and trails.
4. Produce and distribute two public service announcements promoting the use of “your greenways and trails system.”
5. Assist tourism development councils and convention and visitor bureaus in developing promotional or informational materials on greenways and trails in their areas.
6. Contact eco-tour and other tour operators about designing packages including greenway and trail side trips.
7. Meet with local organizations to explain the benefits of greenways and trails, and provide information on establishing greenways and trails in their area.
8. Create a survey in order to profile user groups.
9. In all promotional materials about greenways and trails, address security issues and stress responsible use of natural and cultural resources.
10. Build on existing programs such as DEP’s environmental education program and the Division of Historical Resources’ heritage education program to incorporate greenways and trails as “learning laboratories”.



Strategy 2: Generate involvement in the use and maintenance of greenways and trails in local communities and build support for the expansion of the statewide system of greenways and trails.

Greenway and trail initiatives enhance conservation/preservation efforts. Collaboration with local conservation, preservation, and recreation groups is key to the continuation of a successful greenways and trails system. Examples of these groups include: hiking, walking, running, bicycling, horseback riding, hunting, paddling, fishing, youth, conservation and environmental organizations, land trusts, and historical and archaeological societies.

Action Steps:

1. Develop a citizen involvement program modeled after Keep Florida Beautiful, Inc. which would include recognition for statewide, regional and local service and civic organizations, such as the Girl Scouts of the United States and Boy Scouts of America, who adopt a greenway or trail and participate in other

complementary projects.

2. Continue working with environmental groups such as the Audubon Society, the Sierra Club, Rails to Trails Conservancy, and The Nature Conservancy to provide mutual support regarding environmental issues.
3. Continue working with recreational user groups such as the Florida Trail Association, the Florida Bicycle Association, the Florida Off-Road Bicycle Association, the Sunshine State Horse Council, and the Florida Canoe and Kayak Association to provide mutual support regarding recreational issues.
4. Develop information that focuses on conflict resolution between user groups, finds common ground on controversial projects, and overcomes barriers.

Measuring success

Chapter 253.787, Florida Statutes, calls for the Florida Greenways Coordinating Council to develop benchmarks to measure progress in implementing the statewide system of greenways. The following benchmarks are proposed. Specific performance measures related to each benchmark would be developed by the department through the Agency Strategic Plan and Performance Based Program Budgeting.

1. Establish a connected system of greenways and trails from one end of Florida to the other.

The number of acres and miles within the statewide greenways and trails system can be determined easily, and the numbers can be maintained on a continuous basis. The Office of Greenways and Trails can utilize a computerized database to compile those figures. Every time a new designation occurs, the acreage and miles within the greenway or trail would be taken from the designation application and added to the database. The cumulative figures for the statewide greenways and trails system would then automatically be recalculated by the computer's software program.

Additional measures to consider would be:

- number of historical or archeological sites that are linked via the greenways and trails system;
- longest stretch of connected greenways and trails in the state;
- number of connected public conservation lands; and
- number of critical linkages designated as part of the system.

To ensure liveable communities and a sustainable, prosperous economy, Florida must sustain and expand its system of native landscapes and ecosystems.

2. Maintain or restore natural, recreational, cultural and historic resources on greenways and trails to the extent necessary for the areas to continue to be suitable for designation.

The measurement for this benchmark would be the number of designated greenways or trails which are removed from the Florida Greenways and Trails System because they fail to accomplish or become unsuitable for the purposes for which they were designated (see process on page 14.)

3. Establish a greenways and trails system that is so extensive that all Floridians can reach a greenway or trail which has public access by traveling 15 minutes from their home or work-place.

As lands and waterways are designated as part of the statewide system, the department will be able to analyze the extent of the area surrounding each greenway or trail with public access which is within the travel time given above.

4. For those greenways and trails with public access, assure that 95 percent of visitors are satisfied with the quality of their experience.

The first step in collecting data on visitor usage/satisfaction would be to contact the land managing agency to obtain any data collected by that entity. However, since greenways and trails do not always have on-site staffing, other methods for obtaining visitor information will also need to be employed.

Glossary of terms

A

Active Recreation

recreation that involves some direct and specialized physical manipulation by the participant such as swimming, hiking, paddling, bicycling, horseback riding, etc.

Ad Valorem Tax

a special tax levied to raise funds for a particular purpose of recognized value to the community

Alternative Transportation

transportation not using single-passenger motorized vehicles

Appropriate Use

a use that is consistent with the established conservation and management goals and/or regulations of a specific area

Archaeological Site

location bearing physical evidence, usually buried, of past human use or occupation

B

Biodiversity

the variety and variability within and among living populations and species of organisms and the ecosystems in which they occur

Buffer

natural area or open space used to minimize the impacts of adjacent lands and their uses on core areas or areas selected for a particular management strategy

C

CARL (Conservation and Recreation Lands)

land acquisition program administered by the Florida Department of Environmental Protection to acquire property from willing property owners to protect environmentally endangered lands for state parks, forests, wildlife management areas, beaches and recreation areas that are sensitive due to the presence of unique or rare habitats, endangered or threatened species or unique historical, archaeological or geological features

Compatible Human Use

uses that protect, sustain, or enhance the underlying natural, recreational, cultural, and historic resources of a specific area

Comprehensive Plan

local government plan that meets the requirements of s. 163.3177 and s. 163.3178, F. S., and thus contains the guidelines, principles, and standards for the orderly, coordinated and balanced future economic, social, physical, environmental, and fiscal development of the area

Connectivity

the ability to create functionally contiguous blocks of land or water through linkage of similar ecosystems or native landscapes; the linking of trails, communities and other human features

Conservation Corridors

linear natural areas and ecological communities primarily managed for the conservation of biological diversity and renewable resources, that differ in form and function from their surroundings; routes or avenues to ensure completion of life cycles, unimpeded water flow and migration and gene flows

Conservation Easements

a less-than-fee-simple land acquisition technique that allows the property owner to retain ownership rights while agreeing to manage the land for its given use

Conserve

the act or practice of protecting, managing, maintaining, and/or restoring natural, cultural, and historical resources

Corridors

linear protected areas that may serve as biological and/or hydrological connecting corridors and/or provide outdoor, resource-based recreational opportunities

Cultural Heritage

the complex of historical, archaeological, folklife, and other cultural components representing past and present people

Cultural Resources

archaeological and historical sites and properties

E

Ecological

pertaining to the interactions of living organisms with one another and their physical/chemical environment

Ecological Processes

the interactions of living organisms with one another and with their physical/chemical environment

Ecological Site

a site with unique ecological/geological features

Ecosystem

the living and nonliving components of the environment that interact or function together, including native plants, animals, and people, as well as the physical environment and the energy systems in which they exist

Ecosystem Management

an integrated approach to the management of Florida's green infrastructure of native landscapes and communities recognizing the biological, physical and chemical elements of discrete environments conducted through the use of tools such as planning, land acquisition, environmental

education, regulation and pollution prevention designed to maintain, protect, and improve the state’s natural, managed, and human communities

Ecotourism

tourism based *principally* upon natural and archaeological/historical resources; differs from tourism based upon man-created attractions; that segment of tourism that involves traveling to relatively undisturbed or uncontaminated natural areas with the specific object of admiring, studying, and enjoying the scenery and its wild plants and animals, as well as any existing cultural features (both past and present) found in these areas

Edge

the outer portion of a patch where the environment differs significantly from the interior of the patch. An edge between patches of different habitat differs from the interior of either, often containing species characteristic of neither.

Edge Effect

the plant community structure, width, and species composition and abundance in the edge of a patch differ from interior conditions and together comprise the edge effect. Edge effect includes natural and human influences. Natural influences include increased populations of species that thrive under disturbed conditions, increased light penetration, exposure to wind, and change in moisture. Human influences include increased poaching, trampling, invasion by exotic species, increased predation, and increased noise disturbance. These negative impacts of the edge can severely degrade habitat conditions for sensitive species of conservation interest.

Equestrian Trails

terrestrial trails intended for use solely by equestrians

Evolution

adaption or change in the genetic makeup of species over time; natural selection

F

Fauna

animal populations and species

FCT (Florida Communities Trust)

a non-regulatory agency housed within the Department of Community Affairs, created to assist local communities in implementing the goals, policies, and objectives of the Conservation, Recreation and Open Space and Coastal Management elements of the local comprehensive plan through land acquisition

Fee-Simple

acquisition of all the interests in property resulting in ownership

FGCC (Florida Greenways Coordinating Council)

council created in 1995 to explore opportunities to promote greenway initiatives through technical support, leadership, education, advocacy and other service-oriented efforts; serves as a facilitator for the formation of partnerships involving public agencies, landowners, private businesses, environmental and other community-based groups and nonprofit organizations

Flora

plant populations and species

Florida Greenways and Trails Acquisition Program

state program administered by the Department of Environmental Protection to acquire abandoned railroad rights-of-way and greenways and trails or greenways and trails systems including, but not limited to, the route of the Florida National Scenic Trail

Florida Greenways and Trails System

statewide system proposed to link natural areas, open spaces and trails in Florida, consisting of large or medium-sized hubs, smaller sites, and extensive to small connective landscape features

Florida Greenways Project

created in 1991 as a joint effort of 1000 Friends of Florida and The Conservation Fund to look for ways to link existing urban and rural “green” areas like state and national parks and forests, rivers and wetlands systems to create a statewide “green infrastructure”; better protect and manage Florida’s biodiversity and water resources; forge better links between Floridians and the natural Florida; and develop more widespread popular support for natural resource conservation

Florida National Scenic Trail

a 1,300-mile-long trail created in 1983 by an Act of Congress which follows the route of the Florida Trail

FRDAP (Florida Recreational Development Assistance Program)

state program administered by the Department of Environmental Protection to give grants to local governments and state agencies to acquire and develop park and recreation lands

Florida Trail Association

private, not-for-profit organization created in 1966 to build a continuous hiking trail approximately 1300 miles long, from south Florida to northwest Florida

G

General Obligation Bonds

also known as full faith and credit bonds because their repayment is based on the general credit and taxing powers of the borrowing government, typically used to finance the capital portion of tax-supported general public purpose governmental activities

Grassroots

efforts at the local level utilizing public interest groups and communities

Green Infrastructure

the sum of the public and private conservation lands including native landscapes and ecosystems, greenspaces and waters throughout the state, needed to protect our natural heritage and important ecological services necessary to promote sustainability

Greenbelt

protected natural lands or working landscapes that surround cities and serve to conserve and direct urban and suburban growth

Greenspace

natural areas, open space, trails and greenways that function for both wildlife and people

Greenway

a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or over land along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route; any natural or landscaped course for pedestrian or bicycle passage; an open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and populated areas; or a local strip or linear park designated as a parkway or greenbelt

H**Habitat Fragmentation**

human activity such as agriculture, road building, suburban and city development resulting in the creation of small, isolated areas that are poorly suited to maintaining ecological function and support smaller populations of remaining species; two components of habitat fragmentation, both of which cause extinctions: (1) reduction in total habitat area (which primarily affects population sizes and thus extinction rates); and (2) redistribution of the remaining area into disjunct fragments (which primarily affects dispersal and thus immigration rates)

Hiking Trails

terrestrial trails intended for use solely by hikers

Historic Preservation Grant Program

state and federally funded grant program using Historic Preservation Trust Fund monies administered by the Division of Historical Resources to support projects that identify, inventory, protect, and promote historical resources

Hubs

areas that anchor a network and provide an origin or destination for elements moving to or through it

I**Integrated Conservation System**

a comprehensive system of ecological reserves, conservation areas, buffer zones, landscape linkages, and corridors that function as a unit to effectively conserve biological diversity

ISTEA (Intermodal Surface Transportation Efficiency Act)

federal transportation act passed in 1991 and succeeded in 1998 by the Transportation Efficiency Act for the 21st Century (TEA-21).

L**Land and Water Conservation Fund**

a Department of Interior program that gives grants to state agencies and local governments to acquire and develop park and recreation lands

Landscape

includes a mix of both human and natural features and contains numerous interacting ecosystems such as forests, fields, waterways, and human settlements

Landscape Ecology

the study of native landscape structure, function, and change at the scale of entire landscapes, as well as the application of the results to the design and management of both natural and human-dominated areas

Landscape Linkage

large linear protected areas connecting ecosystems and landscapes that provide sufficient space for native flora and fauna to safely live, reproduce, and move, and that may result in the protection of historic sites

Less-Than-Fee-Simple

land acquisition technique that obtains only certain land use rights from the landowners, such as conservation easements, management agreements or leases

Linkages

connections that enable the system to function and multiply the utility of existing components by connecting them together like beads on a string

M**Multiple Use**

a land management objective seeking to coordinate several environmental, recreational, economic, historical, cultural and/or social values in the same geographic area in a compatible and sustainable manner

Multi-Use Trails

terrestrial trails intended for use by hikers, joggers, runners, off-road bikers, equestrians and other non-motorized users. They may be paved, but it is not the intent that all multi-use trails be paved

N

Native Ecosystems

protected, managed, and/or restored biotic communities and composite ecological processes that are relatively unaltered by human activity in comparison to human dominated environments

Native Landscapes

relatively natural juxtapositions and interactions of protected, managed, and/or restored native ecosystems in comparison to human dominated and other highly altered landscapes including those productive lands protected as nature preserves and conservation areas; provide numerous free services such as stable flow of clean water, aesthetic qualities that enhance real estate values and tourist revenues

Natural Resources

renewable and non-renewable resources found in nature such as forests, water, minerals, and energy

O

Off-Road Bicycling Trails

terrestrial trails intended for use solely by off-road bikers

Open Space

undeveloped lands suitable for passive recreation or conservation uses

P

Paddling Trails

aquatic trails appropriate for use by canoers and kayakers

Points of Interest

ecological, historic, cultural and recreational features or sites that may contribute to the quality of a trail user's experience.

P-2000 (Preservation 2000)

program approved by the Florida Legislature in 1990 to fund the state's purchases of natural lands to protect ecosystems that provide vital services and to ensure both Florida's tourist economy and the very survival of future generations of Floridians

R

Rails-to-Trails Conservancy

a national not-for-profit organization which has a field office in Florida and which was established in 1985 to educate the public, provide assistance, and advocate for the creation of a statewide greenways and trails system through converting former rail lines and other connecting corridors into public greenways and trails

Recreational Corridor

linear open spaces used primarily for outdoor recreational activities

Recreational Site

an area that provides recreational facilities opportunities, and sometimes serves within a greenway and trail system as origin or destination

Regional Landscape Approach

a conservation strategy that recognizes the importance of interactions between the built environment, rural lands, and native ecosystems and incorporates planning and management at an appropriately large spatial scale that ensures effective conservation of biological diversity and economic sustainability

Reserves

large protected areas that serve as primary sites for the conservation of biological diversity, natural resources, and in some cases for important archaeological and historic sites

Resource-Based Recreation

outdoor recreation of types dependent on certain specific outdoor recreation resources, such as paddling on water, hunting in forests, etc.

Restore

to bring back to a former, normal, or productive condition by repairing or rebuilding

S

SCORP (State Comprehensive Outdoor Recreation Plan)

statewide planning document prepared by DEP to identify outdoor recreation resource and facility needs in Florida, address statewide outdoor recreation issues and recommend policies, goals, and objectives for meeting those needs and issues

SOR (Save Our Rivers)

land acquisition program administered by each of Florida's five water management districts; requires each district to develop a five-year plan detailing proposed land acquisitions for the district; selects projects based on protection of water quality, groundwater recharge areas and natural communities, and nonstructural flood control

Scenic Byways

national program which provides a rationale, design standards, and financing techniques for establishing scenic roads or historic roads

Scenic Corridors

corridors of land that are protected for scenic quality and other aesthetic considerations such as scenic highways and canopy roads

Sites

small features that may serve as points of origin or destination but are not always linked with other system components

Spatial

happening or existing in an open landscape or space, as in spatial integration or spatial connectivity

Stewardship

sense of responsibility for, desire to participate in, or taking charge of the protection and management of land and water resources

Sustainable Future

a future in which the actions of the present generation enhance rather than constrain the opportunities of present and future generations

Sustainability

making sure present needs are met without compromising the needs of future generations

System

set of interconnected components that function as a whole and thereby achieve a behavior or performance that is different than the sum of each of the components taken separately

T**The Conservation Fund**

national organization committed to advancing land and water conservation in America; major project is American Greenways, a concept that grew out of President Ronald Reagan's Commission on Americans Outdoors

Trail

linear corridor and any adjacent support parcels on land or water providing public access for recreation or authorized alternative modes of transportation

Trailhead

a point of access to a trail. It should be accessible from a public road and have restrooms and parking available

Transportation Equity Act for the 21st Century (TEA-21)

reauthorization of the Intermodal Surface Transportation Efficiency Act which passed on May 22, 1998 and which includes transportation enhancements apportionments and spending authority

U**Urban Areas**

may serve as human hubs that generate demand for a greenways and trails system

Utilitarian Corridors

linear man-made features which have a primary utilitarian purpose but which may also serve as connections for recreational, cultural, or natural needs

Utility

public utilities (electric, telephone, fiber optic, water and sewage and gas companies) and utility-like facilities (pipelines, roads, levees, canals)

W**Watershed**

a topographically discrete unit or stream basin, including the headwaters, main channel, slopes leading from the channel, tributaries and mouth area, and defined by a common drainage pattern

Wellness

general state of good health and well-being; may be increased by outdoor recreation and sound nutrition

Working Landscapes

rural lands that have been modified by humans and continue to be operated on a productive basis, including farmland of all types, privately-managed timber land, reclaimed mine lands, and other privately owned rural land maintained in a predominantly open state

Appendix A

The history of greenways and trails in Florida

Overview

Florida's statewide greenways and trails initiative grew out of two decades of innovative, state-directed land acquisition and resource management programs and many community-based and region-wide resource conservation and recreational planning projects. Now recognized as a leader in America's greenways movement, Florida's program is the result of the combined efforts of numerous individuals from community citizen groups, nonprofit organizations, the scientific community, private businesses and local, state and federal governmental units. Together, these individuals are working to create the Florida Greenways and Trails System that will benefit Florida's native ecosystems and its people, both for today and for the future.

Origins

"If there is a 'father' of the modern greenways movement it is Frederick Law Olmsted, Sr. The designer of New York's Central Park and Brooklyn's Prospect Park as well as Boston's 'Emerald Necklace', Olmsted originated the 'park and parkway' idea. No single park, Olmsted believed, could provide people with all the beneficial influences of nature. Instead, parks should be linked to one another and to surrounding residential neighborhoods. Today's greenways movement evolved from that simple concept first stated over 130 years ago" (Florida Greenways Commission 1994).

"Not all early greenways were urban. Benton MacKaye, a professional forester and planner, advocated greenways as a means of controlling metropolitan sprawl along the east coast of the United States. MacKaye is best known for promoting the idea of the Appalachian Trail. MacKaye's prescription to stem what we now call urban

sprawl was a 'common public ground' to serve as green boundaries designed to limit 'metropolitanism' (Little, 1990) . . . MacKaye was among others espousing regional planning and the use of greenways to connect and link urban dwellers with hinterland and rural heritage" (Starnes et al. 1997).

"Along with MacKaye and Olmsted, Ebenezer Howard, Raymond Unwin, Clarence Stein, Rex Tugwell, and other regional planners and new town proponents of the late nineteenth and early twentieth centuries made many contributions to the greenway idea. New towns, greenbelt towns, garden cities, and Henry Ford's concept of rural factories seemed to blend the affection for rural and agricultural life with an early interest in greenways" (Starnes et al. 1997).

"Early planning and support for greenways were not limited to actions benefiting only human populations. More than 60 years ago the South African Wildlife Society recognized the importance of such connections to maintaining the continent's wildlife." (Little 1990) (Starnes et al. 1997). Larry Harris (1995) and other ecologists agree that decades of land development and the concomitant increasing isolation of wildlife populations is the primary cause of the loss of biological diversity. Protection of ecological connectivity through functional greenways is an essential method to counter the impact of habitat fragmentation. Philip Lewis proposed an environmental corridor concept that offers another model for a linked ecological system (Lewis 1996).

The American Greenways Movement took off in 1987 with the enthusiastic recommendations of the President's Commission on Americans Outdoors, chaired by then Governor of Tennessee, Lamar Alexander:

"Our communities can create a network of greenways across the U.S.A. . . along the rivers, wetlands, shorelines, and wildlife migration routes. . . along landscapes, trails, paths and



parks . . . along old rail lines and utility corridors . . . we can tie this country together with threads of green . . .”

“We have a vision for allowing every American access to the natural world: Greenways are fingers of green that reach out from and around and through communities all across America. . . They will connect parks and forests and scenic countrysides, public and private, recreation corridors for hiking, jogging, wildlife movement, horse and bicycle riding. . . greenways will link our communities coast to coast, from sea to shining sea.”

Patrick Noonan, the founder of The Conservation Fund and a member of the President’s Commission on Americans Outdoors, created The Fund’s American Greenways Program shortly thereafter to promote greenways and greenways systems and to assist public and private entities at the state, regional and local level in greenways planning and implementation.

“Whether it is for urban design, recreation, economic development, environmental protection, or a combination of these, linkage is the common principle of the greenway idea” (Starnes et al. 1997) *“linking natural areas and recreational corridors, conservationists and recreationists with urban dwellers, and neighborhoods and towns with cities and people of all colors and stations - not just in the use of greenways but in the making of them”* (Florida Greenways Commission 1994).

The greenways movement today

A number of greenways initiatives are currently underway in the United States, including:

- Statewide greenways programs now in place or in the planning stage in Florida, Maryland, Delaware, Connecticut, Rhode Island, Massachusetts, New York, Pennsylvania, Tennessee and Texas.
- Sub-state regional greenways programs occurring all over the country, including in the Hudson River Valley of New York, the Willamette River Valley of Oregon, northeast Illinois, south Georgia and many locations in Florida.
- City and community-based greenways programs found in communities throughout the U.S.

including Chattanooga, Tennessee; Flagstaff, Arizona; Boulder, Colorado; Portland, Oregon; Seattle, Washington; Raleigh, North Carolina and in over 100 different municipalities in Florida.

- International greenways programs found in many areas of the world outside of the United States including the Paseo Pantera project, planned to provide a continuous green corridor linking national parks and conservation areas in Central America and the Pan European Ecological Network (“Econet”), currently being planned by the European Center for Nature Conservation to encompass all 18 countries within the European Union. These and many other programs occurring across the United States and the world show that the greenways movement is growing daily in popularity and projects.

Florida’s statewide greenways and trails initiative

Although the Florida Greenways Project was not formally created until 1991, critical foundations for the statewide greenways and trails initiative were already in place by that time. The rapid development and the successes of the statewide program to date would not have been possible without a number of key resource conservation and outdoor recreation programs and participants that together represent the precursors of Florida’s statewide greenways and trails movement.

Florida’s Conservation and Recreation Land Acquisition Programs.

With approximately 10.3 million acres of open water, public conservation lands and private preserves and approximately 2.75 million acres proposed for purchase by federal, state, water management district and local programs, Florida is an acknowledged national leader in conservation land acquisition. These valuable resource areas, which are forming the cornerstones for the development of the Florida Greenways and Trails System, have been protected through a number of innovative land acquisition programs that started

over two and a half decades ago and served as precursors to the Preservation 2000 Program:

- Land Acquisition Trust Fund - 1963
- Land Acquisition Trust Fund Revised - 1968
- Environmentally Endangered Lands Program - 1972
- Conservation and Recreation Lands Program - 1979
- Save Our Coast (SOC) Program - 1981
- Save Our Rivers (SOR) Program - 1981
- Conservation and Recreation Lands (CARL) Program Revised - 1987
- Florida Rails to Trails Program - 1987

In addition, the Water Management Lands Trust Fund (WMLTF) and the Land Acquisition Trust Fund (LATF) are both non-lapsing funds for the acquisition of lands under the Save Our Rivers and Conservation and Recreation Lands programs. These trust funds pre-date P-2000 and continue to be used for land acquisition purposes. However, the current bonding authority expires in 2011.

Preservation 2000 (P-2000) Program

The Preservation 2000 (P-2000) Program was created in 1990 with the passage of the Preservation 2000 Act, in which the Legislature also authorized \$300 million funding for the first year of the program. P-2000 is a ten year \$3 billion program with funding authorized on an annual basis (Pritchard and Kale 1994, p. 27). The annual authorization of \$300 million is split between the CARL program (50%), the Save Our Rivers Program (30%), the Florida Communities Trust (10%) and inholdings and additions to state parks (2.9%), state forests (2.9%, wildlife management areas (2.9%, and greenways and trails (1.3%)

This high level of funding for conservation land acquisition statewide over the past two decades has made a significant contribution to the protection of Florida's native ecosystems and landscapes. Add to those funds nearly \$700 million from 21 community-based environmental land acquisition programs, conservation and recreation lands already in public ownership (including important large federal land holdings

such as Everglades National Park, Big Cypress National Preserve, the three National Forests and several large military sites), the Florida Department of Transportation's ISTEA funding, and numerous public and private efforts to provide trails and other human use opportunities, and Florida stands out in the United States as realistically having the ability to create an integrated, statewide system of protected natural areas and greenways (Florida Greenways Commission 1994).

The Florida National Scenic Trail

The Florida National Scenic Trail represents a first step in statewide trails planning. The planning and construction of the Florida National Scenic Trail, which serves as the backbone of the statewide trails system, grew out of the efforts of James Kern who, in 1966, founded the Florida Trail Association (FTA) to create hiking and backpacking opportunities in Florida. The FTA grew rapidly and today has over 6000 members with an active Board of Directors and staff working out of Gainesville, Florida. One of FTA's main objectives has been to build a continuous hiking trail that will one day run 1300 miles from Gulf Islands National Seashore in West Florida to the Big Cypress National Preserve in South Florida. To advance the building of the statewide trail, the FTA in the mid 1970s initiated the creation of the Florida National Scenic Trail (FNST) through the Florida Congressional Delegation. The FNST was officially designated by Public Law 98-11 on March 28, 1983. A comprehensive plan for the trail was completed by the U.S. Forest Service in 1985. As described in the designation legislation, the FNST will ultimately provide a permanent extended non-motorized outdoor recreation opportunity for hiking and other compatible activities. The Trail will emphasize nationally significant scenic, historic, natural and cultural features. (U.S.D.A. Forest Service, 1985)



The Florida Greenways and Trails System

The Florida Greenways and Trails System has its roots in the Florida Recreational Trails System. Created by Legislature created in 1979 (c.260.011, F.S.), the recreational trails system was intended to provide the public with access to and enjoyment of outdoor recreation areas, and to conserve, develop and use the state's natural resources for healthful and recreational purposes. In 1987, the Legislature amended the statute to allow the state to acquire abandoned railroad rights-of-way for conversion into trails, the first of which was the Tallahassee-St Marks Historic Railroad State Trail. In 1988, the Department of Natural Resources appointed the Florida Recreational Trails Council (see Appendix G for a more complete description of the council) to advise the department about issues related to the trails system, especially trail acquisition projects. In 1990, Preservation 2000 established annual funding for the Rails to Trails Acquisition Program which was expanded the following year to include acquisition for the Florida National Scenic Trail. The Legislature in 1996 expanded the system and the trails acquisition program to include greenways and trails and greenways and trails systems.

The Florida Recreational Trails System

The Florida Recreational Trails System, which was initially created by the Legislature in 1979, provides an essential legal and organizational framework for the recreational elements of today's Florida Greenways and Trails System. The Florida Recreational Trails Act and its Florida Administrative Code rules, both of which have been amended a number of times since first written, set forth the goals of the statewide trails system and established procedures for its administration and management.

Statewide habitat conservation system

Today's concept of creating an integrated habitat conservation system for Florida grew out of work initiated in the 1980s to comprehensively plan for the protection of the state's irreplaceable habitat for native wildlife. Dr. Larry Harris of the University of Florida has played an instrumental role in describing the ecological basis for the statewide system and highlighting specific project sites

across the state where protected ecological linkages would compound the benefits and long-term viability of existing conservation lands. Dr. Harris' lead scientific role in promoting landscape linkages and integrated habitat systems in Florida and worldwide can be traced back to his pioneering book, *The Fragmented Forest: Island Biogeography Theory and the Preservation of Biotic Diversity*, which was published in 1984. Dr. Harris presented his thoughts on a statewide strategy for wildlife conservation in the November 1985 issue of ENFO, a periodic publication of the Florida Conservation Foundation. In his article, *Conservation Corridors - A Highway System for Wildlife*, Dr. Harris not only provided the scientific rationale for conservation corridors as parts of an integrated habitat system, but also presented specific steps he considered essential to a statewide wildlife conservation strategy. Since that time, Dr. Harris and his students have continued to provide scientific support for and technical assistance in the planning of integrated conservation systems in Florida and elsewhere. Most recently, Dr. Harris' knowledge and participation on the Florida Greenways Commission provided the ecological foundation for the Florida Greenways and Trails System.

Statewide conservation planning

Numerous other individuals, including scientists, resource management professionals and environmental advocates, have played a critical role since the mid-1980s, in programs and projects that have contributed to the current statewide conservation planning effort. Among the groups and agencies involved in these efforts are:

- Florida Coastal Management Program
- Florida Conservation Foundation
- Florida Natural Areas Inventory
- Florida Game and Fresh Water Fish Commission
- Florida Resources and Environmental Analysis Center
- The Nature Conservancy



Statewide conservation and recreational mapping charrettes

The preparation of maps identifying existing and potential conservation and recreation lands is a useful tool to build consensus between diverse groups and to develop shared visions for the future. Mapping charrettes, a brief period of intense effort, have been used in Florida since the early 1970s as a tool for statewide and regional conservation and recreation planning. Among the charrettes of interest have been the:

- Red Flag Charrette sponsored in 1973 by Florida Defenders of the Environment, the American Institute of Architects and the University of Florida. Its purpose was to identify areas of environmental concern.
- Preservation 2000 Map Charrette, held in January, 1991, by the Florida Chapter of The Nature Conservancy, the Florida Audubon Society and the Florida Department of Natural Resources. A group of 40 experts in ecology, botany, zoology, geology, hydrology and land planning and management were invited to Tallahassee to identify their priority ecological resource conservation areas for Florida.
- Recreational Users of Greenways Roundtable held in March, 1992 by 1000 Friends of Florida and The Conservation Fund, in cooperation with the Florida Recreational Trails Council, the Rails-to-Trails Conservancy, the Trust for Public Land, American Rivers, The Nature Conservancy and the Florida Department of Natural Resources' Division of Recreation and Parks. The purpose of the roundtable was to promote better coordination between conservation and recreation organizations and to explore the concept of creating a Statewide Network of Green that would incorporate both conservation and recreation elements.
- Recreational Mapping Workshops held in the summer of 1992 by 1000 Friends of Florida and The Conservation Fund to prepare a statewide recreational greenways and trails map.

Regional conservation and recreational planning projects

In addition to statewide efforts, numerous regional conservation and recreation planning projects in the late 1980s and early 1990s contributed to the form and approach of the statewide initiative including:

- Cross Florida Greenway - The greenway contains lands originally meant to serve as a cross state barge canal, but which were transferred to the state by the U.S. Army Corps of Engineers to serve as a recreation and conservation corridor. A management plan was prepared over a 2-year period and adopted by the Legislature in 1993.
- Integrated Habitat Network - Initiated by the Department of Natural Resources Bureau of Mine Reclamation (now part of DEP) and the Florida Game and Fresh Water Fish Commission in the early 1990s, the Integrated Habitat Network (IHN) is a comprehensive landscape plan for the five-county phosphate mining district of west central Florida.

Community-based greenways initiatives

Although focused on smaller geographic areas, local greenways initiatives occurring in the late 1980s and the early 1990s identified issues that helped shape the statewide program and emphasized the need to provide support for community-based implementation. Three early community-based efforts stand out the Gainesville Greenways System, the Palm Beach County System and the Hillsborough County System.

Florida Greenways Program

In 1991, Florida embarked on a new initiative to create a statewide system of greenways for the benefit of the state's people, native wildlife and natural environments. Under this initiative, numerous people and organizations worked together to link-up:

- the on-the-ground ecological, trails, and cultural/historic components of a Statewide Greenways System; and
- the diverse tools and techniques available to implement a Statewide System.



Origin – 1000 Friends of Florida and The Conservation Fund

The Florida Greenways Program began in early 1991 as the Florida Greenways Project, a cooperative effort of 1000 Friends of Florida, a statewide growth management advocacy group, and The Conservation Fund, a national nonprofit focused on finding innovative solutions to land and water conservation issues. The Program goal was to create a vision and framework for a Statewide Greenways System that would be built upon Florida's impressive conservation lands acquisition and outdoor recreation programs as well as the ongoing work of community-based and statewide citizen groups, the private sector, and local, regional and state agencies. The planning target for the four year Program was 1995, the year of Florida's Sesquicentennial Celebration.

Substantial monies were raised to support program activities from private foundations and other sources including the Surdna Foundation, the John D. and Catherine T. MacArthur Foundation, the Elizabeth Ordway Dunn Foundation, the National Fish and Wildlife Foundation and the American Express Foundation. This effort sustained the statewide initiative predominantly through private funding from 1991 through 1993. In 1994 and 1995, 1000 Friends of Florida secured public funding for the Commission and its activities through the Florida Department of Transportation's ISTEA Enhancement Program. With money from these diverse funding sources, the Program was able to provide professional staffing and other means of support for a diversity of greenways activities between 1991 and 1995.

The Program also succeeded in getting the word out about greenways. It designed and distributed a series of fact sheets about greenways issues and projects and kept Program participants informed through the preparation of a quarterly

newsletter. It sponsored a number of workshops and roundtables relating to greenways and trails planning and participated in the design and hosting of community greenways recognition events in association with "150 Greenways Across Florida", the Commission's public awareness events for the state's sesquicentennial celebration.

To explore community greenways and greenways system planning and implementation techniques and issues, the Program also sought and received funding to facilitate the following four prototype projects: the Loxahatchee Greenways Project in north Palm Beach and south Martin counties; the Suncoast Greenways Project in Hillsborough and Polk counties; the Apalachee Greenways Project, in the six-county region around Tallahassee; and the Broward Urban River Trails Project in the intensely developed area of Ft. Lauderdale.

Florida Greenways Commission

The Commission was created by an Executive Order signed by Governor Lawton Chiles in early 1993. The Executive Order created the Commission for a three year period (1993-1995) with the goal "to promote the creation of a linked network of greenways and greenspaces across Florida that will benefit the state's citizens, native wildlife and environment."

The 40 member Commission was set up to serve as a statewide forum bringing together the diverse interests necessary to plan and advocate a statewide greenways vision. In creating the Commission, Governor Chiles named Lt. Governor Buddy MacKay its chair and Nathaniel Reed its vice chair. In the fall of 1994, Lt. Governor MacKay added Virginia Wetherell, Secretary of DEP, as a second vice chair. Commission members represented a wide variety of interests from across the state, including conservation and the environment, recreation, business and development, forestry and agriculture, education and the general public. In addition it contained representatives from state agencies, each of Florida's five water management districts, a regional planning council and a local government. The appointed Executive Director was Dr. Mark Benedict who also served as the Director of the Florida Greenways Project.

- The Governor charged the Commission with:
- assessing the current status of greenways activities within federal, state, regional and local government agencies and private organizations;
 - developing a state agency framework to support community greenways initiatives and promote interagency greenways activities;
 - identifying statewide greenways issues and goals, and drafting recommended actions for meeting them; and
 - holding workshops to get input from citizens and elected officials.

Mission and work plan

The mission adopted by the Commission was to “plan and support a statewide system of greenways linking natural areas and open spaces to benefit Floridians today and in generations to come”. The Commission’s work plan included a diversity of activities between its first meeting in the spring of 1993 and its last meeting in fall of 1995.

Vision

The Vision Statement adopted by the Commission read as follows:

In the 21st century, Florida has a protected system of greenways that is planned and managed to conserve native landscapes, ecosystems and their species; and to connect people to the land and their archaeological, historic and cultural resources.

From Key West to Pensacola, from the Atlantic Ocean to the Gulf of Mexico, people in Florida are within a few minutes of a system of greenways that they can traverse via foot, bicycle, horse or canoe. Some greenways are public lands and others are private lands, and still others are combinations of the two. All are nurtured by public/private partnerships.

Through the efforts of private citizens, local, state and federal governments, private nonprofit organizations, and businesses, Florida has a carefully planned greenways system that interconnects fragmented or isolated elements of green infrastructure, and that connects people with their natural, historic and cultural heritage.

Parks and open spaces are linked, where appropriate, by multi-use corridors that provide opportunities for hiking, bicycling, horseback riding, canoeing, alternative transportation and use by persons with disabilities. Florida’s history and geography come alive as users explore old trails, roads, canals, rivers and archaeological sites. Preserved historic homes, museums and monuments along the way provide a link to Florida’s roots.

Florida’s diverse wildlife species are able to move between feeding and shelter areas within their ranges with less danger of being killed on roadways or becoming lost in towns or cities. Native landscapes and ecosystems are protected, managed, and restored through strong public and private partnerships. Sensitive riverine and coastal waters are effectively protected by buffers of green, open space and working landscapes.

Florida’s system of greenways has created new enthusiasm for the state’s natural, recreational and cultural/historic resources by connecting people to the land. Through a series of rural and urban greenway experiences, children and adults are able to learn about Florida’s fragile environment and the benefits of conservation. Greenways create a strong sense of place, community and multi-cultural appreciation by connecting land and communities.

Conservation and recreation groups, public agencies, landowners, companies and dedicated individuals support Florida’s greenways system through strong partnerships because of mutual benefits. Respect for private property rights, local community concerns and public lands are hallmarks of the greenways effort. Local, regional and state resources such as mapping and planning programs are shared and made available to help create community greenways.

Florida’s rich system of greenways helps sustain Florida’s future by conserving its green infrastructure, by providing continuing economic benefits, by connecting people with their natural, historic and cultural heritage, and by improving the quality of life for people.

Sustainability rationale

The Commission also adopted a rationale for encouraging sustainability:

The importance of sustaining and expanding Florida's environmental resource base - our green infrastructure - to insure a prosperous economy and a productive society has been articulated as follows: the "green infrastructure" is the system of native landscapes and ecosystems that supports native plant and animal species; sustains clean air, water, fisheries, and other natural resources; and maintains the scenic natural beauty that draws people to visit and settle in Florida. A healthy and diverse green infrastructure is, therefore, the underlying basis of Florida's sustainable future.

The rich cultural heritage of the state's first inhabitants, Native Americans, illustrates the close and mutually dependent connection among the environment, economy and society. But that close connection has not always been maintained. Many of Florida's native landscapes and ecosystems have been degraded or isolated over the years as wetlands have been filled, uplands have been paved and estuaries have been polluted. There is scientific evidence that Florida's green infrastructure cannot be sustained without watersheds, ridges and other natural corridors that connect its native landscapes and ecosystems. At the same time, there is concern that many Floridians have lost the sense of connection with their rich natural, historic and cultural heritage.

Today, there is an exciting new opportunity to reestablish connections between the state's green infrastructure and its people through Florida's greenways and trails system. The statewide system of greenways and trails can help conserve native landscapes and ecosystems by protecting, maintaining, and restoring natural connecting corridors. And it can reconnect Floridians with their natural, historical and cultural heritage through a system of trails and other connectors. Furthermore, this system of trails and other connectors can provide recreational and alternative transportation opportunities for many Floridians.

By conserving green infrastructure connections and by connecting people and the land in a manner that re-establishes the close connections between Florida's environment, economy and

society, the statewide greenways system can help build Florida's sustainable future. This greenways and trails system has the potential not only to conserve Florida's green infrastructure but also to provide important economic benefits and to improve the quality of life of Florida's citizens.

The Commission's recommended goals

As Florida continues to grow and change, the importance of coordinated and balanced planning programs to protect the environment and guide development becomes increasingly evident. Creating a statewide system of greenways and trails for Florida is one way to integrate important aspects of the natural and human environments into a statewide system of natural areas, open spaces, trails, cultural and historical resources, and greenways for wildlife and people. The recommendations for creating this system were formulated through a consensus-building process. The system's evolution through a variety of ongoing planning and implementation activities should be guided by the following overriding goals:

- **Create an institutional framework** that supports state and community greenway initiatives and coordinates government and private sector greenway efforts.
- **Stimulate public and private sector awareness, involvement, and action** in creating and managing community greenways and greenways systems.
- **Design and manage a statewide system of greenways** that provides essential ecological linkages in order to: (1) conserve critical elements of Florida's green infrastructure of native ecosystems and landscapes; and (2) facilitate the ability of these ecosystems to function as dynamic systems and to maintain the evolutionary potential that will allow them to adapt to future environmental changes.
- **Incorporate urban open spaces, working landscapes, historical sites, and cultural resources** into Florida's system of greenways.
- **Design, develop and maintain trails** throughout Florida that provide public access to and promote appreciation, support and conserva-

tion of the natural, cultural and historical features of the state's system of greenways.

- **Educate and inform diverse audiences** about the concept of greenways and the statewide system of greenways.
- **Fund the creation and maintenance of Florida's statewide greenways system** utilizing a combination of funding sources.

In addition to these seven goals, the Commission developed strategies and recommended actions to address each stated goal, as well as a concept for a statewide greenways system. For a complete description of the Commission's work, please refer to the document entitled *Creating a Statewide Greenways System, For People...For Wildlife...For Florida, Florida Greenways Commission Report to the Governor, December 1994*.

The Commission's December 1994 report to the Governor

The result of the Commission's work in 1993 and 1994 was the preparation of a Report entitled *Creating a Statewide Greenways System: for People. . . for Wildlife. . . for Florida*. The report presented the Commission's vision and a concept diagram for the Florida Greenways System. It also contained over 200 specific recommendations on the creation of the Florida Greenways System and the form and function of a statewide Florida Greenways Program. The recommendations were organized under 30 strategies within the following seven goals: Creating an Institutional Framework; Creating and Managing Community Greenways; Conserving Native Ecosystems and Landscapes; Conserving Urban Open Spaces, Working Landscapes, Historic Sites, and Cultural Resources; Providing Access to Florida's System of Greenways; Educating and Involving the Public; and Funding Florida's Statewide Greenways System.

Florida Greenways Commission activities in 1995

In 1995, the Commission undertook a number of activities to begin implementing the recommendations contained within its *Report to the Governor*. In the spring the Commission proposed legislation, that was subsequently passed, to carry Florida's statewide greenways initiative forward. Other activities undertaken during Phase IV of the Commission's work plan included:

1. Cooperating with the Governor and the Florida Sesquicentennial Commission to recognize 167 official "Florida Greenways" as a part of the Commission's five-month "150 Greenways Across Florida" Sesquicentennial celebration.
2. Working with 1000 Friends of Florida to award 32 *Florida Greenways Grants* to stimulate private and public sector involvement in regional and community-based greenways projects.
3. Working with the National Park Service Rivers, Trails and Conservation Assistance Program to design and produce a poster for widespread distribution to educate and excite Floridians about greenways and the Florida Greenways System.
4. With funding from the Florida Department of Transportation's ISTEA Enhancement Program, working with DEP, the University of Florida, 1000 Friends of Florida and the National Park Service to start the development of the Statewide Greenways System plan.

Florida's statewide greenways and trails program today

In 1995, Florida's statewide greenways initiative changed from a NGO-based Program and a Governor appointed Commission to a government-based Program and a legislatively appointed Council. This transition year culminated in November 1995 when leadership of the Florida Greenways Program was formally passed to DEP and the new Florida Greenways Coordinating Council.



Greenways and trails legislation

Legislative action has determined the current direction and scope of the Florida Greenways and Trails Program and the focus of its activities. The most important legislation occurred in 1995 and included three major elements:

- It created the Florida Greenways Coordinating Council
- It designated DEP as the lead state agency for the Florida Greenways Program and gave it two specific charges:
 - to create a Statewide System of Greenways on public lands
 - to assist the council in coordinating with other governmental agencies and private entities involved in the Statewide Greenways System
- It directed the Council to assist DEP in the preparation of the Five Year Implementation Plan for the Florida Greenways and Trails System.

Subsequent legislation passed in 1998 does the following:

1. Defines the term designation.
2. Provides a limitation of liability to those landowners who allow their lands to be designated in the Florida Greenways and Trails System.
3. Provides rulemaking authority to implement this act and manage the Cross Florida Greenway.
4. Allows the department to provide incentives to landowners allowing their lands to be designated.
5. Emphasizes that designation of lands into the statewide system is completely voluntary and written consent of the landowner is required.
6. States that the greenways planning area maps or other information used in the planning the statewide system cannot be used to place increased land use restrictions or regulations on private lands.

Florida Greenways Coordinating Council

The Council was created by legislation passed in the spring of 1995, and members were appointed that fall. The Council's first meeting was held in November 1995 concurrently with the last meeting of the Commission. Following a presentation on the history of the Florida Greenways initiative and reports from each of the Commission's three working committees, the Council discussed funding, administrative issues, the development of a work plan and budget, and the establishment of seven committees.

Council activities in 1996

The Council met four times in 1996. At the January 9 meeting in Tallahassee, discussion focused on the development of a work plan. Council members reviewed recommendations contained in the Commission's 1994 *Report to the Governor* and decided upon committee objectives and actions for the coming year. Council members were briefed on the Florida Greenways Decision Support Model and preliminary Test Area results at their February 15 meeting in Gainesville. Following the briefing, the committees met to continue discussions on their 1996 work plan activities. Selected Council members and other individuals, including some members of the former Commission, met for a brainstorming session at Wakulla Springs State Park on July 9. This facilitated session identified and formulated recommendations relating to a number of programmatic and administrative issues considered key to the future success of the Council. At the Council's meeting in St. Augustine on October 2 and 3, Council members delved into a number of fundamental issues including the group's charge and the actions needed to meet them, how to best organize to accomplish Council objectives, how to facilitate a good working relationship between the Council and staff at DEP's Office of Greenways and Trails, and how to communicate effectively with the Council's constituents. The Council reorganized its committee structure into an Executive Committee and four ad-hoc committees. The final Council meeting in 1996 was held in Tallahassee on December 20. Following committee reports, the Council heard an update of the University of



Florida's statewide greenways and trails system planning effort and reviewed preliminary results for the Pilot Project. In addition, Council members discussed the creation of six Regional Greenways Task Forces to assist the Council's efforts to develop implementation strategies for the Statewide System. Other notable accomplishments for 1996 included:

1. The development of boiler plate language to use when drafting memoranda between the Council and all participating agencies;
2. Regional meetings of Federal agencies in Florida to discuss the greenways initiative and create a coordinating body;
3. Initial development of a greenways home page and other public outreach methodologies; and
4. A meeting between staff from DEP's Office of Greenways and Trails and representatives of linear facilities to discuss the Statewide Greenways and Trails System, the work of the Council, and issues raised by private sector participants.

Council activities in 1997

The Council met four times in 1997. At their February 26 meeting in Tallahassee Council members were briefed on the activities of DEP and the Council's five committees. Following a detailed discussion of the work plan, meeting schedule and nominated members of the six proposed Regional Greenways Task Forces, the Council voted to accept the proposed Task Force membership and directed staff to proceed with their creation and the holding of meetings as scheduled. The June 5 meeting of the Council in Tallahassee focused on presentations on the activities of the Council's committees and the six Regional Greenways Task Forces. Highlights of the meeting included: adoption of seven signed memoranda of understanding between the Council and its participating agencies; a status report by the University of Florida; a preview of the draft *Community Resource Guide for Greenways and Trails*; and an overview of a cost-benefit decision support model being developed for the Florida Greenways and Trails System. The Council's September 18 meeting in Tampa focused on the preliminary UF Decision Support Model (DSM) results for the Statewide Greenways and Trails System. Following an overview by the University Team and progress reports by the six

Regional Greenways Task Forces, the Council discussed a number of issues including: the direction and pace of Task Force activities following consensus on modifications to the Preliminary DSM results; the dates and logistics for the seven public workshops; and the development of a letter of intent regarding the DSM results to help address the concerns of private property owners. The last Council meeting for 1997 was held in Orlando on December 11. Topics covered at that meeting included updates by representatives of the six Regional Greenways Task Forces and a discussion about work plan activities for 1998.

Council activities in 1998

At the Council's February 13 meeting in Tallahassee, Chairman Clay Henderson reported the Constitution Revision Commission is considering two amendments dealing with land conservation, and Pam McVety of DEP described the Forever Florida legislative proposal which would carry forward state land acquisition following the end of Preservation 2000. The Coordinating Council discussed a proposed selection process and application form for the Florida Greenways and Trails Seed Grants Program. At the Council's June 12 meeting in Tampa, the discussion centered on passage of greenways legislation developed in partnership with private property interests, and public outreach activities. Also on June 12, the Coordinating Council agreed to work more closely with the Florida Recreational Trails Council to address trails issues in the implementation plan more effectively. Subcommittees of the Coordinating Council and the Trails Council met on July 27 and August 22 to refine the proposal for creating the Florida Greenways and Trails Council and discuss other issues surrounding the plan. DEP and the Council sponsored six public hearings on the third draft of the Implementation Plan: June 24 in Lakeland, June 25 in Ft. Myers, July 8 in Jacksonville, July 9 in Chipley, July 15 in West Palm Beach and July 25 in Orlando. The plan was adopted on September 11 and reflects the Council's position that a separate non-governmental organization does not need to be created. Instead, the proposed Florida Greenways and Trails Council is expected to include representatives of existing non-governmental organizations.

Regional greenways task forces

The concept of creating six Regional Greenways Task Forces, one for each of DEP's districts, was presented to and approved by DEP's Policy Coordinating Committee in September, 1996. DEP's Office of Greenways and Trails presented the proposal to the Council at its October, 1996 retreat. Council members suggested their primary duties should be:

1. To provide quality control of modeled greenways and trails through local and expert knowledge;
2. To develop a regional component/vision of the statewide greenways plan through coordination with local and regional greenways efforts; and
3. To promote the greenways concept and regional greenways opportunities to gain support of private landowners and to further community greenways activities.

Six nominations for Task Force membership (one for each Task Force) were submitted by each Council member. With funding from the Department of Community Affairs, two staff members were hired to assist and coordinate the activities of the Task Forces. Staff members at each DEP Regional Office were assigned to work with each Task Force.

Synopsis of 1997 meetings

The six Regional Greenways Task Forces met monthly in 1997, from March through November. Topics covered at these meetings included review of the UF's conservation lands and trails GIS databases, review of the results of the UF's Decision Support Model and aspects of the Implementation Plan.

Synopsis of 1998 meetings

Several of the regional task forces met in full or through subcommittees during 1998 to provide input on the implementation plan. Committees from the Northeast and Southwest task forces focused on prioritization. A committee from the Northwest task force provided the foundation for the designation process. The Southwest and Southeast task forces focused on identifying how the system would be funded. The South task force

focused on removing impediments and marketing, and the Central task force provided additional input on incentives. The Central task force also held an additional meeting to resolve conflicts between RGTF comments and public comments on the maps. All the task forces hosted public hearings on the third draft of the Implementation Plan during June and July.

How this plan was developed

The first step in drafting this document was to hold meetings with representatives of the Florida Greenways Coordinating Council, the six regional greenways task forces, and DEP staff. After two such meetings in October 1997, there was agreement on the following:

- a schedule for writing/reviewing and revising the draft implementation plan
- a general outline of topics to be included in the document
- a process which would create an Implementation Team composed of Florida Greenways Coordinating Council members, the chairs, vice chairs and co-chairs of the six regional greenways task forces, and DEP staff to receive input on various drafts and to determine what changes should be incorporated into the next draft.

The outline agreed upon in October was "fleshed out" by DEP staff and disseminated for public review during November 1997 as the "initial draft of the implementation plan for the statewide greenways and trails system". Each regional greenways task force (RGTF) was asked to select one or more sections of the plan to study in depth and re-write if necessary. Some regional task forces decided instead to review and comment on the entire draft implementation plan. All comments or re-writes were due to DEP from the regional greenways task forces by February 27, 1998.

On December 11, 1997 the initial draft document and proposed schedule for adoption were discussed during the FGCC meeting. There was also some discussion on the initial draft during the FGCC meeting of February 13, 1998. After the February 13 FGCC meeting was concluded, the first meeting of the Implementation

Team occurred. DEP staff again reviewed the outline and schedule for adoption. Dates for future Implementation Team meetings were selected. Substantive discussion centered on the definition of greenways and greenways system and how those definitions relate to the section on designation. There was also general discussion about how this document relates to the 1994 report by the Florida Greenways Commission.

During the week of March 2-6, comments on the initial draft were copied and disseminated to the Implementation Team in preparation for a March 13 meeting. During that meeting, three major topics were discussed:

- definitions of terms
- prioritization
- the designation process

At the next Implementation Team meeting on April 3, the team decided to clarify the purpose for which the plan is being drafted, the intended use of the plan, who the audience or users of the plan will be, and what the contents of the plan should be. The group agreed on the following criteria for an effective implementation plan:

1. It will satisfy the statutory mandates for required reports and recommendations.
2. The focus is on providing a clear plan, not a technical assistance document or how-to manual.
3. It will not unnecessarily replicate materials available elsewhere (such as the 1994 Report of the Florida Greenways Commission, or the Community Resource Guide).
4. The product is of a size and level of detail appropriate to the user (perhaps there needs to be a full report and a separate summary document).
5. It should make clear what is adopted policy and what are suggested options or guidance.
6. The plan should provide a comprehensive understanding of the greenways philosophy and all types of greenways activities at all levels (but should not be an inventory).
7. The focus is on statewide coordination and how to support local activities, not on day-to-day operations of local greenways.

8. It will identify needed links to other plans and programs.

Based on the discussion and these criteria, the outline was changed somewhat after the April 3 meeting. Draft #2 was completed and disseminated to the FGCC, RCTF members, and other interested parties on April 10. Review comments were requested by May 1, 1998.

All comments received on draft #2 were reviewed by the Implementation Team at a meeting on May 15, 1998. On May 21 the Executive Committee of the Florida Greenways Coordinating Council met and discussed several major policy issues forwarded from the Implementation Team. On May 29 and 30 the plan was reviewed by the Florida Recreational Trails Council. Based on the discussions in these meetings, a third draft was developed. Draft #3 was presented to the FGCC on June 12, 1998. After much discussion, the FGCC approved the draft with recommended changes on several topics and, in some instances, with various options outlined for public review.

The public provided input on draft #3 during six hearings in June and July. On July 30 and August 11 the Implementation Team met to review the comments received at the public hearings and to determine what changes should be incorporated into the next draft. The plan was modified extensively as to format and style during July and August. Recommendations, strategies, and action steps were more clearly identified. Repetitive material was eliminated and technical information was moved to the appendices. This draft was presented to the Florida Recreational Trails Council on August 21-22. After incorporating changes based on FRTC comments, the final draft was completed and distributed to FGCC members and the public.

On September 11, 1998 the FGCC adopted the plan, subject to the staff of OGT incorporating changes which were approved by the members during the meeting.

Appendix B

The benefits of greenways and trails

In the book, *Greenways: A Guide to Planning Design and Development*, Loring LaB. Schwarz (1993) points out that “any one greenway can hold many and varied values to those who use it or live nearby. It can be a non-polluting commuter route, a horse or bicycle trail, a means to promote stream-water quality or to preserve wildlife habitat, a method of buffering land uses such as residential development or agricultural activity, or a way to safeguard a viewshed or the historic character of an area.”

A statewide system of greenways and trails could have significant ecological, economic and social benefits for Florida. By helping conserve linked native ecosystems and landscapes, greenways can be an important component of a statewide, regional or local conservation strategy. Greenways and trails can support tourism and associated businesses, which can provide recreational opportunities for residents and visitors, and the opportunity to enjoy Florida’s unique natural environment. Some of the key benefits are described below:

Conservation of native ecosystems and landscapes

Greenways can provide important ecological functions that help conserve native ecosystems and landscapes. These include:

- **maintaining space** to sustain the native biological diversity;
- **maintaining connections** to allow interchange between native plant and animal communities; and
- **maintaining the health** of native ecosystems and landscapes by sustaining their physical, chemical, and biological processes.

Interconnected native ecosystems provide a number of other important services. They filter pollutants from the air, water, and soil; aid in cooling streams and soils through shading; protect

and enhance the water quality of rivers and lakes; recharge groundwater aquifers; and buffer developed areas from floodwaters, saving lives and property.

Public recreation close to home

Because greenways and trails lead somewhere and can connect with other greenways and trails that go to still more places, they attract people from all walks of life. In *Ecology of Greenways*, Daniel S. Smith (1993) says, “Greenways can tie communities together by linking features such as parks, historic sites, residential areas, and shopping districts and by allowing people to travel from place to place without the noise and rush of automobiles.”

A statewide system of greenways and trails will provide many opportunities for public outdoor recreation and wellness activities. Trails can provide places for visitor and resident bicyclists, hikers, walkers, joggers, rollerbladers, horseback riders and physically challenged people to exercise and experience the many natural and cultural wonders of our state. Greenways along rivers, lakes and the coast can also provide access to canoers, kayakers, and sailors. Greenways can serve as sites for passive pursuits, such as picnicking, camping, and wildlife observation. They can even serve as community gathering sites for concerts, festivals, neighborhood cookouts and family reunions. These facilities are often essential in maintaining strong public support because people can enjoy and appreciate what is being conserved.

Economic prosperity

It is imperative to recognize that a vibrant economy is necessary to maintain the financial resources needed to assure environmental quality. As a dynamic and growing state, Florida continually faces the critical question of how divergent interests in a community will work together to balance demands for development with the protection of natural resources. Many areas of the



country have found that a system of greenways and trails offers opportunities to support economic growth without sacrificing environmental assets. Developing and protecting greenways and trails throughout our state could not only save Florida's landscapes but also help disadvantaged areas and weaker economies regain much sought-after stability.

Positive economic effects of greenways and trails accrue in several ways. First, taxable properties that are adjacent to greenways and trails often increase in value and generate greater overall revenue for a community. According to local surveys, homes located near greenways and trails commonly sell for more than similar homes in other areas.

Conventional wisdom also tells us that businesses locate where quality of life indicators are high. There is widespread recognition that greenways help communities develop these characteristics and portray this image. Boulder, Colorado, and Raleigh, North Carolina, are examples of communities that have successfully attracted new businesses and retained existing businesses based in part on the environmental, recreational and cultural/historic amenities some of which are associated with local greenway and trails systems.

Greenways can be magnets for attracting environmentally sensitive development. The Tennessee Riverpark in Chattanooga has demonstrated how a greenway can be used to help a community attract new residential and commercial investment. This river park has helped stimulate more than a quarter-billion dollars worth of new development in downtown Chattanooga.

Finally, small service-oriented businesses gravitate to areas where perceived consumer needs exist. Greenways and trails users often create a demand for services, which in turn stimulates the growth of tourism-based businesses. Overnight accommodations, including bed and breakfasts, rental facilities, restaurants, art galleries and other small enterprises, often spring up in the vicinity of greenways and trails projects.

Long-distance, multiple-use trails, such as the Tallahassee-St. Marks Historic Railroad State Trail south of Tallahassee, attract tourists and residents from surrounding counties and states.

Visitors are encouraged to extend their stay in an area with amenities including trails, craft shops and other local market and cultural interests. Extended visitor stays help increase the multiplier effect of tourism dollars in given communities.

Businesses and private citizens alike recognize the relationship between a healthy environment and a prosperous economy. Today environmental concerns are among the highest priorities of every business. Private sector success depends on business' ability to integrate economic and environmental goals and incorporate the values, systems and practices of sustainability. Greenways offer our business and industrial sectors this opportunity.

Conservation of historic and cultural resources

Archaeological and historic sites can be protected, preserved, interpreted, and connected through greenways and trails. Archaeological and historic sites provide yet another dimension to link people with the landscape; they provide a sense of place as well as a sense of origin. These sites can help people understand, interpret, and appreciate how the connections between people and the environment have developed and changed over time. Archaeological and historic sites provide a direct and unique link between people and the environment.

Outdoor education

A statewide system of greenways and trails will provide excellent outdoor classrooms where students can learn about native plant and animal species, ecosystems, and ecological processes. Greenways and trails can serve as living laboratories for students and as sites for studying historic, archaeological and cultural resources. Florida is rich in history, containing sites and structures from Florida's Native American people to the early pioneer days of statehood to the boom years of the Roaring Twenties. Greenway and trail connectors that overlap historic transportation corridors offer rich opportunities to interpret history and the relationship between people and the land.



Protecting working landscapes

Greenways can be used to protect working landscapes such as farms, groves, and private forest lands. Many of Florida's landscapes - - the citrus groves of Central Florida, Marion County's horse farms, the red hills of Tallahassee, South Florida's ranch lands - - are privately owned. The tradition of good land stewardship practiced on these lands may best be perpetually maintained through private ownership. Greenways and trails along scenic byways can provide the traveling public with a glimpse into the historic past of these lands. Greenways and trails using conservation easements across these lands can allow traditional land uses to continue, while providing corridors for the movement of wildlife and, where appropriate, people, as well as important habitat for some sensitive wildlife species. Since the primary purpose of these lands is not resource preservation but resources used for economic gain, it is often overlooked that these privately owned lands can provide valuable environmental benefits, especially if they are managed in an environmentally sensitive manner.

Influencing urban form

Greenways and trails can provide important growth management benefits. Areas of protected lands around and through Florida's towns and cities can help shape urban form and mitigate urban sprawl. Greenways and trails can help maintain delineations between urban and rural land uses. Also known as greenbelts, agricultural reserves or buffer lands, privately and publicly owned greenways are potentially valuable growth management tools.

Providing alternative transportation

Greenways and trails can serve as alternative transportation routes for commuting to work or school, bicycling or walking to local businesses or restaurants, visiting parks and recreation sites, or sightseeing. Trails often can be designed in conjunction with utility corridors and pipelines. These alternative forms of transportation, if made convenient by greenways, can help reduce air pollution and road congestion.

Appendix C

The University of Florida's decision support model

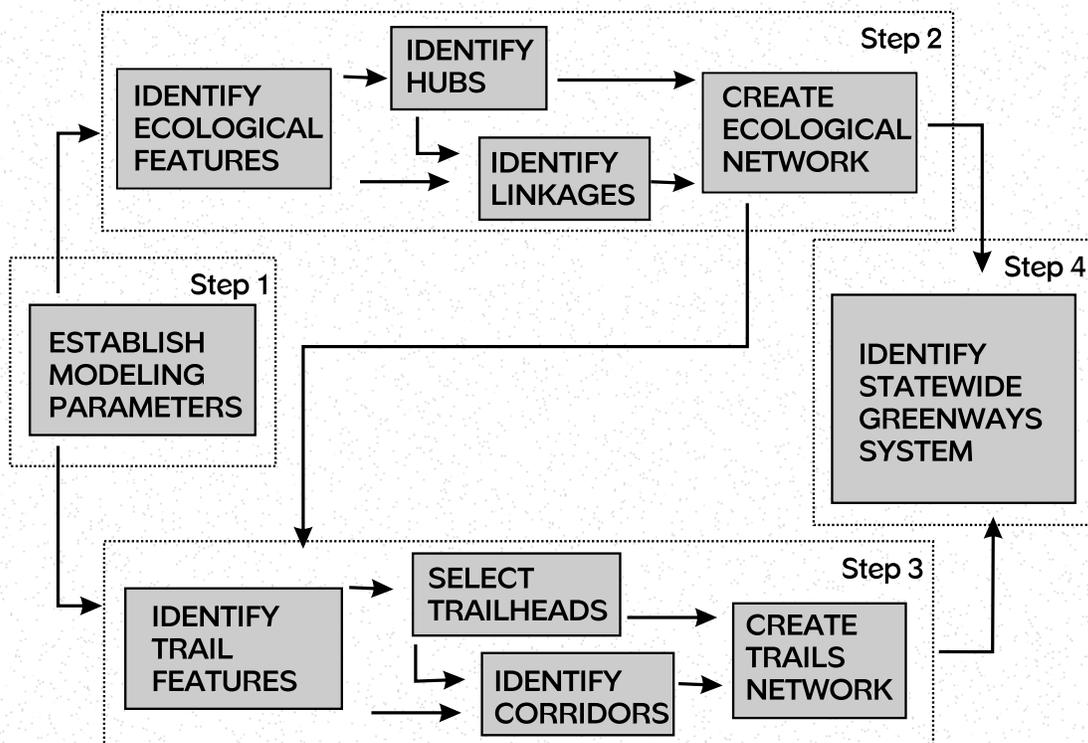
In 1995 the Florida Department of Environmental Protection and the Florida Department of Transportation contracted with a team of researchers at the University of Florida (the Team) to assist in planning the Florida Greenways and Trails System. The Team's primary task was to design the system including an ecological subsystem or network and a recreational/cultural network. The result is a physical delineation of an integrated statewide conservation and recreation system that links Florida's existing conservation lands, trails and cultural/historic sites.

The Team's work was based on the assumption that a statewide greenways and trails system is comprised of elements of statewide, regional and local significance and all are equally important to the formation of a complete system. Elements of statewide significance are generally

owned and/or managed by state and national entities, elements of regional significance are generally owned and/or managed by regional entities and local elements are generally owned and/or managed by local entities. The Team's charge was to identify the statewide elements of the Florida system. Those statewide elements are designed to serve as the spine or major components of a complete system.

The Team employed a Geographic Information System (GIS) model to assist in the identification of areas for inclusion. The model was developed using ESRI's Arc-Info software, primarily using the GRID module. The model was comprised of four major steps:

1. Establishment of Modeling Parameters
2. Ecological Network Identification
3. Trails Network Identification, and
4. Greenways System Identification.



Model development and application

In 1995 - 1996 the model was designed and evaluated in a four county Test Area and refined in a fourteen county Pilot Project Area. During this period many public meetings, technical advisory team meetings and charrettes were held to solicit comments and suggestions. After review and refinement, the Team applied the model in the Spring, 1997, using Florida's five water management districts, because of their size and the fact that a number of important statewide and regional data layers (e.g. Florida Land Use/Land Cover Databases) were already sub-divided by these districts.

Ecological network goal

- *To design an ecologically functional Statewide Greenways and Trails System that: conserves Florida's native ecosystems and landscapes; protects and restores connectivity among native ecological systems and processes; maintains the ability of native ecosystems and landscapes to function as dynamic systems; and allows the biological elements of native ecosystems and landscapes to adapt to future environmental changes. (Florida Greenways Commission 1994).*

The goal was to be achieved by designing an integrated conservation system that consists of protected *Ecological Hubs*, managed primarily to maintain and restore biological diversity and other natural resource values and for uses compatible with conservation objectives, and *Ecological Linkages*, designed to connect Ecological Hubs for the movement of biota and the maintenance of ecological processes. Together the Ecological Hubs and Linkages were to make up a functionally connected, *Integrated Conservation System* (Florida Greenways Commission 1994). Among the theoretical foundations for the design of the Ecological Network Model were the works of Larry Harris, Reed Noss and Michael Soule (Harris, L. D. and K. Atkins 1991, Soule, Michael E. 1991, Noss, R. F. and L. D. Harris 1986, Harris, L. D. 1984).

Model ecological network

Ecological modeling was accomplished using four sub-steps.

Sub-step One - Identify ecological features

In the first sub-step, statewide databases were used to identify landscape features that could contribute to meeting the design goal for the ecological greenways network. Once the data were assembled, selection criteria were used to generally categorize both native and non-native landscape features in terms of their significance and compatibility with ecological conservation objectives into the following categories:

- Priority Ecological Areas
- Significant Ecological Areas
- Other Ecological Landscape Features
- Category I Lands (tree plantations and rangelands)
- Category II Lands (intensive agricultural land uses including improved pasture and row crops)
- Category III Lands (urban, residential, commercial and industrial areas)

This first step was inclusive to ensure nothing of potential statewide ecological importance was missed. Features needed to meet just one of the many selection criteria to be classified as Priority or Significant.

Sub-step Two - Identify hubs

The hubs for the Ecological Greenways Network were selected in the second modeling sub-step. To be identified as a hub, an area had to contain at least 5,000 contiguous acres. Once an area was identified as a hub, it was then partitioned as a riverine, coastal or upland landscapes. This classification was key to the linkage step. The definitions are:

Riverine/Large Lake and Wetland Landscapes. Native landscapes including rivers, associated floodplains and large lakes and wetland systems, where the predominant ecological process is freshwater flow and related hydrological processes.

Coastal Landscapes. Native landscapes including coastal islands and estuaries, where the predominant ecological process is the influence of saline water.

Upland Landscapes. Native landscapes including pine and hardwood forests, dry prairies and small isolated wetlands, where the predominant ecological process is fire.

Sub-step Three - Identify linkages

Five linkage types were identified in sub-step three: riverine to riverine, coastal to coastal, upland to upland and riverine to coastal hubs and cross basin connections between selected ecological hubs. Three sub-steps were applied to each of these linkage types: creation of a suitability surface, identification of an optimal path of suitable cells between selected ecological hubs and expansion by adding areas of contiguous native and appropriate non-native land covers.

Sub-step Four - Create ecological network

The final ecological modeling sub-step was the creation of the Ecological Network by adding together hubs and linkages. In this last sub-step, some manual editing was done to correct model errors and to reflect overall design objectives.

Trails/Cultural-Historic network goal

- *Include trails in the Statewide Greenways and Trails System to provide public access to and promote appreciation, support and conservation of the system’s natural, cultural and historic features, and to provide opportunities for alternative, non-motorized transportation (Florida Greenways Commission 1994).*

Based on the work of the Florida Greenways Commission, it was determined that five trail types would be included in the statewide system: hiking, off-road bicycling, equestrian, multi-use and paddling. Paddling trail corridors were not part of the modeling exercise because the opportunity for their alignments is limited to water features. The four terrestrial trail types were modeled as described below.

Model trails/Cultural-Historic Network

Trails modeling was accomplished using four sub-steps.

Sub-step One - Identify trail features

In the first sub-step, statewide databases were used to identify features that could contribute to meeting the design goal for the trails network. These included existing and proposed trails, utility corridors that might serve as trail connectors, historic and archaeological sites and other points of interest.

Sub-step Two - Identify trailheads

Trailheads were selected for the four trail types through input from trail user groups and identification of existing and proposed trailheads or in areas of concentrated trail use. To qualify as a trailhead a site must be publicly accessible and have restrooms and parking available.

Sub-step Three - Identify corridors

Once the trailheads were selected, a suitability surface was developed for each trail type; an optimal path of suitable cells between selected trailheads was identified; and each corridor was then expanded to a width of 2 kilometers.

Sub-step Four - Create trails/Cultural-Historic network

The final trails modeling sub-step was the creation of the trails network by adding together trailheads and corridors.

Identify recommended statewide greenways and trails system

The final step in the model was the identification of a recommended statewide greenways and trails system. This was accomplished very simply by combining the preliminary ecological network and the Preliminary Trails/Cultural-Historic Network.

These model results were then modified through public comment and private landowner input as described on pages 8 and 9 of the Implementation Plan. The Decision Support Model results do not constitute designation pursuant to Chapter 260, F.S.



Updating and maintaining the database

Current situation

The GeoPlan Center in the College of Architecture, University of Florida, has been involved in the application of Geographic Information System (GIS) to greenways planning since 1991. The UF has used data layers supplied by numerous agencies to develop the Decision Support Model, which identified potential areas for a statewide ecological network and potential areas for a statewide trails network.

In addition, GeoPlan has been assisting the Florida Department of Transportation and the Florida Department of Community Affairs with related GIS projects. As a consequence, GeoPlan has acquired many statewide, regional and local GIS data layers from federal, state, regional and local governmental agencies, and from private entities. GeoPlan, with assistance from the DEP, DOT and DCA has compiled these data into a library called the Florida Geographic Data Library (FGDL).

The data layers upon which the Decision Support Model results were based are now incorporated into the Florida Geographic Data Library.

Data in FGDL have been placed in a single map projection (Albers, 1927 Datum, units: meters) and metadata (a written description of origin, resolution, coding, etc.) have been developed for each data layer. GeoPlan is now distributing these data on compact disc at the price of \$20/county or \$1000 for all 67 counties. Ordering information may be obtained from the World Wide Web (www.geoplan.ufl.edu).

General benefits of FGDL to the State of Florida include:

- an easy-to-use, organized set of information ready for use by non-technical agency personnel;
- a standardized, version-controlled database;
- minimization of the burden of data distribution for governmental agencies; and
- public access to geographic data resources maximizes public benefit for the dollars invested in developing the data.

FGDL was first made available in March, 1998 and updates will be released annually. These updates will be developed through cooperation between the agencies and private entities that maintain each data layer and GeoPlan. Each data layer will not necessarily be updated each year, but as the responsible entity develops updates, these will be passed along through FGDL. The FGDL project could become a national model for the organization, standardization and distribution of publicly funded information critical to the establishment of a statewide system of greenways and trails. FGDL is key to distribution of all publicly funded GIS data in Florida, including greenways and trails related data for state, regional and local planning activities.

Seven GIS data layers are unique to the greenways and trails planning project. Three were developed by the University of Florida through their contract with DEP and served as inputs to the Decision Support Model. These are the Trails, Conservation Lands and Points of Interest layers. A fourth data layer, Restoration Potential, was developed by staff from DEP. The fifth is a representation of the Ecological Results of the Decision Support Model and the sixth is a representation of the Recreational/Cultural Results of the Decision Support Model. The seventh layer is a representation of Designated Greenways and Trails. These are briefly described below, and a recommendation for the future maintenance of each is provided.

Statewide Greenways and Trails System GIS data

Twelve GIS data layers are unique to the greenways and trails planning project. They are listed and briefly described in the table on the facing page.

Data layers developed by other agencies

A number of GIS data layers, developed by governmental agencies other than DEP, were important to the development of the GIS Decision Support Model. In order to update this model on an annual basis, it will be important to receive updates of these data layers. The key data layers are described below.



Data layers	Responsible parties
Conservation lands	Developed by UF with inputs from DEP, Florida Division of Forestry, WMDs, federal and local agencies. Updates occur continuously. Identifies conservation lands by type and status.
Trails	Originally developed by 1000 Friends of Florida, since maintained by UF. Many different agencies and entities are responsible for trails maintenance including local, regional, state and federal agencies, private entities and NGOs like the Florida Trail Association. Updates require coordination and contributions from many entities around the state. Identifies trails by type and status. Types include hiking, off-road bicycling, equestrian, multi-use and paddling.
Points of interest	Developed and maintained by UF. Contains 25 categories including recreational areas, cultural areas, schools, tourist attractions.
Restoration potential	Developed and maintained by DEP. Contains components of 352 restoration projects identified on land managed by DEP, Division of Forestry and FGC.
Decision support model results - Ecological	Developed and maintained by UF. Identifies areas of ecological significance potentially appropriate for inclusion in a Florida Greenways and Trails System.
Decision support model results -Trail/Cultural-Historic	Developed and maintained by UF (one data layer for each of four trail types: hiking, off-road biking, equestrian and multi-use). Identifies recreational/cultural corridors potentially appropriate for inclusion in a Florida Greenways and Trails System.
Model results as modified by public comment - Conservation/Ecological	Developed and maintained by UF based on requests from private landowners.
Model results as modified by public comment - Trail/Cultural-Historic	Developed and maintained by UF based on requests from private landowners (one data layer for each of five trail types: hiking, off-road bicycling, equestrian, multi-use and paddling.)
Model results as modified by public comment and private landowners - Conservation/Ecological	Developed and maintained by UF based on requests from private landowners.
Model results as modified by public comment and private landowners - Trail/Cultural-Historic	Developed and maintained by UF based on requests from private landowners (one data layer for each of five trail types: hiking, off-road bicycling, equestrian, multi-use and paddling.)
Significant cultural historic sites that do not serve as trailheads	Developed by UF and Division of Historical Resources, maintained by UF.
Designated greenways and trails	To be developed by UF as greenways and trails become designated.



Game and Fresh Water Fish Commission

Examples of the GFC data layers used in the model were a Landsat-based vegetation map of Florida, strategic habitat conservation areas, biodiversity hot spots and priority wetlands for listed species. Each of these data layers was important to the determination of ecological significance.

Florida Natural Area Inventory

FNAI data layers used in the greenways modeling included areas of conservation interest, potential natural areas, and species occurrences. The 1998 Florida Legislature directed the DEP to administer in-house FNAI's contractual component of the CARL process. Therefore, maintenance of these data layers is now the direct responsibility of DEP.

Land use/Land cover

Land use/Land cover data are developed and maintained by the water management districts. These data are essential for conservation, recreation and land use planning. The water management districts have developed two versions of land use/land cover with a five year interval in between. Further updates will be essential for modifying the model results in the future.

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Appendix D

Greenways and trails prioritization

The following is a list of criteria that can be the starting point for developing a process for evaluating specific greenways and trails proposals.

- Willingness of landowners to participate.
- Relative importance of project area based on statewide prioritization.
- Rarity of habitats and species found in project area.
- Potential to enhance movement of wide-ranging animal species.
- Population viability of key animal species.
- Habitat diversity found in project area or linked by project area.
- Restoration potential (where needed).
- The extent to which the project meets an ecological or recreational/cultural need.
- Importance of project area for protecting areas identified in existing state, regional and local plans, for example: any regional wildlife habitat plans, Game and Fresh Water Fish Commission’s strategic habitat conservation areas, Florida Natural Areas Inventory’s areas of conservation interest and potential natural areas, Save Our Rivers plans, etc.
- Potential to reconnect severed ecological linkages.
- Diversity of native species found in project area.
- Connectivity provided by project area (number of completed connections.)
- Availability of buffers within or adjacent to project area to protect core ecological areas.
- Presence of unique physical features like springs.
- Presence of cultural/historic features.
- Current condition of the project area.
- Presence of local support or sponsorship.
- Vulnerability to development pressure.
- Width of the connection provided by the project area (the wider the better.)
- Size of the project area (the bigger the better.)
- Potential impacts from adjacent land uses (the fewer and the less significant the edge effect, the better.)
- Potential to reduce conflicts between conservation and recreation objectives.
- Potential compatible uses, e.g. grazing, timber, etc. (less-than fee simple opportunities.)
- Proximity to existing management blocks of public lands (or private lands where appropriate.)
- Fragmentation caused by existing linear infrastructure and potential for connection.
- Potential negative effects resulting from reconnection of severed landscape.
- Ease of management and maintenance.
- Lack of invasive non-native species.
- Ease of securing the project area.
- Costs of management (the lower the better.)
- Costs of securing the project area (the lower the cost/acre the better.)
- Potential for inundation from sea level rise.
- Minimal environmental impact.
- Potential of project to reduce crowding on existing trails.
- Density of existing trails in the area
- Potential for project to connect key sites and/or other trail segments.
- Scenic quality and variability of trail corridor.
- Potential of project to provide trail use options (the more the better.)
- Economic development opportunities.
- Infrastructure availability (either existing or proposed as part of project.)
- Clear management responsibility.
- Appropriateness of project design.
- Interpretive programs (existing or proposed as part of project.)
- Ease of development.
- Ease of acquisition—number of landowners, size of parcels, etc.
- Costs of acquisition (the lower the cost the better.)
- Whether the project involves an identified critical linkage.
- Public benefits including economic benefits, educational benefits, etc.



Appendix E

Florida Greenways and Trails System design guidelines for unpaved and paddling trails

*Developed by the
Florida Recreational Trails Council
May 1998*

Introduction

In 1987, the Florida Legislature established the Florida Recreational Trails System under Chapter 260, Florida Statutes. The intent of the Legislature was that the “recreational trails will serve to encourage horseback riding, hiking, bicycling, canoeing, and jogging and thereby improve the health and welfare of the people.” The Department of Natural Resources, Division of Recreation and Parks, was given direction under Chapter 260.016, Florida Statutes, to establish the Florida Recreational Trails Council (Council) which “shall advise the division in the execution of its powers and duties under this chapter.” This 26 member body is comprised of representatives from various recreational user groups; private landowners; as well as local, state, and federal government. The Council’s primary role would be to provide a forum for discussion of trails issues between the trail users and trail providers. At its first “working” meeting, held in November of 1988, the members agreed after much discussion, that there was a definite need for a formally recognized set of trail development and maintenance standards suitable for Florida’s natural environment. The Council immediately set out to create these standards.

The 10 years to follow would not always be easy for this Council. The merging of the Department of Natural Resources and the Department of Environmental Regulation in 1992, created the Department of Environmental Protection as we know it today. In 1994, just as things were settling down from the merger, the responsibility of the Council was transferred to the Office of Greenways and Trails from the Division of Recreation and Parks. Even though the Council had new faces to learn and new rules to follow,

they continued with the development of the trail standards as one of their top priorities. After years of research and input from many groups the idea of creating trail standards evolved into this working document, *The Florida Greenways and Trails System - Design Guidelines for Unpaved and Paddling Trails*. This document is meant to serve strictly as a guideline for the design and development of unpaved trails and should be adapted to local environmental and site conditions.

The members of the Florida Recreational Trails Council’s sub-committee who dedicated many long hours and weekends to the completion of this document should be commended for their extraordinary efforts. The Council also owes its gratitude to the staff of the Office of Greenways and Trails for all of their patience and support throughout the development of these guidelines. Thanks are also extended to the Department of Environmental Protection, the Division of Recreation and Parks, and the members of the Florida Greenways Coordinating Council. Our greatest thanks go to the citizens of the State of Florida for their tremendous response to our request for ideas and suggestions. This support has fueled the efforts of the Council as they have worked to develop these guidelines.

1. Design objectives

1.1 Primary goal

The primary goal of this manual is to provide minimum design guidelines for unpaved non-motorized trails for uses such as hiking, jogging, bicycling, horseback riding, paddling, as well as multiple use for trails in Florida. Successful trail development depends upon our ability to recognize existing and future recreational needs in Florida. It is the intent of these design guidelines to assist in the development and improvement of non-motorized trails to suit our state's recreational needs now and in the future.

Design criteria will vary and are intended to be flexible according to the expected volume, type of trail and abilities of the trail users. Besides its diverse user groups, Florida's varied natural environment will require special support facilities under certain conditions to minimize impact. It is imperative that minimum design guidelines are established to promote consistent, safe, environmentally compatible and enjoyable trail development throughout the state. These minimum design guidelines have been developed with the goal of establishing a balanced interconnecting system of recreational trails throughout the state for use by the public.

1.2 Objectives

- 1.2.1 Degree of difficulty** - Establish the degree of difficulty for each trail and/or portion of the trail as required. The degrees of difficulty are defined as easy, moderate and difficult and should be indicated at the trailhead and included in all trail information.
- 1.2.2 Trail access/crossings** - Provide safe and adequate trail access, while minimizing trail crossings by motor vehicles. Provide grade separated crossings, such as bridges, overpasses, underpasses, or traffic control devices for high volume/speed motor vehicle crossings.
- 1.2.3 Accessible trails** - Trails and facilities shall be developed in accordance with the guidelines set forth by the Americans With Disabilities Act (ADA) published by the Department of Community Affairs. Refer to Universal Access to Outdoor Recreation: A Design Guideline, published by PLAE, Inc. from MIG Communi-

cations 1802 5th Street, Berkely, California 94710, for additional resources. Modifications can be made to existing trails without reducing the quality of the experience.

- 1.2.4 Routing** - Select routes where minimum barriers and road crossings occur while considering natural resources and natural topography.
- 1.2.5 Trailheads** - Create trailheads that have safe and clear access points and are adjacent to the trail with well marked trail maps, restrooms and other amenities. Appropriate parking facilities should be provided where possible and/or feasible. Trailheads should be classified as primary, secondary or remote.
- 1.2.6 Rest stops** - Rest stops should be appropriately placed based on the type of trail. Include amenities where possible.
- 1.2.7 Signage** - Provide educational and or interpretive directional, informational, regulatory, warning, site sensitive festival signage.
- 1.2.8 Bridges** - Provide bridges, walkways and other crossing facilities where necessary with appropriate safety measures or provide for safe passage.
- 1.2.9 Guardrails** - Use guardrails on dangerously steep terrain, near water hazards and where trails are adjacent to motor vehicle roadways.
- 1.2.10 Visibility** - Provide for clear visibility corresponding to travel speed of trail users, especially at trail intersections, corners and curves.
- 1.2.11 Topography** - Follow the existing topography. Lay out trails to minimize cut and fill of natural topography, while maintaining an appropriate grade for each trail use.
- 1.2.12 Drainage** - Lay out paths that conform to the existing topography and minimize impact to natural drainage. Design trails according to the Department of Environmental Protection's (DEP) regulations. To prevent erosion on trails, water should be diverted using water breaks or bars (at an angle other than 90 degrees to the trail), graded dips, and out sloping. Drainage ditches or culverts may also be needed for cross drainage. Use indigenous vegetation to prevent erosion wherever appropriate and feasible.
- 1.2.13 Vertical/horizontal clearance** - Clear overhanging limbs and vegetation, to maintain safe trail height and width guidelines, accord-

ing to the intended use of the trail.

- 1.2.14 Obstructions** - Eliminate or modify large obstructions that prevent or hinder passage or provide alternative passage if possible, feasible or appropriate. Where this is not possible, clearly notify of the obstruction sufficiently in advance of the obstruction.
- 1.2.15 Organic Materials** - Use organic and indigenous materials when possible and practical for the construction of trails.
- 1.2.16 Trash Receptacles** - Provide trash receptacles at primary and secondary trailheads, picnic areas and campsites. All trail corridors should be subject to a “pack it in, pack it out” policy.
- 1.2.17 Inspections/Evaluations** - Trail managers should conduct preventative maintenance inspections of trails at a minimum of once per year and schedule repairs as necessary.
- 1.2.18 Maintenance** - Trails should have regularly scheduled tread maintenance, pruning, removal of exotic plants, hazards and unsightly debris and trash. Encourage volunteers to assist in trail maintenance.
- 1.2.19 Flood-Prone Areas** - Route trails around, provide alternative trails or temporarily close trails during periods of flooding. Boardwalks, bridges, culverts, existing roads and abandoned rail beds should be utilized for traversing the flood prone area during periods of flooding.
- 1.2.20 Wetlands/Environmentally Sensitive Areas** - Route land based trails around wetlands wherever possible. Utilize boardwalks, bridges, and culverts to cross wetlands wherever feasible, in accordance with applicable regulations.
- 1.2.21 Buffers** - Preserve or replant native or indigenous vegetation to be used as screens where necessary to buffer trails from surrounding areas and to enhance the trail user’s experience.
- 1.2.22 Community Involvement** - Solicit community leadership support for trail development. Promote local involvement with trail planning, construction and maintenance. Promote alliances between various trail user groups in an effort to maximize resources and efforts.
- 1.2.23 Aesthetics** - Trail design, signage, and amenities should be in keeping with the trail setting and should not detract from the trails’

character. For example, wilderness trails should maintain a wilderness look and feel.

2. Design guidelines

2.1 Location and routing

- 2.1.1 Topography and Drainage** - Trails should be designed to limit cut and fill and take advantage of varied topography that does not restrict travel and maintains natural drainage where possible.
- 2.1.2 Diversity of Natural Experiences** - Locate trails in areas with diverse habitats, ecosystems, landscapes, areas of natural scenic beauty and proximity to water bodies whenever possible. This diversity should provide for a wide range of opportunities and a variety of experiences.
- 2.1.3 Environmental Impact** - Trails should be developed with an awareness of regulations and environmentally sensitive resources and areas. Planning and construction techniques should be of minimal impact and should strive to protect all lands, wildlife, vegetation and water related features. Trails should not adversely impact sensitive environmental areas, ecosystems, major wildlife migration patterns, or endangered plant and animal communities. Locate trails to avoid fragmenting large intact habitats and provide spur trails to points of interest. Where a trail crossing of a sensitive ecosystem is necessary, either utilize abandoned roads, railroads and other abandoned travelways, or develop other acceptable alternatives. Trail alignment should follow the natural contours of the landscape and should avoid being constructed in “Ecotones”. The trail should provide for a variety of trail distances, loops, ecosystems, scenery and degrees of difficulty.
- 2.1.4 Urban/High Volume Trails** - Urban/high volume trails should be conveniently connected to residential areas, schools, activity centers, parks, recreational areas, cultural and historical points of interest. Where feasible, plan trails to be utilized as transportation alternatives to motorized use and to promote local commuter, leisure and tourism. Urban/high volume trails shall accommodate all user types where appropriate and shall comply with

the guidelines set forth by the Americans with Disabilities Act (ADA).

- 2.1.5 Rural/Primitive/Low Volume Trails** - Rural/primitive/low volume trails should take into consideration accessibility to areas with diverse natural and cultural experiences. These trails tend to experience a low volume of users at any given time, contain few amenities and are usually located away from populated areas.
- 2.1.6 Accessible Trails** - Trails and facilities shall be developed in accordance with the guidelines set forth by the ADA published by the Department of Community Affairs. Refer to Universal Access to Outdoor Recreation: A Design Guideline, published by PLAE, Inc. for IG Communications 1802 5th St., Berkeley, California 94710 for additional resources. Modifications can be made to existing trails without reducing the quality of the experience.
- 2.1.7 Trail Linkages** - Trail location and routing should encourage connections to other trails throughout the state. Strive for linkages from local to regional to statewide trail systems to provide for trail continuity and long distance users.
- 2.1.8 Public Land Use** - Utilize public land and rights-of-ways whenever possible to minimize private property acquisition. Check land ownership and ensure proper easements, use permits, licenses and agreements/contracts have been obtained. Consideration should be given to state, regional and local comprehensive plans and land development codes for future trail development.
- 2.1.9 Road/Railroad Crossings and Sight Lines** - Design and route trails to minimize contact and conflict with motorized vehicles and provide the appropriate sight lines for safety at the trail crossing. Refer to the Florida Department of Transportation (FDOT) Bicycle Facilities Planning and Design Manual for the appropriate manner to cross motorized corridors.
- 2.1.10 Social and Economic Impact** - Consideration should be given to both negative and beneficial impact of trails on other public facilities, activities and transportation.
- 2.1.11 Archaeological and Historical Resources** - Consider the impact to known and unknown archaeological and historical sites. Efforts

should be made to make interpretation of these sites an integral part of the trail system. Where feasible, archaeological and historic sites (including ruins, working landscapes and historical landscapes) should be included in trail brochures and maps as points of interest.

- 2.1.12 Air Quality & Noise** - Whenever possible, avoid locating trails in close proximity to heavy traffic and/or active industrial areas.
- 2.1.13 Contaminated Sites** - Do not locate trails on known contaminated sites.
- 2.1.14 Prescribed Burns** - Consider that prescribed burning in naturally vegetated areas is an acceptable management practice and may temporarily impact trail access.
- 2.1.15 Consultation with Authorities** - Consult with Federal, State, Local, and other land management authorities to determine regulations for appropriate trail use.

2.2 Self direction

- 2.2.1 Standardized Trail Marking System** - Provide a standardized, universally recognized, and easily understandable trail and marking system. This trail marking system should be used at hazardous points and directional changes along the trail.
- 2.2.2 Signs/Maps** - Provide signs, maps and brochures at all trailheads, information kiosks appropriately placed along the trail, to indicate permitted type of trail use, and to inform trail users how far they have traveled, trail difficulty rating and their approximate location on the trail. Signs and maps may also make note of such things as landmarks, commonly seen wildlife, unusual features and sites of historical or ecological significance. All signs should be easily identifiable, vandal resistant, weather resistant and durable.
- 2.2.3 Private Property** - Trails often go through or border private property. Trail users should respect posted signs and exercise caution to avoid trespassing. It is the responsibility of the trail user to know they are not trespassing. Information should be provided at kiosks or on trail maps or en route to inform the trail user.

2.3 Aesthetics

- 2.3.1 Routing** - Wherever possible or feasible route trails along the most visually pleasing

corridor, while maintaining considerations for safety and ecological impact.

2.3.2 Sensory Experience - Stimulate the user's senses by providing a route that includes not only scenic views, but also sounds (streams, waterfalls, etc.), smells (pine, ferns, damp earth, etc.), and things to touch (vegetation, rock formations, water, etc.). Take advantage of scenic vistas for rest stops. Provide amenities where possible.

2.4 Cost-Efficiency

2.4.1 Materials and Equipment - Use locally obtainable or salvage materials and equipment when possible.

2.4.2 Community Involvement - Encourage corporate sponsors, local user groups, volunteers and donations to help plan, build and maintain trails.

2.4.3 Rehabilitation of Existing Trails - Rehabilitate or upgrade existing trails when possible as an ecological and economical alternative to constructing new trails. Encourage the use of abandoned railroads, easements and other rights-of-ways.

2.4.4 Recycled Materials - Utilize recycled materials wherever appropriate.

2.4.5 Life Cycle Costs - Consider life cycle costs in the selection and use of materials for trail construction.

2.4.6 Routing and Location - Consider routing and location during the trail planning phase. Review alternate routes for cost effectiveness, environmental impact of that development and public safety.

3. Trail design and construction guidelines

3.1 Hiking and jogging trails

Hiking and jogging trails may be classified into three general categories: Low, Medium and High usage. Hiking trails should be kept to a minimum width in more sensitive, natural and rural settings if the volume of use is projected to be low.

Medium and high volume trails should be designed wider and stabilized to prolong the life of the trail. Location and volume of use may require a design standard for high volume use, such as paved and/or natural surface trails through parks, neighborhoods or activity centers. The following trail design specifications are only guidelines.

3.1.1 Tread Width

- Low volume use 1 to 2 Feet
- Medium volume use 2 to 5 Feet
- High volume use over 5 Feet

3.1.2 Horizontal Clearance - 1 foot minimum on each side of tread. Additional clearance should be provided in hazardous areas (e.g. road crossings, sharp drop offs, tripping hazards).

3.1.3 Vertical Clearance - 8 feet minimum clearance.

3.1.4 Grades

- Desirable grade 0 to 10%
- Maximum grade for extended slope 10%
- Maximum grade for shorter slope 15%
- Steps/water bars will be needed >15%
- Ramps to bridge/boardwalks 8%

3.1.5 Drainage - Unpaved trails should be cross-sloped or crowned 2% to 5% per foot where needed to ensure the integrity of the tread. See Objective 1.2.12.

3.1.6 Surfaces - Unimproved, unpaved: Natural materials such as indigenous soil, leaf litter, pine straw, mowed grass, wood chips. Improved, unpaved: Gravel, compacted limestone, soil stabilizers crushed shell and graded road base. Consideration should be given to the type of surface used depending on location, cost, expected volume of use and type of users.

3.1.7 Length of Hike

- Short Hike 3 to 5 miles
- Half-day to One Day Hike 6 to 12 miles
- Overnight Hike over 12 miles

3.1.8 Trail Marking - See Appendix A

3.2 Off-road bicycling trails

Non-motorized bicycling trails are classified into two types: Paved and unpaved. These guidelines address only those bicycle trails that are unpaved. The Florida Department of Transportation (FDOT) has developed guidelines for the construction of bicycle lanes, paved shoulders, wide curb lanes and paved multi-use trails. The guidelines are provided in the Florida Bicycle Facilities Planning and Design Manual. This may be obtained from the FDOT, Pedestrian/Bicycle Program, 605 Suwannee Street, MS 82, Tallahassee, Florida 32399-0450. The American Association of State Highway and Transportation Officials (AASHTO) and the Manual on Uniform Traffic Control Devices (MUTCD) has also established guidelines.

3.2.1 Tread Width - 18 inches minimum

3.2.2 Horizontal Clearance - 1 foot minimum on each side of tread. Additional clearance should be provided in hazardous areas (e.g. road crossings, sharp drop offs).

3.2.3 Vertical Clearance - 8 feet minimum (Except to allow for the occasional natural obstruction which enhances the experience, but does not prevent passage)

3.2.4 Grades - 0% to 50% (0% to 5% at approaches to intersections)

3.2.5 Drainage - Unpaved trails should be cross-sloped or crowned 2% to 5% per foot where needed to ensure the integrity of the tread. See Objective 1.2.12.

3.2.6 Surfaces - Unimproved, unpaved: Natural materials such as indigenous soil, leaf litter, pine straw, mowed grass, wood chips. Improved, unpaved: Gravel, compacted limestone, soil stabilizers crushed shell and graded road base. Consideration should be given to the type of surface used depending on location, cost, expected volume of use and type of users. (Soft sandy soils should not be considered for extended bicycle trails).

3.2.7 Length of Ride

Short ride 1 to 10 miles
 Medium ride 10 to 40 miles
 Long ride over 40 miles

3.2.8 Trail Marking - See Appendix A

3.2.9 Design Speed - The speed that a bicyclist travels depends on several factors. Type of bicycle, condition of bicycle, purpose of ride,

the surface condition, location of trail, the wind speed and direction, and the condition of the rider. Bicycle trails should be designed for speeds that are appropriate for the particular terrain and topography.

3.2.10 Turning Radius - Urban/high volume bicycle trails should have a 20 foot minimum turning radius. Each trail should consider that the design of trail curvature is dependent on the average speed of the cyclist. Increased speed due to a downhill slope requires a longer radius of curvature. Banking and widening the tread on curves provides increased safety. Wilderness bicycle trails should have a turning radius from 2 to 6 feet. The turning radius may be constrained by natural obstructions such as trees, water, rocks or environmentally sensitive areas.

3.3 Equestrian trails

Equestrian trails usually occur on natural and unpaved surfaces and are designed for a horse and rider traveling in single file to achieve a “backwoods experience” and facilitate a closeness with nature. Any site considering equestrian trails should have access to sufficient land to develop or connect to at least five miles of trail. Horse-drawn wagons or carriages are gaining in popularity and usually travel on jeep or two-lane dirt roads where access is available to bridges for crossing creeks and streams. Consideration should be given to identifying appropriate road systems on public lands that could accommodate “driving trails”.

3.3.1 Tread Width - 18 inches minimum

3.3.2 Horizontal Clearance - 2 feet on each side of the tread width. Additional clearance should be provided in hazardous areas (e.g. road crossings, sharp drop offs, tripping hazards).

3.3.3 Vertical Clearance - 10 feet minimum clearance overhead.

3.3.4 Grades

Desirable grade 0% to 10%
 Maximum grade for extended slope 18%
 Maximum grade for shorter slope 25%

3.3.5 Drainage - Unpaved trails should be cross-sloped or crowned 2% to 5% per foot where needed to ensure the integrity of the tread. See Objective 1.2.12.

3.3.6 Surfaces - Unimproved, unpaved: Natural materials such as indigenous soil, leaf litter,

pine straw, mowed grass, wood chips. Improved, unpaved: Compacted limestone, soil stabilizers and graded road base. Consideration should be given to the type of surface used depending on location, cost, expected volume of use and type of users. (Soft sandy soils and gravel should not be considered for extended horse trails).

3.3.7 Length of Ride

Short to half-day 5 to 16 miles
 Full day 17 to 32 miles
 Overnight trip Over 32 miles
 (Access to water should be provided every 5 to 10 miles along trail)

3.3.8 Trail Marking - See Appendix A.

3.4 Paddling Trails

Paddling trails are publicly owned waterways that possess scenic and recreational qualities and are accessible by the public. Florida has a great diversity of waterways systems suitable for paddling trails. These include rivers, creeks, lakes, estuaries and coastlines, including all waters of the state. Paddling trails shall comply with U.S. Coast Guard and Florida Marine Patrol (FMP) regulations. Contact the FMP Office of Waterways Management for an in-water informational signage installation permit.

3.4.1 Water Depth - Except for periods of extreme drought, paddling trails should be a minimum depth of 6 inches.

3.4.2 Portage - Use hiking trail guidelines for land based portage trails.

3.4.3 Trip Length

Short to half day 2 - 08 miles
 Full day 8 - 15 miles
 Overnight Over 15 miles

3.4.4 Trail Marking - See Appendix A.

3.5 Unpaved Multi-Use Trails

For the purposes of this document multi-use trails are categorized as trail corridors for multiple trail user groups.

3.5.1 Trail Corridors - Single use trails in close proximity to each other with the same geographical location should consider using more than one tread type where appropriate. Refer to specific trail design and construction guidelines for each user group.

3.5.2 Unpaved Multi-use Trail - Unpaved multi-use trail for high volume usage is not recommended.

Unpaved multi-use tread for low and medium volume should be as follows:

3.5.2.1 Tread Width - Optimum 5 feet minimum.

3.5.3 Horizontal Clearance - 1 foot minimum on each side of tread.

3.5.4 Vertical Clearance - 10 feet minimum.

3.5.5 Grades

Desirable grade 0% to 5%
 Maximum grade for extended slopes 10%
 Maximum grade for shorter slope 15%

3.5.6 Drainage - Unpaved trails should be cross-sloped or crowned 2% to 5% per foot where needed to ensure the integrity of the tread. See Objective 1.2.12.

3.5.7 Surfaces - Unimproved, unpaved: Natural materials such as indigenous soil, leaf litter, pine straw, mowed grass, wood chips. Improved, unpaved: Compacted limestone, soil stabilizers, and graded road base. Consideration should be given to the type of surface used depending on location, cost, expected volume of use and type of users. (Soft sandy soils and gravel should not be considered for extended multi-use trails).

3.5.8 Trip Length - Will vary according to user type.

3.5.9 Trail Marking - See Appendix A of this appendix.

4. Support facilities

Support facilities consisting of trailheads, parking and staging areas are necessary to the function, management, accessibility and safety of trails. Not all trails are required to have a primary or secondary trailhead. Location and layout of support facilities should be designed uniformly with sensitivity to the environment, should accommodate users and should be constructed in compliance with ADA guidelines.

4.1 Trailheads

Trailheads are points of beginning or starting on a trail system. A trailhead will be designated as a location for information about the trail. Provisions should include parking and staging areas.

Trailheads are classified as follows:

4.1.1 Primary - A primary trailhead consists of designated parking and staging area, public telephone, public restrooms, refuse containers, information and interpretive signs, maps or brochures, potable water, picnic facilities, covered shelters, electric service, other appropri-

ate amenities, and direct access by management personnel.

4.1.2 Secondary - A secondary trailhead includes a designated parking and staging area, possibly restrooms, refuse containers, information signs, maps or brochures, potable water, covered shelter, and access by management personnel.

4.1.3 Remote - A remote trailhead includes parking and staging area, information signs, maps or brochures, and access by management personnel.

4.2 Rest stops

A designated place to stop along a trail. A rest stop may consist of, as a minimum, a bench placed in the shade or with a roof structure. Consider issues such as surveillance, security & distance when planning rest stop.

4.3 Parking and staging areas

It is important to consider the average and maximum user capacity of a trail when planning parking needs. Parking lots should be sized consistent with the use demands, trail activity, and user type. Minimum parking for 25 vehicles should be provided at primary trailheads and may be extended to 100 spaces. Parking lots must provide adequate space for vehicles with trailers and include the proper turning radii. Staging areas at trailheads should be located with convenient and safe access to the trail.

4.3.1 General Parking - Follow FDOT guidelines.

4.3.2 Equestrian Trailer Parking - Should be non-asphalt and designed as a row of pull-through spaces each 45 feet deep and 15 feet wide for unloading horses and to allow horses to be tied to trailer sides. To accommodate overflow parking, additional space is recommended. When designing for equestrian parking consider accessibility to shade and potable water.

4.3.3 Canoe Trailer Parking - Canoe trailer parking design should be similar in size to the equestrian trailer parking. Canoe parking spaces should be pull-through. A staging area should be designed with close proximity to the water edge to control access.

4.3.4 Bicycle Racks - Racks should be provided at all primary trailheads. They should meet all FDOT design guidelines. Staging areas are the most suitable location for bicycle racks.

4.4 Camping

Where desired, permitted and appropriate, provide for camping as follows:

4.4.1 Primitive Camping - zones shall contain minimal amenities and be in remote areas. Primitive campgrounds should be accessible only by foot, horseback, bicycle, or canoe. The campsite should be screened from the main trail. Clearly define the camping zone with signs. Design should consider the lay of the land, with level, normally dry forested areas preferred. Campsites located within various public agency lands shall comply with those agency regulations. Provide vertical, open space for tents and horse areas. All primitive camping should be under the “pack it in-pack it out” policy.

- Hiking, Bicycling Camping - Provide space to be used as designated camping areas. Area needs to be well defined.
- Equestrian Camping - Provide an area in close proximity to camping area for tying or tether lines for horses. Area needs to be well defined.
- Paddling Camping - Where no dry land is available along paddling trails, a covered platform may be provided above the high water mark. Provide a self contained or equivalent restroom facility.

4.4.2 Location - Camping zones should be designated a short distance off the main trail and well marked.

4.4.3 Space Standard - Where appropriate land is available, provide a minimum of 1 acre (8 to 10 campsites) as a designated camping zone. If possible, provide multiple sites appropriately spaced. Larger areas should be designated for trails with greater use. Equestrian camping zones will require a minimum of 2 acres (8 to 10 campsites) for camping and horse accommodations.

4.4.4 Amenities - Suggest fire pits or fire rings where permitted. Consideration should be given when choosing areas for camping, where natural water systems are located for potential sources of drinking and cooking water.

4.5 Developed/Group camping

Developed camping should contain amenities. The campsite should be screened from the main

trail. Clearly define the camping zone with signs. Design should consider the lay of the land, with level, normally dry forested areas preferred. Campsites located within various public agency lands shall comply with those agency regulations. Provide vertical, open space for tents and horse areas.

4.5.1 Location - Camping zones should be designated off the main trail at a short distance.

Access by management and emergency vehicles shall be designed.

4.5.2 Space Guidelines - Developed camping areas should be designed with space available for use by all user groups. Campsites should be built to accommodate travel trailers, motor homes, horse trailers, canoe trailers. Equestrians, bicyclists and canoeists will require additional space for racks, stalls, corral, wash down areas, hitching posts, trailer parking.

4.5.3 Amenities - Types of amenities may include electrical hookups, water hookups, designated and numbered sites, trailer dump station, refuse station, restroom with showers, picnic tables, fire rings, security, pavilions, cabins, concessions, docks firewood, stables, corrals and access by management personnel.

5. Trail crossings

5.1 At-Grade Crossings

Whenever it is necessary to cross roadways and railroad tracks with a trail, special care must be taken to ensure the safety of trail users. Selection of a safe crossing may take precedence over a scenic route or require the lengthening of the trail to allow for both.

Appropriate signs should be installed to warn trail users as well as motorized traffic of the crossing and any dangers or hazards that might be encountered. Clear visibility at road crossings is required. Adequate stopping sight distance must be provided for motorists and trail users.

Equestrian trail crossings at paved roads and railroad tracks, should have enough cleared space on both sides of the road or track to allow riders to gather in a group and cross together. On equestrian trails, a ford through the water may be used for crossing a waterway that is less than 30 inches deep, where approach is gentle and stream bottom is firm. Avoid fording areas where erosion and resource damage may occur. Water level indicators are required at all fords.

5.2 Above-Grade Road Crossings

Refer to Florida Department of Transportation guidelines.

5.3 Above-Grade Trail Crossings

Bridges and boardwalks should be used where necessary. Trails approaching any crossing should not be reduced in width. It should also be straight and cross at a right angle to the road or rails. When it is not possible to cross at 90 degrees, the trail should be widened to allow the users to cross as close to 90 degrees as possible. Bridges should be constructed above the seasonal high water mark.

5.4 Water Crossings

When crossing over paddling trails, allow for a minimum of four (4) feet of vertical clearance under the bridge at the seasonal high water mark. Bridges with an elevation of over 36" above grade or swift moving water shall have railings at a minimum height of 42 inches.

5.5 Fence, Gate and Barricade Crossings

Trails often run through property boundaries. Where the trail meets a fence that must remain intact, a fence crossing or stile is needed. Gates which must be opened and closed should have signs to remind trail users of their responsibility to close gates after use or should be equipped with an automatic closer, however, this situation should be avoided where ever possible. Barricades should be installed to prevent unauthorized users from entering a trail. They should allow for unrestricted access by the appropriate trail user, as well as controlled access for emergency, maintenance and patrol vehicles. (See Appendix C).

6. Accessible facilities

Modifications can be made to existing trails without reducing the quality of the experience. Refer to the Americans With Disabilities Act (ADA) and/or Universal Access to Outdoor Recreation: A Design Guidelines, on how to achieve increased outdoor access. Parking lots, buildings and walkways at trailheads must be constructed in compliance with ADA guidelines.



Appendix A - Trail signs and markings

Trail Marking - Signage provides trail users with information they need to use trails and trail facilities. Trail signs need to be carefully designed and appropriately installed according to type and level of use expected. However, trail users/builders should avoid oversigning, which can clutter the environment and result in information overload. Signs must be clear, concise and legible. Their location and placement is critical.

I. **Trail Signs** are divided into six categories: Directional, Informational, Regulatory, Warning, Educational and Festival.

- A. **Directional Signs** are used to inform trail users of their bearing and route of travel. Signs are recommended to contain some form of graphic symbol and/or a brief description.
 - 1. Clearly distinguish all primary trail routes from side, access, loop, connector or cross trails.
 - 2. Use double blazes or some form of graphic symbol for changes in trail direction.
- B. **Informational Signs** are used to orient trail users as to their location on or within a trail system, provide an overview of facilities and/or amenities and a description of the route to reach them. Informational signs can also indicate trail length, number of miles traveled (milepost), as well as other information.
 - 1. Material, color, and size of sign used should be consistent within a given trail.
 - 2. Use international symbols for all graphics.
 - 3. Designated camping areas should be blazed with 6 inch wide bands painted around trees, poles or posts or marked with a graphic symbol, surrounding the entire boundary of the camping zone.
- C. **Regulatory Signs** are used to notify trail user of laws, regulations and rules governing the trail, such as permitted uses, hours of operation or accessibility.
 - 1. Signage must comply with the agency having jurisdiction over land trail crosses.
 - 2. All regulatory signs should be of black lettering on a white reflective background, unless otherwise directed by the agency having jurisdiction.
 - 3. Check with local authorities for specific regulations.
- D. **Warning Signs** are used to caution trail users about hazards that may be encountered on trails, such as sharp curves in the trail, slippery bridges, roadway crossings, steep downhill or uphill conditions, blind intersections, changes in trail surface conditions and waterway hazards.
 - 1. Warning signs should be of uniform size and placed at a minimum of 50 feet before the hazard and located at the hazard.
 - 2. Warning sign should be of black lettering on a reflective yellow background.
 - 3. Sign should be consistent along the same trail.
- E. **Educational/Interpretive Signs** describe unique natural or cultural features along the trail. Material, color and size should be consistent along the same trail.
- F. **Festival Signs** are used to promote and advertise special activities and event and are designed at the discretion of the trail manager.

II. Trail Marking and Signing

- A. **Trail Blazes and Signs**
 - 1. Blazes should be painted vertically at a minimum of 2 inches wide and 6 inches long.
 - 2. Double Blazes or a sign should be used to indicate a change of direction when the trail is departing from an obvious path. Double blazes should be painted one above the other at 2 inches apart.
 - 3. Blazes or signs should be frequent enough along the trail and indicate the appropriate user type on the correct trail.
 - a. The distance between blazes will vary with terrain or water body.
 - b. The trail must be blazed or signed so it can be followed in either direction.
- B. **Camping Blazes or Signs**
 - 1. Designate camping areas with 6 inch wide bands painted around trees, poles or posts surrounding the camping area.
 - 2. Designated camping areas may be signed on trees, poles or posts surrounding the camping area.
- C. **Graphic Symbols** - Utilize international symbols wherever possible.
- D. **Attachment methods**
 - 1. Paint - Paint directly to tree surface.
 - 2. Nailed - Use aluminum nails only for use on trees.
 - 3. Post-mounted
 - a. Land Based - Lumber buried directly into ground a minimum of 2 feet deep, preferably with a cross member at bottom for stability.
 - b. Water Based - Refer to section III. Trail User Signage and the attached "Specifications for Marking Canoe/Kayak Trails" as approved by the Florida Marine Patrol.

III. Trail User Signage

A. Hiking

1. Marking should be 4 to 6 feet high on poles or posts along the trail.
2. Marking should be 5 to 6 feet high on trees along the trail.

B. Bicycling

1. Marking should be 4 to 6 feet high on poles or posts along the trail.
2. Marking should be 5 to 6 feet high on trees along the trail.

C. Equestrian

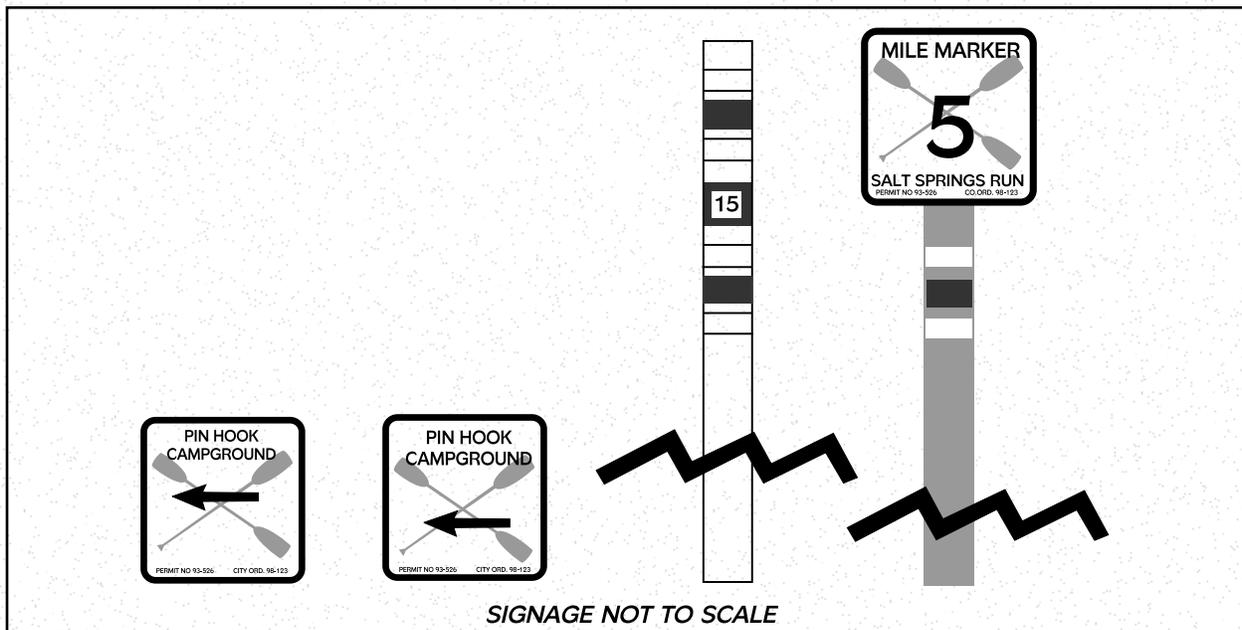
1. Marking should be 4 to 6 feet high on poles or posts along the trail.
2. Marking should be 7 to 8 feet high on trees along the trail.

D. Paddling

1. Land-based signage - Signs placed on waterway banks shall be visible at varying water levels by the paddlers and should follow the attachment methods in II.D. 1 through 3a.
2. In-Water informational signage - Review by the U.S. Coast Guard and the U.S. Army Corps of Engineers has been completed. The following conditions have been approved for use as described below.
 - a. Signs placed in Florida waterways require a permit and shall comply with U.S. Coast Guard and Florida Marine Patrol regulations. Contact the FMP Office of Waterways Management for installation permit.
 - b. Markers/signs shall only be placed on one side of the paddling trail. Markers/signs shall be placed on shore or as close as possible to the shoreline, so as not to be mistaken for navigational aids.
 - c. Markers/signs shall be placed out of the "main" body of water so as not to become a hazard to navigation and/or safety for powered boats.
 - d. Markers/signs shall be a minimum of 12 inches by 12 inches and a maximum of 18 inches by 18 inches.
 - e. Markers/signs material shall be white reflective background with an international orange border, black block characters and brown crossed kayak and canoe paddles. (To be utilized on signs only.)
 - f. Markers/signs to be mounted on min. schedule 40 PVC pipe, 4 inches in diameter.
 - g. Pile markers/signs are recommended in areas where facilities are not available, or it is not possible to install the larger signage. Utilize min. schedule 40 PVC pipe, min. 6 inches in diameter. Markings on the pile markers/signs shall be white reflective background with an international orange border, black block characters and brown crossed kayak and canoe paddles.
 - h. See next page for illustration.

E. Multi-Use - Use biking/hiking marking heights.

Specifications for Marking Canoe/Kayak Trails



Appendix B

- I **Fence Crossings, Gates and Barricades** should be kept to a minimum to traverse trails. When safety, security, legal requirements, etc., require fence, gate or barricade crossings, to access the trail, the following guidelines are suggested:
- A **Fence and Gate** - If a permanent pedestrian opening cannot be negotiated through a fenced area, then a gate should be installed with a sign to trail users to be sure to close gate behind them or with instructions about who to contact if it must be kept locked. Another standard that may be used is a self-closing hinge on a gate that will automatically close due to a spring mechanism in the hinge. Fences maintaining livestock in a field or pasture can be fitted with a pedestrian baffle or a stepladder crossing (stile).
- B **Barricades** - Barricades are usually used to prohibit motorized vehicles from trails or to separate one trail use from another. Signs should accompany the barricade explaining what is expected so that intentions are clear and enforcement is easy. Barricades should allow for unrestricted access by pedestrians, equestrians and cyclists as well as controlled access for emergency, maintenance and patrol vehicles. Wooden or reinforced concrete posts should be 24 inches to 30 inches in height and placed 4 feet to 5 feet apart and be marked with a readily visible reflective or painted surface.

Appendix C

TERMS USED IN THE TRAIL GUIDELINES DOCUMENT

- Amenities - Any element used to enhance the user's experience and comfort.
- Debris - Any undesirable material that encroaches on a trail that hinders the intended use.
- Ecotone - Transition zone between 2 plant communities.
- Guardrail - A protective barrier placed along hazardous sections of a trail.
- Interpretive Sign or Display - An educational sign or display that describes and explains a natural or cultural point of interest on or along the trail.
- Kiosk - A structure housing informational or interpretive displays.
- Multi-use Trail - A non-motorized trail shared by more than one user group.
- Off Road Bicycle/Bike - A term used to define the non-motorized bicycle ridden on unpaved trails. Synonymous terms include: Fat Tire Bike, All Terrain Bicycle (ATB) and Mountain Bike.
- Staging Area - A short term parking area located within close proximity to the trail for off landing gear.
- Trail Degree of Difficulty Rating - A rating of trail difficulty based on an average user with average physical abilities.
- Easy is defined as relaxing, posing minimal difficulties and able to be traveled with little physical effort.
 - Moderate is defined as not requiring excessive or extreme physical effort.
 - Difficult is defined as physically strenuous requiring excessive or extreme physical effort.
- Trailhead - A point of access or starting place of a trail system. A trailhead will function as a location for information about the trail. Trailheads are classified into three categories: Primary, Secondary and Remote, and should include as a minimum:
- Primary Trailhead consists of improved parking areas, public telephone, sanitary facilities, information and interpretive signs, maps and brochures, potable water, picnic facilities, electric service, direct access by management personnel and other amenities.
 - Secondary Trailhead consists of unimproved parking areas, sanitary facilities, information signs, maps or brochures, potable water and access by management personnel.
 - Remote Trailhead consists of an unimproved parking area, bench information signs, maps or brochures and access by management personnel.
- Wetland - a lowland area, such as a marsh or swamp, that is saturated with water, creating a unique naturally occurring habitat for plants and wildlife.

Appendix D

Trail Construction Bibliography

- Universal Access to Outdoor Recreation: A Design Guideline, published by PLAE, Inc. from MIG Communications 1802 5th Street, Berkely, California 94710
- Americans With Disabilities Act (ADA) published by the Department of Community Affairs
- Florida Department of Transportation (FDOT) Bicycle Facilities Planning and Design Manual
- Flink, Charles A. and Robert M Searns. Greenways: A Guide to Planning, Design, and Development. Washington, D.C.: Island Press, 1993. Ed. Loring LaB. Schwarz. Washington, D.C.: Island Press 1993.
- Florida National Scenic Trail: Appendix J. United States Department of Agriculture, Forest Service. Tallahassee: National Forests in Florida, 1986.
- International Mountain Bicycling Association. Trail Package. Los Angeles: IMBA 1986, pp. 28-35.
- Keller, Kit. Mountain Bikes on Public Lands: A Manager's Guide to the State of Practice. Washington, D.C. Bicycle Foundation of America, 1990.
- Moore, Roger L. Conflicts on Multiple-Use Trails. Washington, D.C.: United States Department of Transportation, 1994.
- Ryan, Karen-Lee, Rails-to-Trails Conservancy. Trails for the Twenty-First Century. Washington, D.C.: Island Press, 1993.
- Smith, Daniel S. and Hellmund, Paul Cawood, eds. Ecology of Greenways: Design and Function of Linear Conservation Areas. Minneapolis: University of Minnesota Press, 1993.
- Trail Manual of the Florida Trail. Florida Trail Association, Inc. Gainesville, 1988.
- Trails South: A Guide Dealing with Forest Trails in the Southern Region. United States Department of Agriculture, Forest Southern Region.
- Vachowski, Brian. Trail Construction and Maintenance Notebook. United States Department of Agriculture, Forest Service, 1996.
- A Design Guide, Universal Access to Outdoor Recreation. PLAE, Inc. of Berkely, California, MIG Communications, Berkely, California.

Appendix F

Resources

The following describes the focus of the many other public and private assistance programs which can be employed to conserve the natural, recreational, historical and cultural resources of greenways and trails in Florida:

- DEP, Division of Recreation and Parks (focus on the state park system, maintaining the Florida State Comprehensive Outdoor Recreation Plan, and on community parks planning, grants, acquisition, development, management, public involvement and coordination);
- DEP, Division of State Lands (focus on state lands acquisition, including greenways, CARL, state parks, and management planning);
- DEP, Bureau of Mine Reclamation (focus on reclamation and restoration of lands mined for phosphate, limestone, heavy minerals, sand and clay);
- Department of Agriculture and Consumer Services, Division of Forestry (focus on state forests, private forest land stewardship and development of resource-based recreation opportunities through the following programs: Forest Incentive, Cooperative Forestry Assistance, Rural Forestry Assistance, Forest Legacy, Forest Stewardship, and Stewardship Incentives);
- Florida Game and Fresh Water Fish Commission's Division of Wildlife (focus on wildlife management areas, and habitat stewardship on private lands);
- Florida Department of Community Affairs (focus on planning and development of communities and conservation of natural and coastal resources through planning);
- Department of State, Division of Historical Resources (focus on protecting structures, sites and areas of historical and cultural significance through management, grants, registration, inventories and interpretation);
- Florida Department of Transportation (focus on transportation systems including planning, acquisition, development and management of alternative transportation routes and trails, bicycle and pedestrian safety, and designating scenic highways corridors);
- Water management districts (focus on conserving water resources including river corridors, floodplains, wetlands, aquifer recharge areas through planning, land acquisition and conservation, management, and development);
- Florida Department of Education (focus on providing materials, curricula, and opportunities for improving public awareness);
- Florida Natural Areas Inventory (focus on identification of natural communities, rare and endangered species, rookeries, and natural features);
- Cooperative Extension Service (focus on providing information concerning health, economics and plant and animal management);
- Soil and Water Conservation Districts (focus on conserving and water resources through surveys, demonstration projects, and design, construction and maintenance of structures);
- National Park Service's Rivers, Trails and Conservation Assistance Program (focus on providing river, greenway, trail and conservation planning assistance to government agencies and non-profit organizations including wild and scenic river designations);
- Natural Resources Conservation Service (focus on conserving, improving and sustaining natural resources and the environment through land management planning, best management practices, sustainable development. Programs include Environmental Quality Incentives, Wildlife Habitat Incentives, Wetlands Reserve, Conservation Reserve, Farmland Protection, Flood Risk Reduction

Contracts, Emergency Watershed, Conservation of Private Grazing Land, Conservation Farm Option);

- USDI Fish and Wildlife Service (focus on habitat conservation plans and grants for habitat protection, restoration and management on private lands through the Partners for Wildlife/Private Lands Initiative Program, National Coastal Wetlands Conservation Program, and the Appropriate Technology Transfer for Rural Areas Program);
- USDA Forest Service, National Forests in Florida (focus on planning and administrating the Florida National Scenic Trail);
- National Oceanic and Atmospheric Administration (focus on the conservation of estuaries and marine sanctuaries through the National Estuaries Program (Charlotte Harbor, Indian River Lagoon, Sarasota Bay, Tampa Bay), the National Estuarine Research Reserves (Apalachicola River and Bay, and Rookery Bay), and the Florida Keys National Marine Sanctuary);
- US Army Corps of Engineers (focus on shoreline protection and navigable waterways);
- The Nature Conservancy, Trust for Public Land, land trusts (focus on protection of biologically diverse lands, and lands for public recreation and natural resource conservation through fee-simple and less-than-fee simple acquisition and land conservation);
- Environmental and community organizations (focus on advocacy for the conservation and protection, development, management, and use of greenways and other important natural and community resources);
- Organizations of trail users (focus on advocating, planning, conserving, building, maintaining and using trails within greenways and other public and private lands);
- Organizations of private landowners, industries and governments (focus on advocating for the management of lands to meet the objectives of landowners);
- Local and regional governments with existing greenways (focus on planning, designing,

developing and managing greenway protects);

- Regional Planning Councils (focus on the identification and mapping of natural resources of regional significance through strategic regional policy planning efforts); and
- Universities and colleges (focus on research, inventory, evaluation and recommendations concerning all aspects of creating greenway systems).

Florida's existing programs for land acquisition and its support of conservation and recreation initiatives put the state clearly at the forefront of the greenways and trails movement. The Preservation 2000 program and local government land acquisition and management programs make Florida a national leader in conservation land acquisition. Add the conservation and recreation lands already in public ownership, funding from the Florida Department of Transportation's Transportation Efficiency Act for the 21st Century (TEA-21), numerous public and private efforts to provide trails and other human use opportunities, and Florida stands out in the United States as realistically having the ability to create an integrated, statewide system of greenways and trails. These programs continue to play a critical role in acquiring key components and, where appropriate and justified, filling in existing gaps in the Florida Greenways and Trails System. All these very popular programs have made significant progress in protecting key ecological lands and providing access for appropriate human use.

There are many programs which can directly or indirectly fund and help secure the Florida Greenways and Trails System. The following funding sources or programs are categorized by the type of activities which they fund.

Land acquisition programs

Preservation 2000 is the primary funding source for the State of Florida's land acquisition programs. The Preservation 2000 initiative sprang from the Commission on the Future of Florida's Environment created by Governor Bob Martinez in 1990 to save the best of natural Florida before it was lost to development. The 1990 Legislature acted on this recommendation and created the

most ambitious state land buying program in the nation's history - \$300 million annually for ten years totaling \$3 billion. The funds of Preservation 2000 come through bonds sold by the state of Florida made possible by the Legislature appropriating funds annually from Documentary stamp taxes which pay the debt service. Since 1990, Preservation 2000 has funded the acquisition of approximately 1 million acres of land including greenways, river floodplains, beaches, springs, forest and scrub lands, marshes and other pieces of natural Florida. These lands have been conserved using both fee-simple (complete purchase) and less-than-fee-simple (conservation easements) acquisition. Land acquisition programs funded by Preservation 2000 include:

- Conservation and Recreation Lands (CARL) program acquires environmentally endangered lands. It is the state's largest land acquisition program receiving approximately 50 percent of Preservation 2000 funding annually (\$150 million) and \$45 million from documentary stamp taxes and phosphate mining taxes;
- Save Our Rivers (SOR) program of the state's five water management districts acquires important water resource areas, including river floodplains and wetland systems (receives 30 percent of Preservation 2000 funding (\$90 million);
- Florida Communities Trust (FCT) helps local governments acquire conservation lands and open spaces to implement local government comprehensive plans (receives 10 percent of Preservation 2000 funding (\$30 million);
- Florida Greenways and Trails Acquisition Program acquires lands to conserve greenways and trails and greenways and trails systems including abandoned railroad corridors and lands for the Florida National Scenic Trail (receives 1.3 percent of Preservation 2000 funding (\$3.9 million); and
- The land acquisition programs of the Florida Game and Fresh Water Fish Commission, Florida State Parks and the Florida Division of Forestry allow them to acquire inholdings and additions to wildlife management areas, state forests and parks (each receives 2.9 percent of Preservation 2000 funding (\$8.7 million each).

In addition, the Water Management Lands Trust Fund (WMLTF) and the Land Acquisition Trust Fund (LATF) are both non-lapsing funds for the acquisition of lands under the Save Our Rivers and Conservation and Recreation Lands programs. These trust funds pre-date P-2000 and continue to be used for land acquisition purposes. However, the current bonding authority expires in 2011.

At the Federal level, the United States Congress appropriates funds for land acquisition using the Land and Water Conservation Fund. In Florida, the Land and Water Conservation Fund has been used to purchase land for additions to Everglades National Park, the Pinhook Swamp, and other federal lands. In the past, but not currently, these funds have also been made available to state and local governments for land acquisition and development. There are many other federal assistance programs that may aid in land acquisition and development of greenways lands based on the funding guidelines for these programs. These include grants from the US Department of Agriculture, the US Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the US Department of Interior.

Development programs

Programs to fund the development of the Florida Greenways and Trails System are much smaller in magnitude than the land acquisition programs. Besides annual budget appropriations by the Legislature, there are five sources of funds for developing greenways and trails listed commonly used below.

1. The Florida Department of Transportation's Transportation Enhancement Program and Scenic Highways Program will provide approximately \$194 million of funding for key trail facilities, and will make critical human and wildlife linkages within the statewide system. ISTEA and TEA-21 funds are currently being used to plan, design and construct greenways and trails throughout Florida. These funds require eligible projects to match federal moneys with a 20 percent local or state match. Locally-based metropolitan planning organizations and the DOT district offices select projects. Eligible projects include:

- Provision of facilities for pedestrians and bicycles
- Acquisition of scenic easements and scenic or historic sites plus tourist and welcome centers
- Scenic or historic highway programs
- Landscaping and other scenic beautification
- Historic preservation
- Rehabilitation and operation of historic transportation buildings, structures or facilities, including historic railroad facilities and canals
- Preservation of abandoned railway corridors including conversion and use for pedestrian and bicycle trails
- Control and removal of outdoor advertising (billboards)
- Archaeological planning and research
- Mitigation of water pollution due to highway runoff plus wildlife crossings
- Establishment of transportation museums

TEA-21 authorizes the use of federal funds to also identify and designate federal, state, and local scenic byways. Funds may be spent on the construction of facilities for pedestrians and bicyclists along these designated highways. A state may spend Surface Transportation Program funds for pedestrian walkways and bicycle facilities, including rail-trails not adjacent to federal aid highways. A state may spend a portion of its National Highway System funding for bicycle transportation facilities on land adjacent to any highway in the system excluding interstate highways. A portion of the Federal Land Highway Funds can be used for pedestrian and bicycle facilities on federal lands. There are additional funds for air quality improvements and for metropolitan and statewide planning for walkways and bicycle facilities. Greenways and trails projects must compete with other highway projects for funding. However, the Surface Transportation Policy Project reports that a total of \$389 million was spent from 1991 to 1993 on 869 projects involving greenways, rail-trails, and other bicycle and pedestrian facilities nationwide.

2. The National Recreational Trails Funding Program provides grant funding for projects that provide or maintain recreational non-motorized and motorized trails. In Florida these funds are administered by the DACS, Division of Forestry and the DEP, Division of Recreation and Parks. Grants up to \$50,000 can be made to private individuals, organizations, or government entities on a dollar-for-dollar basis. Decisions are made under the guidance of a state-appointed trails advisory board based on program policy and priorities. These funds can be used for:
 - State administrative costs
 - Environmental and safety education programs
 - Development of urban trail linkages
 - Maintenance of existing trails
 - Restoration of areas damaged by trail use
 - Trail facilities development
 - Provision of access for people with disabilities
 - Acquisition of Easements
 - Fee simple title for property and construction of new trails.
3. The Florida Recreational Development Assistance Program administered by the Florida Department of Environmental Protection, provides financial assistance for community recreational facilities which may include greenways and trails. This program is subject to annual appropriations by the Florida Legislature with funding generally limited to \$100,000 per project. Most projects which are funded are for developing active recreation facilities and ball fields.
4. The Historic Preservation Grant Program administered by the Florida Department of State's Division of Historical Resources helps support the preservation of important historic/archaeological sites as well as the creation of historic and cultural trails.
5. Local funding sources for development include general obligation bonds, recreational impact fees, and use of general revenue (property taxes).

Management programs

Generally land management funds for public lands must be appropriated annually by the managing agency's legislative body. A small portion of Preservation 2000 funds (up to 1.5 percent) is made available for the purposes of management, maintenance, and capital improvements for lands acquired under the P-2000 program. Only agencies with management responsibilities for such lands may receive this funding, and only by requesting funds from the Legislature. Capital improvements can include such items as perimeter fencing, signs, fire lanes, access roads and trails, and minimal public accommodations such as private campsites, garbage receptacles and toilets.

For privately owned lands, land management costs must be recovered from the revenues received from using the land.

Dispute resolution

Greenways and trails and their unique resources often transcend jurisdictional boundaries, creating the potential for differences in implementation. Regional Planning Councils are ideally suited to address these intergovernmental issues and differences through their dispute resolution process. This process allows for clear identification and resolution of a problem, appropriate involvement of affected parties, and a complete and neutral avenue for the resolution of disputes. Most importantly, it allows problems to be resolved without entering into expensive and time-consuming judicial arenas.

Appendix G

Current roles and responsibilities

The Florida Coordinating Council was created in 1995 through Section 253.787(1), Florida Statutes, to promote greenways and trails initiatives throughout the state with technical support, leadership, education, advocacy, and other service-oriented efforts. The Council serves as facilitator for the formation of partnerships involving public agencies, private businesses, environmental organizations, community-based organizations, and citizen volunteers. The Council is charged by Section 253.787(6), Florida Statutes, to:

1. Hold at least four meetings each year to gather information, monitor progress, and direct FGCC staff activities pursuant to fulfilling the requirements of the legislation.
2. Hold at least two public hearings each year to announce and take public testimony on its activities.
3. Assist DEP in the preparation of the Plan, and promote the implementation of the Plan and the greenways and trails concept through development of short range plans, priorities, technical support, leadership, advocacy, and service.
4. Develop benchmarks to measure progress toward implementing a statewide greenways and trails system.
5. Assist state and regional agencies involved in greenways and trails to develop and execute memoranda of understanding that define the roles and responsibilities that each entity will assume in working with DEP to develop and implement the statewide system of greenways and trails.
6. Evaluate the need for establishing a nongovernmental organization to provide advocacy, education, and technical assistance for the statewide greenways and trails system.
7. In partnership with DEP, prepare the Report making specific recommendations for action necessary to manage the Florida greenways and trails system, and submit it to the Governor, the President of the Senate, and the Speaker of the House by July 1, 1999.
8. Develop an outreach to businesses and industries including but not limited to forestry, mining, and agriculture to create an industry/state partnership in the development of the Florida greenways and trails system.
9. Seek, identify, and develop incentives to encourage private participation.

Section 253.787(4), Florida Statute, specifies the Coordinating Council is to have 26 members consisting of:

- Four representatives of business interests, four representatives of landowners, four representatives of conservation interests, and four representatives of recreation interests. The Governor, the President of the Senate, and the Speaker of House of Representatives each appoints a representative for these four interests. The law specifies that the Governor shall designate one of his appointees as the chairman of the council.
- Six members appointed by the Governor with the concurrence of the President of the Senate and the Speaker of the House of Representatives representing: one representing urban county government, one representing rural county government, two representing municipal governments, one representing water management districts, and one representing a federal land managing entity in Florida.
- Eight *ex officio* members consisting of the head or designee of the following state agencies: Department of Environmental Protection, Department of Transportation, Department of Community Affairs, Division of Forestry of the Department of Agriculture and Consumer Services, the Game and Fresh Water Fish



Commission, the Department of Commerce the Department of Education, and the Division of Historical Resources of the Department of State. Since there is no longer a Department of Commerce, that slot remains vacant.

Since its founding in 1988, the Florida Recreational Trails Council's chief contributions have been to:

- Advise DEP in the selection of greenways and trails acquisition projects;
- Develop trail design guidelines for the Florida Greenways and Trails System;
- Provide assistance to the Office of Greenways and Trails in the coordination of trails planning and implementation among various public agencies and private groups;
- Advise DEP in the administration of the Florida Greenways and Trails System;
- Encourage active participation, provide information and act as a coordinating organization to bring together people and resources as needed to develop the Florida Greenways and Trails System;
- Serve as an organized voice for non-motorized trail users and resource providers; and
- Recommend to the Office of Greenways and Trails any needed trail legislation, department rules, policies and standards.

The Director of the Office of Greenways and Trails has delegated authority to appoint the Trails Council. Its 26 members represent the following interests and agencies: bicycling (two slots), paddling (two), equestrian (two), hiking (two), jogging (two), private landowner (two), commercial (two), urban trails (one), water management districts (one), local government (one), Department of Community Affairs (Florida Communities Trust), Game and Fresh Water Fish Commission, Division of Forestry of the Department of Agriculture and Consumer Services, Department of Transportation, USDA Forest Service, and USDI Fish and Wildlife Service.

DEP, as lead agency of the Florida Greenways Coordinating Council, has executed non-binding Memoranda of Understanding (MOU) among DEP, the Florida Greenways Coordinating

Council, and its member and partner agencies to formalize cooperative partnerships among agencies and others on the FGCC to support the creation and maintenance of the statewide greenways system. These MOU help provide the institutional framework necessary for taking advantage of previously unrealized opportunities, and for bridging gaps among programs and activities. These MOU provide a focus point for intra-agency and interorganizational relationships and commit the human and financial resources necessary to support the creation and maintenance of the statewide greenways and trails system.

The following agencies have entered into Memoranda of Understanding with DEP and the Coordinating Council: Department of Community Affairs, Division of Forestry, Game and Fresh Water Fish Commission, Division of Historical Resources, Northwest Florida Water Management District, St. Johns River Water Management District, South Florida Water Management District, Southwest Florida Water Management District, Suwannee River Water Management District, Department of Transportation, and USDA Forest Service.

DEP is the designated lead state agency for creating a statewide system of greenways and trails and the Council is assisting in the coordination with other governmental agencies and private entities involved in the statewide greenways and trails system. DEP will coordinate the development of the Plan and the Report with the Council, and DEP will facilitate the Council's meetings. To further the Florida greenways and trails system, DEP, in partnership with the Council, will seek the cooperation of other entities so as to define their roles and responsibilities and create partnerships.

The Coordinating Council promotes greenways and trails initiatives throughout the state with technical support, leadership, education, advocacy, and other service-oriented efforts. The Coordinating Council serves as facilitator for the formation of partnerships involving public agencies, private businesses, environmental organizations, community-based organizations, and citizen volunteers. The Coordinating Council encourages public participation in the greenways and trails system planning process and will serve

as the primary vehicle for public input. It assists in coordinating the activities of all government and private entities involved in developing the implementation plan for the Florida Greenways and Trails System, and will develop measures to evaluate progress toward their implementation. The partner agencies agreed to operate according to the structure and functions outlined in their adopted MOUs, to carry out their independent responsibilities, to cooperatively and mutually support and assist the other partner agencies in developing the Five-year Implementation Plan for the Florida Greenways and Trails System and in facilitating the establishment of the Florida Greenways and Trails System.

Each MOU also stated that: “amendments and supplements to, or termination of this Memorandum of Understanding must be in writing and signed by both parties. The parties will operate according to the terms of this Memorandum of Understanding and any executed amendments, unless and until the Legislature enacts legislation or otherwise acts to obviate the need for this Memorandum of Understanding, or until it is terminated by the parties. It is also understood by the parties that budget constraints may be a limiting factor in affording the responsibilities embodied in the Memorandum of Understanding, but that every effort will be made within such constraints to fulfill the requirements of this Memorandum of Understanding. It is further understood that this Memorandum of Understanding created no powers not granted to any of the parties by Florida Statutes.”

Regional Greenways Task Forces

In February 1997, the Coordinating Council and DEP created six regional greenways task forces to assist in the development of this implementation plan. The members of the Coordinating Council each appointed one person to represent their particular interest or agency on each of the six regional greenways task forces. Office of Greenways and Trails staff and DEP Ecosystem Coordinators facilitated and organized monthly or bi-monthly meetings of the task forces in coordination with elected chairs of the task forces. The primary focus of the task forces’ work was to provide feedback on the results of the Florida Greenways Decision Support Model and to

comment on, contribute to, and develop recommendations included in the implementation plan. At the request of the Coordinating Council, the task forces will also evaluate and rank proposals for the Florida Greenways and Trails Seed Grants Program which is administered by DEP.

Relationship to Regional Strategic Policy Plans and Local Comprehensive Plans

As specified in Section 260.012(5), Florida Statutes,

The planning, development, operation, and maintenance of the Florida Greenways and Trails System authorized by Section 260.011-260.018, Florida Statutes, is declared to be a public purpose, and the Department of Environmental Protection, together with other agencies of this state and all counties, municipalities, and special districts of this state, is authorized to spend public funds for such purposes and to accept gifts and grants of funds, property, or property rights from public or private sources to be used for such purposes.

As specified in Section 260.0141, Florida Statutes,

There is established within the department the “Florida Greenways and Trails Program,” the purpose of which is to facilitate the establishment of a statewide system of greenways and trails. Such greenways and trails shall be acquired pursuant to this act. Planning materials, maps, data, and other information developed or used in the program shall not be construed as designation of lands as part of the statewide system of greenways and trails. Identification of lands in such information shall not: (1) Require or empower any unit of local or regional government, or any state agency, to impose additional or more restrictive environmental, land-use, or zoning regulations; (2) Be construed or cited as authority to adopt, enforce, or amend any environmental rule or regulation; comprehensive plan goals, policies, or objectives; or zoning or land-use ordinance; (3) Be used as the basis for permit denial; imposition of any permit condition; or application of any rule,



regulation, or ordinance by any subdivision of local, regional, or state government; or (4) Be construed or cited as authority by any governmental agency to reduce or restrict the rights of owners of lands so identified.

As specified in Section 260.018, Florida Statutes, All agencies of the state, regional planning councils through their comprehensive plans, and local governments through their local comprehensive planning process pursuant to chapter 163 shall recognize the special character of publicly owned lands and waters designated by the state as greenways and trails and shall not take any action which will impair their use as designated. Identification of lands in planning materials, maps, data, and other information developed or used in the greenways and trails program shall not be cause for such lands to be subject to this section, unless such lands have been designated as a part of the statewide system or greenways and trails pursuant to s. 260.016(2)(d).

These sections of Chapter 260, Florida Statutes, clearly declare planning of the System to be a public purpose, but they restrict the use of planning materials, maps, data, and other information developed or used in the Florida Greenways Program for regulatory purposes. The statute also requires state, regional and local comprehensive plans to recognize and protect designated lands and waters which are publicly owned. Any action which a state or regional agency or local government may take in regard to greenways on private lands, must be based on other existing powers and authorities.