

**Reprioritization of the Florida Ecological Greenways
Network based on the New Base Boundaries Adopted in
2004**

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Introduction

The adoption of new base boundaries of the Florida Ecological Greenways Network (FEGN) in 2004 by the Florida Greenways and Trails Council resulted in additions to the FEGN that are not prioritized since the first delineation of priorities preceded the boundary update. This report discusses the options for updating the FEGN priorities. There are three primary goals of reprioritization:

- 1) Delineate priority classes for additions to the FEGN adopted in 2004.
- 2) Simplify priority classes to solidify the identity of the areas most important for completing a statewide FEGN.
- 3) Determine whether any changes in priority classes are warranted especially regarding adding new Critical Linkages or expansion of existing Critical Linkages.

This report is based on the first iteration of FEGN prioritization. For information on these efforts, please contact the Office of Greenways and Trails for the two previous reports: 1) Ecological Greenways Network Prioritization for the State of Florida (2001); 2) Identification of Critical Linkages within the FEGN (2002).

The following sections represent the three major steps recommended to reprioritize the FEGN. The first step assigns priority classes to the FEGN additions based on the nearest and connected existing priority class. The second step combines the original priority classes 2 and 3 into one new priority 2 class. This results in 6 priority classes versus the original 7 classes. The final step includes all of the additional recommended changes in priority classes based on re-assessment of development pressure, logical consolidations or other edits of project boundaries, and new conservation projects relevant to protecting the high priorities within the FEGN. A draft set of changes were presented in a technical review meeting in August 2005 with staff from Florida Natural Areas Inventory, Florida Fish and Wildlife Conservation Commission, Florida Department of Environmental Protection, the Water Management Districts, and the Florida Chapter of The Nature Conservancy. Their recommendations for modifying the draft reprioritization were the primary basis for the proposed priority changes discussed in this report. However, some minor additional changes were added based on further analysis by the University of Florida and the Office of Greenways and Trails.

Step 1: Adding additions to the original prioritized Florida Ecological Greenways Network

This alternative starts with the new base boundary of the FEGN and assigns priorities to the additions based on the nearest existing priority class. For example, if the closest priority class to an addition is 2, then the addition will also be assigned a priority class 2. Conducting this process results in the following priority scheme (See Figure 1 and Table 1):

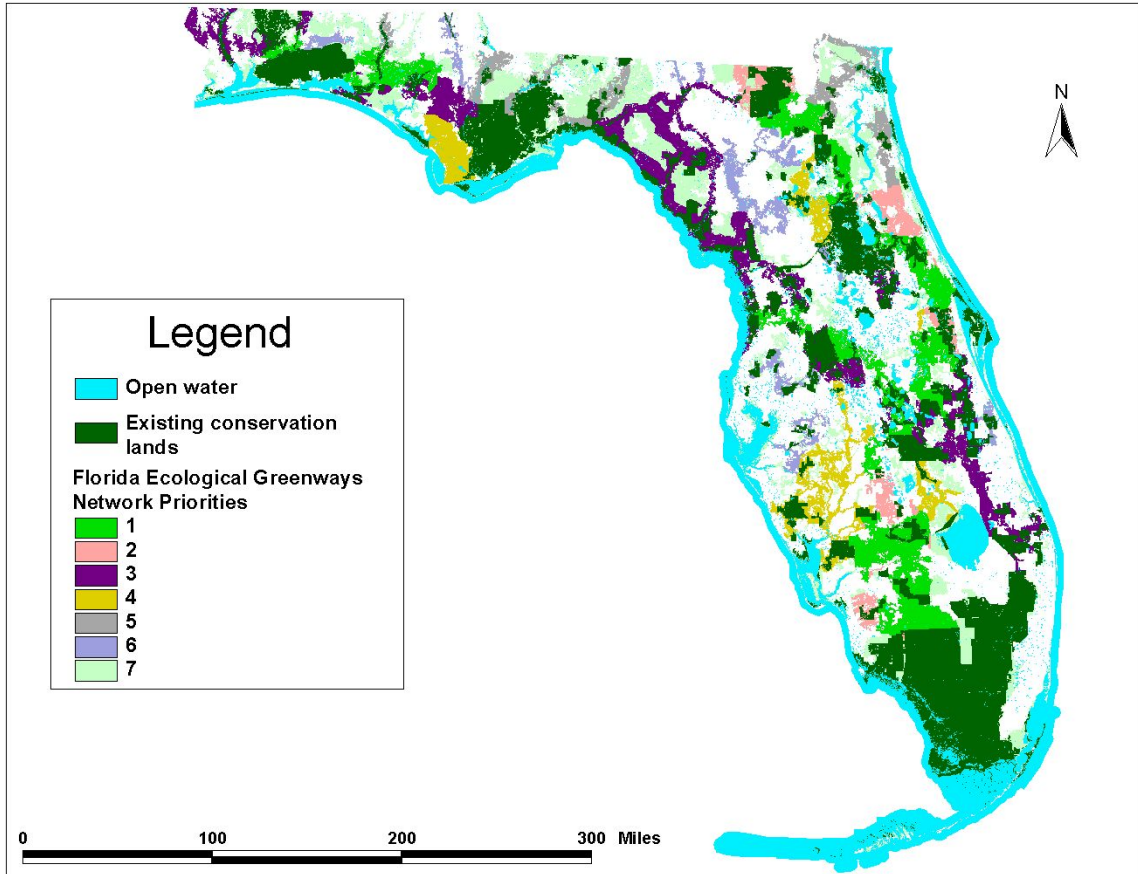


Figure 1. New draft priorities based on Step 1 changes.

Table 1. Acres within Priority Classes before and after Step 1.

Priority Classes	Original (acres)	Step 1 (acres)
Priority 1	2,798,338	3,285,920
Priority 2	1,285,098	1,408,636
Priority 3	3,713,938	4,086,320
Priority 4	1,500,374	1,717,054
Priority 5	952,682	1,141,116
Priority 6	873,162	1,057,234
Priority 7	11,866,540	12,838,004

Step 2: Combining Priority Classes 2 and 3

The second step makes the prioritization classification simpler and also is more consistent with the opinion of University of Florida and Office of Greenways and Trails staff that the first three priority classes are together the most important focal areas for achieving a statewide connected FEGN. Critical Linkages will remain as Priority class 1 to indicate their highest level of significance. Priority class 2 and 3 are combined into a new class 2. Then all other priority classes are moved up one class to change them from 4 through 7 to 3 through 6. Conducting this process results in the following priority scheme (See Figure 2 and Table 2):

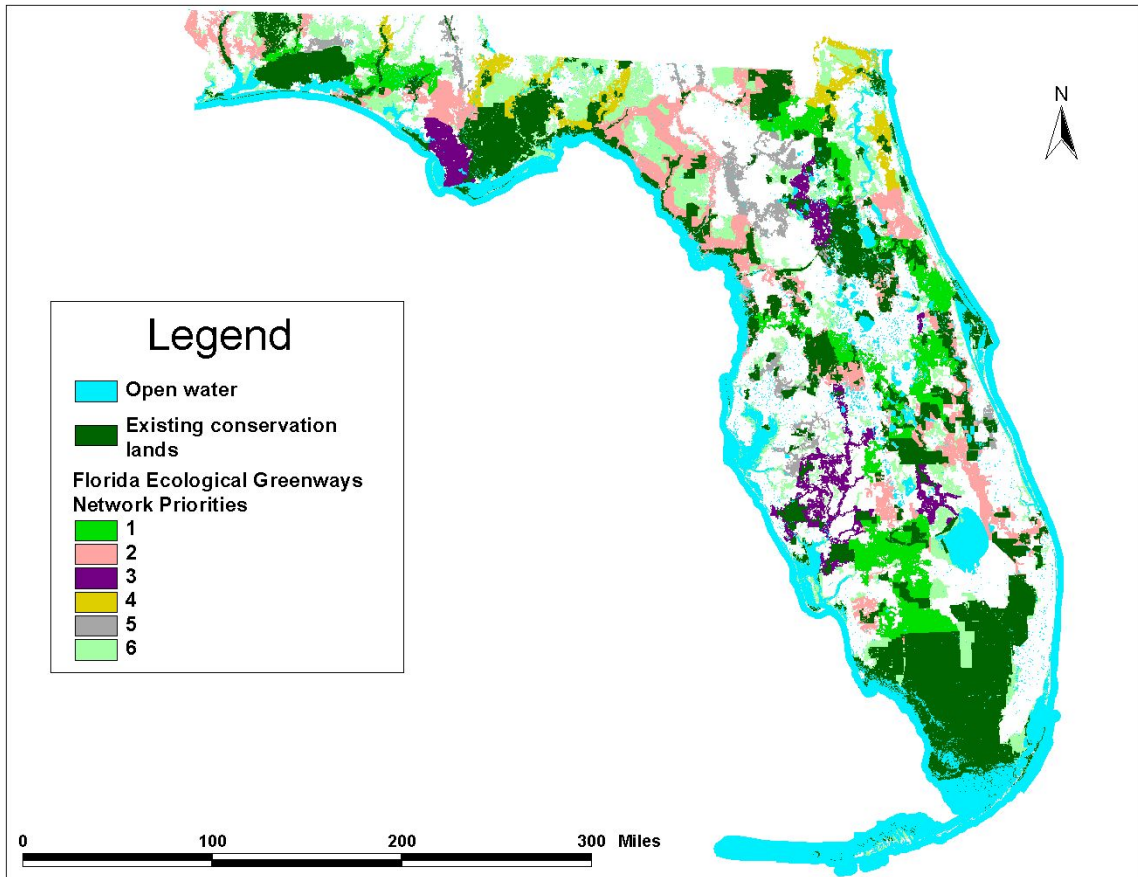


Figure 2. New draft priorities based on both Step 1 and Step 2 changes.

Table 2. Acres within Priority Classes before and after Step 2

Priority Classes	Original (acres)	Step 1 (acres)	Step 2 (acres)
Priority 1	2,798,338	3,285,920	3,285,920
Priority 2	1,285,098	1,408,636	5,494,956
Priority 3	3,713,938	4,086,320	1,717,054
Priority 4	1,500,374	1,717,054	1,141,116
Priority 5	952,682	1,141,116	1,057,234
Priority 6	873,162	1,057,234	12,838,004
Priority 7	11,866,540	12,838,004	N/A

Step 3: Changes in Critical Linkages and other Priorities

The original Critical Linkages were approved in 2002. Updates in land protection projects and new or accelerated pressures from development may justify modifications to the current set of Critical Linkages. The first step in this process applied an updated version of Jason Teisinger’s University of Florida growth potential model to the newly prioritized FEGN created in Steps 1 and 2. The new growth model took advantage of updated Water Management District land use data and tax records to reassess growth potential across the state. As was done in the original Critical Linkage work, the values of the growth model from 1-10 were reclassified into three classes using the Natural Breaks methods in ArcView. This resulted in classes 1-3 being lumped as high growth potential, classes 4-7 being lumped into moderate growth potential, and classes 8-10 being lumped as low growth potential. This reclassified growth potential data were then combined with the reprioritized FEGN (from Step 1 and Step 2) to develop a matrix of priorities (Figure 3). The combination of development pressure and FEGN priorities resulted in the combined priorities represented in Figure 4.

Areas of significant development pressure outside existing Critical Linkages include: 1) along the Suwannee River; 2) north of the Ocala National Forest-Volusia Critical Linkage in Volusia and Flagler counties; 3) along the southern Lake Wales Ridge near US 27; 4) between the Kissimmee and St. Johns River basin along the Florida Turnpike; 5) in the Corkscrew Regional Ecosystem Watershed area of southwest Florida in Collier and Lee counties.

Ecological-based Prioritization

		Class 6	Class 5	Class 4	Class 3	Class 2	Class 1
Growth Pressure	Low	LOW	LOW	MEDIUM	MEDIUM	MEDIUM	HIGH
	Med.	LOW	LOW	MEDIUM	HIGH	HIGH	HIGH
	High	MEDIUM	MEDIUM	HIGH	HIGH	HIGH	HIGH

Figure 3. The decision matrix used to combine ecological and development pressure for evaluating potential changes in Critical Linkages.

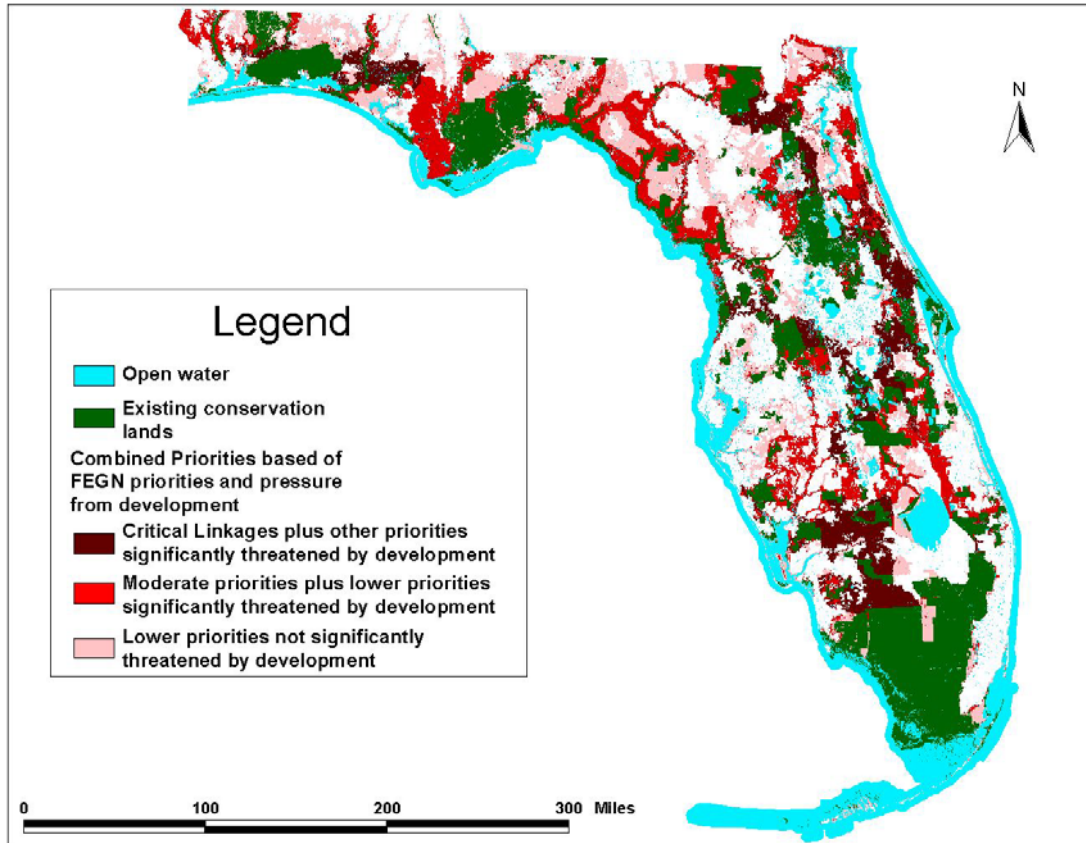


Figure 4. Combination of FEGN priorities (based on cumulative changes from Step 1 and Step 2) and growth pressure.

A. Additions to Critical Linkages based on Development Pressure

Based on the assessment of development pressure and its relationship to higher priorities within the FEGN, the following decisions were made regarding additions to Critical Linkages:

1) Big Cypress-Fisheating Creek: Changed all areas of new Priority 2 FEGN that were connected to the Big Cypress-Fisheating Creek Linkage to Priority 1 including the CREW landscape in Collier County. This better addresses Florida panther habitat conservation needs in southwest Florida. However, all lands directly along the western half of the Caloosahatchee River east of La Belle were dropped to Priority class 6. These areas are much more fragmented than the primary crossing east of La Belle and represent only modest opportunities for a functional crossing of the Caloosahatchee River.

2) Expanded the Three Lakes-Tosohatchee Critical Linkage into the Kissimmee Prairie-Tosohatchee Critical Linkage. This was done to reflect higher development pressure from the growth potential modeling and proposed development projects along the Florida Turnpike corridor through southeastern Osceola County and adjacent counties. This Critical Linkage now includes lands just south of Lake Kissimmee and east of Kissimmee Prairie State Preserve north to the Tosohatchee State Reserve.

3) Delineated a new Critical Linkage: the Osceola-Suwannee River-San Pedro Bay-Big Bend Critical Linkage. This Critical Linkage addresses growing development pressure along the Suwannee River that threatens the wildlife corridor function of this extremely important linkage. Based on recommendations in the review meeting, the proposed new Critical Linkage was expanded to delineate a complete linkage from Osceola National Forest to existing conservation lands on the Big Bend coast through the Econfina River basin.

4) Expanded the Chassahowitzka-Annutteliga Hammock-Green Swamp Critical Linkage by adding lands around the western end of Cross Florida Greenway. This expansion addresses the importance of the linkage between Chassahowitzka National Wildlife Refuge north to the Waccasassa Bay State Preserve.

5) Expanded the Econfina Creek-Sand Mountain-Eglin Air Force Base Critical Linkage a little further east to include more options for successfully crossing US 231. US 231 is a major potential bottleneck in this Critical Linkage, and the expansion provides additional opportunities for protection of a functional connection across the road corridor.

6) Did not expand the Ocala National Forest-Volusia Critical Linkage. Development pressure in Volusia and Flagler Counties combined with the significance of the large Priority 2 area north of the Critical Linkage suggest that these areas could be added to the Ocala National Forest-Volusia Critical Linkage. However, since this area is not considered essential for completing a viable connection between the Upper St. Johns River basin and the Ocala National Forest, the recommendation from the review meeting was to not make the addition at this time.

B. Critical Linkage Deletions

There were two deletions to Critical Linkages based on feasibility or refinement using existing Florida Forever project boundaries.

1) Lowered the Avon Park-Green Swamp Linkage from Critical Linkage status to a Priority 2. This change was made based on discussions at the review meeting about the feasibility of this connector. The area of highest concern is primarily in western Orange County where existing land use and continued rapid development will likely preclude the protection of a functional connection. We recommend that this linkage still be included as a high priority and that the Office of Greenways and Trails work with the relevant Regional Planning Councils and counties to attempt the protection of at least a minimal ecological corridor. This might be accomplished through existing protected wetland and riparian areas and development plans that together provide for the protection of a continuous greenway through the project area.

2) Lowered part of the Camp Blanding-Osceola National Forest Critical Linkage east of Osceola National Forest to Priority class 2. This reduction in priority was facilitated by the delineation of the Camp Blanding-Osceola Greenway Florida Forever Project. Since

a functional linkage can likely be accommodated within the boundaries of the Florida Forever project, the additional lands along the eastern border of Osceola National Forest were no longer considered necessary to complete the Critical Linkage.

C. Changes to other Priority Classes within the FEGN

In the process of examining potential changes to Critical Linkages, other alterations were made to other priority classes to better delineate priority areas within the FEGN. Most of these changes involved raising priority one class or adding lower priority areas to consolidate linkage projects.

1) Priority 3 lands along the Kissimmee River were changed to Priority 2 to reflect that both the western Lake Wales Ridge and the lower Kissimmee Valley are considered to be equally important options for connecting southwest Florida to central Florida.

2) Elevated the alternative landscape linkage between the Suwannee and Alapaha rivers from a Priority 6 to a Priority 3. This large forested landscape may provide a good alternative linkage to the upper Suwannee River corridor if development pressure continues to increase along the river.

3) The Priority 3 linkage between Apalachicola National Forest and Tyndall Air Force Base was changed to Priority 2. Florida black bear habitat modeling indicated that this area was just as important for completing the Apalachicola National Forest to Sand Mountain Linkage as areas further north that were already Priority 2. This area is also included in the Northwest Florida Greenway Project that encompasses the regional landscape linkage between Apalachicola National Forest and Eglin Air Force Base.

4) Elevated the Wakulla River linkage from Priority class 4 to Priority class 3. This linkage is an increasingly active conservation project and provides an important alternative to the linkage relying on the St. Marks National Wildlife Refuge to the south. The refuge will likely be impinged upon by both development from the Tallahassee area and rising sea levels over time.

5) Identified the St. Marks River corridor by buffering the river 1 mile and added all areas within the buffer and the Upper St. Marks River Corridor Florida Forever project into a new Priority 5 Linkage. This alteration was made to make delineation of the St. Marks River basin consistent with other river basins within the FEGN in north Florida, which are all given either Priority 4 or Priority 5 status.

6) Added small Priority 6 areas to the Alafia/Manatee Rivers Priority 5 linkage to consolidate this riparian linkage.

7) Added small Priority 6 areas to the Hillsborough River Priority 5 linkage to consolidate this riparian linkage.

8) Added a small connection of Priority 6 lands to the Priority 5 Chipola River linkage to connect this riparian linkage to the nearby Eglin-Econfina Creek Critical Linkage.

9) Reduced the small Spruce Creek linkage in Volusia County from a Priority 2 to a Priority 5 since it is not a significant part of the regional Ocala National Forest-Volusia Linkage.

10) Reduced the lower Suwannee River linkage south of Mallory Swamp to Priority 3 from a Priority 2. Based on recommendations at the review meeting, this linkage was considered less important than the linkage between the Suwannee River and the Big Bend further north.

11) Reduced the Mallory Swamp to San Pedro Bay linkage from Priority 2 to Priority class 3. Based on recommendations at the review meeting, this linkage was considered less important than the linkage between the Suwannee River and the Big Bend further north and the coastal corridor along the Big Bend coast.

12) Lowered the upper Yellow River from Priority 2 to Priority 4. Based on recommendations at the review meeting, the importance of this part of the Yellow River is based mainly on its riparian habitat and buffer function of the Yellow River and not as an important part of the Eglin-Blackwater linkage. Therefore, dropping it to Priority 4 is more consistent with other river-based linkages in the Florida panhandle.

Results

All of the alterations from Step 1 through Step 3 resulted in the following proposed priority scheme (See Figure 4 and Table 3):

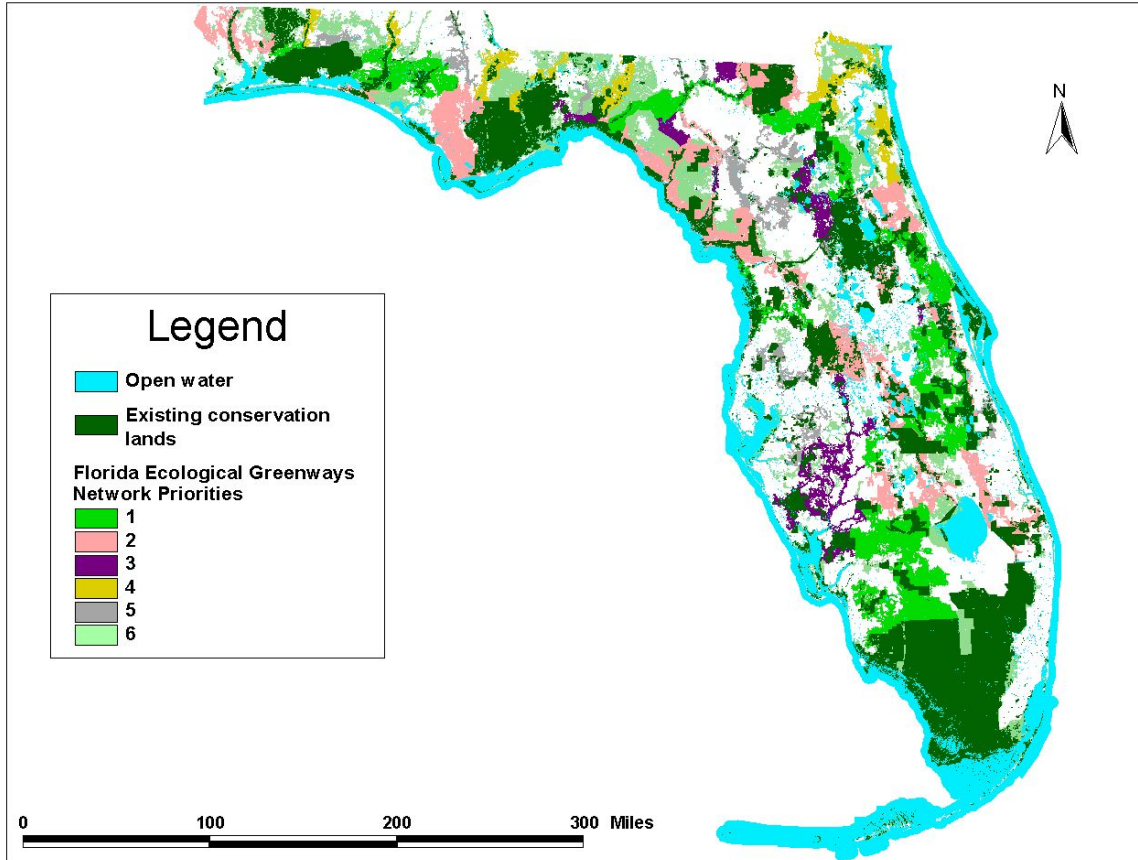


Figure 5. New priorities based on all proposed changes in Steps 1 through 3.

Table 3. Acres within Priority Classes before and after Step 3 Changes.

Priority Classes	Original (acres)	Step 2 (acres)	Step 3 (acres)
Priority 1	2,798,338	3,285,920	4,260,636
Priority 2	1,285,098	5,494,956	5,145,590
Priority 3	3,713,938	1,717,054	1,355,362
Priority 4	1,500,374	1,141,116	1,148,332
Priority 5	952,682	1,057,234	1,199,878
Priority 6	873,162	12,838,004	12,424,438
Priority 7	11,866,540	N/A	N/A

For a more accurate representation for comparing acres of land still in need of protection, a final set of statistics was generated to compare only acres of private land within the priority classes before and after the proposed changes. This was done by deleting all lands within existing conservation areas and areas of open water. Finally, the Priority 2 and 3 classes from the original prioritization were also collapsed into one class and all lower priority classes were moved up one class to make a better direct comparison with the new proposed priorities (Table 4).

Table 4. Acres of private land (outside existing conservation areas and open water) within Priority classes in the original prioritization (with the original priority 2 and 3 classes combined into 1 class) and the new proposed prioritization.

Priority Classes	Original (acres of private land only)	New (acres of private land only)
Priority 1	2,097,328	3,191,046
Priority 2	2,478,170	2,915,510
Priority 3	966,042	969,058
Priority 4	607,152	813,958
Priority 5	610,028	928,062
Priority 6	2,978,680	3,514,998

Discussion

The reprioritization begins with the necessary step of assimilating additions to the Florida Ecological Greenways Network (FEGN) approved by the Florida Greenways and Trails Council in 2004 into the existing priorities. The additional proposed changes to the prioritization serve to simplify the prioritization, increase priority classes for some areas based on changes in project status or pressure from development, enhance the use of the highest priority ecological greenways in the conservation planning process, and to reflect refinements in priority areas. Comparison of the original prioritization with the proposed new prioritization in Table 3 and Table 4 makes clear that these changes result in significant additions to the highest priority classes. There are two primary reasons for this. First 2.94 million acres were added to the FEGN in 2004 (this does not include deletions which resulted in a total net gain of 2.63 million acres), and most of these additions were in areas represented by high priority linkages within the FEGN. Additions include areas very important for biodiversity and ecosystem service protection that are frequently concomitant with protecting large, connected landscapes. Therefore much of the additions, approximately 1.3 million acres, were added to Critical and Linkages and Priority 2 linkages. The other primary reason is that development pressure is increasing and expansion to delineate additional important areas for protecting Critical Linkages is needed to reflect these changes.

One additional change to the prioritization process was explored and discussed at the review meeting. This proposed change involved delineating higher priority areas with Critical Linkages and possibly Priority 2 project areas. The concept was to narrow these

projects to the areas most critical for protecting functional ecological linkages between existing conservation lands. Options such as relying primarily on wetlands and floodplains or identifying “core areas” within higher priority linkages were explored. Although this would help reduce the acres considered most critical for protecting high priority linkages, no general method captures all of the specific considerations needed to delineate narrower but functional linkages. Therefore, the recommendation from the review meeting was that such further refinement of priorities should occur at the project stage when new Florida Forever project boundaries are delineated. In addition, project boundaries can be further refined by identifying priority parcels within a Florida Forever project. The Camp Blanding-Osceola Greenway Florida Forever project is a good example of this process. The Camp Blanding-Osceola National Forest Critical Linkage includes almost 250,000 acres within the new proposed priorities. However, the Camp Blanding-Osceola Greenway Florida Forever project represents a potentially functional linkage but includes only 150,000 acres of the Critical Linkage. In addition, base priority parcels have been identified within the Camp Blanding-Osceola Greenway Florida Forever project by the University of Florida and the Office of Greenways and Trails that include approximately 64,000 acres. Although these priority parcels are narrower than optimal, they do represent the minimum corridor that might functionally connect Camp Blanding Military Reservation with the Osceola National Forest. Therefore, through such a process other Critical Linkages and high priorities can be prioritized as protection efforts progress. However, it is important that the Critical Linkage boundaries reflect the general areas of opportunities that together represent the best options for closing critical gaps within the FEGN. The new proposed Critical Linkages serve this function well and will be refined as projects are delineated within their boundaries.