2008 UPDATE AND PRIORITIZATION OF THE RECREATIONAL TRAIL OPPORTUNITY MAPS FOR THE STATE OF FLORIDA

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1 Introduction

1.1 Background

The planning of Florida's system of greenways and trails began in earnest in 1995 with the passage of initial Greenways legislation (F.S. 253.787 and 260.012) that mandated a five-year implementation plan. This was completed in 1998 and approved by the legislature in 1999 when it became the blueprint for implementation of a statewide system of greenways and trails (Connecting Florida's Communities with Greenways and Trails: The Five Year Implementation Plan for the Florida Greenways and Trails System (DEP and FGCC 1998)).

The Implementation Plan included a set of six maps representing the physical opportunities for an Ecological Network and 5 Trail Networks: Hiking, Off-Road Bicycling, Equestrian, Multi-Use Trail, and Paddling. It also contained specific recommendations, strategies and actions to be used to set about capitalizing on the opportunities represented on the maps. These are restated below along with the date of the initial completion for each.

Table 1.1
Florida Greenways Implementation Plan Recommendations, Strategies & Action Steps

Recommendation	Strategies	Action Steps	Date of Completion
Focus resources toward the most significant components of the Florida Greenways and Trails System.			
	1. Prioritize the ecological and recreational/cultural features found in the statewide vision.		
		1. DEP should recommend a process for prioritization of ecological and recreational/cultural features within the vision for a statewide greenways and trails system for approval by the Florida Greenways and Trails Council (FGTC).	Ecological – July, 2000 Recreational/ Cultural- November, 2000
		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.	Ecological – June, 2001 Recreational/ Cultural- June, 2001

Recommendation	Strategies	Action Steps	Date of Completion
		3. Upon approval by the FGTC, DEP should use this information as a starting point for Strategy 2.	See below
	2. Identify the most critical linkages in the statewide system of greenways and trails.		
		1. DEP should recommend the process for identifying the most critical linkages for approval by the FGTC.	Ecological – November, 2001 Recreational/ Cultural- June, 2001
		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.	Ecological – May, 2002 Recreational/ Cultural- June, 2001
		3. DEP should solicit proposals to protect and designate the most critical linkages through a request for proposals process.	Ongoing
		4. DEP should encourage applications through the Greenways and Trails Acquisition program for protecting the most critical linkages.	Ongoing
		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.	Ongoing

1.2 Project Objectives

The 2008 project described in this report addressed the recreational/cultural features of the statewide greenways and trails vision. It contained two parts:

- Update of recreational trail opportunity maps
- Prioritization of the trail opportunity segments on each map

Consistent with Implementation Plan Action Steps 2.3, 2.4 and 2.5, the updates and priorities are to be used by the Office of Greenways and Trails (OGT) and the Florida Greenways and Trails Council

(FGTC) as they consider ways to implement the statewide Greenways and Trails system, particularly through decisions about the distribution of state funds allocated for Greenways and Trails.

1.3 Project Assumptions

According to the original trails prioritization model, the following key determinations were made by OGT and FGTC. These were:

1) This project would consist of updates and prioritization for multi-use and paddling trails only. The hiking trail update and its prioritization would be provided by the USDA Forest Service in consultation with the Florida Trail Association. Equestrian Trails and Off-Road Bicycling Trails included in the 1999 adopted Implementation Plan were not updated because OGT and FGTC agreed that these user groups would be adequately accommodated through the implementation of an expanded multiuse trail network.
2) All multi use and paddling trail segments would be prioritized regardless of whether they were partially or entirely comprised of existing trails. This was done to provide guidance on all trail projects regardless of whether they occurred along existing trails or trail rights of way. For example, even though some paddling trails are already designated and so are considered existing, a project might still be submitted to OGT for funding of a new trailhead along such a paddling trail segment. By prioritizing all trail segments, OGT and the FGTC would be provided with input on the relative importance of activities along every trail segment included on the 2008 Opportunity Maps.
3) The trail opportunities were mapped with lines, but each line is represented by a corridor four kilometers in width, measuring two kilometers on either side of the mapped line. This was consistent with the methodology used for development of the original trail opportunity maps.
4) As with the identification of the original multi-use and paddling trail opportunities, the experience assumed to be most desirable for these two trail users groups is as followings

Trail Type	**Experience sought**
Paddling Trail	Mostly back-country
Multi-use	A range of experiences from back-country to urban

5) For the prioritization of the opportunity segments, the following two assumptions were made:
   a) Multi-use trail corridors which are at least 75% complete, or are major projects in the design/ development phase are to be ranked High priority.
   b) Paddling corridors containing designated paddling trails are to be ranked high priority.

1.4 Participants

The University of Florida GeoPlan Center (GeoPlan) was funded by the Office of Greenways and Trails (OGT) to assist with this project. Jim Wood and Heather Pence of OGT and Alexis Thomas and Crystal Goodison of GeoPlan directed the project. The website and web-based technologies work was completed by Crystal Goodison and Sarah Van Wart. The synthesis of and final recommendations for trail updates was completed by OGT staff including Jim Wood, Heather Pence, Dean Rogers, Robin Turner, Matt Klein, and Marsha Connell. The majority of work on the GIS trail prioritization was completed by Kate Norris, Senior GIS Analyst at the GeoPlan Center. A list of others who participated in the process is included in Appendix 2.

2 Methods

2.1 Updates

The update of the trail opportunity maps was completed during two primary phases:

- Planner Input Period: March 10 – May 2, 2008
- Public Comment Period: June 16 – July 14, 2008

2.1.1 Planner Input Period: March 10 – May 2, 2008

During the planner input period, trail planners from around the state submitted suggestions for additions, edits, and deletions to the Opportunity Maps. It was the objective of OGT to allow as many people as possible to participate in the trail opportunity updates. To facilitate this objective, GeoPlan developed an interactive web-based utility to allow planners to log onto a website, review relevant data, and input their suggestions for the opportunity maps. The website used for the entire update process is the Florida Trails Network website, http://www.floridatrailsnetwork.com. Geoplan created tutorials to guide users on how to submit recommendations and comments for opportunities using the website.

Instead of starting with a blank slate, OGT decided that the existing opportunity corridors on the 2004 map should be reviewed to determine whether those corridors were still relevant. Hence, planners were asked to first review the 2004 opportunity maps, and mark the existing opportunities for "retention" (include the existing corridor on the 2008 updated map) or "deletion" (do not include the existing corridor on the 2008 updated map). Figure 2.1 displays an example from the website where planners could interactively select an opportunity corridor from the 2004 map, and then choose to retain or delete the selected corridor.

Planners were also allowed to make suggestions for modifications to existing opportunity corridors, and were also allowed to upload new opportunities. In addition, the website included a "General Comments" form, which allowed planners to submit textual, descriptive information on new opportunities and edits to existing opportunities, in cases where the planners did not have GIS line work to support their suggestions. Continuously during the planner input period, the suggested updates were added to a GIS data layer that was displayed as part of the web-based utility. This way, individuals could observe the suggested changes being made by others who were participating in the process. In addition, descriptions of recommended corridors were added real-time to the website for others to view (see Figure 2.3).

During the planner input period, 94 people acquired a username and password for access to the website, and 50 individuals submitted recommendations via the website. Over 140 new trail segments (130 multi-use and 14 paddling) were suggested for inclusion on the updated maps. Almost 300 total comments were given via the website, including recommendations for new corridors and retention, deletion, or edits of 2004 opportunity corridors.

Corridors and comments submitted during the input period were compiled into a draft opportunity map by the GeoPlan Center. OGT Staff then met in late May to review the draft map and make modifications. Finally, the draft map was reviewed and approved by the FGTC at the June 5&6, 2008 council meeting.

Figure 2.1. Florida Trails Website interactive map and corresponding input form for reviewing 2004 opportunity corridors during the Planner Input Period.

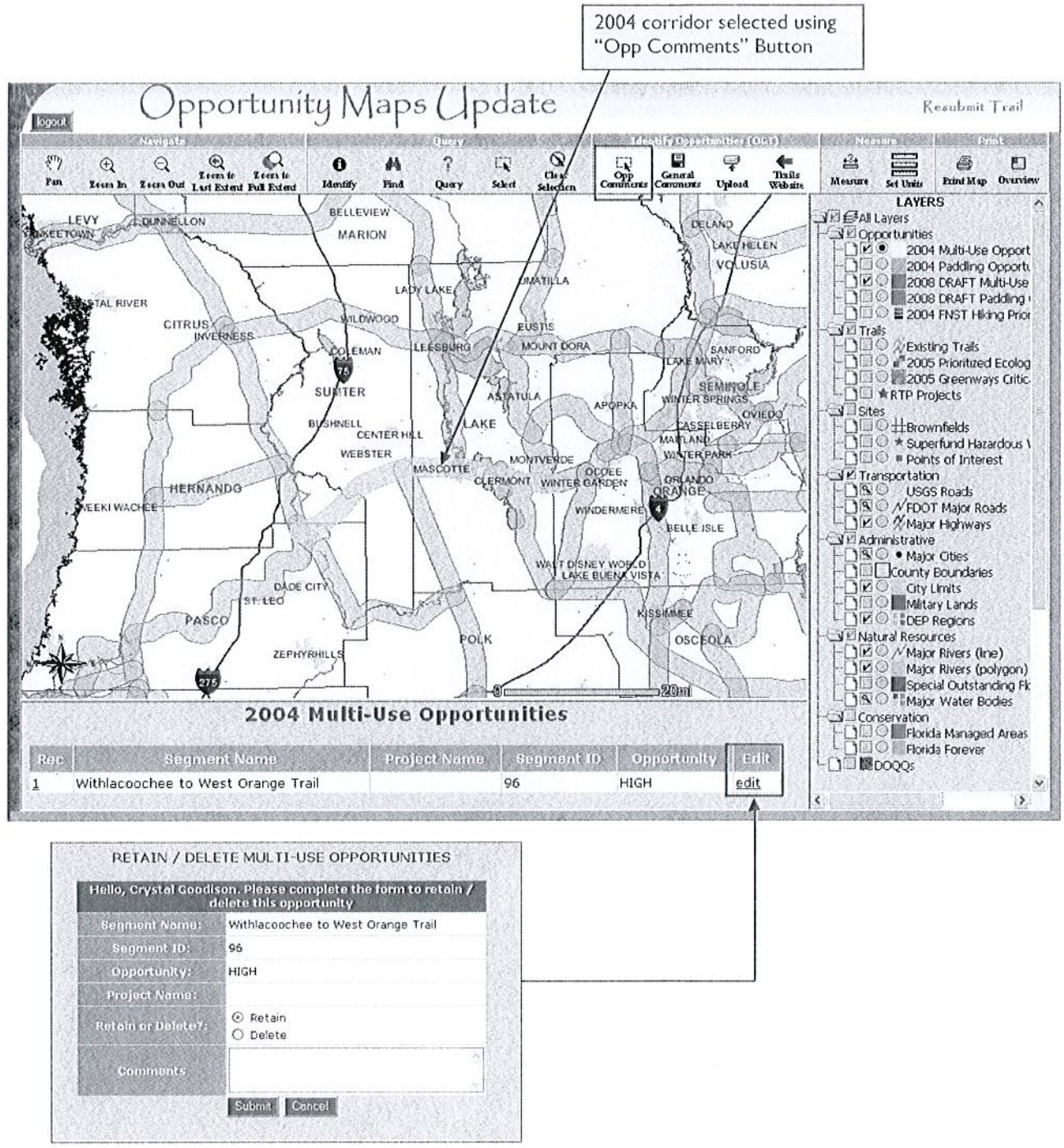


Figure 2.2. Florida Trails Network website interactive map for Planner Input Period. The map displayed existing trails, 2004 opportunity corridors, and newly recommended opportunity corridors as they were suggested throughout the Planner Input Period. Users could enter comments about the draft opportunities and upload new corridors to be considered for addition to the map.

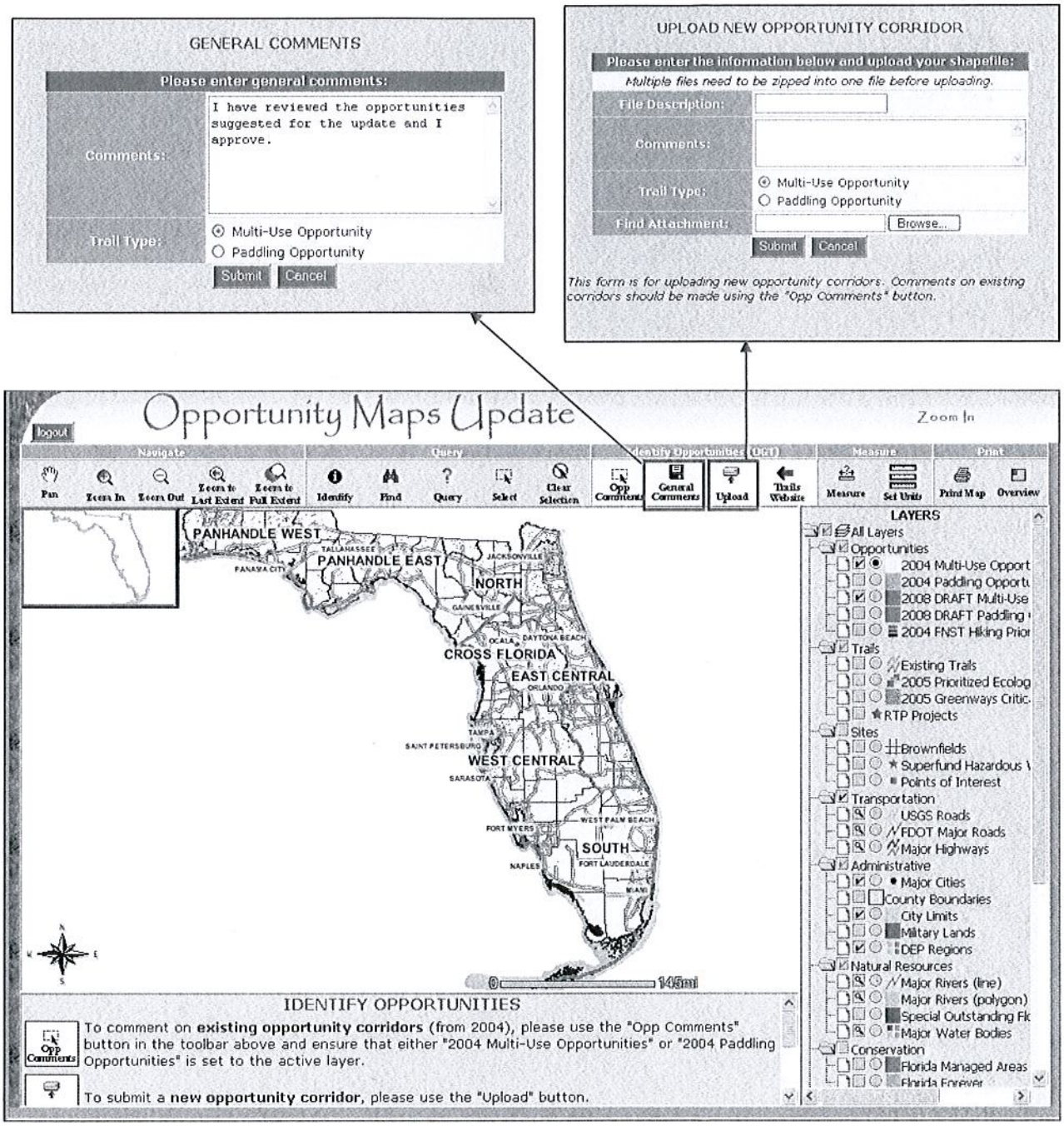


Figure 2.3. Screenshot from Florida Trails Network website showing descriptions of recommended corridors during the Planner Input Period

2008 Opportunity Maps Update
Complete List of Comments Submitted: March 10 - May 2

The list below includes all input and comments given on the 2008 opportunity maps from March 2 - May 10.
These corridors can also be viewed through the Florida Trails Network Map Viewer.

Explanation/ Legend for "Submit Type":
- Retain: 2004 Opportunity Corridor that has been suggested for retention in the 2008 Opportunity Maps.
- Delete: 2004 Opportunity Corridor that has been suggested for removal in the 2008 Opportunity Map.
- New/ Upload: New corridor that has been suggested for the 2008 Opportunity Map Update.
- General Comments: General comments given - not associated with a particular opportunity corridor.

Corridor Name	Opportunity Type	Organization Submitted By	Submit Type	Date Submitted	Comments
Cross Escambia Connector	Multi-Use	Doyle Butler, Escambia County	Retain	03-17-2008	This is a necessary corridor for outdoor recreational opportunities in the western Florida panhandle.
Lutz-Tampa Palms Connection	Multi-Use	Charner Reese, Hillsborough County	Delete	03-21-2008	
South Coast Greenway	Multi-Use	Charner Reese, Hillsborough County	Retain	03-21-2008	Retain, but revise alignment consistent w Hillsborough Greenway System Map. Trail concept is intended to connect to the McKay Bay Trail in the City of Tampa. Also, the north-south alignment is a little off. Trail terminates at Little Manatee River.
Tampa Bypass Canal Trail	Multi-Use	Charner Reese, Hillsborough County	Retain	03-21-2008	Completely revise Tampa Bypass Canal Trail alignment - make consistent with Hillsborough Greenways Map. Project name not correct - name is same as segment name.
Suncoast Trail	Multi-Use	Charner Reese, Hillsborough County	Retain	03-21-2008	Suncoast Trail terminates at Lutz-Lake Fern Road. The map shows it going too far south.
Upper Tampa Bay Trail	Multi-Use	Charner Reese, Hillsborough County	Retain	03-21-2008	Upper Tampa Bay Trail terminates in the north at Lutz Lake Fern Road at the Suncoast southern terminus. UTBT follows along Lutz-Lake Fern Road for about a mile eastward before it connects to the Suncoast Trail.

Figure 2.4. Screenshot from Florida Trails Network website displaying public comments submitted during the Public Comment Period

2008 Opportunity Maps Update
Public Comments Submitted, June 16 - July 14, 2008

The list below includes public comments given through this website, regarding on the Draft 2008 Opportunity Maps. The Public Comment Period was open from June 16 - July 14.

These corridors can also be viewed through the Florida Trails Network Map Viewer.

Organization Name	Name	Opportunity Segment Name	Opportunity Type	Date Submitted	Comments
Trust for Public Land	Andrea Goldman	N/A	Multi-Use	06-19-2008	We would like CR 309 in Putnam County to be added as a multi-use opportunity trail segement. This road runs along the river in the Welaka-Georgetown area before connecting back to US 17 (which is part of the River to Sea Loop Trail) and this has also been identified in the Putnam Draft Trails Master Plan.
Putnam Land Conservancy	Kathy Cantwell	Gainesville Hawthorne Trail Corridor	Multi-Use	07-01-2008	PLC Has identified a much better route for a trail that would follow little Orange creek from Hawthorne and link with the CFG. We have maps and fly overs to demonstrate this. We have also discovered an abandoned CSX RR line that they seem to be unaware of that would be a connector to the CFG. Finally, we have identified the potential to connect downtown Palatka to the Florida Trail via a ROW the county(Putnam) has purchased that could have a bike trail as a seperate entity along the abandoned RR that parallels it. The RR ROW follows St Johns Ave and then meets with the ROW the county has just purchased. That Road will evntually connect with SR 20.
Polk County	Tabitha Biehl-Gabbard	Bartow Winter Haven Trail Corridor	Multi-Use	07-07-2008	We would recommend a trail corridor to be added around Lake Hancock that connects the ?Peace River Greenway ? Polk County Corridor? to the ?Bartow Winter Haven Trail Corridor?. This connection provides excellent opportunity for a multi-use trail around Lake Hancock that would tie into the Fort Fraser Trail. This would create approximately 11 miles of additional trail through existing conservation lands. The trail would travel through Circle B Bar Reserve which is part

2.1.2 Public Comment Period: June 16 – July 14, 2008

After the draft maps were approved by the FGTC, the maps were posted on the Florida Trails Network website for a period of public review, which was widely advertised by OGT. In addition, five public meetings were held to collect public comment: June 17th in Jacksonville, June 26th in West Palm Beach, June 27th in Orlando, July 2nd in Marianna, and July 9th in Sarasota. During these meetings, OGT staff recorded suggestions from over 86 meeting participants.

During the entire public comment period, 20 individuals recommended 35 new opportunity corridors, all of which were incorporated into the map update. OGT staff reviewed these additional draft multi-use and paddling opportunities, and final versions of each were compiled and incorporated into the map. These updates became the basis for the prioritization described in the following section.

2.2 Segment Delineation

Before the updated multi-use and paddling opportunities could be prioritized they had to be divided into logical segments. In most cases, the segment ends were positioned at existing or recommended trailheads, but in some cases road crossings or other termini made more sense. Since separating trail sections at trailheads and roads created segments of varying lengths, scores for many of the evaluation criteria had to be normalized for segment length and/or total area of the corridor segment (i.e., 4 km x segment length).

2.3 Prioritization in General

As directed in Step 1.1 of the Implementation Plan, a process for prioritization of recreational trail opportunities was developed by Conway Conservation, Inc. and the University of Florida College of Design, Construction and Planning, and approved by FGTC in June 2001. The approved process involves a GIS-based weighted criteria analysis ("GIS model") derived from a comprehensive assemblage of trail quality measures to consistently evaluate potential recreational trail corridors. The idea behind the analysis was to examine the full range of significant factors, identify the measurable concepts, and then weave those into a weighted scoring system that would permit meaningful evaluations to be produced and reproduced through a systematic process. (For a complete description of the original process, please see Duever, Teisinger and Carr, Prioritization of Recreational Trail Opportunities for the State of Florida, 2001).

The GIS model originally developed in 2001 was used in the 2004 update of the opportunity maps, and used again in this 2008 update. New and updated GIS data layers were included in the model to account for changes in the physical and built environment, such as land use, land cover, residential and urban development, water quality, and habitat areas. In particular, new analyses and data products developed for CLIP – Critical Lands & Waters Identification Project (Hoctor, Oetting, and Beyeler, 2008), were incorporated into the prioritization process were appropriate.

Minor modifications were made to the weighting to better reflect the consistency and completeness of the input GIS data. For example, the Water Quality criteria for the Paddling Model was weighted less in this iteration of the model, because comprehensive water quality data was not available for the entire state. In the previous iterations of the model, the water quality analysis was 30% of the total model

score. However, comprehensive statewide water quality data was not available during those iterations, and hence the analysis results for the overall model were skewed in areas where no water data quality existed. In this iteration of the model, the water quality analysis was reduced to 15% of the overall model results.

In addition to using the best available geospatial data, the GIS prioritization model utilizes input from regional experts to rank the opportunity segments. Input from the regional experts is important, as GIS data alone cannot provide all the information necessary to evaluate all desired factors.

2.4 Prioritization Goals, Process and Weights

The goals and objectives for the GIS trail prioritization model were defined in the original methodology developed by Duever, Teisinger and Carr in 2001. These goals were determined by first developing a list of potential criteria which were derived from interviews with people experienced in evaluating greenways plans. Then each potential criterion was examined based on its relevance, whether appropriate GIS data was available, effective, and comprehensive, and whether GIS analysis could be used to measure the desired goal.

Individual criteria were combined into logical groups and subgroups, each addressing different aspects of potential trail value. The major groupings of criteria can be thought of as the goals and the sub-groupings can be thought of as objectives. Each criterion, or a combination of criteria, was used to address each objective. GIS analysis was then used to develop each input criterion.

The primary goals used in determining potential trail value are:

- **Regional Importance** – Regional significance of the corridor, in terms of popularity amongst trail user groups, ecological value, and to local connectivity.
- **Quality of User Experience** – The ability of the corridor to offer connectivity to recreation and residential areas, to have interpretive potential and scenic character, and to be suitable for its specific uses.
- **Management** – Any potential management concerns with the corridor.
- **Continuity** – The contribution the corridor makes towards the statewide trails system.

The goals for multi-use and paddling trail segment prioritization are presented here in three different formats; first they are listed by category, second they are diagramed, and finally they are listed in a table showing the weights assigned to each to develop a final score for each trail segment.

2.4.1 Goals for Multi-use Trail Prioritization

In order to measure REGIONAL IMPORTANCE, priority was given to corridor segments:

- whose development has the potential to contribute to ecological connectivity and to protect and enhance biological diversity and significant natural resources,
- that connect with local trails and/or existing and proposed trails
- that are compatible with adjacent land uses.

In order to measure QUALITY, priority was given to corridor segments:

- that optimize the quality of the non-motorized user's experience and minimize conflicts.

- that connect or have the potential to connect to trailheads, access sites, recreation sites, campsites, suitable cultural/historic sites, schools, neighborhoods, places of work, civic buildings, theme parks and sites of special interests, e.g., stream springs, sinkholes or hilltops.

In order to measure MANAGEABILITY, priority was given to corridor segments:

- that are manageable for multiple uses.
- that are compatible with adjacent land uses.

In order to measure CONTRIBUTION TO CONTINUITY, priority was given to corridor segments:

- that will link Florida's major urban areas to one another and to major natural resource destinations.

2.4.2 Goals for Paddling Trail Prioritization

In order to measure REGIONAL IMPORTANCE, priority was given to corridor segments:

- that support paddling in regions with high levels of paddling demand.
- whose development has the potential to contribute to ecological connectivity and to protect and enhance biological diversity and significant natural resources.
- that are compatible with adjacent land uses.

In order to measure QUALITY, priority was given to corridor segments:

- that optimize the quality of the paddler's experience and minimize conflicts with motorized users.
- that connect or have the potential to connect to trailheads, access sites, recreation sites, campsites, suitable cultural/historic sites, schools, neighborhoods, places of work, civic buildings, theme parks and sites of special interests, e.g., stream springs, sinkholes or hilltops.
- with the potential for cultural, historic and ecological interpretation.
- that are scenic and diverse.

In order to measure MANAGEABILITY, priority was given to corridor segments:

- that are compatible with adjacent land uses.
- that overlap with existing conservation lands.

2.4.3 Multi Use Prioritization Process Diagram

The GIS prioritization involves the use of a weighted overlay model which multiplies the value of each input criteria by a weight factor which reflects the importance of that criteria relative to the others, and then adds the weighted layers to achieve an overall score. Figure 2.5 is a diagram representing the hierarchical process used to develop a final score for each multi-use trail segment.

Step 1: GIS analysis was used to develop each individual input criterion. The result of each input criteria is an individual GIS layer that is ranked from 1 – 9, where 1 is the lowest priority and 9 is the highest priority. Ranking all input criteria this way allows for each criterion to be evaluated on a common scale or "normalized". After being normalized, each individual criterion is weighted to determine its contribution toward its stated objective. Then the weighted criteria are combined to produce each objective's score. Step 1 is fully described in Section 2.6.

Step 2 is a linear combination of the results of Step 1 using the weights shown in Table 2.1. Each individual objective is weighted to determine its contribution towards its stated goal. Then the weighted objectives are combined to produce each goal's score. For example:

> Regional Importance (value of 1-9 from Step 1) x 0.5 + Overlap with Conservation lands (1-9 value of 1-9 from Step 1) x 0.4 + Land Use Suitability (value of 1-9 from Step 1) x 0.1 = Recreational Significance.

Step 3 is a similar linear combination of the results of Step 2, again using the weights shown in Table 2.1 to produce a final score between 1 and 9 for each trail segment. The final four categories of data combination for Step 3 are consistent with the four multi use trail goals listed in Section 2.4.1.

Figure 2.5. The Multi Use Trails Opportunity Ranking Process

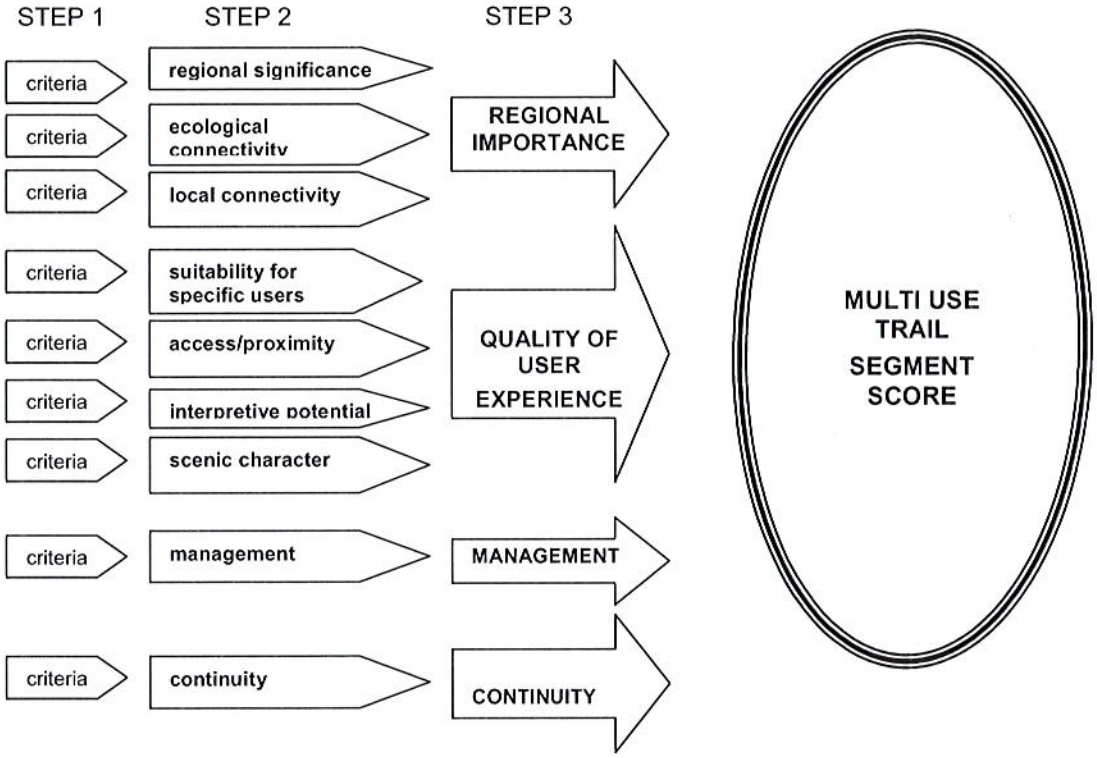


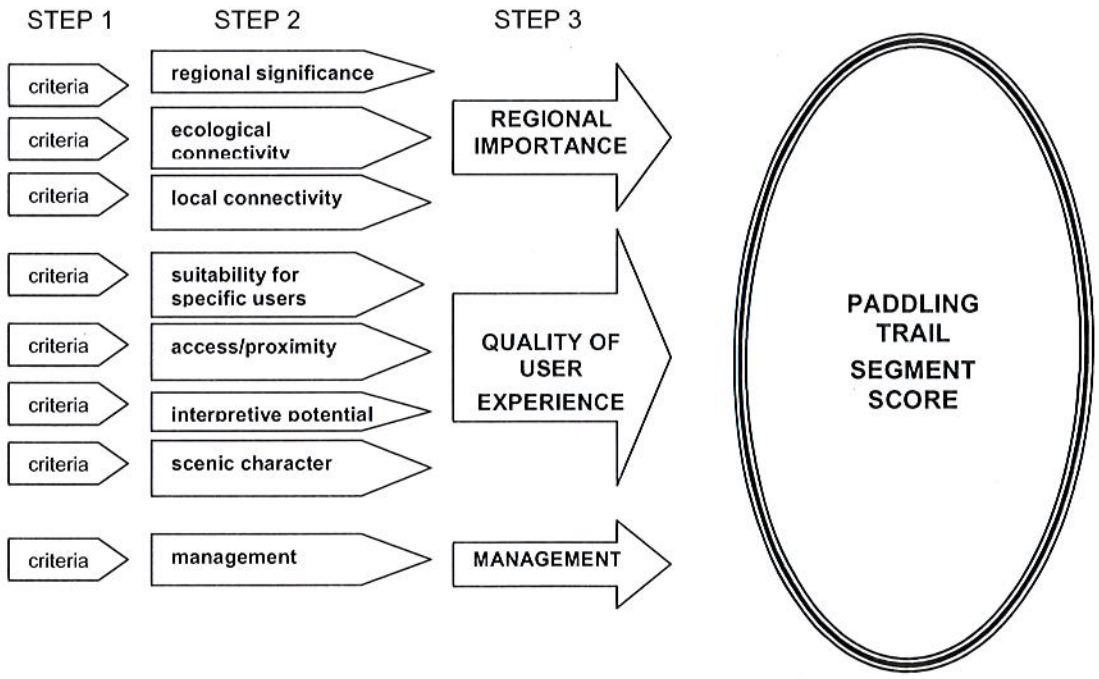
Table 2.1. *Criteria Weights for Multi-Use and Paddling Trail Prioritization*

Step 1	Weight		Step 2	Weight		Step 3	Weight	
							Multi use	Paddling
				Multi use	Paddling	Regional Importance	0.4	0.4
	Multi use	Paddling	Recreational Significance	0.5	0.6			
Level of Regional Interest (from ranked maps)	0.5	0.7						
Overlaps with other conservation/recreation lands	0.4	0.15						
Land use suitability	0.1	0.15						
			Ecological Connectivity	0.1	0.4			
Overlaps with other conservation/recreation lands	0.2	0.4						
Road crossings	0.4							
Land use suitability	0.4	0.6						
			Local Connectivity	0.4				
Road crossings	0.2							
Trail linkages	0.5							
Land use suitability	0.2							
Water crossings	0.1							
							Multi use	Paddling
				Multi use	Paddling	Quality of User Experience	0.3	0.5
	Multi use	Paddling	Suitability for Specific User Types	0.25	0.3			
Access to recreation areas	0.1							
Local demand: bike accidents	0.3							
Local demand: residential densities	0.4							
Access to schools	0.2							
Water quality		1.0						
			Access/proximity	0.25	0.2			
Special landscape features	0.4	0.4						
Access to recreation areas	0.6	0.6						
			Interpretive Potential	0.25	0.3			
Rare habitat types		0.2						
Ecological quality	0.4	0.4						
Archaeological/historic sites	0.4	0.4						
Scenic Roads	0.2							
			Scenic character	0.25	0.2			
Overlaps with other conservation/recreation lands	0.1	0.4						
Road crossings	0.1							
Special landscape features	0.3	0.2						
Scenic diversity	0.3							
Land use suitability	0.2	0.4						
							Multi use	Paddling
				Multi use	Paddling	Management Concerns	0.2	0.1
	Multi use	Paddling	Management Concerns	1.0	1.0			
Overlaps with other conservation/recreation lands	0.2	0.4						
Road crossings	0.1							
Rare habitat types	0.1	0.3						
Land use suitability		0.3						
Adaptability of existing trails and rights of way	0.5							
Water crossings	0.1							
							Multi use	
				Multi use		Contribution to Continuity	0.1	
	Multi use		Continuity	1.0				
Continuity	1.0							

2.4.4 Paddling Prioritization Process Diagram

Figure 2.6 below is a diagram representing the hierarchical process used to develop a final score for each paddling trail corridor segment. The process is the same as that used for multi use trails, but some of the criteria are different. In particular, there is no measurement of continuity for paddling trails. Step 1 is the initial analysis of GIS data and is fully described in Section 2.6. Step 2 is a linear combination of the results of Step 1 using the weights shown in Table 2.1. Step 3 is a similar linear combination of the results of Step 2, again using the weights shown in Table 2.1 to produce a final score between 1 and 9 for each trail segment. The final three categories of data combination for Step 3 are consistent with the three paddling trail goals listed in Section 2.4.2.

Figure 2.6. The Paddling Trails Opportunity Ranking Process



2.4.5 Final Ranking

Final ranking of each opportunity corridor segment was determined by grouping the final scores into three classes Low Priority, Medium Priority, and High Priority. The distributions of the scores for each priority class are provided in Section 3 Results.

2.5 Data Sources

2.5.1 GIS Databases

GIS data layers were used to develop individual criteria scores. The data layers used for each criterion are listed in section 2.6.2 where the analysis purpose, data and process steps are described.

2.5.2 Expert Assessments

In two instances, the GIS data alone did not provide sufficient information to get at the parameters we were trying to evaluate and it was necessary to seek expert assessments. This was done for the regional significance measure for both multi-use and paddling trails and for the continuity measure for multi-use trails. For a list of expert participants, please see Appendix 2 (people and organizations participating in the Prioritization process).

Level of Regional Significance

To indicate level of regional significance, experts were asked to score each trail segment high, medium, or low based on the following considerations.

1) How important is this segment to the intended user type? This is not a measure of how critical or connected it is for trail system function, but rather an assessment of how popular it (or the idea of creating it) is with the users. Are their clubs promoting it? Do they have special events in this area? Is it one of the best places for some aspect of their activity?

2) How important is this segment in terms of overall trail development in the surrounding counties? Are planners and economic development interests pushing it? Does it fit in with ecotourism planning? Has it captured the interest of the general public? Are there community groups promoting it? Does it exemplify the character of the region?

Continuity

Trail experts were also asked to rank each segment high, medium, or low in terms of its contribution to the continuity of the statewide multi-use trail system.

2.6 Step 1 Analysis

2.6.1 Scoring

Each opportunity segment was given a score between 1 and 9 for each pertinent criterion according to the following rationales and procedures. A score of 1 represents the lowest score or lowest priority and a score of 9 represents the highest score or highest priority.

2.6.2 Brief Description of Step 1 Analyses Used For Prioritizations (in alphabetical order)

A detailed description of the methods for each analysis is listed in Appendix 3.

Access to Recreation Areas

This analysis addresses the likelihood that this trail corridor will take people to places where they can enjoy other recreational experiences. The evaluation is based on the occurrence of recreation sites within each corridor, normalized by the area of the corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least access to recreation areas) and a value of 9 represents the highest priority (most access to recreation areas).

Access to Schools

This analysis addresses the likelihood that this trail corridor will serve as a school commuter route and/or be readily accessible to students and parents. The evaluation is based on analysis of the occurrence of school locations within the corridor. In scoring, access to schools attended by young children was considered minimally significant, whereas access to schools attended by teenagers and young adults was considered important. Scores for each point within the trail corridor were totaled and normalized by the area of the corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least access to schools) and a value of 9 represents the highest priority (most access to schools).

Adaptability of Existing Trails and Rights of Way

This analysis addresses the ease of trail development and management, as well as the likelihood that the route may already be used and valued as an informal trail. The analysis was based on the presence of existing unpaved road/trail lengths/orientations within the trail corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least adaptability) and a value of 9 represents the highest priority (most adaptability).

Archaeological and Historical Sites

This analysis addresses the potential for historical interpretation along this trail corridor. The analysis was based on the presence of archaeological and historical features from the Florida Division of Historical Resources databases. Sites sensitive to public intrusion were excluded. Only registered historic sites were included. Scores were based on the number of archaeological and historic sites located within each corridor, normalized by the area of the corridor. Corridors with a higher number of sites per corridor area were given a higher priority value. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least amount of historical sites) and a value of 9 represents the highest priority (most historical sites).

Continuity

This analysis addresses the contribution the trail segment would make to a continuous trail network on a statewide and/or regional scale. Scores were assigned to individual trail corridors by regional experts chosen by the Office of Greenways & Trails. The regional experts qualitatively ranked the continuity value of each opportunity corridor as high, medium, or low. Trails viewed as key skeletal components of the state system were ranked higher, as were segments lacking alternative or redundant routes.

Ecological Quality

This analysis is used as a measure of the ecological quality of the trail segment corridor that in turn, affects the quality of the user's experience and the potential for natural history interpretation. It is also an indicator of a recreational trail project's potential for facilitating development of a multi-functional greenway that enhances ecological connectivity. For this analysis, datasets developed for Critical Lands & Waters Identification Project (CLIP) were utilized. Scoring was based on the density of ecologically significant areas within each corridor. The corridors were ranked from 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest ecological quality) and a value of 9 represents the highest priority (highest ecological quality).

Land Use Suitability

This analysis is a measure of the compatibility of land use within the opportunity corridor with the trail's intended use and purpose. The analysis included first, a ranking of the relative suitability of any given cell for the trail type using water management districts' land use/land cover data and second, a 10 x 10 cell neighborhood comparison of the suitability rankings. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest amount of suitable land uses) and a value of 9 represents the highest priority (highest amount of suitable land uses).

Level of Regional Interest

This is a qualitative assessment of the trail's importance to the region and to the respective user groups. Scores were assigned to individual trail corridors by regional experts chosen by the Office of Greenways & Trails. Regional experts qualitatively ranked each corridor as high, medium, or low, based on the perceived demand and interest for that particular corridor.

Local Demand: Pedestrian and Cycling Usage

The bicycle accident rate is primarily viewed as a measure of the degree of bicycling activity and demand in a local area, but also suggests that additional trails might improve bicycling safety problems. Two data sources – bike accidents and US Census Bureau transportation data – were used to gauge local demand for cycling and walking. The corridors were ranked from 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (or lower demand for cycling/ walking) and a value of 9 represents the highest priority (or higher demand for cycling/ walking).

Local Demand: Residential Density

This analysis is used as a measure of how easily users can access the trail from their homes. The analysis was applied to multi-use trails only, on the assumption that direct access from home to trail is more important for urban trails used for regular commuting and exercise than for trails used for nature-based outings. The number of residential parcels per corridor was calculated from the Department of Revenue Tax data and normalized by corridor area. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest amount of residential density) and a value of 9 represents the highest priority (highest amount of residential density).

Overlaps with Other Conservation/Recreation Lands

This analysis is viewed both as a measure of the inherent ecological and recreational quality of the trail corridor and an index of the likelihood of cooperative management. Scores are based on whether the trail corridor overlaps conservation lands, ecological greenways, or Save our Rivers. The corridors were

ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least overlap with conservation/ recreation lands) and a value of 9 represents the highest priority (most overlap with conservation/ recreation lands).

Significant Natural Communities

This analysis is a measure of scenic interest and interpretive potential, but is also used as a measure of ecological value. For the 2008 iteration of the prioritization process, data used for the Critical Lands and Waters Identification Project (CLIP) were added to this analysis to help identify under-protected natural communities and natural areas. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (or areas with the least amount of significant natural communities) and a value of 9 represents the highest priority (or areas with the highest amount of significant natural communities).

Road Crossings

This analysis is a measure of the degree of difficulty expected to be involved in getting this trail segment and/or its users across roads. Scoring is based on the number of limited access road crossings per mile of trail segment, normalized by corridor area, and the density of lesser roads within the trail corridor, using 1:24000 road data from USGS. Class 1 roads have the strongest influence on the density analysis with a reduction of influence for lesser Class roads. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (or most road crossings) and a value of 9 represents the highest priority (or least amount of road crossings).

Scenic Diversity

This analysis is an assessment of the extent and variety of aesthetically pleasing landscape types within the trail corridor. The analysis was based on neighborhood variety analysis of scenically categorized land use/land cover data from the water management districts. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest amount of scenic diversity) and a value of 9 represents the highest priority (highest amount of scenic diversity).

Scenic Roads

This analysis is a both an indicator of the inherent beauty and interest of the landscape and a measure of the potential for cooperation between trail development and eco-tourism programs. Scoring is based on whether the corridor includes a stretch of road designated or under consideration for designation as a Florida Scenic Highway. This was applied to multi use trails only. The segments were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (less scenic roads) and a value of 9 represents the highest priority (more scenic roads).

Special Landscape Features

This analysis is used as an index of the trail segment's potential for offering access to and views of interesting landscape features. Scoring is based on density of springs, sinkholes, lakes, beaches, hilltops and other landscape features (excluding cultural features), normalized by corridor area. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (less special landscape features) and a value of 9 represents the highest priority (more special landscape features).

Trail Linkages

This analysis addresses the extent to which the trail segment would provide access to other existing trails. The existing trails database maintained by GeoPlan was used to develop scores based on the number of existing trails crossing or adjoining the trail corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (less trail linkages) and a value of 9 represents the highest priority (more trail linkages).

Water Crossings

This analysis is a measure of the probable difficulty of getting the trail segment and/or its users across major rivers and streams. Scoring is based on the number of major river crossings per corridor per area, normalized by corridor area and the density of lesser streams. Only streams that crossed the corridor were counted and small creeks were excluded. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (highest amount of water crossings) and a value of 9 represents the highest priority (least amount of stream crossings).

Water Quality

This analysis was used as a measure of paddling trail quality only, since the water body is the trail itself. Water quality data from the Critical Lands and Waters Identification Project (CLIP) were used to reflect both health and aesthetic considerations. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (poorest water quality) and a value of 9 represents the highest priority (best water quality).

2.6.3 Natural Breaks

The Jenk's natural breaks data classification is used to find natural groupings of data values. ArcMap uses the Jenk's statistical formula to identify break points in a set of data by looking for groupings and patterns inherent in the data. The features are divided into classes whose boundaries are set where there are relatively big jumps in the data values. Natural breaks was used in this prioritization process to categorize the values of each analysis into 9 classes so individual input criteria could be valued on the same scale and later combined.

2.6.4 Final Weights of Each Criterion

The cumulative weight attributable to each criterion can be determined by multiplying each criterion by the weights attributed to it through steps 2 and 3. It is interesting to consider the criteria in this way to get a sense of which most influenced the final results. Table 2.2 represents the relative weighting for the multi use prioritization and Table 2.3 represents the relative weighting for the paddling prioritization.

Table 2.2
Relative Weights for Each Criterion used to Prioritize Multi Use Segments

Criterion	Relative Weight
Overlaps with other conservation/recreation plans	13.55%
Level of Regional Interest (Expert ranked maps)	10.0%
Continuity (Expert ranked maps)	10.0%
Adaptability of existing trails and rights of way	10.0%
Trail linkages	8.0%
Land use suitability	8.3%
Access to recreation areas	5.25%
Road crossings	7.55%
Special landscape features	5.25%
Water crossings	3.6%
Local demand: bike accidents	2.25%
Local demand: residential densities	3.0%
Access to schools	1.5%
Archaeological and historic sites	3.0%
Scenic diversity	2.25%
Rare habitat types	2.0%
Scenic Roads	1.5%
Ecological Quality	3.0%
TOTAL	100.0%

Table 2.3
Relative Weights for Each Criterion used to Prioritize Paddling Segments

Criterion	Relative Weight
Level of Regional Interest (Expert ranked maps)	16.8%
Overlaps with other conservation/recreation plans	18.0%
Land use suitability	20.2%
Water quality	15.0%
Special landscape features	6.0%
Access to recreation areas	6.0%
Rare habitat types	6.0%
Ecological quality	6.0%
Archaeological and historic sites	6.0%
TOTAL	100.0%

3 Results

3.1 Trail Opportunity Updates

3.1.1 Multi-Use Opportunities

The result of the 2008 multi-use trail opportunity update can be seen in Figure 3.1 and the 2004 multi-use opportunities can be seen in Figure 3.2. A total of 271 multi-use opportunity segments were identified and approved for the 2008 update. There were 205 multi-use opportunity segments on the 2004 map. A total of 66 new segments were added to the 2008 map update, representing an additional 1,945 miles of multi-use trails opportunity corridors.

Figure 3.1. Prioritized Multi-Use Trail Opportunity Corridors for 2004

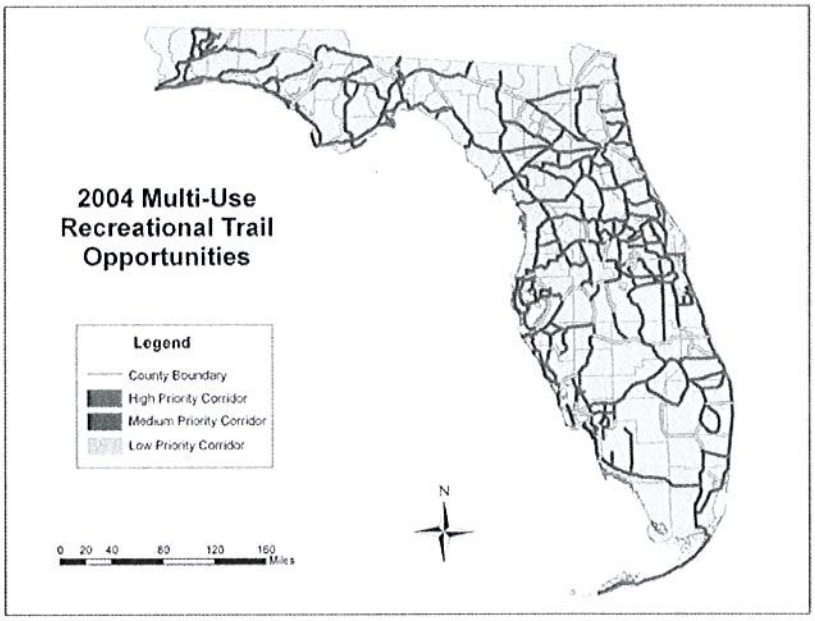
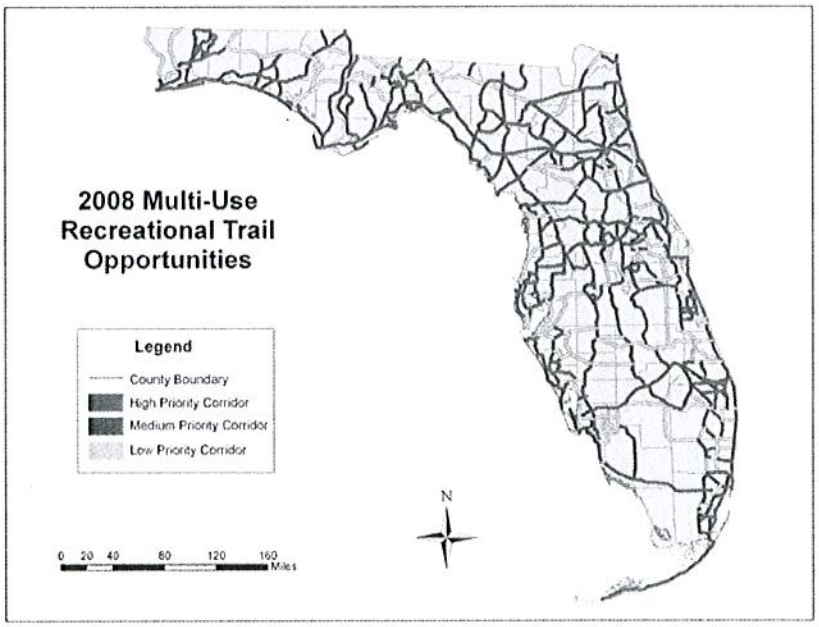


Figure 3.2. Prioritized Multi-Use Trail Opportunity Corridors for 2008



3.1.2 Paddling Opportunities

The result of the 2008 paddling trail opportunity update can be seen in Figure 3.3 and the 2004 paddling opportunities can be seen in Figure 3.4. A total of 176 paddling opportunity segments were identified and approved for the 2008 update. There were 158 paddling opportunity segments in 2004. Hence, 18 new segments were added to the 2008 map update, representing an additional 567 miles of paddling trails opportunity corridors.

Figure 3.3. Prioritized Paddling Trail Opportunity Corridors for 2004

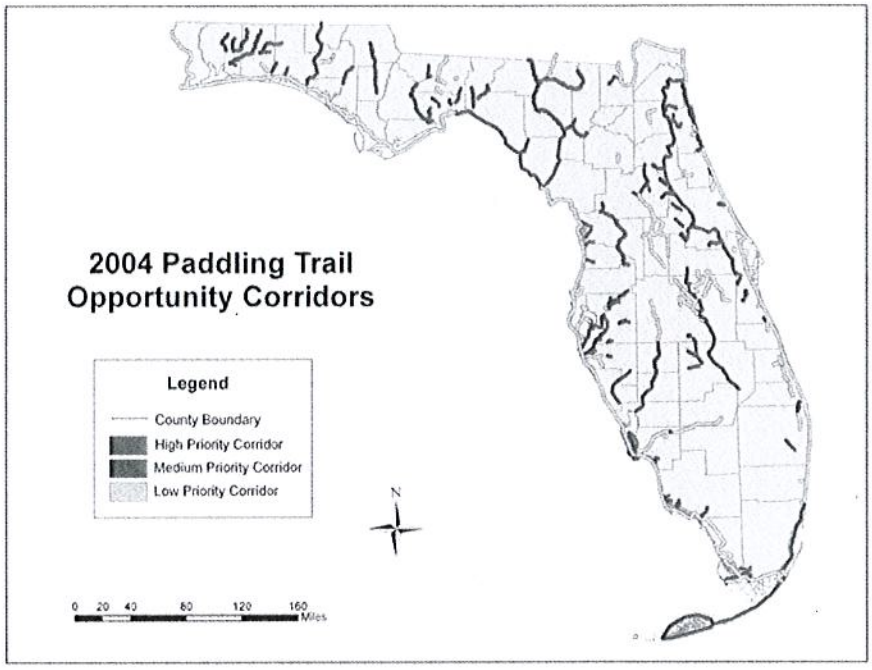
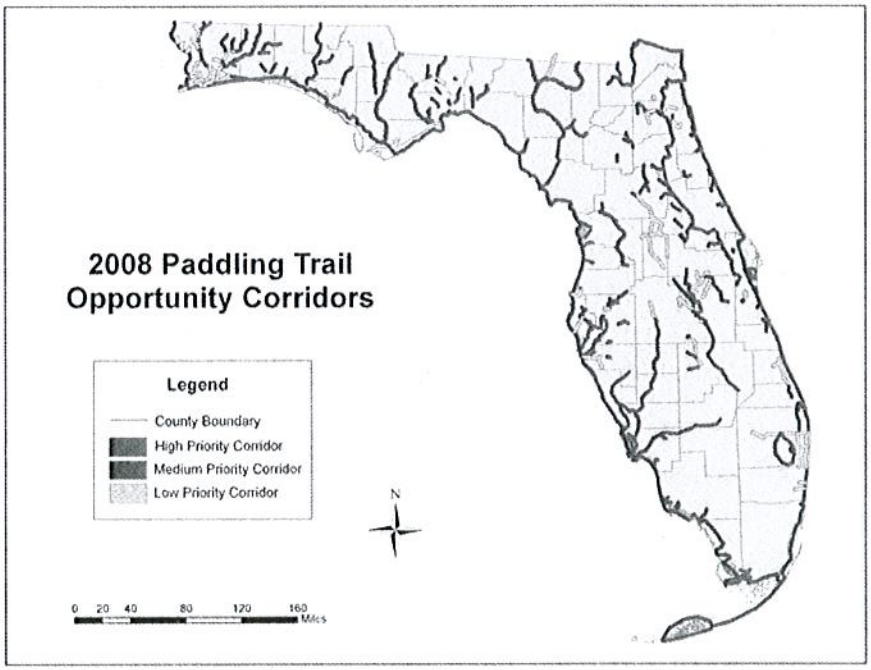


Figure 3.4. Prioritized Paddling Trail Opportunity Corridors for 2008



3.2 Trail Prioritization

3.2.1 Multi-Use Opportunities

The 2008 multi-use trail opportunities can be seen in Figure 3.1 and the 2004 multi-use opportunities can be seen in Figure 3.2. A total of 271 multi-use opportunity segments were identified and approved for the 2008 update. The GIS prioritization scores ranging from 1 – 9 were allocated to the high, medium and low priority classes as shown in Table 3.1 below.

Table 3.1
GIS Prioritization Scores for Multi-Use Trail Opportunity Corridors

Final Value	Number of Segments	Ranking
1	18	Low
2	35	Low
3	39	Low
4	25	Medium
5	34	Medium
6	37	Medium
7	45	High
8	25	High
9	13	High

Next, multi-use trail corridors that were at least 75% complete or were major projects in the design / development phase were ranked as high priority; regardless of their GIS prioritization score (see Section 1.3 Project Assumptions). After accounting for those corridors, the rankings were allocated as shown in Table 3.2 below:

Table 3.2
Final Allocation of Multi-Use Trail Opportunity Corridors

Number of Segments	Final Ranking
88	Low
71	Medium
112	High

3.2.2 Paddling Opportunities

The 2008 paddling trail opportunities can be seen in Figure 3.3 and the 2004 paddling opportunities can be seen in Figure 3.4. A total of 176 paddling opportunity segments were identified and approved for the 2008 update. The GIS prioritization scores ranging from 1 – 9 were allocated to the high, medium and low priority classes as shown in Table 3.3 below.

Table 3.3
GIS Prioritization Scores for Paddling Trail Opportunity Corridors

Final Value	Number of Segments	Ranking
1	12	Low
2	15	Low
3	28	Low
4	18	Medium
5	22	Medium
6	22	Medium
7	17	High
8	30	High
9	12	High

Next, paddling corridors containing designated paddling trails were ranked high priority; regardless of their GIS prioritization score (see Section 1.3 Project Assumptions). After accounting for those corridors, the rankings were allocated as shown in Table 3.4 below:

Table 3.4
Final Allocation of Paddling Trail Opportunity Corridors

Number of Segments	Final Ranking
41	Low
41	Medium
94	High

3 Recommendations

- The Recreational Trail Opportunity maps should be updated and reprioritized regularly. The greenways implementation plan (DEP and FGCC 1998) calls for "annual identification of the most critical linkages in the state system". This cannot be meaningfully accomplished unless the opportunity maps are also updated annually to assure that all components of the current greenways vision are included within the set of trail segments assessed to determine the most critical linkages.

- A significant effort is needed to improve the quality of the GIS data currently available for existing trails.

- Recommendations for the GIS prioritization model:
  - The model methods should be comprehensively evaluated and updated. Since the model was original created in 2001, better data has become available, allowing for more direct evaluation of certain factors and phenomena. The criterion in the model should be revised to reflect more accurate input data.
  - The GIS prioritization model could be simplified by using less input criteria.
  - More weight should be given to the Expert Rankings of Continuity and Level of Regional Interest, as GIS data alone are not sufficient at capturing all pertinent factors for ranking trail opportunities.

4 Appendices

Appendix 1 Glossary

The following definitions explain how selected terms are used in this report. These words and phrases may be applied somewhat differently or more generally elsewhere in the greenways literature.

- *Connectivity* is defined in the greenways plan (DEP and FGCC 1998) as "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".

- *Continuity* means the degree to which a trail segment contributes to a user's ability to move throughout the state and beyond.

- *Corridor* is the term used for the swath of land along each segment. The line mapped as the route for the opportunity segment in the greenways plan (DEP and FGCC 1998) was buffered with a 2-km border on each side to create the 4-km-wide corridors we compared in the analyses.

- *Multi-use Trail* is defined as a "non-motorized trail shared by more than one user group" in the greenways plan (DEP and FGCC 1998). We found this definition too ambiguous to permit meaningful assessment of the appropriateness of a trail in many situations. We therefore based our analyses on the assumption that a multi-use trail would be an urban-type paved trail (perhaps with an unpaved equestrian lane or parallel paddling stream) suitable for heavy two-way traffic of bicyclists (including those on road types as well as mountain bikes), walkers, joggers, roller-bladers, baby carriage-pushers, wheelchair users, etc., presuming that these trail users would be at least as interested in exercise and access to commuting and recreation destinations as in enjoying the natural scenery. It was recognized that similar high-traffic multi-use trails would also serve to link urban areas with major natural destinations and other types of trails. These dual functions were captured in our analysis of multi-use trail opportunities. It is important to acknowledge that there is another type of multi-use trail that is not addressed in these analyses: the rural unpaved type that receives light shared use by hikers, equestrians, and mountain bikers. These two types of multi-use trails are suited to different landscape situations.

- *Opportunities* is the term denoted by the greenways plan (DEP and FGCC 1998), which refers to the potential trail corridors mapped in the Five Year Implementation Plan.

- *Segments* are the trail opportunity sections we defined for comparison. Most segment ends were positioned at recommended trailheads, but in some cases road crossings or trail intersections or other termini were used.

Appendix 2 Participants in the Update and Prioritization Processes

Following is a table listing all who actively participated in the 2008 Multi-Use and Paddling Trail Updates and their prioritizations.

Organization	Name	Role
Alachua County	Jeffrey Hays	Planner Input Period
Alachua County	Robert Avery	Planner Input Period
Apalachicola Riverkeeper	Andrew Jubal Smith	Planner Input Period
Blackwater Heritage Trail CSO	Vernon Compton	Planner Input Period
Broward County MPO	Mark Horowitz	Planner Input Period
Charlotte County-Punta Gorda MPO	Lakshmi N.Gurram	Planner Input Period
Chattahoochee	Anne Thrash	Planner Input Period
Chattahoochee	Leigh Brooks	Planner Input Period
City of Crescent City	Nicholas Mcray	Planner Input Period
City of Keystone Heights	Mary Lou Hildreth	Planner Input Period
City of Kissimmee	Joshua DeVries	Planner Input Period
City of Marianna	Kay Dennis	Planner Input Period
City of Waldo	Kim Worley	Planner Input Period
CivaTerra, Inc.	Ryan Morrell	Planner Input Period
Clay County	Rick Bebout	Planner Input Period
Clay County	Thomas Price	Planner Input Period
Dixie County	Arthur Bellot	Planner Input Period
Duval County	Vanessa Price	Planner Input Period
Ecoast LLC	Ben Hay Hammet Jr.	Planner Input Period
Escambia County	Bradley D. Bane	Planner Input Period
Escambia County	Jimmie Jarratt	Planner Input Period
Escambia County	Doyle Butler	Planner Input Period
FL Department of Transportation	Mary Anne Koos	Planner Input Period
FL Dept of Environmental Protection	Brian Burket	Planner Input Period
FL Dept of Environmental Protection	Marsha Connell	Planner Input Period
Florida Trail Association	Lesley Cox	Planner Input Period
Gadsden County	Bill McCord	Planner Input Period
Hernando County MPO	Hubert Pascoe	Planner Input Period
Highlands County	Vicki Pontius	Planner Input Period
Hillsborough County	Charner Reese	Planner Input Period
Historical Society of Bay County	Robert R. Hurst	Planner Input Period
Inwood Consulting Engineers, inc.	David Graeber	Planner Input Period
Jackson County	Chuck Hatcher	Planner Input Period
Jacobs Infrastructure	Derek C.S. Burr, AICP	Planner Input Period
Jefferson County	Tim Peary	Planner Input Period
Lee County Parks and Recreation	Daniel Calvert	Planner Input Period
Levy County	Helen Koehler	Planner Input Period
Madison County	Sherilyn Pickels	Planner Input Period
Manatee County	Sharon Tarman	Planner Input Period
Martin County	Baret Barry	Planner Input Period
Miami Urbanized Area MPO	Eric Tullberg	Planner Input Period

Organization	Name	Role
Miami-Dade County	Jordan Bess	Planner Input Period
Nassau County	Mike Pikula	Planner Input Period
National Park Service	Jaime Doubek-Racine	Planner Input Period
North Florida Bicycle Club	Carmen Martinez M.D.	Planner Input Period
Northeast Everglades Trails Association	Susan Kennedy	Planner Input Period
Osceola County	Daniel Stephens	Planner Input Period
Palm Beach MPO	Bret Baronak	Planner Input Period
Pasco County MPO	Manny Lajmiri	Planner Input Period
Pinellas County	Glenn Bailey	Planner Input Period
Polk County	Tabitha Biehl-Gabbard	Planner Input Period
Sarasota County	Ryan Montague	Planner Input Period
Seminole County	Heidi Miller	Planner Input Period
St. Johns County	William Zeits	Planner Input Period
St. Lucie County	Nicole McPherson	Planner Input Period
Suwannee River WMD	Edwin McCook	Planner Input Period
Suwannee County	Jason Furry	Planner Input Period
Tallahassee - Leon County Planning Department	Stephen M. Hodges	Planner Input Period
Taylor County	Melody Cox	Planner Input Period
Trust for Public Land	Andrea Goldman	Planner Input Period
Union County	John Berchtold	Planner Input Period
Wakulla County	Sheryl Mosley	Planner Input Period
City of Kissimmee	Joshua DeVries	Public Comment
Ecoast LLC	Ben Hay Hammet Jr.	Public Comment
Flagler County	Tim Telfer	Public Comment
Florida Cattlemen's Association	Charles D. Russo	Public Comment
Florida Trail Association	Lesley Cox	Public Comment
Inwood Consulting Engineers, inc.	David Graeber	Public Comment
Jacobs Infrastructure	Derek C.S. Burr, AICP	Public Comment
Lake~Sumter MPO	Michael Woods	Public Comment
Lee County Parks and Recreation	Daniel Calvert	Public Comment
Martin County	Baret Barry	Public Comment
Miami Urbanized Area MPO	Eric Tullberg	Public Comment
North Florida Bicycle Club	Carmen Martinez M.D.	Public Comment
Northeast Everglades Trails Association	Susan Kennedy	Public Comment
Northeast Florida Equestrian Society	Joanne Connell	Public Comment
Palm Beach MPO	Bret Baronak	Public Comment
Polk County	Tabitha Biehl-Gabbard	Public Comment
Putnam Land Conservancy	Kathy Cantwell	Public Comment
Trust for Public Land	Andrea Goldman	Public Comment
Central Florida Regional Planning Council	Various	Prioritization
Duval Cnty Dept of Recreation & Community Services	Shorty Robbins	Prioritization
East Central Florida Regional Planning Council	Various	Prioritization
Florida Fish & Wildlife Conservation Commission	Liz Sparks	Prioritization
Florida Greenways & Trails Council (FGTC)	Susan Kennedy	Prioritization
Florida Greenways & Trails Council (FGTC)	Mike Grella	Prioritization
Florida Paddling Trails Association	Various	Prioritization
Florida Trail Association/FGTC	Kent Wimmer	Prioritization

Organization	Name	Role
Office of Greenways and Trails Staff	Various	Prioritization
Rails to Trail Conservancy	Ken Bryan	Prioritization
South Florida Water Management District	Various	Prioritization
Southwest Florida Regional Planning Council	Various	Prioritization
Southwest Florida Water Management District	Various	Prioritization
Suwannee River Water Management District	Edwin McCook	Prioritization
West Central Florida MPO	Various	Prioritization

Office of Greenways and Trails Staff

Listed below is the Office of Greenways and Trails staff who participated in the updates and prioritization process:

Jena B. Brooks, Director

Jim Wood, Assistant Director

Heather Pence, Planning Manager

Dean Rogers, GIS Analyst

Marsha Connell, West Regional Planner

Matt Klein, East Regional Planner

Robin Turner, North Regional Planner

Appendix 3 Detailed Descriptions of GIS Analyses Used For Prioritizations (in alphabetical order)

The result of each analysis is a GIS layer of the opportunity corridors (also called "corridors" or "segments") ranked from 1-9, where 1 is the lowest priority and 9 is the highest priority.

Access to Recreation Areas

This analysis addresses the likelihood that this trail corridor will take people to places where they can enjoy other recreational experiences. The evaluation is based on the occurrence of recreation sites within each corridor, normalized by the area of the corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least access to recreation areas) and a value of 9 represents the highest priority (most access to recreation areas).

Data Layers Used for Access to Recreation Areas

-Parks, University of Florida GeoPlan Center (FGDL LAYER – GC_PARKS 2008)
-Culture Centers,
University of Florida GeoPlan Center (FGDL LAYER –GC_CULTURECENTER 2008)
-USGS Geographic Names Information System,
US Geological Survey (FGDL LAYER - GNIS 2006)
-Greenways Project Cultural and Historic Features,
University of Florida GeoPlan Center (FGDL LAYER – GWCHF)
-Marine Facilities,
Florida Fish and Wildlife Conservation Commission (FWC),
Fish and Wildlife Research Institute (FWRI) (FGDL LAYER- MARFAC)
-First Magnitude Springs,
Florida Department of Environmental Protection (FGDL LAYER – SPRINGS)
-Springs,
Florida Department of Environmental Protection
(FGDL LAYER - SPRINGS_FDEP_2000)
-Springs,
Florida Geological Survey (FGS) (FGDL LAYER – SPRINGS_FGS_2004)
-Springs,
St Johns River Water Management District
(FGDL LAYER - SPRINGS_SJRWMD_2007)
-Springs,
Northwest Florida Water Management District
(FGDL LAYER - SPRINGS_NWFWMD_2006)
-Springs,
Suwannee River Water Management District
(FGDL LAYER - SPRINGS_SRWMD_2007)

Process Steps

- Created one springs layers by combining the five springs layer listed above and removing duplicate points using an iterative process. First, the FDEP's First Magnitude Springs layer was used as the base layer. Points from the next springs layer were removed if they were located within a 100meters of base layer points. Remaining points were then added to the base springs layer. This process was continued for the other springs layers, in order to remove duplicate spring points.
-Using GNIS as the base layer and removed points from all other layers that were within 100 meters of GNIS points.
-Merged springs layer with all other layers.
-Created point density calculation for each opportunity corridor (via a spatial join).
- Scores for each point within the trail corridor were totaled and normalized by the area of the opportunity corridor.
-Reclassed density values from 1-9, where 1 is the lowest density (priority) and 9 is the highest density (priority).

Access to Schools

This analysis addresses the likelihood that this trail corridor will serve as a school commuter route and/or be readily accessible to students and parents. The evaluation is based on analysis of the occurrence of school locations within the corridor, from the GeoPlan schools database. In scoring, access to schools attended by young children was considered minimally significant, whereas access to schools attended by teenagers and young adults was considered important. Scores for each point within the trail corridor were totaled and normalized by the area of the corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least access to schools) and a value of 9 represents the highest priority (most access to schools).

Data Layers Used for Access to Schools

-School Locations, University of Florida GeoPlan Center (FGDL LAYER –GC_SCHOOLS 2008)

Process Steps

-Used GeoPlan Center Schools as base and Selected out each level (High, Elementary, Middle, College, and Other) built separate shapefiles for each.

-Created point density calculation for each segment in each shapefile (via a spatial join).

-Reclassed each shapefile highest density to 9 and lowest density to 1.

-Scores for each point within the trail corridor were totaled and normalized by the area of the opportunity corridor.

-Merged all layers together, maintaining separate columns for each levels point density.

-Created a new field and ran the calculator

[school = elem (.05) + mid (.15) + high (.30) + college(.40) + other (.10)]

-Reclassed density values from 1-9, where 1 is the lowest density (priority) and 9 is the highest density (priority).

Adaptability of Existing Trails and Rights of Way

This analysis addresses the ease of trail development and management, as well as the likelihood that the route may already be used and valued as an informal trail. The analysis was based on the presence of existing unpaved road/trail lengths/orientations within the trail corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least adaptability) and a value of 9 represents the highest priority (most adaptability).

Data Layers Used for Adaptability of Existing Trails and Rights of Way

-Existing Recreational Trails 2008,
University of Florida GeoPlan Center (FGDL LAYER –EXISTING_TRAILS)

-Railroad 1:100,000,
U.S. Department of Transportation, Bureau of Transportation Statistics, Federal Railroad Administration (FGDL LAYER –RAILS_2007)

-Roads 1:24,000, US Geological Survey (FGDL LAYER –RDS24)(CLASS 5)

-2006 Statewide Parcels Data (FGDL LAYERS – COUNTY_PARCELS_06)

-Water Management District Land Use 1995, 2004 and 2006,
(FGDL LAYERS - LU_NWFWMD_1995, LU_SFWMD_2004, LU_SJRWMD_2004, LU_SRWMD_2004, LU_SWFWMD_2006)

Process Steps

-Land uses suitable for multi-use and paddling trails were selected from the WMD land use layers (Suitable land uses were determined in the original prioritization methods by Duever, Teisinger and Carr, Prioritization of Recreational Trail Opportunities for the State of Florida, 2001 and listed as values of "2" in Tables 5.2.2. and 5.3.3 of this report).

-Suitable land use patches greater than 24 acres were selected out from the WMD land use data layers. The density of suitable lands per opportunity corridor was then calculated. The density values were then reclassed into a scale of 1 to 9, with lower densities having 1 and higher densities having 9.

-Calculated the number of parcels per corridor length. Values were then reclassed from 1-9, with 1 indicating the highest number of parcels per corridor and 9 indicating the lowest.

-Calculated the density of class5 roads per segment. Reclassed 1-9, with 1 indicating the lowest densities and 9 indicating the highest densities.

-Calculated the density of abandoned railroads per segment. Reclassed 1-9, with 1indicating the lowest densities, and 9 indicating the highest densities.

-Calculated the density of existing trails per segment. Reclassed 1-9, with 1 indicating the lowest densities and 9 indicating the highest densities.

-Scores for each were totaled and normalized by the area of the opportunity corridor.

-Created new field call adapt and calculated for this field
[ADAPT = goodlandsden (0.1) + parcelsden (0.1) + Class5den (0.1) + abandonrailden (0.4) + existingtrailden (0.3)]
-Reclassed values from 1-9, where 1 is the lowest value (priority) and 9 is the highest value (priority).

Archaeological and Historical Sites

This analysis addresses the potential for historical interpretation along this trail corridor. The analysis was based on the presence of archaeological and historical features from the Florida Division of Historical Resources databases. Sites sensitive to public intrusion were excluded. Only registered historic sites were included. Scores were based on the number of archaeological and historic sites located within each corridor, normalized by the area of the corridor. Corridors with a higher number of sites per corridor area were given a higher priority value. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least amount of historical sites) and a value of 9 represents the highest priority (most historical sites).

Data Layers Used for Archaeological and Historical Sites

-Non-Sensitive Historical Structures,
Florida Division of Historical Resources (FGDL LAYER –SHPO Structures – July 2008)
-Non-Sensitive Archaeological Sites,
Florida Division of Historical Resources (FGDL LAYER –SHPO National Registry – July 2006)
-Non-Sensitive Bridge Sites,
Florida Division of Historical Resources (FGDL LAYER –SHPO Bridges – July 2008)
-Non-Sensitive Cemetery Sites,
Florida Division of Historical Resources (FGDL LAYER –SHPO Cemetery – July 2008)
-Greenways Project Cultural and Historic Features,
University of Florida GeoPlan Center (FGDL LAYER –GWCHF – July 2008)

Process Steps

-Removed duplicate points from Archaeological and Historical Sites Data:
-Removed points from SHPO Structures that intersected with SHPO National Registry points.
-Removed points from SHPO Cemetery that intersected with SHPO National Registry points.
-Removed points from SHPO Bridge that intersected with SHPO National Registry points.
-Removed points from GWCHF that intersected with SHPO National Registry points.
-Removed all restricted sites from SHPO National Registry shapefile.
-Merged SHPO Structures and Bridges with GWCHF (POINTS).
-Merged SHPO National Registry with Cemeteries.
-Created point and poly density calculation for each corridor in each of the merged shapefiles (via a spatial join).
-Reclassed both merged shapefiles density field (highest density to 9 and lowest density to 1).
-Merged the two reclassed shapefiles and created new field ARCH.
-Calculated new Field ARCH = PointDensity_Reclass (0.5) + PolyDensity_Reclass (0.5)
-Reclassed density values from 1-9, where 1 is the lowest density and 9 is the highest density.

Continuity

This analysis addresses the contribution the trail segment would make to a continuous trail network on a statewide and/or regional scale. Scores were assigned to individual trail corridors by regional experts chosen by the Office of Greenways & Trails. The regional experts qualitatively ranked the continuity value of each opportunity corridor as high, medium, or low. Trails viewed as key skeletal components of the state system were ranked higher, as were segments lacking alternative or redundant routes.

Data Used for Continuity Analysis

-Individual OGT Committee Member Response

Process Steps

-Converted ranks to value, where a low rank = 1, medium rank = 5, and high rank =9.
-Averaged the Continuity feed back for each segment.
-Reclassed the values from 1-9, where 1indicates the lowest rank and 9 the highest rank.

Ecological Quality

This analysis is used as a measure of the ecological quality of the trail segment corridor that in turn, affects the quality of the user's experience and the potential for natural history interpretation. It is also an indicator of a recreational trail project's

potential for facilitating development of a multi-functional greenway that enhances ecological connectivity. For this analysis, datasets developed for Critical Lands & Waters Identification Project (CLIP) were utilized. Scoring was based on the density of ecologically significant areas within each corridor. The corridors were ranked from 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest ecological quality) and a value of 9 represents the highest priority (highest ecological quality).

Data Layers Used for Ecological Quality

-Strategic Habitat Conservation Areas (CLIP),
Florida Fish & Wildlife Conservation Commission (LAYER – SHCA)
VALUES: prioritized into five classes, where Priority 1 is highest and Priority 5 is the lowest.

-Biodiversity Hotspots (CLIP)
Florida Fish & Wildlife Conservation Commission (LAYER – HOTSPOTS)
VALUES: Values of 0 – 13, with 0 indicating low priority (no species habitats) and 13 indicating high priority (13 species habitats overlapping).

-Florida Ecological Greenways Network (CLIP)
University of Florida GeoPlan Center and Florida Dept. of Environmental Protection (DEP), Office of Greenways & Trails (LAYER - ECO_GWAY)
VALUES: 8 priority levels, where 1 is highest priority, 8 is lowest priority.

-Landscape Integrity (CLIP)
University of Florida GeoPlan Center (LAYER - LANDSCAPE_INT)
VALUES: 10 priority levels, where 1 is lowest priority and 10 is highest priority

-Rare Species Habitat Conservation Priorities (CLIP)
Florida Natural Areas Inventory (LAYER - RARESP_HAB)
VALUES: 1-6, with 1 = highest priority and 6 = lowest priority.

Process Steps

-Reclassed HOTSPOTS from 1-5, with 1 indicating the highest priority and 5 indicating the lowest priority.
- Rank 1 = 8-13 overlapping species (highest priority)
- Rank 2 = 7 overlapping species
- Rank 3 = 5-6 overlapping species
- Rank 4 = 2-4 overlapping species
- Rank 5 = 1 species (lowest priority)

-For each of the five input layers:
-Calculated the average value for each corridor, normalized by the corridor area.
-Reclassed density values from 1-9, with 1 indicating the lowest density and 9 indicating the highest density.

-Combined results and equally weighted all 5 layers to created one value for each corridor.
-Reclassed final values from 1-9, with 1 indicating the lowest priority and 9 indicating the highest priority.

Land Use Suitability

This analysis is a measure of the compatibility of land use within the opportunity corridor with the trail's intended use and purpose. The analysis included first, a ranking of the relative suitability of any given cell for the trail type using water management districts' land use/land cover data and second, a 10 x 10 cell neighborhood comparison of the suitability rankings. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest amount of suitable land uses) and a value of 9 represents the highest priority (highest amount of suitable land uses).

Data Layers Used for Land Use Suitability

-Water Management District Land Use 1995, 2004 and 2006,
(FGDL LAYERS - LU_NWFWMD_1995, LU_SFWMD_2004, LU_SJRWMD_2004, LU_SRWMD_2004, LU_SWFWMD_2006)

Process Steps

-Reclassed land uses based on classification scheme determined in the original prioritization methods by Duever, Teisinger and Carr, Prioritization of Recreational Trail Opportunities for the State of Florida, 2001. Crosswalk of values are listed in Tables 5.2.2. and 5.2.3 of this report.
-Intersected reclassed land use layer with opportunities corridors
-Calculated average value for each corridor and normalized based on corridor area.
-Reclassed final values from 1-9, with 1 indicating the lowest priority and 9 indicating the highest priority.

Level of Regional Interest

This is a qualitative assessment of the trail's importance to the region and to the respective user groups. Scores were assigned to individual trail corridors by regional experts chosen by the Office of Greenways & Trails. Regional experts qualitatively ranked each corridor as high, medium, or low, based on the perceived demand and interest for that particular corridor.

Data Used for Level of Regional Interest Analysis

Individual responses given by regional experts

Process Steps

-Converted expert ranks to values, where a low rank = 1, medium rank = 5, and high rank =9.

-Averaged the Continuity feed back for each segment.

-Reclassed the values from 1-9, where 1indicates the lowest rank and 9 the highest rank.

Local Demand: Pedestrian and Cycling Usage

The bicycle accident rate is primarily viewed as a measure of the degree of bicycling activity and demand in a local area, but also suggests that additional trails might improve bicycling safety problems. Two data sources – bike accidents and US Census Bureau transportation data – were used to gauge local demand for cycling and walking. The corridors were ranked from 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (or lower demand for cycling/ walking) and a value of 9 represents the highest priority (or higher demand for cycling/ walking).

Data Layers Used for Local Demand: Bike Accidents Data and Bike/Pedestrian Usage

-BIKE ACCIDENTS BY COUNTY 1998 – 2005,

Florida Department of Highway Safety and Motor Vehicles

(LAYER - BIKE_ACCIDENTS_2005)

-US CENSUS – 2000,

(FGDL LAYER – BLKGRP2000_SUM3 with P30. MEANS OF TRANSPORTATION TO WORK FOR WORKERS 16 YEARS AND OVER [16] table include the following; Bicycle, Walked, Public transportation)

Process Steps

-For each opportunity corridor, calculated the number of individuals who bicycled, walked, or took public transportation to work. Bikers and walkers were combined into one layer and public transportation users were placed into a separate layer.

-For each of the two transportation layers, reclassed the values from 1-9, with 1 representing the lowest values (lowest numbers of bicyclers/ walkers/ public transit users) and 9 representing the highest values (highest numbers of bicyclers/ walkers/ public transit users).

-Values were normalized by corridor area.

-Calculated average number of bike accidents per corridor, normalized by corridor area.

-Reclassed values from 1-9, with 1 representing the lowest number of bike accidents and 9 representing the highest number of bike accidents.

-Combined three layers to make one layer with the following percentages: Bike Accidents (0.50) + BikeWalk (0.4) + PubTran (0.1)

-Reclassed values from 1-9, where 1 represents the lowest priority (or lowest demand for pedestrian and cycling usage) and 9 represents the highest priority (or highest demand for pedestrian and cycling usage).

Local Demand: Residential Density

This analysis is used as a measure of how easily users can access the trail from their homes. The analysis was applied to multi-use trails only, on the assumption that direct access from home to trail is more important for urban trails used for regular commuting and exercise than for trails used for nature-based outings. The number of residential parcels per corridor was calculated from the Department of Revenue Tax data and normalized by corridor area. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest amount of residential density) and a value of 9 represents the highest priority (highest amount of residential density).

Data Layers Used for Local Demand: Residential Density

-FDOR Property Tax Data Records For 2006,

Florida Department of Revenue,

(FGDL LAYER – COUNTY_PARCELS_06)

Process Steps

-Created Label Points for each Residential Parcel

-Selected out Multifamily Points and Single Family Points to create two layers.
-Performed a spatial join for each point layer to the paddling and multiuse trail buffers to get the parcel count for each of the four buffers.
-Calculated the densities by summarizing the number of parcels per corridor, normalized by corridor area.
-Reclassed the density values from 1-9, where 1 represents the lowest densities and 9 represents the highest densities.
-Combined the two Multiuse density layers to create one for each by the following calculation (Multifamily x 0.70) + (Singlefamily x 0.30).
-Reclassed density values from 1-9, where 1 represents the lowest priority (lowest residential densities) and 9 represents the highest priority (highest residential densities).

Overlaps with Other Conservation/Recreation Lands

This analysis is viewed both as a measure of the inherent ecological and recreational quality of the trail corridor and an index of the likelihood of cooperative management. Scores are based on whether the trail corridor overlaps conservation lands, ecological greenways, or Save our Rivers. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (least overlap with conservation/ recreation lands) and a value of 9 represents the highest priority (most overlap with conservation/ recreation lands).

Data Layers Used for Overlaps with Other Conservation/Recreation Plans

-FNAI Managed Areas - June 2008,
Florida Natural Areas Inventory,
(FGDL LAYER –FLMA_JUN08)
-Florida Forever / Board of Trustees Environmental Land Acquisition Projects – June 2008,
Florida Natural Areas Inventory
(FGDL LAYER- FL_FORVER_JUN08)

For Paddling the following additional Data Layers were included

-Outstanding Florida Waters – July 2008,
Florida Department of Environmental Protection,
(FGDL LAYER - OFW_OTHER_JUL08)
-Wild & Scenic Rivers,
Florida Department of Environmental Protection and South Florida Water Management District, (FGDL LAYER - WILDRIVER_AUG05)

Process Steps

-Using FLMA as the base layer, erased FL_FOREVER areas that overlapped with FLMA areas.
-Broke FL_FOREVER layer into three categories for weighting purposes (rationale that higher priority projects should get more weight/ importance in the analysis). Weighted FL_FOREVER projects as follows: Top 21 Priority Projects (55%), Group A (35%) and Group B (15%).
-For each input layer, calculated density within each corridor and then reclassed density values from 1-9, where 1 represents lower density and 9 represents higher density.
-Combined each input layer using the following calculation (weights determined in original prio methods).
-Paddling (FLMA x 0.55) + (FL_FOREVER x 0.15) + (OFW x 0.15) + (WILDRIVER x 0.15)
-Multiuse (FLMA x 0.70) + (FL_FOREVER x 0.30)
-Reclassed final values of combined layer from 1-9, where 1 represents the lowest priority (least overlap with conservation areas) and 9 represents the highest priority (most overlap with conservation areas).

Significant Natural Communities

This analysis is a measure of scenic interest and interpretive potential, but is also used as a measure of ecological value. For the 2008 iteration of the prioritization process, data used for the Critical Lands and Waters Identification Project (CLIP) were added to this analysis to help identify under-protected natural communities and natural areas. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (or areas with the least amount of significant natural communities) and a value of 9 represents the highest priority (or areas with the highest amount of significant natural communities).

Data Layers Used for Rare Habitat Types

-CLIP Under-Protected Natural Communities,
Florida Natural Areas Inventory (LAYER - NAT_COMM)
VALUES: 13 values, each representing a different natural community type).

-FNAI Potential Natural Areas,
Florida Natural Areas Inventory (LAYER – FL_FNAIPNA_POLYGON)
-Generalized Land Use Derived from 2006 Parcel Land Use,
University of Florida GeoPlan Center,
(FGDL Layers: D1_LU_GEN_2006, D2_LU_GEN_2006, D3_LU_GEN_2006, D4_LU_GEN_2006, D5_LU_GEN_2006, D6_LU_GEN_2006, D7_LU_GEN_2006)

Process Steps

-Developed/ urbanized areas were identified using FGDL Generalized Land Use layers. Developed/ urbanized areas were then erased from PNAs to more accurately represent current ground conditions.
-PNAs were ranked based on their priority values, where higher priority areas receive a higher weighting:
50% - PNA 1-2
35% - PNA 3-4
15% - PNA 5
-Calculated density of PNAs within each corridor, normalized by corridor area. Reclassed the density values from 1-9, with 1 representing the lowest density and 9 representing the highest.
-Calculated density of NAT_COMM within each corridor, normalized by corridor area.
-Reclassed density values from1-9, with 1 representing the lowest density and 9 representing the highest.
-Combined both Reclassed input layers at the following percentage to create one layer.
NAT_COMM (0.50) + PNAs (0.50)
-Reclassed final layer values from1-9, with 1 representing the lowest density and 9 representing the highest.

Road Crossings

This analysis is a measure of the degree of difficulty expected to be involved in getting this trail segment and/or its users across roads. Scoring is based on the number of limited access road crossings per mile of trail segment, normalized by corridor area, and the density of lesser roads within the trail corridor, using 1:24000 road data from USGS. Class 1 roads have the strongest influence on the density analysis with a reduction of influence for lesser Class roads. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (or most road crossings) and a value of 9 represents the highest priority (or least amount of road crossings).

Data Layers Used for Road Crossings

-Roads 1:24,000, US Geological Survey (FGDL LAYER –RDS24)

Process Steps

-Classes 1, 2, 3, 4, and 5 were broken up into separate shapefiles.
-For each road class, calculated road density within each corridor, normalized by corridor area.
-For each road class density layer, reclassed density values from 1-9 where 1 represents the lowest priority (or highest road densities) and 9 represents the highest priority (or lowest road densities).
-Combined the road class layers into one layer, using the following weight calculation:
[RoadDen = Class1 (0.4) + Class2 (0.3) + Class3 (0.15) + Class4 (0.10) + Class5 (0.05)]
-Reclassed final layer from 1-9, where 1 represents the lowest priority (or most road crossings) and 9 represents the highest priority (or lowest road crossing).

Scenic Diversity

This analysis is an assessment of the extent and variety of aesthetically pleasing landscape types within the trail corridor. The analysis was based on neighborhood variety analysis of scenically categorized land use/land cover data from the water management districts. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (lowest amount of scenic diversity) and a value of 9 represents the highest priority (highest amount of scenic diversity).

Data Layers Used for Scenic Diversity

-Water Management District Land Use 1995, 2004 and 2006,
(FGDL LAYERS - LU_NWFWMD_1995, LU_SFWMD_2004, LU_SJRWMD_2004, LU_SRWMD_2004, LU_SWFWMD_2006)

Process Steps

-Reclassed land uses based on classification scheme determined in the original prioritization methods by Duever, Teisinger and Carr, Prioritization of Recreational Trail Opportunities for the State of Florida, 2001. Crosswalk of

values are listed in Tables 5.2.2. and 5.2.3 of this report. For this analysis, land uses with Recreation Aesthetics = 1 or 2 were selected.
-Intersected Opportunity corridors with reclassed Land Use layer
-Calculated density of scenic land uses within each corridor, normalized by area.
-Reclassed density values from 1-9, with 1 representing the lowest priority (i.e. - lowest density of scenic land uses) and 9 represents the highest priority (i.e. - highest density of scenic land uses).

Scenic Roads

This analysis is a both an indicator of the inherent beauty and interest of the landscape and a measure of the potential for cooperation between trail development and eco-tourism programs. Scoring is based on whether the corridor includes a stretch of road designated or under consideration for designation as a Florida Scenic Highway. This was applied to multi use trails only. The segments were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (less scenic roads) and a value of 9 represents the highest priority (more scenic roads).

Data Layers Used for Scenic Roads

-FLORIDA SCENIC HIGHWAYS AND BYWAYS 2008,
Florida Department of Transportation (FGDL LAYER – SCENIC_BYWAYS_NOV08)

Process Steps

-Calculated line density of scenic roads for each corridor, normalized by corridor area.
-Reclassed density values from 1-9, where 1 represents the lowest priority (less scenic roads) and 9 represents the highest priority (more scenic roads).

Special Landscape Features

This analysis is used as an index of the trail segment's potential for offering access to and views of interesting landscape features. Scoring is based on density of springs, sinkholes, lakes, beaches, hilltops and other landscape features (excluding cultural features), normalized by corridor area. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (less special landscape features) and a value of 9 represents the highest priority (more special landscape features).

Data Layers Used for Special Landscape Features

-USGS Geographic Names Information System,
US Geological Survey (FGDL LAYER –GNIS 2006)
-First Magnitude Springs,
Florida Department of Environmental Protection (FGDL LAYER – SPRINGS)
-Springs,
Florida Department of Environmental Protection
(FGDL LAYER - SPRINGS_FDEP_2000)
-Springs,
Florida Geological Survey (FGS) (FGDL LAYER – SPRINGS_FGS_2004)
-Springs,
St Johns River Water Management District
(FGDL LAYER - SPRINGS_SJRWMD_2007)
-Springs,
Northwest Florida Water Management District
(FGDL LAYER - SPRINGS_NWFWMD_2006)
-Springs,
Suwannee River Water Management District
(FGDL LAYER - SPRINGS_SRWMD_2007)

Process Steps

- Created one springs layers by combining the five springs layer listed above and removing duplicate points using an iterative process. First, the FDEP's First Magnitude Springs layer was used as the base layer. Points from the next springs layer were removed if they were located within a 100meters of base layer points. Remaining points were then added to the base springs layer. This process was continued for the other springs layers, in order to remove duplicate spring points.
-Removed cultural features from the GNIS layer.
-Used GNIS as the base layer and removed points from all other layers that intersected GNIS within 100m.
-Merged all layers together.

-Calculated point density for each corridor (via a spatial join).
-Reclassed density values from 1-9, where 1 represents the lowest priority (less special landscape features) and 9 represents the highest priority (more special landscape features).

Trail Linkages

This analysis addresses the extent to which the trail segment would provide access to other existing trails. The existing trails database maintained by GeoPlan was used to develop scores based on the number of existing trails crossing or adjoining the trail corridor. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (less trail linkages) and a value of 9 represents the highest priority (more trail linkages).

Data Layers Used for Trail Linkages

-Existing Recreational Trails 2008,
University of Florida GeoPlan Center (FGDL LAYER –EXISTING_TRAILS)

Process Steps

-Calculated the density of the existing trail segments for each opportunity corridor.
-Reclassed density values from 1-9, with 1 representing the lowest priority (least amount of trail linkages) and 9 representing the highest priority (most trail linkages).

Water Crossings

This analysis is a measure of the probable difficulty of getting the trail segment and/or its users across major rivers and streams. Scoring is based on the number of major river crossings per corridor per area, normalized by corridor area and the density of lesser streams. Only streams that crossed the corridor were counted and small creeks were excluded. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (highest amount of water crossings) and a value of 9 represents the highest priority (least amount of stream crossings).

Data Layers Used for Water Crossings

-Major Rivers of Florida (FGDL LAYER – MJRIVP)
-Streams of Florida (FGDL LAYER- HY24L)

Process Steps

-Calculated density of river segments within each corridor.
-Calculated density of stream segments within each corridor.
-Reclassed each density layer from 1-9, where 1 represents more water crossings and 9 represents less water crossings.
-Combined reclassed density layers with the following weights:
[H2OX = Riverden (0.7) + Streamden (0.3)]
-Reclassed final layer from 1-9, where 1 represents the lowest priority (more water crossings) and 9 represents the highest priority (less water crossings).

Water Quality

This analysis was used as a measure of paddling trail quality only, since the water body is the trail itself. Water quality data from the Critical Lands and Waters Identification Project (CLIP) were used to reflect both health and aesthetic considerations. The corridors were ranked 1 – 9 based on Natural Breaks (See Section 2.6.3), where a value of 1 represents the lowest priority (poorest water quality) and a value of 9 represents the highest priority (best water quality).

Data Layers Used for Water Quality

-CLIP Significant Surface Waters,
Florida Natural Areas Inventory (LAYER - SURFACE_WATER)
VALUES: Grouped into seven priority classes, where 1 is highest priority (best water quality) and 7 is lowest priority (poorest water quality).

Process Steps

-Calculated average priority value per corridor, normalized by corridor area.
-Reclassed values from 1-9, where 1 represents the lowest priority (poorest water quality) and 9 represents the highest priority (best water quality)

Appendix 4 Land Use Suitability for Individual Trail Types

Land Use Suitability for Individual Trail Types is based on the Florida Land Use, Land Cover Classification System (FLUCCS) Level II land use classes in the Water Management District (WMD) Land Use Data. Data Sources: 2006 Southwest FL WMD Land Use Data; 2004 South FL WMD Land Use Data; 2004 St. John's River WMD Land Use Data; 2004 Suwannee River WMD Land Use Data; 1995 Northwest FL WMD Land Use Data.

Code	Category	Multi-Use	Paddling	Recreation Aesthetics
110	Residential, Low Density	1	1	1
120	Residential, Medium Density	1	0	0
130	Residential, High Density	0	0	0
140	Commercial and Services	0	0	0
150	Industrial	0	0	0
160	Extractive	0	-1	0
170	Institutional	1	1	1
180	Recreational	2	1	1
190	Open Land	1	1	1
210	Cropland and Pastureland	1	1	1
220	Tree Crops	1	1	1
230	Feeding Operations	0	-1	0
240	Nurseries and Vineyards	0	1	1
250	Specialty Farms	0	1	1
260	Other Open Lands	1	1	1
310	Herbaceous	2	2	2
320	Shrub and Brushland	2	1	1
330	Mixed Rangeland	1	1	2
410	Upland Coniferous Forests	2	1	2
420	Upland Hardwood Forests	2	1	2
430	Upland Hdwood Forests Cont.	2	2	2
440	Tree Plantations	1	1	2
510	Streams and Waterways	-1	2	2
520	Lakes	0	2	2
550	Major Springs	-1	2	2
560	Slough Waters	-1	2	2
610	Wetland Hardwood Forests	0	2	2
620	Wetland Coniferous Forests	0	2	2
630	Wetland Forested Mixed	0	2	2

-1 = unsuitable; 0 = low; 1 = medium; 2 = high

Code	Category	Multi-Use	Paddling	Recreation Aesthetics
640	Vegetated Non-Forested Wetlands	0	2	2
650	Non-Vegetated	-1	1	1
660	Cutover Wetlands	0	1	0
690	Wetland Shrub	0	1	1
710	Beaches Other Than Swimming Beaches	1	1	2
720	Sand Other Than Beaches	0	1	0
730	Exposed Rock	2	1	1
740	Disturbed Lands	2	1	0
810	Transportation	1	0	0
820	Communications	0	0	0
830	Utilities	1	0	0
910	Vegetative	1	1	1
111	Fixed Single Family Units	0	0	0
112	Mobile Home Units	0	0	0
113	Mixed Units	0	0	0
114	Ranchettes - Fixed Single Family Units	0	1	0
115	Ranchettes - Mobile Units	0	1	0
116	Ranchettes - Mixed Units	0	0	0
119	Low Density Under Construction	1	0	1
121	Fixed Single Family Units	0	0	0
122	Mobile Home Units	0	0	0
123	Mixed Units	0	0	0
129	Medium Density Under Construction	0	0	0
131	Fixed Single Family Units	0	0	0
132	Mobile Home Units	-1	-1	-1
133	Multiple Dwelling Units, Low Rise	0	0	0

-1 = unsuitable; 0 = low; 1 = medium; 2 = high

Code	Category	Multi-Use	Paddling	Recreation Aesthetics
134	Multiple Dwelling Units, High Rise	0	0	0
135	Mixed Units	0	0	0
139	High Density Under Construction	0	0	0
141	Retail Sales and Services	1	0	0
142	Wholesale Sales and Services	0	0	0
143	Professional Sevices	1	0	0
144	Cultural and Entertainment	1	0	0
145	Tourist Services	1	1	0
146	Oil and Gas Storage	0	0	0
147	Mixed Commercial and Services	0	0	0
148	Cemeteries	1	1	1
149	Commercial and Services Under Construction	0	0	0
151	Food Processing	0	0	0
152	Timber Processing	0	-1	0
153	Mineral Processing	0	-1	0
154	Oil and Gas Processing	0	-1	0
155	Other Light Industrial	0	0	0
156	Other Heavy Industrial	0	-1	0
159	Industrial Under Construction	0	0	0
161	Strip Mines	1	0	0
162	Sand and Gravel Pits	0	0	0
163	Rock Quarries	1	0	1
164	Oil and Gas Fields	1	0	0
165	Reclaimed Land	2	1	1
166	Holding Ponds	-1	-1	-1
171	Educational Facilities	2	1	1
172	Religious	1	1	1
173	Military	1	1	1
174	Medical and Health Care	1	1	0
175	Governmental	2	1	1

-1 = unsuitable; 0 = low; 1 = medium; 2 = high

Code	Category	Multi-Use	Paddling	Recreation Aesthetics
176	Correctional	0	0	0
177	Other Institutional	1	0	0
178	Commercial Child Care	0	0	0
181	Swimming Beach	2	1	2
182	Golf Courses	2	1	1
183	Race Tracks	0	0	0
184	Marinas and Fish Camps	1	1	1
185	Parks and Zoos	2	0	2
186	Community Recreational Facilities	2	1	1
187	Stadiums	0	0	0
188	Historical Sites	2	2	2
189	Other Recreational	1	1	1
192	Inactive Land	1	1	1
193	Urban Land in Transition	1	1	1
194	Other Open Land	1	1	1
211	Improved Pastures	2	1	1
212	Unimproved Pastures	2	1	1
213	Woodland Pastures	2	1	1
214	Row Crops	0	1	1
215	Field Crops	1	1	1
221	Citrus Groves	1	1	1
222	Fruit Orchards	1	1	1
223	Other Groves	1	1	1
231	Cattle Feeding Operations	0	-1	0
232	Poultry Feeding Operations	-1	-1	0
233	Swine Feeding Operations	-1	-1	-1
241	Tree Nurseries	0	1	1
242	Sod Farms	1	0	1
243	Ornamentals	0	1	1
244	Vineyards	1	1	1
245	Floriculture	0	1	1
246	Timber Nurseries	0	0	0
251	Horse Farms	1	1	1

-1 = unsuitable; 0 = low; 1 = medium; 2 = high

Code	Category	Multi-Use	Paddling	Recreation Aesthetics
252	Dairies	0	-1	1
253	Kennels	0	0	0
254	Aquaculture	0	0	0
259	Other	1	1	1
261	Fallow Crop Land	1	1	0
321	Palmetto Prairies	1	1	2
322	Coastal Scrub	1	2	2
329	Other Shrubs and Brush	2	1	1
411	Pine Flatwoods	2	2	2
412	Longleaf Pine-Xeric Oak	1	2	2
413	Sand Pine	1	2	2
414	Pine-Mesic Oak	2	2	2
419	Other Pines	2	2	2
421	Xeric Oak	2	2	2
422	Brazilian Pepper	2	1	1
423	Oak - Pine - Hickory	2	2	2
424	Melaleuca	2	1	1
425	Temperate Hardwood	2	2	2
426	Tropical Hardwoods	0	2	2
427	Live Oak	2	2	2
428	Cabbage Palm	2	2	2
429	Wax Myrtle-Willow	1	1	1
431	Beech-Magnolia	1	2	2
432	Sand Live Oak	1	2	2
433	Western Everglades Hardwoods	0	2	2
434	Hardwood - Conifer Mixed	2	2	2
435	Dead Trees	0	0	0
437	Australian Pine	2	2	2
438	Mixed Hardwoods	2	2	2
439	Other Hardwoods	2	2	2
441	Coniferous Plantations	2	1	1
442	Hardwood Plantations	2	1	1
443	Forest Regeneration Areas	1	1	1
444	Experimental Tree Plots	0	1	1

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Code	Category	Multi-Use	Paddling	Recreation Aesthetics
445	Seed Plantations	2	2	2
521	Lakes larger than 500 acres	-1	1	2
522	Lakes larger than 100 acres, but less than 500	-1	2	2
523	Lakes larger than 10 acres, but less than 100	-1	2	2
524	Lakes less than 10 acres	-1	2	2
531	Reservoirs larger than 500 acres	0	1	2
532	Reservoirs larger than 100 acres, but less than 500	-1	2	2
533	Reservoirs larger than 10 acres, but less than 100	-1	2	2
534	Reservoirs less than 10 acres	-1	2	2
541	Embayments opening directly into the Gulf of Mexico or the Atlantic Ocean	-1	1	2
542	Embayments not opening directly into the Gulf of Mexico or the Atlantic Ocean	-1	2	2
611	Bay Swamps	0	2	2
612	Mangrove Swamps	0	2	2
613	Gum Swamps	0	2	2
614	Titi Swamps	0	1	1
615	Stream and Lake Swamps (Bottomland)	0	2	2
616	Inland Ponds and Sloughs	0	2	2
617	Mixed Wetland Hardwoods	0	2	2
621	Cypress	0	2	2
622	Pond Pine	0	2	2
623	Atlantic White Cedar	0	2	2
624	Cypress-Pine-Cabbage Palm	1	2	2
631	Hydric Hammock	0	2	2
632	Tidal Swamp	0	2	2
641	Freshwater Marshes	0	2	2
642	Saltwater Marshes	0	2	2
643	Wet Prairies	0	1	2

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Code	Category	Multi-Use	Paddling	Recreation Aesthetics
644	Emergent Aquatic Vegetation	0	2	2
645	Submergent Aquatic Vegetation	-1	2	2
651	Tidal Flats	-1	1	1
652	Shorelines	1	2	2
653	Intermittent Ponds	0	2	2
654	Oyster Bars	-1	1	2
731	Exposed Rock with Marsh Grasses	0	1	2
741	Rural Land in Transition	1	1	1
742	Borrow Areas	0	1	0
743	Spoil Areas	2	1	1
744	Fill Areas	2	1	1
745	Burned Areas	1	1	1
811	Airports	1	0	0
812	Railroads	0	1	0
813	Bus and Truck Terminals	0	0	0
814	Roads and Highways	1	0	0
815	Port Facilities	1	-1	0
816	Canals and Locks	0	1	1
817	Oil, Water or Gas Long Distance Transmission Lines	2	1	0
818	Auto Parking Facilities	0	0	0
819	Transportation Facilities Under Construction	0	0	0
821	Transmission Towers	0	0	0
822	Communication Facilities	0	0	0
829	Communication Facilities Under Construction	0	0	0
831	Electrical Power Facilities	0	0	0
832	Electrical Power Trans Lines	2	0	0
833	Water Supply Plants	0	0	0
834	Sewage Treatment	-1	-1	-1
835	Solid Waste Disposal	-1	-1	-1
839	Utilities Under Construction	0	0	0
911	Sea Grass	0	2	2

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