



# North Central Florida Strategic Regional Policy Plan

October 2011

## North Central Florida Regional Planning Council





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# Introduction

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# Introduction

## A. What is a Strategic Regional Policy Plan?

The North Central Florida Strategic Regional Policy Plan is a long-range guide for the physical, economic, and social development of a planning region which identifies regional goals and policies. It is not just a plan for the regional planning council. It is a plan for the region. The plan contains regional goals and policies designed to promote a coordinated program of regional actions directed at resolving problems identified in the trends and conditions statements contained within each strategic regional subject area. The required strategic regional subject areas are affordable housing, economic development, emergency preparedness, natural resources of regional significance, and regional transportation. The plan must also identify and address significant regional resources and facilities that could be adversely affected by development activities.

The Strategic Regional Policy Plan is intended to be strategic rather than comprehensive in nature and scope. Rule 27E-5.002(9), Florida Administrative Code, defines “strategic” as proactive, future and result-oriented with a focus on important long-term priorities, needs and problems of the region. It is not required to address all the goals in the State Comprehensive Plan (Chapter 187, Florida Statutes); however, it must nevertheless be consistent with and further the State Comprehensive Plan.

The regional plan is not a regulatory document, nor does it create regulatory authority. According to state law, the regional plan may not establish binding level of service standards for public facilities and services provided or regulated by local governments; however, this limitation does not limit the authority of regional planning councils to propose objections, recommendations, or comments on local plans or plan amendments (Chapter 186.507(14) Florida Statutes).

## B. Purpose of the Strategic Regional Policy Plan

The regional plan serves as a basis for the review of the resources and facilities found in local government comprehensive plans originating in the region. Other purposes, as described in 27E-5.001(1), Florida Administrative Code, include:

- (1) To implement and further the goals and policies of the State Comprehensive Plan with regard to the strategic regional subject areas and other components addressed in the plan;
- (2) To provide long-range policy guidance for the physical, economic, and social development of the region;
- (3) To establish public policy for the resolution of disputes over regional problems, needs, or opportunities through the establishment of regional goals and policies and to provide a regional basis and perspective for the coordination of governmental activities and the resolution of problems, needs, and opportunities that are of regional concern or scope;
- (4) To establish goals and policies, in addition to other criteria established by law, that provide a basis for the review of developments of regional impact, regional review of federally

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assisted projects, and other activities of the regional planning council. In addition, the plan may recommend specific locations or activities in which a project, that due to its character or location, should be a development of regional impact within the region. Standards included in strategic regional policy plans shall be used for planning purposes only and not for permitting or regulatory purposes. A regional planning council shall not adopt a planning standard that differs materially from a planning standard adopted by rule by a state or regional agency when such rule expressly states the planning standard is intended to preempt action by the regional planning council;

- (5) To establish goals and policies to assist the state and the Council in the determination of consistency of local comprehensive plans with strategic regional policy plans and the State Comprehensive Plan. Strategic Regional Policy Plans shall serve as a basis to review the resources and facilities found in local government comprehensive plans;
- (6) To establish land development and transportation goals and policies in a manner that fosters region-wide transportation systems;
- (7) To serve as a basis for decisions by the regional planning council;
- (8) To guide the administration of federal, state, regional, and local agency programs and activities in the region to the extent provided by law;
- (9) To identify significant regional resources and facilities, infrastructure needs, or other problems, needs, or opportunities of importance to the region;
- (10) To identify natural resources of regional significance and promote the protection of those resources;
- (11) To set forth economic development goals and policies that promote regional economic growth and improvement; and
- (12) To set forth goals and policies that address the affordable housing and emergency preparedness problems and needs for the region.

The mission of the North Central Florida Regional Planning Council is to improve the quality of life of the Region's citizens by coordinating growth management, protecting regional resources, promoting economic development and providing technical services to local governments. The North Central Florida Strategic Regional Policy Plan implements its mission statement by balancing sustainable economic development with the protection of Natural Resources of Regional Significance. It is the intent of the regional plan to allow economic activities within and near Natural Resources of Regional Significance to the extent that such economic activities do not significantly and adversely affect the functions of the resource. The type and extent of economic activity which can occur without significantly and adversely impacting a Natural Resource of Regional Significance is framed by the goals and policies of the regional plan. The regional plan calls for the protection of the functions and qualities of Natural Resources of Regional Significance, but leaves the specifics of the protection measures to local governments and state regulatory agencies. Furthermore, the scope of regional plan goals and policies are generally limited to Natural Resources of Regional Significance

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and regional facilities which are specifically identified and mapped in the regional plan, as well as the extent to which the plans and actions of one local government may affect other local governments.

## **C. Consistency of Local Government Comprehensive Plans with the Strategic Regional Policy Plan**

Section 163.3184, Florida Statutes, requires that each local government comprehensive plan in the region be consistent with the regional plan. Consistency is defined by this regional policy plan, as being compatible with and furthering the regional plan. The term "compatible" means that the local plan is not in conflict with the regional plan. The term "furthering" means to take action in the direction of realizing goals or policies of the regional plan. For purposes of determining consistency of the local plan with the regional plan, the regional plan shall be construed as a whole and no specific goal and policy shall be construed or applied in isolation from the other goals and policies in the plan.

## **D. Strategic Regional Planning Process**

The procedures used to formulate the regional plan are set forth in Rule 27E-5.001, Florida Administrative Code. The Council's procedures in developing the regional plan are summarized below.

### **1. Public Participation**

Public input and participation were invited during the initial formulation of the Strategic Regional Policy Plan through a well-publicized public hearing held at the beginning of the planning process and at ensuing Regional Planning Committee meetings where audience input was solicited. Public input will be received at public hearings to be held in the region during the review phase of the draft plan.

### **2. Local Government Participation**

Local government participation has occurred primarily through the county commissioners and municipal officials serving on the Council. Council members were directly involved in the preparation of the SRPP through their participation on the Regional Planning Committee, which was charged with developing a draft of the regional plan. In addition, local government planning staff regularly received and commented on draft strategic regional subject area chapters.

### **3. Participation by Other Agencies**

Copies of the draft strategic regional subject area chapters were circulated to various agencies for review and comment during the formulation of the plan. These included the Suwannee River Water Management District, St. Johns River Water Management District, the Florida Department of Community Affairs, the Florida Department of Environmental Protection, the Florida Department of Transportation, the Florida Game and Fresh Water Fish Commission and the Florida Department of Health and Rehabilitative Services.

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## 4. Existing Plans

Existing plans and regulations affecting the strategic regional subject areas were reviewed to provide an overall planning and regulatory framework for the trends and conditions analysis for each strategic regional subject area.

## 5. Data and Analysis

The data utilized in the plan was assembled from various sources. These sources are identified as footnotes located throughout the document. Data utilized in this plan are available for public inspection at the office of the North Central Florida Regional Planning Council in Gainesville.

## E. Plan Organization

The content and format of the regional plan is set forth in Rule 27E-5.004, Florida Administrative Code. The organization and content of this plan are summarized below.

### 1. Executive Summary

The Executive Summary briefly describes strategic regional subject areas and selected goals and policies of specific concern to the region. It also summarizes important conditions and trends that exist in the region.

### 2. Coordination Outline

The Coordination Outline provides an overview of the Council's cross-acceptance, dispute resolution, public participation, and related regional planning and coordination activities. The outline is presented for information purposes only to describe how local governments and citizens are involved in developing, implementing, and updating the plan, and how the Council will help resolve inconsistencies between local, state, and regional plans.

### 3. Strategic Regional Subject Areas

The North Central Florida Strategic Regional Policy Plan addresses five strategic regional issue areas: Affordable Housing, Economic Development, Emergency Preparedness, Natural Resources of Regional Significance, and Regional Transportation. Strategic regional subject areas are subject areas that, when viewed from a regional perspective, have the potential to affect the region's significant physical characteristics and/or its quality of life. Each subject area is comprised of a trends and conditions statement; which contains an analysis of factors that describe current conditions and future related trends; regional goals as well as associated regional indicators and policies; and identification of regional facilities and/or resources. A subsection of the trends and conditions statement, entitled "Problems, Needs, and



Opportunities” identifies the problems, needs, and opportunities associated with growth and development in the region.<sup>1</sup> The identified problems, needs, and opportunities are derived from the trends and conditions statement. Maps of natural resources of regional significance are included in the plan. These maps are available from the Council at a scale of 1:100,000.

Goals are long term ends toward which programs and activities should be ultimately directed. The goals are derived from the problems, needs, and opportunities section of the trends and conditions statements. Furthermore, goals must be consistent with and further the State Comprehensive Plan. Each regional goal is accompanied by one or more Regional Indicators. Regional Indicators are statements of baseline information against which progress towards achieving the goal can be measured in the region’s five-year evaluation and appraisal report. Policies promote activities and programs in furtherance of implementation of regional goals. Regional goals and policies must also be consistent with and in furtherance of the State Comprehensive Plan.

## 4. Regional Facilities and Resources

Each strategic regional subject area chapter identifies regional resources and/or facilities pertaining to the particular chapter. Regional facilities and/or resources which are not pertinent to one of the plans five strategic regional subject area chapters are identified in this chapter.

## 5. Glossary of Terms

A glossary section is included which defines key terms appearing in the text.

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<sup>1</sup>The “Problems, Needs, and Opportunities” section is the only part of the regional plan which identifies problems, opportunities, and needs as required by Rule 27E-5.002(11), [Florida Administrative Code](#).



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# Executive Summary

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# Executive Summary

## A. Affordable Housing

Regional housing affordability issues can be understood in the context of regional housing trends generally, including trends in new construction, tenure, mobile home occupancy, housing quality, and affordability. U.S. Census Bureau data indicates that housing affordability for north central Florida residents worsened between 1990 and 2000. Since 2000, the rate of increase in north central Florida incomes has not kept pace with the rate of increase of housing costs. Furthermore, the available data indicates that housing affordability problems are a regionwide concern.

The regionwide percentage increase in wages between 2000 and 2005 did not keep pace with the regionwide percentage increase in the price of single-family dwelling units. North central Florida wages increased by 23.7 percent during this time period, whereas the cost of a single family dwelling unit increased by 80.5 percent. The relatively high percentage increase in the cost of single-family dwelling units compared to the percentage increase in average annual wages suggests that north central Florida housing is becoming increasingly unaffordable for its residents.

Lower mortgage interest rates result in lower monthly mortgage payments which could allow home buyers to afford homes which are substantially higher priced than might otherwise be expected. In 2000, the nationwide average interest rate on a 30-year mortgage was 8.05 percent. In 2005, the nationwide average interest rate on a 30-year mortgage had declined to 5.87 percent.<sup>2</sup> Since mortgage rates were higher in 2000 than in 2005, a drop in mortgage interest rates results in lower monthly mortgage payments, thereby increasing the range of housing prices which are affordable to home buyers. It is possible that north central Florida home buyers can afford higher-priced homes in 2005 than in 2000 as a result of a combination of increased wages and reductions in mortgage interest rates.

Reductions in mortgage interest rates helped reduce the impact of increases in the cost of single-family dwelling units during this time period. The region experienced a 44.7 percent increase in the cost of monthly mortgage payments between 2000 and 2005, which is substantially less than the 80.5 percent increase in average sales price. However, even taking into account reductions in monthly mortgage payments as a result of lower interest rates, the 44.7 percent increase in the annual cost of housing between 2000 and 2005 was a significantly faster rate of increase than the 23.7 percent increase in annual wages.

The Council reviews affordable housing analyses for Developments of Regional Impact. While the Development of Regional Impact Adequate (Affordable) Housing Rule provides a useful guide for the determination of affordable housing impacts, it is silent on much of the detailed application of the methodology. Differing interpretations of implementation of the methodology can lead to differing results. Therefore, additional methodology guidance is needed for Development of Regional Impact applicants and the Council, to determine affordable housing supply, demand and the mitigation of identified significant affordable housing impacts.

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<sup>2</sup>As determined by FreddieMac, [www.freddie.mac.com/pmms/pmms30.htm](http://www.freddie.mac.com/pmms/pmms30.htm).



**REGIONAL GOAL 1.1.** Reduce the percentage of the region's very low-, low-, and moderate-income households spending 30.0 percent or more of their annual household income on housing.

**REGIONAL GOAL 1.2.** Mitigate significant affordable housing impacts associated with Developments of Regional Impact.

## B. Economic Development

In January 1978, the North Central Florida Regional Planning Council received its designation as the North Central Florida Economic Development District. The eleven counties in this region include: Alachua, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Madison, Suwannee, Taylor and Union counties. All of these counties, with the exception of Alachua because it is an urban county, are located within the Governor's third Rural Area of Critical Economic Concern and are actively developing a strategic plan to improve the economic environment of the rural parts of the region.

The region is experiencing population growth (total population estimated at 480,463 in 2005), but still lags behind the rest of Florida and the nation in terms of wages and wage growth. Poverty rates are still very high, and underemployment is evident in wage rates that in some counties are less than half the national averages. Growth is still primarily from economic migrants, but retirees are starting to move to the area as well, including those that previously lived in South Florida and are looking to find a more sparsely populated location.

The population in the region is young with a median age of 37.0 for the region compared to 39.7 for the state of Florida. But like the nation which is impacted by the baby boom generation, the population is expected to get older in the next 10 years, with a median age of 39.5 by the year 2020.

Despite the presence of the state's flagship university in Alachua County, the region's educational attainment lags behind the state as a whole. There is a disparity between the Gainesville area which has a significant capacity for high-skill, high-wage jobs than the rest of the region.

The 26 state parks in the region, a state university and several state prisons dramatically reduce the ad valorem tax base of the Economic Development District. The taxable value of every North Central county is considerably below the statewide average - so low that the combined taxable value of all 11 of north central Florida's counties is less than that of the average Florida county.

However, the cost of land is still affordable in the region compared to the rest of Florida. Furthermore, the region can utilize programs such as job tax credits to incentivize prospective businesses. Approximately 3,500 acres of industrially zoned land is available for development within the region. The region is emerging as a transportation/distribution center with its good access to both Interstate Highways 10 and 75.

The largest employment clusters in the region are healthcare; trade, transportation and utilities; tourism and public administration. Of the four clusters, only healthcare is considered a "basic" industry which exports outside of the region to generate wealth. Healthcare has the highest growth rates and highest wage rates of the four clusters. Economic diversification would be beneficial for the region. Target industries for diversification have recently been identified by Enterprise Florida's Rural Area of Critical Economic Concern for all 10 rural counties in the region, and Alachua County has completed a similar study with Lockwood Greene Consulting for its economic development planning. The target industries are as follows:

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Rural County Target Industries:

- Logistics and Distribution
- Building Component Design and Manufacturing
- Aviation Services and Products
- Bio-Fuels and Energy
- Healthcare Services and Products

Urban County (Alachua) Target Industries:

- Pharmaceutical/Biotechnology
- Surgical, Medical and Dental Instruments and Supply
- Electronics, Instruments and Telecommunications Equipment

**REGIONAL GOAL 2.1.** Diversify the economy of the region and thereby increase the level of employment opportunities and decrease out-migration of productive members of the labor force. This includes non-traditional job sectors and high-skill, high-wage job sectors.

**REGIONAL GOAL 2.2.** Encourage and guide infrastructure development into those areas where needed, and where development would not place undue strain on those aspects of the region that are already overloaded, and increase by three the number of communities in the region with centralized sanitary sewer systems.

**REGIONAL GOAL 2.3.** Encourage regional or multi-county cooperation wherever possible to avoid unnecessary and expensive duplication and to lower cost for each party involved.

**REGIONAL GOAL 2.4.** Support educational and leadership capacity building programs for economic development and tourism industry within the region and graduate 25 persons from economic development leadership academy annually.

## C. Emergency Preparedness

### 1. Hurricanes

At the time of 1993's Storm of the Century, no weather buoys or other government-owned weather monitoring instruments were located in the Gulf of Mexico off the Big Bend coastline. Weather buoys provide valuable information regarding temperature, wind speed, wind direction and barometric pressure. Meteorologists run computer models that predict storm surge height based upon these factors.

Storm surge increases in height as it nears land. A need exists for additional buoys or other meteorological instruments located at intervals of 50 and ten miles offshore to help meteorologists more accurately predict storm surges as coastal storms move landward. As of 2010, one Coastal-Marine Automated Network coastal weather station is located in Keaton Beach, no weather buoys are located in the Gulf of Mexico between 10 and 50 miles of Steinhatchee, three weather buoys are located between 51 and 100 miles of Steinhatchee, two weather buoys are located between 101 and 150 miles of Steinhatchee, and four weather buoys are located in the Gulf of Mexico between 151 to 175 miles of Steinhatchee.

Dixie and Taylor counties have four small coastal communities: the unincorporated coastal communities of Jena-Steinhatchee, Dekle Beach-Keaton Beach, Suwannee, and the incorporated Town of Horseshoe Beach.

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Warning sirens can be useful means of notifying community residents of storm warnings and evacuation orders when other forms of communication fail. During the Storm of the Century, none of these communities had warning sirens. As of 2010, four north central Florida coastal communities (Horseshoe Beach, Dekle Beach, Keaton Beach, & Steinhatchee) had emergency warning sirens. The unincorporated communities of Suwannee and Jena do not have sirens.

North central Florida National Oceanic and Atmospheric Administration weather radio signals coverage has been significantly expanded since the Storm of the Century. Computer-generated National Oceanic and Atmospheric Administration weather radio coverage maps developed by the National Oceanic and Atmospheric Administration suggest that, with the exception of a small area parallel to Interstate 10 in Madison County, all of north central Florida is covered by at least one weather radio station.

## 2. Hazardous Materials Releases

Under contract with the Florida Division of Emergency Management, the North Central Florida Regional Planning Council serves as staff to the North Central Florida Local Emergency Planning Committee. The North Central Florida Local Emergency Planning Committee was established in 1988 in response to the federal Emergency Planning and Community Right-to-Know Act which requires the preparation of local emergency response plans for hazardous materials releases which, for the State of Florida, have been developed utilizing the eleven regional planning council districts.<sup>3</sup> The North Central Florida Local Emergency Planning Committee is composed of representatives of 17 different occupational categories. Membership is also distributed geographically to assure that each of the region's eleven counties has at least one resident serving as a member. Committee members are appointed by the State Emergency Response Committee.

The local emergency response plan for north central Florida was adopted by the Committee on June 9, 1989, is updated annually. The North Central Florida Local Emergency Planning Committee emergency response plan identifies locations of possible hazardous materials releases based upon known locations of hazardous materials. The plan also delineates vulnerable zones.<sup>4</sup>

In addition to the emergency response plan, the North Central Florida Local Emergency Planning Committee is also involved in establishing training programs, conducting emergency response exercises, providing public information campaigns, and other activities aimed at minimizing risks from hazardous materials releases.

When a hazardous materials release occurs, a local fire department or other local government personnel arrive at the scene and determine if local resources can deal with the release. If the incident requires greater than local resources, the local government contacts one of the region's regional response teams.

No regional hazardous materials response team is located within a 60-minute response time of Perry or Greenville. North Central Florida Regional Hazardous Materials Response Team members are located in

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<sup>3</sup>Although referred to as a local plan, it is, in fact, a regional plan which addresses all eleven north central Florida counties.

<sup>4</sup>Vulnerable zones are areas where the estimated chemical concentration from an accidental release is at a level where people's health could be adversely impacted during a worst-case release.



Alachua, Lake City, Gainesville, Starke and Fanning Springs. Response times to all eleven counties by at least one of the regional hazardous materials response teams is 60 to 90 minutes. The District 2 Regional Domestic Security Task Force has hazmat response capabilities located in Tallahassee that also provide coverage to Madison and Perry. However, the response times to Perry and Greenville are still in excess of 60 minutes.

There are areas of north central Florida where the closest hazardous materials response team is in either Valdosta, Georgia or Dothan, Alabama. The Local Emergency Planning Committee has been working to establish a tri-state hazardous materials mutual aid agreement.

### 3. Mutual Aid Agreements

As of January 2011, 41 of the region's 44 local governments had adopted the Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery. The statewide agreement allows for reimbursement to assisting local governments for most incurred costs from the Emergency Management Preparedness and Assistance Trust Fund as well as from the requesting local government. The agreement also establishes a supervision and control structure for assisting local government personnel and resources at the scene of the emergency, formalizes procedures for making emergency assistance requests, and resolves other mutual aid issues.

**REGIONAL GOAL 3.1.** Improve emergency preparedness for coastal storms in the region.

**REGIONAL GOAL 3.2.** Participation by all north central Florida local governments in the National Flood Insurance Program.

**REGIONAL GOAL 3.3.** Reduce response times of regional hazardous materials response teams to 60 minutes for hazardous materials emergencies in Perry, and Greenville.

**REGIONAL GOAL 3.4.** Improve the ability of emergency response teams to respond to hazardous materials emergencies.

**REGIONAL GOAL 3.5.** All north central Florida local governments are signatories to the Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery.

## D. Natural Resources of Regional Significance

Natural resources of regional significance are natural resources or systems of interrelated natural resources, which due to their function, size, rarity, or endangerment, provide benefits of regional significance to the natural or human environment.<sup>5</sup> They consist of both coastal and inland wetlands, rivers and their associated floodplains, large forested areas, lakes, springs, the Floridan Aquifer, and land areas with the

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<sup>5</sup>North central Florida regionally significant facilities and resources, as defined in Rule 27-E.005, Florida Administrative Code, consist of Regionally Significant Emergency Preparedness Facilities identified in Table 3.4, Natural Resources of Regional Significance identified in Table 4.1, Regionally Significant Transportation Facilities identified in Table 5.8, and Regionally Significant Facilities and Resources, identified in Section VI.



potential to adversely affect the water quality of the aquifer (stream-to-sink watersheds and high recharge areas). High priority habitat of listed species is also recognized as a Natural Resources of Regional Significance.<sup>6</sup>

Regionally significant natural resources play important roles in the region's economy and quality of life. Drinking water for most residents is drawn from the Floridan Aquifer. The Suwannee-Santa Fe river system and fresh water wetlands serve a valuable role in regulating surface water runoff and flooding. The salt marsh provides a valuable breeding ground for many varieties of commercial seafood. Commercial forest lands play an important role in the regional economy, while public lands provide valuable resource-based recreation for north central Florida residents. Both private and public lands provide important habitats for the survival of native plant and animal species. Nearly all identified Natural Resources of Regional Significance play, or can play, an important role in the region's budding ecotourism industry.

The regional plan balances economic development with the protection of Natural Resources of Regional Significance. It seeks the protection of the functions and qualities of Natural Resources of Regional Significance. Therefore, the plan allows development and economic activity within and near Natural Resources of Regional Significance to the extent that such development and economic activity does not significantly and adversely affect the functions of the resource.

Furthermore, the scope of the regional plan goals and policies is limited to Natural Resources of Regional Significance and regional facilities which are specifically identified and mapped in the regional plan, as well as the extent to which the plans of one local government effect other local governments. The type and extent of economic activity which can occur without significantly and adversely impacting a Natural Resource of Regional Significance is framed by the goals and policies of the regional plan.

Although mapped as discrete geographic units, Natural Resources of Regional Significance are really parts of an interconnected natural system extending across and beyond the region. Actions in one part of the system can have significant adverse consequences elsewhere. For example, the Big Bend Seagrass Beds and the fishery it supports are dependent upon fresh water flows from the Suwannee and other coastal rivers. The rivers are in turn dependent upon headwater swamps for their base flows of fresh water. Dredging and filling headwater swamps, such as the Okfenokee Swamp in Georgia and north central Florida's San Pedro Bay and Mallory Swamp, could have negative impacts upon the seagrass beds and coastal fishery. One purpose of the regional plan is to identify Natural Resources of Regional Significance and include strategies to minimize potential adverse impacts to these resources while promoting economic activities such as agriculture and silviculture within these areas, especially where such resources are in private ownership.

## 1. Floridan Aquifer

North central Florida has a much higher reliance on ground water than the rest of the state. In 2000, 68.5 percent of all north central Florida water withdrawn for human use came from ground water sources, compared with 25.2 percent statewide. North central Florida water consumption by type of user is similar

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<sup>6</sup> Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50 [Code of Federal Regulations](#) Part 17.



to statewide usage. The region's reliance on groundwater sources is even higher than suggested by this number as it includes the one-time pass-through use of river water for cooling Florida Power Corporation's Suwannee River electrical generation station. When Suwannee County is excluded, groundwater comprises 97.8 percent of the water withdrawals of the remaining 10-county area.

Approximately 80.6 percent of north central Florida water withdrawals are used for industrial, agriculture and thermoelectric uses. Only 17.7 percent of north central Florida water withdrawals are used for public and domestic uses. Agricultural use accounts for approximately 24.4 percent of the region's total 2000 water use, which is slightly higher than the statewide percentage of 19.5. Agricultural water uses are not routinely reported as agricultural water use metering is not required in north central Florida.

**REGIONAL GOAL 4.1.** Use the natural resources of the region in a sustainable manner.

**REGIONAL GOAL 4.2.** Preserve Big Bend coastal and marine resources identified as Natural Resources of Regional Significance for future generations of residents in recognition of their economic and ecological importance to the region.

**REGIONAL GOAL 4.3.** Maintain an adequate supply of high-quality groundwater to meet the needs of north central Florida residents, in recognition of its importance to the continued growth and development of the region.

**REGIONAL GOAL 4.4.** Protect all sources of recharge to the Floridan aquifer from all activities which would impair these functions or cause a degradation in the quality of the water being recharged in recognition of the importance of maintaining adequate supplies of high-quality groundwater for the region.

**REGIONAL GOAL 4.5.** Protect all listed species within the Regional Ecological Greenways Network.<sup>7</sup>

**REGIONAL GOAL 4.6.** Protect Natural Resources of Regional Significance identified in this plan as "Planning and Resource Management Areas."

**REGIONAL GOAL 4.7.** Maintain the quantity and quality of the region's surface water systems in recognition of their importance to the continued growth and development of the region.

## E. Regional Transportation

Regionally significant transportation facilities are those facilities used to provide transportation between cities located both within and outside the region and other specially designated facilities. They include one airport, two interstate highways, nine U.S. highways, 25 state roads, and four public transit system providers.

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<sup>7</sup> Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50 [Code of Federal Regulations](#) Part 17.



# 1. Regional Road Network

The regional road network is comprised of interstate highways, U.S. highways and state roads. Overall, the regional road network consists of 1,263.3 miles of roadways, of which 177.2 miles are comprised of interstate highways and 1,086.1 miles are U.S. highways and state roads. Additionally, 430.3 miles of the regional road network are designated as part of the Strategic Intermodal System. The regional road network generally provides good transportation service to the region. Nevertheless, in 2009, five of the 44 local governments in the region had at least 10 percent of the regional road mileage within their jurisdiction operating at or above 85 percent of maximum service volumes. If current trends continue, by 2025, the number of local governments in this category is projected to increase to 15. Some communities are experiencing significantly higher percentage of Regional Road Network mileage at or above the 85 percent threshold.

State funding for roadway modifications to the Regional Road Network is not keeping pace with demand. Excluding the City of Gainesville, the estimated average annual cost ranges between \$39.4 to \$88.6 million, not adjusting for inflation.<sup>8</sup> Meanwhile, the Florida Department of Transportation Fiscal Year 2010-14 five-year work program schedules \$26.5 million, or \$5.3 million per year, for transportation capacity enhancements, exclusive of the City of Gainesville, to the Regional Road Network.<sup>9</sup>

North central Florida local governments are not financially able to fund this shortfall. Assuming all county governments levied a 10 mil tax rate, an untapped "surplus" of approximately \$33.6 million which could be raised.<sup>10</sup> These untapped funds could be applied to upgrading the Regional Road Network. Comparable numbers are not readily available for north central Florida municipalities. Assuming they could generate one-third of what the counties can generate, the municipalities could add an additional \$11.2 million, raising the local government theoretical total to \$44.8 million per year, well short of the estimated need.

**REGIONAL GOAL 5.1.** Mitigate the impacts of development to the Regional Road Network as well as adverse extrajurisdictional impacts while encouraging development within urban areas.

**REGIONAL GOAL 5.2.** Coordinate with and assist state agencies, transportation planning organizations and local governments to implement an energy-efficient, interagency coordinated transportation system.

**REGIONAL GOAL 5.3.** Mitigate adverse impacts to regional transportation facilities associated with enrollment growth at the University of Florida.

**REGIONAL GOAL 5.4.** Maximize the use of the Gainesville Regional Airport before developing a new regional airport.

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<sup>8</sup>These figures include addressing an existing \$217.3 to \$340.9 million backlog.

<sup>9</sup>North Central Florida Regional Planning Council, January 2011. Derived from Florida Department of Transportation 2010/11 - 2013/14 State Transportation Improvement Program (<http://www.dot.state.fl.us/programdevelopmentoffice/federal/STIP/stipfile.xls>) Excludes transit projects, resurfacing, bicycle lanes, landscaping, and similar projects.

<sup>10</sup> North Central Florida Regional Planning Council, January 2011. Derived from Florida Statistical Abstract 2009, Bureau of Business and Economic Research, University of Florida, Tables 23.91 and 23.93.



**REGIONAL GOAL 5.5.** Reduce the unmet General Trip demand of the north central Florida Transportation Disadvantaged population.

**REGIONAL GOAL 5.6.** Increase the percentage of north central Florida residents using public transportation as a primary means of transportation.



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# Chapter I

## Affordable Housing

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



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# Chapter I: Affordable Housing

## A. Conditions and Trends

### 1. Introduction

The region's housing affordability issues can best be understood in the context of regional housing trends generally, including trends in new construction, tenure, mobile home occupancy, housing quality, and affordability. This chapter of the regional plan examines the region's housing trends generally with an emphasis on the housing affordability issues of very low-, low-, and moderate-income households.<sup>1</sup>

Most of the tables reported in this chapter are derived from the decennial census. The census data indicates that housing affordability for north central Florida residents worsened between 1990 and 2000. Since 2000, the rate of increase in north central Florida incomes has not kept pace with the rate of increase of housing costs. Furthermore, the available data indicates that housing affordability problems are no longer limited to Alachua County. Rather, housing affordability has become a regionwide concern.

The Council reviews affordable housing analyses for Developments of Regional Impact. While the Development of Regional Impact Adequate (Affordable) Housing Rule provides a useful guide for the determination of affordable housing impacts, it is silent on much of the detailed application of the methodology. Differing interpretations of implementation of the methodology can lead to differing results. Therefore, additional methodology guidance is needed for Development of Regional Impact applicants and the Council, to determine affordable housing supply, demand, and the mitigation of identified significant affordable housing impacts.

### 2. Number of Units Constructed

As reported in Table 1.1, the region added 36,391 new residential dwelling units during the 1990s, for a total of 186,088 in 2000. This represents a 24.3 percent increase over the 1990 total of 1,491,697 units. The number of owner-occupied units increased by 28.63 percent, from 84,784 in 1990 to 109,039 in 2000, while the number of renter-occupied units increased by 18.9 percent, from 46,302 in 1990 to 55,053 in 2000. North central Florida counties experiencing the largest percentage increases in housing units during this period were Gilchrist (45.1%), Dixie (35.2%), Suwannee (34.0%), and Columbia (32.3%). Counties experiencing the smallest percentage increases were Alachua (20.4%), Bradford (18.6%), and Lafayette (17.4%). The region enjoyed an above-average percentage increase in new dwelling units during the 1990s. The region's 24.3 percent rate of growth was significantly higher than the 19.7 percent increase reported statewide.

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<sup>1</sup> Affordable housing is commonly defined as housing for which annual costs (including utilities, taxes, maintenance, and other associated costs) represent no more than 30 percent of the residing household's annual income. Moderate income refers to household income between 80.0 and 120.0 percent of the median household income. Low-income refers to household income between 50.0 percent and 80.0 percent of the median household income. Very low-income refers to household income below 50.0 percent of the median household income.



**TABLE 1.1**  
**CHANGE IN NUMBER OF NORTH CENTRAL FLORIDA DWELLING UNITS, 1980 -2000**

Area	1980			1990			2000			Percentage Change, 1980-1990			Percentage Change, 1990-2000		
	Total Units	Owner Occupied Units	Renter Occupied Units	Total Units	Owner Occupied Units	Renter Occupied Units	Total Units	Owner Occupied Units	Renter Occupied Units	Total Units	Owner Occupied Units	Renter Occupied Units	Total Units	Owner Occupied Units	Renter Occupied Units
<b>Alachua</b>	58,947	30,070	24,537	79,022	38,616	32,642	95,113	48,085	39,424	34.1	28.4	33.0	20.4	24.5	20.8
<b>Bradford</b>	7,249	4,866	1,431	8,099	5,542	1,651	9,605	6,709	1,788	11.7	13.9	15.4	18.6	21.1	8.3
<b>Columbia</b>	13,628	8,963	3,220	17,818	11,509	4,102	23,579	16,146	4,779	30.7	28.4	27.4	32.3	40.3	16.5
<b>Dixie</b>	4,010	2,108	555	5,445	3,235	681	7,362	4,498	707	35.8	53.5	22.7	35.2	39.0	3.8
<b>Gilchrist</b>	2,647	1,705	301	4,071	2,806	478	5,906	4,331	690	53.8	64.6	58.8	45.1	54.3	44.4
<b>Hamilton</b>	3,342	2,226	678	4,119	2,657	831	4,966	3,220	941	23.2	19.4	22.6	20.6	21.2	13.2
<b>Lafayette</b>	1,764	1,106	307	2,266	1,389	332	2,660	1,726	416	28.5	25.6	8.1	17.4	24.3	25.3
<b>Madison</b>	5,557	3,709	1,268	6,275	4,196	1,326	7,836	5,194	1,435	12.9	13.1	4.6	24.9	23.8	8.2
<b>Suwannee</b>	8,765	5,996	1,743	11,699	7,950	2,084	15,679	10,892	2,568	33.5	32.6	19.6	34.0	37.0	23.2
<b>Taylor</b>	6,982	4,417	1,409	7,908	5,027	1,374	9,646	5,725	1,451	13.3	13.8	(2.5)	22.0	13.9	5.6
<b>Union</b>	2,329	1,399	720	2,975	1,857	801	3,736	2,513	854	27.7	32.7	11.3	25.6	35.3	6.6
<b>Region</b>	115,220	66,565	36,169	149,697	84,784	46,302	186,088	109,039	55,053	27.4	27.6	28.0	24.3	28.6	18.9
<b>w/o Alachua</b>	56,273	36,495	11,632	70,675	46,168	13,660	90,975	60,954	15,629	25.6	26.5	17.4	28.7	32.0	14.4
<b>Florida</b>	4,378,691	2,557,079	1,187,175	6,100,262	3,453,022	1,681,847	7,302,947	4,441,799	1,896,130	39.3	35.0	41.7	19.7	28.6	12.7

Sources: U.S. Census Bureau, Census 2000 Summary File 1, Matrices H3, H4, H5, H6, H17, and H16, Washington, D.C. 2002. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, Florida, Summary Tape File 3A. Washington, D.C. 1992.  
U.S. Department of Commerce, Bureau of the Census, 1980 Census of Housing: General Housing Characteristics, Florida. Tables 1 & 41. Washington, D.C., 1982.

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### 3. Home Ownership

North central Florida home ownership rates increased slightly during the 1990s. In 2000, 66.5 percent of the region's occupied year-round housing units were owner occupied, compared to 64.7 percent in 1990. Alachua County, with its large student population, downwardly skews the region's home ownership rate. Excluding Alachua County, 79.6 percent of the region's 2000 occupied year-round housing units were owner occupied. This figure represents a slight increase over the 77.2 percent rate posted in 1990. The region's 2000 rate of home ownership is less than the statewide rate of 70.1 percent. The statewide rate is up slightly from 67.2 percent in 1990.



**TABLE 1.2**  
**PERCENTAGE OF OCCUPIED HOUSING UNITS BY TENURE, 1980, 1990, AND 2000**

Area	1980		1990		2000	
	Owner Occupied Units	Renter Occupied Units	Owner Occupied Units	Renter Occupied Units	Owner Occupied Units	Renter Occupied Units
<b>Alachua</b>	55.1	44.9	54.2	45.8	54.9	45.1
<b>Bradford</b>	77.3	22.7	77.0	23.0	79.0	21.0
<b>Columbia</b>	73.6	26.4	73.7	26.3	77.2	22.8
<b>Dixie</b>	79.2	20.8	82.6	17.4	86.4	13.6
<b>Gilchrist</b>	85.0	15.0	85.4	14.6	86.3	13.7
<b>Hamilton</b>	76.7	23.3	76.2	23.8	77.4	22.6
<b>Lafayette</b>	78.3	21.7	80.7	19.3	80.6	19.4
<b>Madison</b>	74.5	25.5	76.0	24.0	78.4	21.6
<b>Suwannee</b>	77.5	22.5	79.2	20.8	80.9	19.1
<b>Taylor</b>	75.8	24.2	78.5	21.5	79.8	20.2
<b>Union</b>	66.0	34.0	69.9	30.1	74.6	25.4
<b>Region</b>	64.8	35.2	64.7	35.3	66.5	33.6
<b>w/o Alachua</b>	75.8	24.2	77.2	22.8	79.6	20.4
<b>Florida</b>	68.3	31.7	67.2	32.8	70.1	29.9

Sources: U.S. Census Bureau, Census 2000 Summary File 1, Matrices H3, H4, H5, H6, H17, and H16, Washington, D.C. 2002.  
 U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, Florida, Summary Tape File 3A. Washington, D.C. 1992.  
 U.S. Department of Commerce, Bureau of the Census, 1980 Census of Housing: General Housing Characteristics, Florida. Tables 1 & 41. Washington, D.C. 1982.

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## 4. Mobile Homes

A high percentage of the north central Florida housing stock is comprised of mobile homes. At least in partial response to the high price of conventionally-built housing, many north central Florida households have turned to mobile homes as an affordable alternative to conventionally-built, detached, single-family residential homes.

The region experienced dramatic growth in mobile homes during the 1980s. As can be seen in Table 1.3, the number of mobile homes in the region increased from 16,886 in 1980 to 36,337 by 1990, an increase of 19,451 units, or 115.2 percent. The boom in mobile homes continued through the 1990s. By 2000, the number of mobile homes had increased 49,859, an increase of 13,522 units, or 37.5 percent, over 1990 levels.

North central Florida counties experiencing the largest percentage increases in mobile homes during the 1990s were Gilchrist (68.6%), Columbia (59.3%), and Suwannee (56.2%). North central Florida counties noting the smallest percentage increases were Alachua (7.5%) and Dixie (18.7%). Columbia County experienced the largest increase in the absolute number of mobile homes during this time period with an additional 3,453 units.

Statewide, the growth rate of mobile homes has been lower than that of the region. Between 1990 and 2000, the number of mobile homes increased by 11.4 percent statewide, nearly equal to the region's 37.2 percent rate. During the 1980s, the statewide increase of 85.3 percent also lagged the region's robust 115.2 percent rise.

The rapid growth in the region's supply of mobile homes has caused a discernable shift in the percentage of total housing units comprised of mobile homes. In 1980, mobile homes accounted for 14.7 percent of the region's housing stock. By 1990, mobile homes accounted for 24.1 percent of the region's housing stock. In 2000, mobile homes comprised 26.8 percent of the region's housing stock. When Alachua County is removed from consideration, mobile homes comprised 42.7 percent of the remaining region's 2000 housing stock. North central Florida counties with the highest percentage of mobile homes were Gilchrist (57.0%), Dixie (54.1%), Suwannee (47.6%), and Union (46.7%) counties.



**TABLE 1.3**  
**NUMBER OF MOBILE HOMES AND MOBILE HOMES**  
**AS A PERCENTAGE OF TOTAL HOUSING UNITS, 1980, 1990, AND 2000**

Area	1980			1990			2000			Change in Mobile Homes			
	Total Housing Units	Mobile Homes		Total Housing Units	Mobile Homes		Total Housing Units	Mobile Homes		1980-90		1990-2000	
		Number	Percent of Total		Number	Percent of Total		Number	Percent of Total	Number	Percent	Number	Percent
Alachua	58,947	6,200	10.5	79,022	10,196	12.9	95,113	10,973	11.5	3,996	64.5	777	7.6
Bradford	7,249	1,350	18.6	8,099	2,195	27.1	9,605	3,294	34.3	845	62.6	1,099	50.1
Columbia	13,628	2,606	19.1	17,818	5,820	32.7	23,759	9,273	39.0	3,214	123.3	3,453	59.3
Dixie	4,010	964	24.0	6,445	3,355	52.1	7,362	3,981	54.1	2,391	248.0	626	18.7
Gilchrist	2,647	583	22.0	4,071	1,997	49.1	5,906	3,367	57.0	1,414	242.5	1,370	68.6
Hamilton	3,342	672	20.1	4,119	1,486	36.1	4,966	2,225	44.8	814	121.1	739	49.7
Lafayette	1,764	391	22.2	2,266	860	38.0	2,660	1,072	40.3	469	119.9	212	24.7
Madison	5,557	808	14.5	6,275	1,872	29.8	7,836	2,954	37.7	1,064	131.7	1,082	57.8
Suwannee	8,765	2,085	23.8	11,699	4,776	40.8	15,679	7,460	47.6	2,691	129.1	2,684	56.2
Taylor	6,982	878	12.6	7,908	2,627	33.2	9,646	3,517	36.5	1,749	199.2	890	33.9
Union	2,329	349	15.0	2,975	1,153	38.8	3,736	1,743	46.7	804	230.4	590	51.2
<b>Region</b>	225,220	16,886	14.7	150,697	36,337	24.1	186,268	49,859	26.8	19,451	115.2	13,522	37.2
<b>w/o Alachua</b>	56,273	10,686	19.0	71,675	26,141	36.5	91,155	38,886	42.7	15,455	144.6	12,745	48.8
<b>Florida</b>	4,378,691	411,439	9.4	6,100,262	762,227	12.5	7,302,947	849,304	11.6	350,788	85.3	87,077	11.4

Sources: U.S. Census Bureau, Census 2000 Summary File 3, Matrices H1, H23, H24, H30, H34, H25, H41, H47, and H50, Washington, D.C. 2002.  
 U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, Florida, Summary Tape File 3A. Washington, D.C. 1992.  
 U.S. Department of Commerce, Bureau of the Census, 1980 Census of Housing: General Housing Characteristics, Florida. Tables 5 & 46. Washington, D.C. 1982.

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As illustrated in Table 1.4, the majority of the region's mobile homes are located outside of incorporated communities. In 2000, fully 78.0 percent of the region's mobile homes were located outside of incorporated communities. The percentage is higher when Alachua County is excluded from the region, rising to 90.8 percent. The percentage of county-wide mobile homes located in unincorporated areas was consistently high in every north central Florida county, ranging from a low of 47.5 percent in Alachua County to a high of 95.8 percent in Columbia County.

Even more telling is the percentage of total housing stock located in unincorporated areas which are comprised of mobile homes. In 2000, 34.0 percent of the region's housing stock located outside of incorporated areas was comprised of mobile homes, compared to 44.7 percent for conventionally-built, detached single-family units. When Alachua County is removed from consideration, the percentage of rural housing comprised of mobile homes jumps to 50.4 percent while conventional single-family units comprise 45.8 percent. Mobile homes out-number conventional single-family units in the unincorporated portions of Dixie, Gilchrist, Hamilton, Suwannee, and Union counties and comprise over 50.0 percent of the housing stock in the unincorporated areas of Dixie, Gilchrist, Hamilton, and Union counties.

**TABLE 1.4**

**NUMBER AND PERCENTAGE OF MOBILE HOMES AND CONVENTIONAL DETACHED SINGLE FAMILY RESIDENTIAL DWELLING UNITS BY INCORPORATED AND UNINCORPORATED LOCATION, 2000**

Area	Total			
	Mobile Homes	Single Family Residences, Detached	Mobile Homes & Single Family Residences Detached	Total Housing Units
<b>Alachua County, Total</b>	10,973	46,259	57,232	95,113
<b>Percent</b>	11.5	48.6	60.2	100.0
<b>Total Incorporated</b>	6,235	25,749	31,984	47,525
<b>Percent</b>	13.1	54.2	67.3	100.0
<b>Unincorporated</b>	4,738	20,510	25,248	47,588
<b>Percent</b>	10.0	43.1	53.1	100.0
<b>Bradford County, Total</b>	3,294	5,735	9,029	9,605
<b>Percent</b>	34.3	59.7	94.0	100.0
<b>Total Incorporated</b>	423	1,973	2,396	2,859
<b>Percent</b>	14.8	69.0	83.8	100.0
<b>Unincorporated</b>	2,871	3,752	6,633	6,746
<b>Percent</b>	42.6	55.8	98.3	100.0
<b>Columbia County, Total</b>	9,273	12,059	21,332	23,579
<b>Percent</b>	39.3	51.1	90.5	100.0
<b>Total Incorporated</b>	389	3,013	3,402	4,683
<b>Percent</b>	8.3	64.3	72.6	100.0

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TABLE 1.4 (Continued)

NUMBER AND PERCENTAGE OF MOBILE HOMES AND CONVENTIONAL DETACHED SINGLE FAMILY RESIDENTIAL DWELLING UNITS BY INCORPORATED AND UNINCORPORATED LOCATION, 2000

Area	Total			
	Mobile Homes	Single Family Residences, Detached	Mobile Homes & Single Family Residences, Detached	Total Housing Units
Unincorporated	8,884	9,046	17,930	18,896
Percent	47.0	47.9	94.9	100.0
Dixie County, Total	3,981	2,991	6,972	7,362
Percent	54.1	40.6	94.7	100.0
Total Incorporated	281	726	1,007	1,130
Percent	24.9	64.2	89.1	100.0
Unincorporated	3,700	2,265	5,965	6,232
Percent	59.4	36.3	95.7	100.0
Gilchrist County, Total	3,367	2,380	5,747	5,906
Percent	57.0	40.3	97.3	100.0
Total Incorporated	435	482	916	1,042
Percent	41.7	46.2	87.9	100.0
Unincorporated	2,933	1,899	4,831	4,864
Percent	60.3	39.0	99.3	100.0
Hamilton County, Total	2,225	2,377	4,602	4,966
Percent	44.8	47.9	92.7	100.0
Total Incorporated	432	885	1,317	1,589
Percent	27.2	55.7	82.9	100.0
Unincorporated	1,793	1,492	3,285	3,377
Percent	53.1	44.2	97.3	100.0
Lafayette County, Total	1,072	1,421	2,493	2,660
Percent	40.3	53.4	93.7	100
Total Incorporated	113	202	315	389
Percent	29	51.9	81	100
Unincorporated	959	1,219	2,178	2,271
Percent	42.2	53.7	95.9	100
Madison County, Total	2,954	4,204	7,158	7,836
Percent	37.7	53.6	91.3	100

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 1.4 (Continued)

**NUMBER AND PERCENTAGE OF MOBILE HOMES AND CONVENTIONAL DETACHED SINGLE FAMILY RESIDENTIAL DWELLING UNITS BY INCORPORATED AND UNINCORPORATED LOCATION, 2000**

Area	Total			
	Mobile Homes	Single Family Residences, Detached	Mobile Homes & Single Family Residences, Detached	Total Housing Units
<b>Total Incorporated</b>	250	1,237	1,487	1,966
Percent	12.7	62.9	75.6	100
<b>Unincorporated</b>	2,704	2,967	5,671	5,870
Percent	46.1	50.5	96.6	100
<b>Suwannee County, Total</b>	7,460	7,290	14,750	15,679
Percent	47.6	46.5	94.1	100
<b>Total Incorporated</b>	561	2,068	2,629	3,063
Percent	18.3	67.5	85.8	100.0
<b>Unincorporated</b>	6,899	5,222	12,121	12,616
Percent	54.7	41.4	96.1	100.0
<b>Taylor County, Total</b>	3,517	5,285	8,802	9,646
Percent	36.5	54.8	91.3	100.0
<b>Total Incorporated</b>	390	2,299	2,689	3,109
Percent	12.5	73.9	86.5	100.0
<b>Unincorporated</b>	3,217	3,986	6,113	6,537
Percent	47.8	45.7	93.5	100.0
<b>Union County, Total</b>	1,743	1,740	3,483	3,736
Percent	46.7	46.6	93.2	100.0
<b>Total Incorporated</b>	286	480	766	984
Percent	29.1	48.8	77.8	100.0
<b>Unincorporated</b>	21457	1260	2717	2752
Percent	52.9	45.8	98.7	100.0
<b>Region, Total</b>	49,859	91,741	141,600	186,088
Percent	26.8	49.3	76.1	100.0
<b>Total Incorporated</b>	9,795	39,411	48,908	68,399
Percent	14.3	57.2	71.6	100.0
<b>Unincorporated</b>	40,065	52,628	92,692	117,749
Percent	78.0	44.7	78.7	100.0

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TABLE 1.4 (Continued)

**NUMBER AND PERCENTAGE OF MOBILE HOMES AND CONVENTIONAL DETACHED SINGLE FAMILY RESIDENTIAL DWELLING UNITS BY INCORPORATED AND UNINCORPORATED LOCATION, 2000**

Area	Total			
	Mobile Homes	Single Family Residences, Detached	Mobile Homes & Single Family Residences, Detached	Total Housing Units
Region w/o Alachua, Total	38,886	45,482	84,368	90,975
Percent	42.7	50.0	92.7	100.0
Total Incorporated	3,560	13,365	16,924	20,814
Percent	17.1	64.2	81.3	100.0
Unincorporated	35,327	32,118	67,444	70,161
Percent	50.4	45.8	96.1	100.0

Source: U.S. Census Bureau, Census 2000 Summary File 3, Matrices H1, H23, H24, H30, H34, H35, H41, H47, and H50.

## 5. Housing Quality

### a. Plumbing Facilities

Census data reveals a significant reduction in the percentage of north central Florida housing units with inadequate plumbing between 1980 and 1990. However, decennial census data notes an increase in number of units lacking complete plumbing facilities between 1990 and 2000 (see Table 1.5). In 1980, 3.6 percent of all dwelling units in the region lacked some or all plumbing facilities. In 1990, the percentage was just 1.1 percent. However, in 2000, the percentage had increased to 1.4 percent. Not only did the percentage of units lacking complete plumbing facilities increase between 1990 and 2000, the actual number of such units increased as well. In 1990, the region had 1,716 units lacking plumbing facilities. By 2000, the number had increase to 2,492.

North central Florida housing quality is below the state average when measured in terms of the percentage of housing units lacking some or all plumbing facilities. As illustrated in Table 1.5, the percentage of north central Florida units lacking plumbing facilities in 2000 was significantly higher than the statewide rate (0.6%). Nevertheless, the region's incidence of units lacking some or all plumbing facilities was actually quite low. Only 1.4 percent of the 2000 regional housing stock lacked complete plumbing facilities. The relatively high incidence of inadequate plumbing was most likely due to the rural nature of the region. When Alachua County is removed from consideration, the remaining region's percentage of total 2000 units lacking some or all plumbing facilities rises to 2.2 percent. Counties with the highest incidence of housing with inadequate plumbing facilities in 2000 were Suwannee (3.4%), Taylor (3.3%), and Hamilton (3.1%).

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## b. Overcrowding

Another measure of housing quality is overcrowding, which is commonly defined as a dwelling unit with more than 1.0 person (resident) per room. As can be seen in Table 1.6, the region's 2000 percentage of households with more than 1.0 person per room was 3.9 percent. This figure is lower than the region's 1990 rate of 4.7 percent and is less than the 2000 statewide rate of 6.5 percent. The region's experience favorably contrasts with statewide trends where an increasing percentage of units are overcrowded. The 2000 statewide figure of 6.5 percent was 48.1 percent higher than the 1990 statewide rate of 5.4 percent. North central Florida counties experiencing the largest percentage declines during this period were Hamilton (36.8%), Taylor (30.6%), and Madison (28.6).

Six north central Florida counties experienced increases in overcrowding between 1990 and 2000. Lafayette County experienced the largest percentage increase, reporting a 77.0% percent increase in number of overcrowded units between 1990 and 2000. Other counties experiencing substantial increases include Suwannee (64.6%) and Gilchrist (22.1%).



**TABLE 1.5**  
**NUMBER AND PERCENTAGE OF TOTAL DWELLING UNITS LACKING COMPLETE PLUMBING FACILITIES, 1980, 1990 AND 2000**

Area	1980			1990			2000			Change, 1980 - 1990		Change, 1990 - 2000	
	Total Units	Lacking Complete Plumbing Facilities		Total Units	Lacking Complete Plumbing Facilities		Total Units	Lacking Complete Plumbing Facilities		Lacking Complete Plumbing Facilities		Lacking Complete Plumbing Facilities	
		Number	Percent		Number	Percent		Number	Percent	Number	Percent	Number	Percent
<b>Alachua</b>	58,947	1,150	2.0	79,022	562	0.7	95,113	561	0.6	(588)	(51.1)	(1)	(0.2)
<b>Bradford</b>	7,249	331	4.6	8,099	61	0.8	9,605	187	1.9	(270)	(81.6)	126	206.6
<b>Columbia</b>	13,628	457	3.4	17,818	283	1.6	23,579	158	0.7	(174)	(38.1)	(125)	(44.2)
<b>Dixie</b>	4,010	201	5.0	5,445	140	2.6	7,362	199	2.7	(61)	(30.3)	59	42.1
<b>Gilchrist</b>	2,647	134	5.1	4,071	76	1.9	5,906	47	0.8	(58)	(43.3)	(29)	(38.2)
<b>Hamilton</b>	3,342	259	7.7	4,119	69	1.7	4,966	154	3.1	(190)	(73.4)	85	123.2
<b>Lafayette</b>	1,764	67	3.8	2,266	28	1.2	2,660	80	3.0	(39)	(58.2)	52	185.7
<b>Madison</b>	5,557	661	11.9	6,275	167	2.7	4,204	205	2.6	(494)	(74.7)	38	22.8
<b>Suwannee</b>	8,765	430	4.9	11,699	153	1.3	15,679	535	3.4	(277)	(64.4)	382	249.7
<b>Taylor</b>	6,982	332	4.8	7,908	142	1.8	9,646	317	3.3	(190)	(57.2)	175	123.2
<b>Union</b>	2,329	109	4.7	2,975	35	1.2	3,736	49	1.3	(74)	(67.9)	14	40.0
<b>Region</b>	115,220	4,131	3.6	149,697	1,716	1.1	182,456	2492	1.4	(2,415)	(58.5)	776	45.2
<b>w/o Alachua</b>	56,273	2,981	5.3	70,675	1,154	1.6	87,343	1931	2.2	(1,827)	(61.3)	777	67.3
<b>Florida</b>	4,378,691	34,243	0.8	6,100,262	27,957	0.5	7,302,947	43809	0.6	(6,286)	(18.4)	15,852	56.7

Sources: U.S. Census Bureau, Census 2000 Summary File 3, Matrices H1, H23, H24, H30, H34, H35, H41, H47, and H50.  
 U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, Florida, Summary Tape File 3A. Washington, D.C. 1992.  
 U.S. Department of Commerce, Bureau of the Census, 1980 Census of Housing: General Housing Characteristics, Florida. Tables 1 & 46. Washington, D.C. 1982.

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**TABLE 1.6**  
**OVERCROWDING. NUMBER AND PERCENTAGE OF**  
**OCCUPIED YEAR-ROUND HOUSING WITH 1.01 OR MORE PERSONS PER ROOM**  
**1980, 1990 AND 2000**

Area	Persons per Room											
	Number						Percent			Pct. Change 1.01+		
	1980		1990		2000		1980	1990	2000	1980 -90		1990-2000
	0-1.00	1.01 +	0-1.00	1.01 +	0-1.00	1.01+	1.01 +	1.01 +	1.01+	1980 -90	1990-2000	
<b>Alachua</b>	52,197	2,410	68,318	2,940	84,482	3,027	4.4	4.1	3.4	22.0	3.0	
<b>Bradford</b>	5,919	378	6,943	250	8,241	256	6.0	3.5	3	(33.9)	2.4	
<b>Columbia</b>	11,429	754	14,827	784	20,046	861	6.2	5.0	4.1	4.0	9.8	
<b>Dixie</b>	2,465	198	3,702	214	4,983	222	7.4	5.5	4.3	8.1	3.7	
<b>Gilchrist</b>	1,882	124	3,121	163	4,822	199	6.2	5.0	3.9	31.5	22.1	
<b>Hamilton</b>	2,634	270	3,197	291	3,977	184	9.3	8.3	4.4	7.8	(36.8)	
<b>Lafayette</b>	1,341	72	1,647	74	2,011	131	5.1	4.3	6.1	2.8	77.0	
<b>Madison</b>	4,492	485	5,120	402	6,342	287	9.7	7.3	4.3	(17.1)	(28.6)	
<b>Suwannee</b>	7,238	501	9,557	477	12,675	785	6.5	4.8	5.8	(4.8)	64.6	
<b>Taylor</b>	5,398	428	6,022	379	6,913	263	7.3	5.9	3.7	(11.4)	(30.6)	
<b>Union</b>	1,963	156	2,418	240	3,153	214	7.4	9.0	6.4	53.8	(10.8)	
<b>Region</b>	96,958	5,776	124,872	6,214	157,645	6,429	6.9	4.7	3.9	7.6	3.5	
<b>w/o Alachua</b>	44,761	3,366	56,554	3,274	73,163	3,402	7.5	5.8	4.4	(2.7)	3.9	
<b>Florida</b>	3,545,809	198,445	4,857,803	277,066	5,927,582	410,347	5.3	5.4	6.5	39.6	48.1	

Sources: U.S. Census Bureau, Census 2000, Summary File 3, Table DP-4. Washington, D.C., 2002.  
U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, Florida, Summary Tape File 3A. Washington, D.C. 1992.  
U.S. Department of Commerce, Bureau of the Census, 1980 Census of Housing: General Housing Characteristics, Florida, Tables 1 & 45. Washington, D.C. 1982.

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## 6. Affordability

Housing affordability for north central Florida very low-, low-, and moderate-income households worsened between 1990 and 2000. Available data suggests that, since 2000, the rate of increase in north central Florida incomes has not kept pace with the rate of increase of housing costs. Furthermore, the available data indicates that housing affordability problems are no longer limited to Alachua County. Rather, housing affordability has become a regionwide concern.

During the 1990s, north central Florida housing costs increased and, with one notable exception, with an increasingly larger percentage of the lower-income households of the region spending 30 percent or more of their annual incomes on housing costs. The one notable exception, was a decrease in the percentage percent of the renter households of the region with 1989 annual incomes of less than \$10,000 spending 30 percent or more of their annual incomes on rent. In 1990, 87.6 percent of the 1990 renter households of the region earning less than \$10,000 per year were so classified. In 2000, the percentage had declined to 72.6. However, all of the other regional indicators indicate a general increase in the percentage of the lower-income households of the region paying more than 30 percent on housing.

Tables 1.7 and 1.8 identify the percentage of north central Florida households spending 30 percent or more of their annual household incomes on housing cross-tabulated by household income range. Historically, Alachua County has had the highest rates in the region of lower income households paying 30 percent or more of their annual incomes on housing costs. However, in the case of renter households earning less than \$10,000 as indicated in Table 1.7, Lafayette County had the highest percentage of any north central Florida county at 82.1 percent in 2000. Alachua County still retains the highest percentage of homeowners earning under \$20,000 per year and renters earning between \$10,000 and 19,999 per year. In 1999, 78.5 percent of Alachua County renter households with incomes between and \$10,000 and \$19,999 per year paid 30 percent or more of their annual incomes for rent and utilities. The Alachua County rate was roughly the same as the statewide average of 78.3 percent. When Alachua County is removed from consideration, Table 1.7 reveals substantially lower percentage of lower-income north central Florida households paying 30 percent or more of their annual incomes for housing than statewide.





**TABLE 1.7**  
**PERCENTAGE OF 2000 RENTER HOUSEHOLDS BY**  
**PERCENTAGE OF 1999 HOUSEHOLD INCOME SPENT ON GROSS RENT**

Area	Percentage of Rental Households by Annual Income											
	Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$34,999		\$35,000 to \$49,999		\$50,000 to \$74,999		\$75,000 and Over	
	0 to 29%	30% +	0 to 29%	30% +	0 to 29%	30% +	0 to 29%	30% +	0 to 29%	30%+	0 to 29%	30%+
Alachua	5.1	75.6	18.1	78.5	61.5	35.5	86.8	8.7	95.2	0.7	95.3	0.8
Bradford	10.7	74.6	37.1	44.7	72.7	10.8	80.4	6.7	86.2	0.0	94.3	0.0
Columbia	5.8	63.6	31.2	59.2	84.5	7.1	91.1	0.0	92.1	0.0	83.7	0.0
Dixie	16.6	61.5	39.9	46.4	83.4	2.0	75.0	0.0	63.5	0.0	72.1	0.0
Gilchrist	7.6	50.7	36.4	44.9	72.8	9.9	96.3	0.0	93.3	0.0	83.3	0.0
Hamilton	9.6	54.9	28.4	34.2	66.1	6.6	69.7	0.0	72.2	0.0	97.4	0.0
Lafayette	14.1	82.1	25.4	46.6	67.9	3.8	100.0	0.0	88.5	0.0	100.0	0.0
Madison	14.0	55.4	50.2	33.9	75.5	3.7	42.9	0.0	80.7	0.0	100.0	0.0
Suwannee	12.0	63.1	30.5	42.7	70.2	10.5	90.2	0.0	80.8	0.0	94.6	0.0
Taylor	20.9	60.8	40.2	40.4	72.3	9.4	84.0	0.0	74.8	0.0	100.0	0.0
Union	32.6	49.2	43.8	43.1	83.5	4.2	78.4	0.0	91.4	0.0	87.3	0.0
Region	6.8	72.6	23.3	68.9	66.1	27.4	85.8	6.3	92.2	0.5	93.8	0.6
w/o Alachua	12.5	62.7	24.9	47.4	77.3	7.6	83.7	0.8	84.9	0.0	89.1	0.0
Florida	9.0	68.7	16.5	78.3	52.6	43.0	85.3	10.7	92.4	3.9	94.6	1.3

Note: Percentages may not add to 100 as data was unavailable for all surveyed occupied housing units. Alachua County data may be skewed due to students attending the University of Florida. Further analysis may be warranted to determine the exact impact and need for affordable housing in Alachua County.

Source: U.S. Census Bureau, Census 2000, Summary File 3, Florida, Table H73. Washington, D.C. 2002

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**TABLE 1.8**  
**PERCENTAGE OF 2000 HOMEOWNER HOUSEHOLDS BY SELECTED**  
**MONTHLY OWNER COSTS AS A PERCENTAGE OF 1999 HOUSEHOLD INCOME**

Area	Percentage of Homeowner Households by Annual Income											
	Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$34,999		\$35,000 to \$49,999		\$50,000 to \$74,999		\$75,000 and Over	
	0 to 29%	30% +	0 to 29%	30% +	0 to 29%	30% +	0 to 29%	30% +	0 to 29%	30%+	0 to 29%	30%+
Alachua	10.7	71.5	43.1	56.9	61.5	38.5	84.1	15.9	91.8	8.2	97.6	2.2
Bradford	20.9	64.4	54.7	45.3	78.0	22.0	88.6	11.4	91.9	8.1	99.4	0.0
Columbia	25.0	59.1	57.0	43.0	77.0	23.0	90.3	9.7	94.1	5.9	97.8	2.2
Dixie	24.4	60.2	53.3	46.7	83.7	26.3	91.4	8.6	100.0	0.0	100.0	0.0
Gilchrist	22.3	64.9	52.6	47.4	75.9	24.1	89.8	10.2	94.8	5.2	98.9	0.0
Hamilton	19.8	55.4	55.6	44.4	82.1	17.9	97.0	3.0	97.8	2.2	93.9	6.1
Lafayette	35.1	55.3	71.6	28.4	89.0	11.0	98.1	1.9	95.6	4.4	100.0	0.0
Madison	25.1	61.9	51.8	48.2	80.7	19.3	91.7	8.3	95.7	4.3	98.6	0.0
Suwannee	19.7	58.7	70.0	30.0	74.4	25.6	88.2	11.8	98.7	1.3	98.5	1.5
Taylor	27.0	54.7	64.4	35.6	76.8	23.2	87.4	12.6	97.8	2.2	100.0	0.0
Union	22.6	60.4	46.7	53.3	76.9	23.1	87.5	12.5	95.8	4.2	100.0	0.0
<b>Region</b>	18.7	64.0	51.6	48.4	69.8	30.2	86.7	13.3	93.3	6.7	97.8	1.9
w/o Alachua	23.7	59.4	58.2	41.8	78.0	22.0	90.0	10.0	95.5	4.5	98.6	1.2
<b>Florida</b>	11.3	70.0	41.0	59.0	56.6	43.4	75.0	25.0	88.0	12.0	95.5	3.9

Note: Percentages may not add to 100 as data was unavailable for all surveyed occupied housing units.

Source: U.S. Census Bureau, Census 2000 Summary File 3, Florida, Table H97. Washington, D.C. 2002.

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Tables 1.9 through 1.12 examine changes in housing affordability for homeowners within the region between 2000 and 2005. As indicated in Table 1.9, the region experienced an 80.5 percent increase in housing costs between 2000 and 2005, as measured by change in the median sales prices of single-family dwelling units. Although the rate of increase was slightly lower than the 89.9 percent increase experienced statewide, the year 2000 median sales price in the region of \$120,995 was substantially lower than the year 2005 statewide median sales price of \$226,000.

**TABLE 1.9**  
**MEDIAN SALES PRICE BY YEAR**  
**SINGLE FAMILY RESIDENCES, 2000 - 2005**

Area	Year						Percent Change, 2000-2005
	2000	2001	2002	2003	2004	2005	
<b>Alachua</b>	\$108,500	\$115,100	\$126,000	\$138,900	\$158,000	\$184,300	69.9
<b>Bradford</b>	65,000	67,000	75,000	85,500	98,000	122,000	87.7
<b>Columbia</b>	75,500	77,250	86,700	94,000	119,000	139,000	84.1
<b>Dixie</b>	57,500	60,000	77,000	77,000	98,000	125,000	117.4
<b>Gilchrist</b>	68,300	76,400	90,000	95,000	120,000	143,250	109.7
<b>Hamilton</b>	55,000	56,500	58,500	73,500	82,500	84,000	52.7
<b>Lafayette</b>	64,750	65,750	51,000	90,000	75,000	135,000	108.5
<b>Madison</b>	49,500	58,750	62,000	57,250	73,500	80,000	61.6
<b>Suwannee</b>	67,000	77,000	77,750	77,500	89,000	129,950	94.0
<b>Taylor</b>	67,200	70,000	68,000	70,000	88,500	100,000	48.8
<b>Union</b>	59,000	71,000	74,000	76,800	101,250	88,450	49.9
<b>Region</b>	67,023	72,250	76,905	85,041	100,250	120,995	80.5
<b>w/o Alachua</b>	62,875	67,965	71,995	79,655	94,475	114,665	82.4
<b>Florida</b>	119,000	132,000	142,500	156,200	180,000	226,000	89.9

Source: North Central Florida Regional Planning Council, August 2007. Derived from Florida Housing Data Clearinghouse, Regional and Local Profiles (<http://flhousingdata.shimberg.ufl.edu/a/profiles>).



Table 1.10 tracks changes in average annual wage per north central Florida employee between 2000 and 2005. As can be seen, the regionwide percentage increase in wages did not keep pace with the regionwide percentage increase in the price of single-family dwelling units. North central Florida wages increased by 23.7 percent during this time period, whereas the cost of a single family dwelling unit increased by 80.5 percent. The relatively high percentage increase in the cost of single-family dwelling units compared to the percentage increase in average annual wages suggests that north central Florida housing is becoming increasingly unaffordable for its residents.

**TABLE 1.10**  
**AVERAGE ANNUAL WAGE BY COUNTY**  
**2000 - 2005**

Area	Year						Percent Change, 2000-2005
	2000	2001	2002	2003	2004	2005	
<b>Alachua</b>	\$26,155	\$26,884	\$27,686	\$28,868	\$30,932	\$33,134	26.7
<b>Bradford</b>	25,425	26,351	27,116	27,176	28,552	29,653	16.6
<b>Columbia</b>	25,738	26,716	26,779	27,335	28,911	30,181	17.3
<b>Dixie</b>	22,632	24,694	28,093	24,922	26,216	27,251	20.4
<b>Gilchrist</b>	21,834	23,347	23,401	24,513	26,262	26,670	22.1
<b>Hamilton</b>	29,867	31,374	30,331	31,987	34,671	35,591	19.2
<b>Lafayette</b>	20,759	21,196	21,326	23,606	24,500	24,445	17.8
<b>Madison</b>	19,942	20,838	21,396	22,312	24,051	24,157	21.1
<b>Suwannee</b>	20,951	21,697	22,366	23,209	25,081	25,839	23.3
<b>Taylor</b>	27,394	27,424	27,525	28,377	28,630	30,070	9.8
<b>Union</b>	27,049	25,998	26,347	27,658	29,426	30,778	13.8
<b>Region</b>	25,599	26,351	27,015	28,028	29,908	31,674	23.7
<b>w/o Alachua</b>	24,514	25,282	25,682	26,336	27,892	28,914	17.9
<b>Florida</b>	30,566	31,552	32,417	33,552	35,159	36,804	20.4

Source: North Central Florida Regional Planning Council, August 2007. Derived from Annual Summary Reports, Quarterly Census of Employment and Wages, Florida Agency for Workforce Innovation, (<http://www.labormarketinfo.com/library/qcew.htm>)

Table 1.11 takes into account the effect of changes in mortgage rates on monthly mortgage payments. Lower mortgage interest rates result in lower monthly mortgage payments which could allow home buyers to afford homes which are substantially higher priced than might otherwise be expected.

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In 2000, the nationwide average interest rate on a 30-year mortgage was 8.05 percent. In 2005, the nationwide average interest rate on a 30-year mortgage had declined to 5.87 percent.<sup>2</sup> Since mortgage rates were higher in 2000 than in 2005, a drop in mortgage interest rates results in lower monthly mortgage payments, thereby increasing the range of housing prices which are affordable to home buyers. It is possible that north central Florida home buyers can afford higher-priced homes in 2005 than in 2000 as a result of a combination of increased wages and reductions in mortgage interest rates.

As can be seen in Table 1.11, reductions in mortgage interest rates helped reduce the impact of increases in the cost of single-family dwelling units during this time period. As can be seen in the table, the region experienced a 44.7 percent increase in the cost of monthly mortgage payments, which is substantially less than the 80.5 percent increase in average sales price reported in Table 1.9. However, even taking into account reductions in monthly mortgage payments as a result of lower interest rates, the 44.7 percent increase in the annual cost of housing between 2000 and 2005 was a significantly faster rate of increase than the 23.7 percent increase experienced in annual wages reported in Table 1.10.

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<sup>2</sup>As determined by FreddieMac, [www.freddiemac.com/pmms/pmms30.htm](http://www.freddiemac.com/pmms/pmms30.htm).



**TABLE 1.11**  
**ESTIMATED MONTHLY MORTGAGE PAYMENT**  
**FOR A SINGLE FAMILY RESIDENTIAL DWELLING UNIT, 2000 - 2005**

Area	Year		Percent Change, 2000-2005
	2000	2005	
<b>Alachua</b>	\$720	\$981	36.3
<b>Bradford</b>	431	649	50.6
<b>Columbia</b>	501	740	47.7
<b>Dixie</b>	382	665	74.1
<b>Gilchrist</b>	453	762	68.2
<b>Hamilton</b>	365	447	22.5
<b>Lafayette</b>	430	718	67.0
<b>Madison</b>	328	426	29.9
<b>Suwannee</b>	445	691	55.3
<b>Taylor</b>	446	532	19.3
<b>Union</b>	391	471	20.5
<b>Region</b>	445	644	44.7
<b>w/o Alachua</b>	417	610	46.3
<b>Florida</b>	790	1,203	52.3

Source: North Central Florida Regional Planning Council, August 2007.

Notes: The applicable national average mortgage interest rate is applied to the County median sales price of single family residential dwelling units identified in Table 1.9 to determine monthly mortgage payments. Excludes insurance and taxes. Assumes a 10.0 percent down payment and zero points. Assumes year 2000 and 2005 nationwide annual average mortgage interest rates for year 2000 and 2005 of 8.05 and 5.87 percent, respectively, as published by [www.freddiemac.com/pmms/pmms30.htm](http://www.freddiemac.com/pmms/pmms30.htm).



Table 1.12 provides information on housing costs by household income range for the year 2005. The table presents household income range in terms of percent of County median income. The table provides the following four income ranges, or classes: Households with incomes of 30 percent or less of the countywide average median income, households with incomes between 30.01 and 50 percent of the countywide median income, households with incomes between 50.01 and 80 percent of the countywide median income, and households with incomes over 80 percent of the countywide median income. A total figure is also reported. For each income range, the table reports the percentage of households who are spending 30 percent or less of their annual incomes on housing as well as the percentage of households spending more than 30 percent of their 2005 annual income on housing.

While Table 1.12 is not directly comparable to year 2000 housing costs by income range as reported in Tables 1.7 and 1.8, it nevertheless suggests that housing costs continue to be unaffordable for most lower-income households. It also notes that the region is generally comparable to the statewide average for households earning less than 50 percent of the average median income. It suggests that housing affordability is somewhat worse in Alachua County for lower income households than in the rest of the region. When Alachua County is removed from consideration, the percentage of remaining north central Florida households earning less than 30 percent of the county median income who are spending 30 percent or more of their annual incomes on housing drops from 70.6 percent to 65.5 percent. Similarly, for households earning between 30 and 50 percent of the county median income when Alachua County is removed from consideration, the percentage of households spending 30 percent or more of their annual income on housing drops from 61.6 percent to 50.8 percent.



**TABLE 1.12**  
**PERCENT OF HOUSEHOLDS BY INCOME AND HOUSING COST BURDEN, 2005**

Area	Households by Annual Household Income Range Paying Either Less than or More than 30% of Annual Household Income on Housing								Total Households	
	0-30% of Adjusted Median Income		30.01 - 50% of Adjusted Median Income		50.01 - 80% of Adjusted Median Income		80.01% + of Adjusted Median Income			
	0-30%	30.%+	0-30%	30%+	0-30%	30%+	0-30%	30%+	0-30%	30%+
<b>Alachua</b>	26.2	73.8	28.6	71.4	65.4	34.6	92.3	7.7	67.6	32.4
<b>Bradford</b>	35.7	64.3	52.9	47.1	73.4	26.6	89.7	10.3	76.8	23.2
<b>Columbia</b>	29.8	70.2	42.0	58.0	66.1	33.9	90.1	9.9	73.3	26.7
<b>Dixie</b>	33.9	66.1	61.8	38.2	64.4	35.6	93.0	7.0	73.8	26.2
<b>Gilchrist</b>	43.3	66.2	46.7	53.3	57.4	42.6	89.9	10.1	72.5	27.5
<b>Hamilton</b>	30.4	56.7	47.9	52.1	70.0	30.0	91.3	8.7	72.9	27.1
<b>Lafayette</b>	35.4	69.6	61.1	38.9	84.1	15.9	96.0	4.0	82.6	17.4
<b>Madison</b>	34.6	64.6	46.4	53.6	68.8	31.2	93.9	6.1	72.3	27.7
<b>Suwannee</b>	34.0	65.4	50.2	49.8	67.5	32.5	87.2	12.8	72.0	28.0
<b>Taylor</b>	44.6	66.0	55.0	45.0	68.0	32.0	93.0	7.0	76.1	23.9
<b>Union</b>	29.4	55.4	43.2	56.8	73.4	26.6	91.0	9.0	78.2	21.8
<b>Region</b>	29.4	70.6	38.4	61.6	66.5	33.5	91.4	8.6	70.7	29.3
<b>w/o Alachua</b>	34.5	65.5	49.2	50.8	67.7	32.3	90.5	9.5	74.1	25.9
<b>Florida</b>	29.4	70.6	33.2	66.8	57.0	43.0	88.8	11.2	71.1	28.9

Source: North Central Florida Regional Planning Council, August 2007. Derived from Regional and Local Profiles, "Households by Income and Cost Burden, 2005", Shimberg Center for Affordable Housing, August 2007 (<http://flhousingdata.shimberg.ufl.edu/a/profiles>).

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### c. Affordable Housing and Local Government Comprehensive Plans

Chapter 163.3177(6)(f)1.d., Florida Statutes, requires local government comprehensive plans to provide adequate sites for future housing for very low-, low-, and moderate-income families

Every local government comprehensive plan within the north central Florida region has been found by the Florida Department of Community Affairs to be in compliance with the requirements of Chapter 163, Florida Statutes. None of the region's local government comprehensive plans mandate the construction of low- and/or moderate-income housing or the establishment of additional fees for the future construction of such units. Local governments in all ten rural north central Florida counties primarily rely on the private market for the provision of affordable housing units. This is accomplished chiefly by local government comprehensive plan policies which call for, and Future Land Use Map classifications which establish, higher densities of residential development within urban areas and the allowance of mobile homes within specified land use classifications.

Within Alachua County, both the City of Gainesville and Alachua County comprehensive plans contain policy direction consistent with regional plan Policy 1.1.2 which calls for the provision of incentives, such as density bonuses to private builders who construct 10.0 percent or more of their units which are affordable to either very low-, low-, or moderate-income households. The Housing Element of the Alachua County Comprehensive Plan contains policy direction calling for the creation of incentives in the land development regulations to promote the construction of dwelling units affordable to either low- or very low-income households. The City of Gainesville Housing Element contains policy direction promoting the use of zero lot lines and cluster subdivisions as incentives for the construction of low income housing. The City Housing Element also includes policy direction calling for the City to work with the County in developing land development regulations which promote the creation of a county-wide "fair share" housing ordinance for the dispersal of affordable housing units throughout their jurisdictions.

Local comprehensive plan policies encouraging the construction of affordable housing is particularly important in urban areas. North central Florida urban areas, in contrast to its rural areas, as suggested by the data contained in the Affordable Housing Element of the regional plan, are experiencing greater difficulty in providing an adequate supply of affordable housing for their residents. In rural areas, affordable housing demand is typically met by the placement of mobile homes on individual lots.

### d. Development of Regional Impact Affordable Housing Rule

The Development of Regional Impact Affordable Housing Rule adopted by the Florida Department of Community Affairs requires, under certain circumstances, the provision of an adequate number of housing units affordable to all very low-, low-, and moderate-income households of the employees at the Development of Regional Impact project site. The standard rule prescribes a method by which affordable housing supply and demand are to be determined. It also provides for alternative methods for determining the affordable housing demand, supply, and need if agreed to by the applicant and the Council during the Development of Regional Impact pre-application conference. The East Central Florida Regional Planning Council has developed an alternative methodology which is widely used throughout the state. The North Central Florida Regional Planning Council regularly recommends the use of the East Central Florida Regional Planning Council methodology.

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The North Central Florida Regional Planning Council encourages Development of Regional Impact applicants to use the East Central Florida Regional Planning Council housing methodology in lieu of the Adequate Housing Standard Rule 9J-2.048, Florida Administrative Code, for the determination of adequate (affordable) housing demand and supply in the review of developments of regional impact. Although the use of the East Central Florida Regional Planning Council methodology is encouraged by a regional plan policy, the standard rule methodology may still be used by applicants. However, every Development of Regional Impact which has been submitted for review to the Council has used the East Central Florida Regional Planning Council methodology. Furthermore, the Development of Regional Impact affordable housing rule was amended in 2003 to specifically allow the use of the East Central Florida Regional Planning Council methodology as an alternative to the standard rule methodology.

Rule 9J-2.048, Florida Administrative Code, allows for deviation from either the approved affordable housing analysis methodologies. However, the rule requires that deviations from the East Central Florida Regional Planning Council methodology or the standard rule methodology produce equal or better mitigation than provided by the approved methodologies.<sup>3</sup> Therefore, an affordable housing impact analysis should be performed in accordance with an approved methodology to determine whether a deviation from an approved methodology produces a level of mitigation substantially less than that produced by the strict application of one of the approved methodologies.

Although Development of Regional Impact applicants are responsible for providing information to assist the Council in determining the affordable housing impacts of their projects, determination of affordable housing impacts is the responsibility of the Council. Rule 9J-2, Florida Administrative Code, calls for applicants to file an Application for Development Approval with the Council which identifies the affordable housing

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<sup>3</sup>Rule 9J-2.048(3)(c), Florida Administrative Code, states that deviation from the rule may not result in an appeal by the Florida Department Economic Opportunity if it results in a level of mitigation equal to or greater than the level of mitigation resulting from a strict application of one of the approved methodologies. Rule 9J-2.048(3)(c), Florida Administrative Code, states:

“A development order shall be determined by the Department to make adequate provision for the adequate housing issues addressed by this rule, and shall not be appealed by the Department on the basis of inadequate mitigation of adequate housing impacts, if it contains the applicable mitigation standards and criteria set forth in this rule or if it is reviewed and provides applicable mitigation consistent with the East Central Florida Housing Methodology, developed April, 1996 and revised June, 1999. If a development order does not contain applicable mitigation standards and criteria set forth in this rule, the Department shall have discretion to appeal the development order, pursuant to the provisions of Section 380.07, Florida Statutes. However, nothing in this rule shall require the Department to undertake an appeal of the development order simply because it fails to comply with the provisions of this rule. A development order failing to comply with the provisions of this rule will be addressed on a case-by-case basis by the Department as to whether it otherwise complies with the intent and purposes of Chapter 380, Florida Statutes. The Department will take into consideration the balancing of the rule’s provisions with the protection of property rights, the encouragement of economic development, the promotion of other state planning goals by the development, the utilization of alternative, innovative solutions in the development order *to provide equal or better protection than the rule*, and the degree of harm created by non-compliance with this rule’s mitigation criteria and standards.”

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impacts of the Development of Regional Impact based on the Development of Regional Impact affordable housing rule. At the same time, the Council is required under subsection 380.06(12), Florida Statutes, to prepare a report of the affordable housing impacts of the Development of Regional Impact. While the Council includes in its report the results of the affordable housing impact analysis contained in the applicant's Application for Development Approval, the Council must be able to verify and validate that the applicant's analysis has been conducted in accordance with the affordable housing methodology rule in order to meet its responsibilities under subsection 380.06(12), Florida Statutes. If the Council cannot verify and validate the analysis, then the Council must either perform its own analysis using as much of the data and analysis provided in the Application for Development Approval as possible. Alternatively, the Council could recommend denial of the Development of Regional Impact until such time that an affordable housing impact analysis is developed in accordance with the rule.

The Council has experienced numerous difficulties in the implementation of the affordable housing rule. This is due, at least in part, to an incomplete affordable housing methodology rule as both the East Central Florida Regional Planning Council methodology and the standard rule methodology omit detailed instructions and examples to guide the user in their application. Due to the absence of specificity, interpretations must be made regarding the application of the methodologies. These interpretations can have significant impacts on the results of the analysis. Council staff has encountered errors and disagreements with Development of Regional Impact applicants over rule interpretations and the application of various concepts addressed by the approved methodologies. Furthermore, every affordable housing analysis reviewed by the Council has had, at least initially, insufficient information to allow verification and validation of at least some portion of the analysis.

Therefore, the Council encourages Development of Regional Impact applicants to enter into an affordable housing agreement to implement the East Central Florida Regional Planning Council methodology and to address specifics not covered by the East Central Florida Regional Planning Council methodology. The agreement establishes greater specificity as to how the methodology is to be applied and provides greater assurance to all parties as to how affordable housing impacts are to be determined.

The Council agreement addresses the resolution of differences between East Central Florida Regional Planning Council methodology and the standard rule methodology; the provision of sufficient information to allow the Council to verify and validate that the affordable housing analysis was conducted in accordance with the agreed-upon methodology; the determination of affordable housing demand; the identification of existing affordable housing supply; the identification of the five percent set-aside of rental units for transitional housing; the matching of demand to supply; the application of the five percent rental unit set-aside when matching affordable housing demand to existing vacant for-rent affordable housing supply; the determination of affordable housing impact; the identification of affordable housing units reserved for previously approved proximate Developments of Regional Impact; mitigation of the identified significant affordable housing impact; and the creation of an affordable housing mitigation plan.

As previously noted, the East Central Florida Regional Planning Council methodology is not a complete, stand-alone methodology. It relies on terms and definitions included in the standard rule methodology. It does not provide a method to match affordable housing demand to the identified affordable housing supply. However, the East Central Florida Regional Planning Council methodology does not explicitly state that it is not a complete, stand-alone methodology. Therefore, when the East Central Florida Regional Planning Council methodology is used, the standard rule methodology still applies, except to the extent that the East Central Florida Regional Planning Council methodology differs with the standard rule methodology,

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in which case the East Central Florida Regional Planning Council methodology applies. The Council Agreement links the three documents (the agreement, the East Central Florida Regional Planning Council methodology, and the standard rule methodology) together and resolves conflicts between them.

### e. Alternative Approaches

A simpler alternative may be desirable to address Development of Regional Impact affordable housing mitigation. A simpler approach would provide greater assurance to Development of Regional Impact applicants regarding the cost of required affordable housing mitigation. Several regional planning councils are providing alternative mitigation approaches. One alternative requires payments to an affordable housing trust fund. Another approach requires a minimum percentage of project site residential units be set aside for affordable housing. Such approaches are subject to challenge by the Florida Department of Community Affairs. However, the Department has yet to challenge any local government development order which relies on one of these alternative affordable housing mitigation approaches.

## B. Problems, Needs and Opportunities

The Council identifies the following affordable housing problems, needs, and opportunities:

1. A need exists to reduce the percentage of the region's very low-, low-, and moderate-income households who spend more than 30 percent of their annual household income on housing.
2. A need exists to update the Development of Regional Impact adequate (affordable) housing impact analysis methodology.

## C. Regional Goals and Policies

**REGIONAL GOAL 1.1.** Reduce the percentage of the region's very low-, low-, and moderate-income households spending 30.0 percent or more of their annual household income on housing.

### Regional Indicators

1. 66.2 percent of north central Florida year 2000 households with 1999 annual incomes of less than \$20,000 per year spent 30.0 percent or more of their 1999 annual incomes on housing.
2. 72.6 percent of north central Florida year 2000 renter households with 1999 annual incomes of less than \$10,000 per year spent 30.0 percent or more of their 1999 annual income on gross rent.
3. 68.9 percent of north central Florida year 2000 renter households with 1999 annual incomes between \$10,000 and \$19,999 per year spent 30.0 percent or more of their 1999 annual income on gross rent.
4. 64.0 percent of north central Florida year 2000 homeowner households with 1999 annual incomes of less than \$10,000 per year spent 30.0 percent or more of their 1999 annual income on housing.

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5. 48.4 percent of north central Florida year 2000 homeowner households with 1999 annual incomes between \$10,000 and \$19,999 per year spent 30.0 percent or more of their 1999 annual income on gross rent.

**Policy 1.1.1.** Encourage the development of policies within local government comprehensive plans which provide incentives or otherwise provide for the construction of affordable housing units in a manner which results in a dispersal of affordable housing units throughout the urban areas of the local government's jurisdiction.

**Policy 1.1.2.** Provide incentives, such as density bonuses, to private builders of residential dwelling units who construct 10.0 percent or more of their units for very low-, low-, and moderate-income households within urban areas.

**Policy 1.1.3.** Provide technical assistance to local governments for the revision of Housing Elements contained in local government comprehensive plans.

**Policy 1.1.4.** Provide assistance to local governments in the development of Community Development Block Grant housing applications.

**REGIONAL GOAL 1.2.** Mitigate significant affordable housing impacts associated with Developments of Regional Impact.

### Regional Indicator

As of January 2007, six approved Developments of Regional Impact are under construction in north central Florida.

**Policy 1.2.1.** The Council shall incorporate the results of an affordable housing analysis conducted by a Development of Regional Impact applicant in accordance with Rule 9J-2.048, Florida Administrative Code, and in accordance with any clarifications made to the methodology as a result of a Preapplication Conference pursuant to Rule 9J-2.021, Florida Administrative Code, in the Development of Regional Impact report prepared by the Council pursuant to Section 380.06(12), Florida Statutes, when the Council can verify and validate that the analysis has been conducted in accordance with the Rule and in accordance with any clarifications made to the methodology as a result of a Preapplication Conference conducted pursuant to Rule 9J-2.021, Florida Administrative Code.

**Policy 1.2.2.** If the Council cannot verify and validate that an affordable housing analysis has been prepared by a Development of Regional Impact applicant in accordance with Rule 9J-2.048, Florida Administrative Code, and in accordance with any clarifications made to the methodology as a result of a Preapplication Conference conducted pursuant to Rule 9J-2.021, Florida Administrative Code, the Council may:

Amend that portion of the analysis which was not conducted in accordance with the Rule 9J-2.048, Florida Administrative Code, and in accordance with clarifications made to the methodology as a result of a Preapplication Conference conducted pursuant to Rule 9J-2.021, Florida Administrative Code;

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Conduct its own analysis in accordance with the Rule and preapplication conference clarifications, using the applicant's data and analysis to the maximum extent feasible; or

Recommend that the proposed Development of Regional Impact be denied until such time as an affordable housing analysis is conducted in accordance with the Rule and in accordance with any clarifications made to the methodology as a result of a Preapplication Conference conducted pursuant to Rule 9J-2.021, Florida Administrative Code.

**Policy 1.2.3.** As an alternative to Rule 9J-2.048, Florida Administrative Code, the Council may provide Development of Regional Impact applicants a method to mitigate affordable housing impacts using a payment to an affordable housing trust fund and/or a minimum percentage of project site residential units to be set aside for affordable housing.

**Policy 1.2.4.** Encourage the Florida Department of Community Affairs to update its adequate (affordable) housing impact analysis methodology for Developments of Regional Impact.



# Chapter II

## Economic Development



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# Chapter II: Economic Development

## A. Conditions and Trends

### 1. Introduction

In January 1978, the North Central Florida Regional Planning Council received its designation as the North Central Florida Economic Development District. The eleven counties in this region include: Alachua, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Madison, Suwannee, Taylor and Union counties. All of these counties, with the exception of Alachua because it is an urban county, are located within the Governor's third Rural Area of Critical Economic Concern and are actively developing a strategic plan to improve the economic environment of the rural parts of the region.

The following information identifies regional trends in population, industry clusters, infrastructure, financial resources and external forces that affect the regional economy. It utilizes Regional Economic Models, Incorporated, Policy Insight's detailed forecast for the regional economy, adjusted using the University of Florida's Bureau of Economic and Business Research population estimates for the region, unless otherwise noted.

The analysis below provides a framework for examining the regional economy and determining a strategic plan that fits the needs and strengths of the region. The region is experiencing population growth (total population estimated at 480,463 in 2005), but still lags behind the rest of Florida and the nation in terms of wages and wage growth. Poverty rates are still very high, and underemployment is evident in wage rates that in some counties are less than half the national averages. Growth is still primarily from economic migrants, but retirees are starting to move to the area as well, including those that previously lived in South Florida and are looking to find a more sparsely populated location.

The population in the region is young - 37.0 for the region compared to 39.7 for the State of Florida. But like the nation which is impacted by the baby boom generation, the population is expected to get older in the next 10 years, with a median age of 39.5 by the year 2020.

Despite the presence of the state's flagship university in Alachua County, the region's educational attainment lags behind the state as a whole. There is a disparity between the Gainesville area which has a significant capacity for high-skill, high-wage jobs and the rest of the region.

The 26 state parks in the region, a state university and several state prisons dramatically reduce the ad valorem tax base of the region. The taxable value of every north central county is considerably below the statewide average - so low that the combined taxable value of all 11 of north central Florida's counties is less than that of the average Florida county in 2004.

However, the cost of land and cost of living is still affordable in the region compared to the rest of Florida. Furthermore, the region can utilize programs such as job tax credits to incentivize prospective businesses. Approximately 3,500 acres of industrially zoned land is available for development within the region. The region is emerging as a transportation/distribution center with its good access to both Interstate Highways 10 and 75.

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The region has approximately 253,000 persons employed overall in 2007, with a low unemployment rate of 2.94 percent compared to Florida and the nation. The largest employment clusters are healthcare; trade, transportation and utilities; tourism and public administration. Of the four clusters, only healthcare is considered a “basic” industry which exports outside of the region to generate wealth. And of the four, healthcare has the highest growth rates and highest wage rates. Economic diversification would be beneficial for the region. Target industries for diversification have recently been identified by Enterprise Florida’s Rural Area of Critical Economic Concern for all 10 rural counties in the region, and Alachua County has completed a similar study with Lockwood Greene Consulting for its economic development planning. The target industries are as follows:

Rural County Target Industries:

- Logistics and Distribution
- Building Component Design and Manufacturing
- Aviation Services and Products
- Bio-Fuels and Energy
- Healthcare Services and Products

Urban County (Alachua) Target Industries:

- Pharmaceutical/Biotechnology
- Surgical, Medical and Dental Instruments and Supply
- Electronics, Instruments and Telecommunications Equipment

Previous Economic Development Administration Funded Projects in the Region:

There are currently no Economic Development Administration applications under review for the region. However, recent success stories include:

- The Gainesville Technology Enterprise Center business incubator
- Sid Martin Biotech Park – Tissue Manufacturing building for Regeneration Technologies

## 2. Strengths, Weaknesses, Problems and Opportunities

### a. Population Growth in the Region

The majority of the following analysis focuses on the year 2005 as a benchmark for this report. The region’s growth patterns, based on age, education, and work status are analyzed below to determine the overall strength of the workforce and availability of workers in the region.

Most of the region is sparsely populated, although this is changing. In 2005, the north central Florida Region had a population of about 480,463--an increase of almost 45,000 from 2000. The region’s growth rate continues to outpace that of the nation. It should be noted that the region has a high concentration of state prisoners, accounting for 5 percent of the population total.

The population growth in the region is expected to slow in the next 10 years, according to forecasts by the University of Florida’s Bureau of Economic and Business Research. The Bureau predicts that the population will increase at a rate of approximately 1.4 percent annually for the next several years, compared to an average increase of approximately 2.5 percent in from 2000 to 2005.



Natural growth accounted for about 25 percent of the population growth in the region in 2005. Thus, approximately 75 percent of the region's population growth occurred due to net migration.

i. Migration

Total net migration to the region in 2005 was an increase of 5,600 persons living in the 11-county region. The components of the net migration are domestic migrants (retirees and economic migrants), and international migration. Of the 5,600 person increase, domestic migration accounted for about 59.46 percent and international migration about 17 percent. Most domestic migration was for economic reasons, indicating that this part of Florida is not yet a hot spot for retirees.

However, retiree migrants are expected to increase dramatically in the next few years, which will impact public service provision in the region. In fact, from 2003 to 2005, the number of retirees moving to the area as a percentage of the total population growth increased from 6 percent to 12 percent of the total population growth.

Columbia County received the largest number of net domestic migrants, totaling nearly 2,256. This county alone accounted for 40 percent of north central Florida's domestic migration.

Alachua County led the region in net international migration, with 746 net international immigrants, which accounted for 80 percent of north central Florida's net international migration.



TABLE 2.1

**NORTH CENTRAL FLORIDA MIGRATION  
INTERNATIONAL AND DOMESTIC MIGRATION, 2005**

County	Total Net Migration	International Migrants	Net Domestic Migration	Share of Florida's Total Net Migration (%)	Share of Florida's Net International Migration (%)
Alachua	241	746	(505)	-	-
Bradford	456	9	447	-	-
Columbia	2,256	32	2,224	-	-
Dixie	399	0	399	-	-
Gilchrist	492	3	489	-	-
Hamilton	(169)	12	(181)	-	-
Lafayette	390	18	372	-	-
Madison	(30)	12	(42)	-	-
Suwannee	961	96	865	-	-
Taylor	312	96	216	-	-
Union	291	0	291	-	-
<b>Region</b>	5,599	1,024	4,575	-1.6%	1.1%
<b>Florida</b>	349,733	87,222	262,511	100.0%	100.0%

**Regional Detail in 2005**

**Economic Migrants** =41.95% of all population increase

**Retired Migrants** =12.21% of all population increase

**International Migrants** =19.42% of all population increase within region

Source: Regional Economic Models Inc., Florida Counties Forecast, version 8.0, calibrated with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

Summary Findings

The region is gaining population; the pace of increase is expected to slow slightly in the next five years. Migration comes primarily in the form of economic migrants from within the country. This information, combined with unemployment figures below indicates that there is a need for additional workers in the region.



The region will do well to connect workforce with these new migrants and make sure the population has skills that match jobs we hope to create. Given the low unemployment rates in the region, the slowing of the immigration in the region will create a problem for new job creation.

## ii. Population By Age

North central Florida has a younger population than that of the state as a whole, due in part to the large concentration of college students in Alachua County at the University of Florida. Yet even when removing Alachua County from the regional median age, the region remains younger than the state as a whole. This could suggest there is a higher concentration of retirees in other parts of Florida, an assertion which is supported by migration data from the previous section.

In 2005, 37 percent of the region's population was younger than 25 years old, which is about 5 percent higher than Florida's share of the same group. At the same time, the elderly population (65 and over) accounted for 13 percent of north central Florida's population compared to 17 percent of the population of the state.

As the nation's population is expected to live longer, so to the state of Florida's forecasted median age is expected to rise. However, this region is still expected to remain younger than the state as a whole, as is illustrated in the table below.

**TABLE 2.2**  
**MEDIAN AGE PROJECTIONS FOR NORTH CENTRAL FLORIDA**

County	Median Age			
	2005 (Estimate)	2010	2020	2030
<b>Alachua</b>	29.2	29.8	31.9	33.6
<b>Bradford</b>	37.5	37.7	38.5	40.2
<b>Columbia</b>	38.5	39.4	41.5	44.0
<b>Dixie</b>	41.4	42.6	44.1	45.7
<b>Gilchrist</b>	38.2	40.3	44.1	47.3
<b>Hamilton</b>	25.6	36.4	27.7	39.6
<b>Lafayette</b>	34.9	35.1	36.0	37.3
<b>Madison</b>	36.2	36.3	37.2	40.1
<b>Suwannee</b>	41.2	42.5	44.8	47.6
<b>Taylor</b>	38.7	39.6	41.4	43.5
<b>Union</b>	36.2	36.5	36.9	37.7
<b>Region</b>	37.1	37.8	39.5	41.5
<b>w/o Alachua</b>	37.8	38.7	40.2	42.3
<b>State</b>	39.7	40.7	42.5	44.4

Source: Population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

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## Summary Findings

The region is younger than the rest of the state, indicating we should have a larger workforce possible than areas of the state with high concentrations of retirees. However, that is not the case. Unemployment and growth rates indicate that there is a need for additional workforce if the region's economy is to diversify and grow.

### b. Education

The University of Florida is a major, public, comprehensive, land-grant, research university with approximately 48,000 students enrolled. University of Florida faculty attracted more than \$458 million in research and training grants in 2002-03. The University of Florida serves as the home of the world's largest citrus research center. Technological Strength Ranking (Massachusetts Institute of Technology Technology Review, Fall 2000) ranked the University of Florida 18th in the nation among public and private universities. NASA awarded a University of Florida-led consortium of seven universities a \$15 million grant to develop a reusable launch vehicle which would replace the space shuttle.

The University of Florida Center of Excellence in Regenerative Health Biotechnology was one of three chosen by the state Board of Education to receive \$10 million under the 2002 Florida Technology Development Act. Several international programs were recently funded: National Resource Center for Transnational Global Studies (\$230,000), the Center for Latin American Studies (two grants totaling \$1.4 million), Center for African Studies (\$459,000 for the first year of a three-year grant), and the new Center for European Studies (\$235,000 for the first year). The University of Florida is 13th among all universities - public and private - in the number of U.S. Patents awarded in 2000, and the University of Florida consistently ranks among the top 10 universities in licensing.

The existing system of vocational and technical training includes the Lake City Community College, North Florida Community College, Santa Fe Community College, Bradford-Union Vocational-Technical Adult Education Center, Suwannee-Hamilton Vocational-Technical Adult Education Center, Taylor County Vocational-Technical Adult Education Center and Work-force Development Boards. These facilities enhance the economic development potential of the region and represent a substantial support network for the region. From quick-response workforce training, to traditional higher educational services, economic development professionals can work with these institutions to advance the region.

A long term analysis of the region indicates that the number of persons completing a four-year college degree has doubled in the region from 1980 to 2000. Overall high school graduation rates are slightly higher in the region than the state at 73.2 percent vs. 71.9 percent. However, the national average in 2005 was a high school graduation rate estimate somewhere between 75 percent and of 85 percent (High School Graduation Rates. Center for Public Education web article, (<http://www.centerforpubliceducation.org>), indicating that Florida lags behind the nation in educational achievement.

Alachua County, home of the University of Florida, has a high concentration of persons with a masters degree or higher, indicating high-skilled job development is most possible in that county. Despite being the location of the state's flagship university, Alachua County has one of the lower high school graduation rates of counties in the region. This indicates that there is a likely disparity between those persons and employees associated with the University of Florida, and others within the county.



**TABLE 2.3**  
**EDUCATIONAL ATTAINMENT BY COUNTY**  
**PERSONS AGE 25 YEARS AND OVER**

County	High School Graduation Rates	Total Population Age 25+	Percent of Total Population, Age 25 and Over				
			Below 9th Grade	Grades 9 through 12, No Diploma	High School Graduate	Some College	Four or More Years of College
<b>Alachua</b>	69.6	123,524	3.7	8.2	20.3	29.1	38.7
<b>Bradford</b>	76.1	17,883	7.3	18.6	40.1	25.6	8.4
<b>Columbia</b>	74.7	36,880	6.8	18.5	334.9	28.9	10.9
<b>Dixie</b>	66.5	9,643	11.3	22.8	39.4	19.8	6.8
<b>Gilchrist</b>	85.4	8,866	7.8	19.8	36.1	26.9	9.4
<b>Hamilton</b>	65.7	8,758	10.5	26.6	35.1	20.5	7.3
<b>Lafayette</b>	79.4	4,745	12.6	19.2	40.1	20.9	7.2
<b>Madison</b>	63.0	12,254	10.1	22.4	34.2	23.1	10.2
<b>Suwannee</b>	62.0	23,492	8.6	18.2	38.8	23.9	10.5
<b>Taylor</b>	78.7	12,914	9.0	21.0	40.9	20.2	8.9
<b>Union</b>	84.1	9,363	7.5	20.1	38.9	26.1	7.5
<b>Region</b>	73.2	268,322	6.3	14.6	29.5	26.7	22.9
<b>w/o Alachua</b>	73.6	144,798	8.4	20.0	37.5	24.7	9.4
<b>State</b>	71.9	-	6.6	13.2	28.3	28.4	23.6

Source: 2006 Florida Statistical Abstract, Table 4.80, and Census 2000.

**i. Strengths**

**University of Florida**

The University of Florida is a major, public, comprehensive, land-grant, research university with approximately 48,000 students enrolled. University of Florida faculty attracted more than \$458 million in research and training grants in 2002-03. The University of Florida serves as the home of the world's largest citrus research center. Technological Strength Ranking (Massachusetts Institute of Technology Technology Review, Fall 2000) ranked the University of Florida 18th in the nation among public and private universities \$15 million for space-related research.

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The National Aeronautics and Space Administration awarded a University of Florida-led consortium of seven universities a \$15 million grant to develop a reusable launch vehicle which would replace the space shuttle. The University of Florida Center of Excellence in Regenerative Health Biotechnology was one of three chosen by the state Board of Education to receive \$10 million under the 2002 Florida Technology Development Act. The University of Florida is 13th among all universities - public and private - in the number of U.S. Patents awarded in 2000, and the University of Florida consistently ranks among the top 10 universities in licensing.

#### Entrepreneurial Ability

The University of Florida offers a Master of Business Administration degree with Concentration in Entrepreneurship, undergraduate course work in entrepreneurship, graduate course work for non-business students, and a mentorship program. Also, beginning in May 2004, the Warrington College of Business is launching a new Master of Science degree in Entrepreneurship designed for working professionals. University of Florida is the first college in Florida to offer a Master of Science degree in Entrepreneurship.

#### Sid Martin Biotech

The University of Florida's 40,000 square foot Sid Martin Biotechnology Incubator is located in Progress Corporate Park in Alachua, 20 minutes north of the Gainesville campus. Client companies in this Best-In-Class Technology Incubation Program ranked 1st in a national survey for in-licensed incubation program and in the top 10 for average equity investment and employment growth.

Wet labs, office space, conference rooms, a pilot fermentation facility, a small animal facility plus a climate controlled greenhouse and extensive scientific and business equipment and support services combine to create an unparalleled setting for biotech startups. To date, resident Client Companies have raised \$81 million in equity investment.

#### Additional Higher Education

The existing system of vocational and technical training includes the Lake City Community College, North Florida Community College, Santa Fe Community College, Bradford-Union Vocational-Technical Adult Education Center, Suwannee-Hamilton Vocational-Technical Adult Education Center, Taylor County Vocational-Technical Adult Education Center and Work-force Development Boards. These facilities enhance the economic development potential of the region and represent a substantial support network for the region. From quick-response workforce training, to traditional higher educational services, economic development professionals can work with these institutions to advance the region.

#### Gainesville Technology Enterprise Center

The two-story 30,000 square foot facility is located in the City of Gainesville Enterprise Zone and serves new and emerging technology businesses with the potential for high growth and high wage job creation. Through a comprehensive program consisting of incubation, education, networking and mentoring, the incubator management staff, together with a Board of Advisors, provides basic business assistance to tenants on an ongoing basis. The Gainesville Technology Enterprise Center offers services that add value and speed up a small company's chances for growth and success. The Gainesville Technology Enterprise Center helps new companies overcome the four risks of starting any technology-based company—business, technology, manufacturing and marketing. It does this by providing its resident startups with:





- Ongoing strategic advice and help with their business plans and strategies
- Education programs tailored to the special educational needs of tech startups
- Introductions to people and resources, including early stage venture funding sources and management candidates
- Daily interaction with other resident startups and synergistic tenants, such as serial entrepreneurs and venture capitalists
- Flexible furnished office, dry lab and assembly areas and shared services and equipment

## ii. Problems

The labor force outside of the two Economic Development Centers (Gainesville/Alachua/ High Springs Area and Lake City Area) tends for the most part to be unskilled. This restricts the development of those industries which require a readily available pool of skilled workers.

Furthermore, local industries have noted the difficulty in retaining employees due to the lack of soft skills. Workforce boards in the region are currently revamping to address such needs.

## iii. Summary Findings

Educational attainment for area workers should be a regional priority in terms of matching the workers with needs of area employers. Interviews with area businesses indicate that basic “soft skills” are a critical need for most regional businesses. Programs that can increase skill levels to attract more high-tech jobs will also help diversify the regional economy.

There are two grants underway to implement the innovative CHOICES program in the region. This will allow area businesses to work with high school students so that upon graduation from high school, the students can gain valuable certifications in their field of choice. Furthermore, the area community colleges are working together to address the shortage of healthcare and life science workers in our region. Any programs that can attract more workers in the healthcare and life science industries will allow for the expansion of high-skilled, high-wage jobs so critical to the success of our region.

## c. Unemployment

In 2006, north central Florida had a civilian labor force of 224,382, or 2.94 percent of the state's total labor force. With a regional unemployment rate of 2.94 percent, north central Florida employed over 217,000 people in 2006, an 18.4 percent increase from 1995.

### i. Labor Force And Unemployment

Of the region's eleven counties, Alachua County continued to have the largest labor force in 2005, accounting for 55 percent of the region's total labor force. Within the region, Alachua County also had the lowest unemployment rate of 2.6 percent in 2006, a decrease from 3.0 percent in 2005.



TABLE 2.4

LABOR FORCE AMOUNT AND UNEMPLOYMENT RATES BY COUNTY

County	Labor Force	Employment	Unemployment	Unemployment Rate (%)
Alachua	123,748	120,473	3,275	2.6
Bradford	12,022	11,680	342	2.8
Columbia	29,520	28,595	925	3.1
Dixie	5,774	5,580	194	3.4
Gilchrist	7,504	7,285	219	2.9
Hamilton	4,660	4,485	175	3.8
Lafayette	2,857	2,779	78	2.7
Madison	7,431	7,061	370	5.0
Suwannee	17,013	16,472	541	3.2
Taylor	8,736	8,394	342	3.9
Union	5,117	4,982	135	2.6
<b>Region</b>	224,382	217,786	6,596	2.94
<b>State</b>	8,988,616	8,692,763	295,853	3.29

Source: Florida Labor Force Statistics, released 03/08/2007 CES BENCHMARK 2006.

Summary Findings

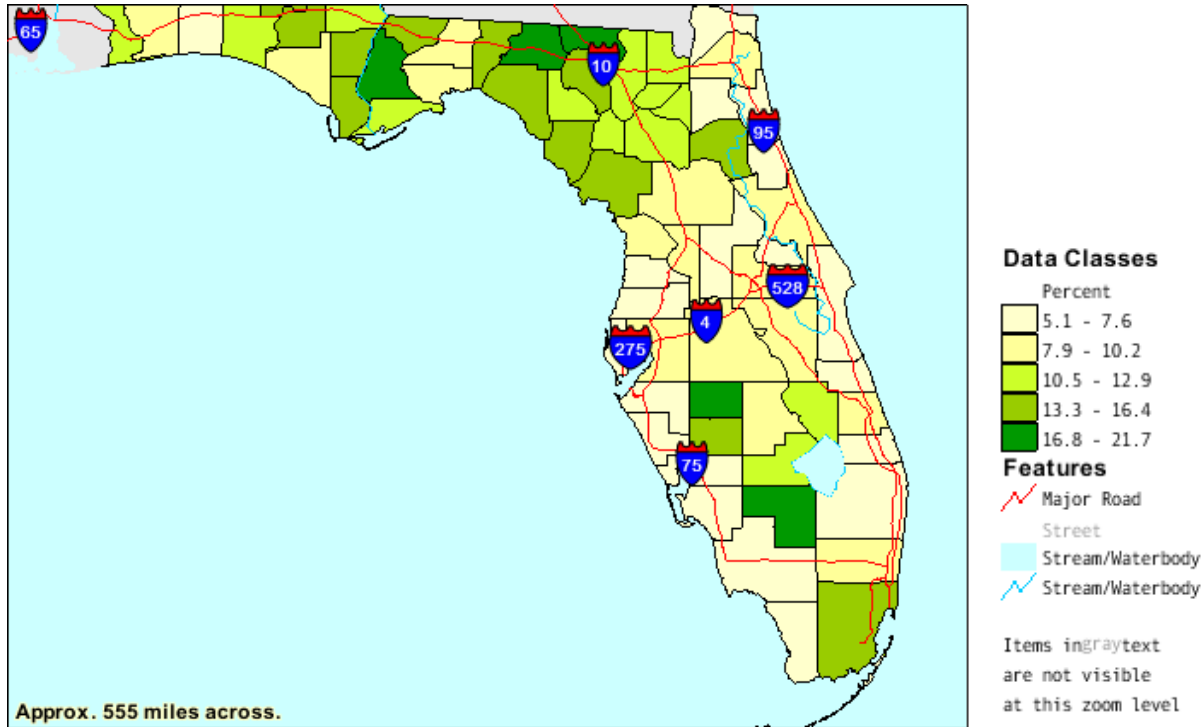
This information combined with the poverty information below indicates that there is significant underemployment in the region. This suggests the need to diversify the regional economy toward more high-skilled, high-wage jobs.

ii. Poverty

While unemployment is relatively low compared to the rest of the state, these counties represent some of the highest poverty levels in the state, suggesting there is tremendous underemployment. With heavy dependence on the service sector and government sectors, the region is in need of economic development diversification. The following map identifies the percentage of persons living below the poverty level throughout the state of Florida. Within the North Central Florida Regional Planning Council's boundaries, Madison County and Hamilton County have the highest level of poverty as a percentage of their population.

ILLUSTRATION 2.1

POVERTY LEVELS BY COUNTY IN THE STATE OF FLORIDA IN 2000



Source: U.S. Census Bureau, Census 2000 American Communities Survey.

Poverty levels have increased in Alachua, Gilchrist, and Taylor Counties since 2000, while the remaining counties saw decreases in poverty levels. The poverty threshold is defined as a family of four living on less than \$18,979 annually for the nation in 2003.



TABLE 2.5

PERSONS LIVING IN POVERTY, 2003 (PERCENT)

Area	Percent of Population	Percentage Change from 2000
Alachua	13.0	1.0
Bradford	16.2	(1.1)
Columbia	15.6	(1.7)
Dixie	18.6	(2.1)
Gilchrist	14.2	0.4
Hamilton	21.8	(3.5)
Lafayette	18.9	(9.8)
Madison	18.3	(1.8)
Suwannee	16.4	(1.9)
Taylor	16.7	0.3
Union	18.0	(3.0)
Region	17.0	
State	13.0	0.5

Source: [Florida Statistical Abstract 2006](#).

Summary Findings

See information in the previous section's findings.

iii. Workforce Participation Rates

With the nation's population aging and the associated shift in the age structure of the population towards older groups with lower workforce participation rates, the regional workforce participation rate provides an important economic indicator. The region's future labor supply growth will decline in the absence of offsetting increases in participation rates.

From 2000 to 2005, the region's labor force increased by 7.0 percent. This figure is significantly higher than the 4.0 percent increase experienced nationally during this time period. However, the region's labor force expansion was lower than the 9.0 percent statewide labor force increase.

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The following table indicates workforce participation rates for the region. It indicates that the region's long range forecast for labor force participation is not increasing as rapidly as the previous five years, and that labor availability will be a constraint on economic growth.

**TABLE 2.6**  
**LABOR FORCE PARTICIPATION RATES FOR NORTH CENTRAL FLORIDA**

Variable	2005	2020	Percent Change
All Races (16 - 64)	67.5%	68.6%	1.6
All Races (16 and Older)	58.9%	57.5%	(1.4)
White (16 - 64)	69.6%	70.4%	1.1
White (16 and Older)	59.7%	57.5%	(3.7)
Black (16 - 64)	60.1%	62.2%	3.5
Black (16 and Older)	54.0%	54.7%	1.3
Other (16 - 64)	64.4%	69.0%	7.1
Other (16 and Older)	61.5%	62.6%	1.8
Hispanic (16 - 64)	64.6%	66.4%	2.8
Hispanic (16 and Older)	61.4%	60.8%	(1.0)

Source: Regional Economic Models Inc., Florida Counties Forecast, version 8.0, calibrated by North Central Florida Regional Planning Council with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

#### Summary Findings

The above information indicates that the region's long range forecast for labor force participation is not increasing as rapidly as the previous five years, nor as rapidly as the state as a whole. Therefore, labor availability will be a constraint on economic growth. When surveyed, area employers have placed this as a number one priority for the region's economic development success, with all other issues a distant second.

#### iv. Employment/Wages by Industry and Occupation

The government and agricultural sectors make up a disproportionately high percentage of the region's economy when compared to the state as whole. A full 27 percent of the regional economy was engaged in government employment (including state, local and federal employees) in 2005. The national average was approximately 16 percent of the economy in the government sector for the same period.

The table below (taken from Enterprise Florida's regional analysis) considers all non-farm employment. Education and Health Services and Trade, Transportation and Utilities industries accounted for the largest shares of north central Florida's 2005 employment (total employment numbers below vary from those used in previous graphs due to different methods of data collection in the Bureau of Labor Statistics surveys used). The average annual wage is highest in the Information industry category, at \$29,867. Other high

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paying sectors within the region include financial activities, education and healthcare services, and professional and business services. The lowest paying industry sector is Leisure & Hospitality with an average annual wage of \$12,711. All industries within the region pay a lower average wage than the state as a whole.



**TABLE 2.7**  
**EMPLOYMENT AND WAGES BY INDUSTRY, 2005**

Industry	North Central Florida			Florida				
	Number of Establishments	Total Employment	Employment Share (%)	Average Annual Wage (\$)	Number of Establishments	Total Employment	Employment Share (%)	Average Annual Wage (\$)
Natural Resources & Mining	358	1,167	0.8%	\$25,475	5,282	99,564	1.3	\$22,904
Construction	1,547	10,050	7.0	29,368	68,402	585,299	7.6	38,337
Manufacturing	341	12,860	8.9	35,591	16,601	399,263	5.2	43,423
Information	197	2,615	1.8	39,867	9,629	169,489	2.2	52,738
Financial Activities	971	8,059	5.6	38,040	64,554	527,797	6.8	52,557
Professional & Business Services	1,721	12,321	8.5	33,779	115,129	1,323,771	17.1	39,426
Education & Health Services	1,168	29,760	20.6	38,091	50,175	1,422,649	18.4	38,019
Leisure & Hospitality	1,055	18,915	13.1	12,711	42,435	890,164	11.5	19,325
Unclassified	82	91	0.1	22,595	5,678	9,520	0.1	30,634
<b>Total, All Industries</b>	<b>11,626</b>	<b>144,349</b>	<b>100.0</b>	<b>31,383</b>	<b>557,934</b>	<b>7,734,933</b>	<b>100.0</b>	<b>36,800</b>

Source: U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

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Table 2.8 presents the employment changes from 1990 to 2005 to give an historical context for the region. The industries are ordered according to how many people they employed in 2005. The Education and Health Services sector employed the most workers, so it is first, followed by Trade, Transportation, and Utilities, and the Leisure and Hospitality sector is third.

**TABLE 2.8**  
**EMPLOYMENT CHANGES IN NORTH CENTRAL FLORIDA BY**  
**INDUSTRY SECTOR, 1990 TO 2005**

Sector	Employment 1990	Employment 2005	Employment Change	Percent Change 1990 - 2005
Education and Health Services	19,245	30,793	11,548	60.0
Trade, Transportation and Utilities	24,370	29,906	5,536	22.7
Leisure and Hospitality	12,438	18,478	6,040	48.6
Public Administration	9,535	13,504	3,969	41.6
Professional and Business Services	7,643	12,820	5,177	67.7
Manufacturing	10,063	12,090	2,027	20.1
Construction	5,578	9,157	3,579	64.2
Financial Activities	5,745	7,713	1,968	34.3
Other Services	3,179	4,909	1,730	54.4
Natural Resources and Mining	2,345	2,681	336	14.3
Information	2,231	2,549	318	14.3
<b>Total</b>	<b>102,372</b>	<b>144,600</b>	<b>42,228</b>	<b>41.3</b>

Source: U.S. Bureau of Labor Statistics, Census of Employment and Wages, for the years 1990 through 2005 and interactive Shift-Share website: [www.georgiastats.uga.edu/ssshare1.html](http://www.georgiastats.uga.edu/ssshare1.html)

During the period 1990 to 2005, employment in the region increased by 42,230 jobs. In terms of employment growth, the most important industry was Education and Health Services (11,548 jobs). It is followed by Leisure and Hospitality (6,040 jobs), and Trade, Transportation, and Utilities (5,536 jobs).

#### Summary Findings

The University of Florida, the state's flagship university, is a major employer in the region, and has a major healthcare component which is gaining position in the regional employment. However, there is a shortage of healthcare workers both regionally and nationally which will impact the region's ability to grow.

Further findings indicate that a high level of the region's employment is concentrated in public administration. This suggests the need to attract basic industries which can generate money for the regional economy.

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Workforce Development represents an opportunity for the region. The regional workforce boards are undergoing massive changes as they begin to focus more on high-tech and high-wage job creation throughout the state. This represents a current weakness and an opportunity to plug into the high-tech community's needs by creating appropriate curriculum in vocational and community college curriculum to accommodate future workforce needs of the existing commercial/industrial base of the economy.

#### d. Per Capita Income

Table 2.9 shows the components of the change in disposable personal income forecasted for the region. The first component is wage and salary disbursements by place of work. Wage and salary disbursement change as a result of the change in the number and type of workers, as well as the general pay rate changes due to changes in the supply and demand for labor. Proprietors and other labor income is the income of self-employed workers and fringe benefits. The residence adjustment shows the net effect on personal income by place of work of earnings in the local area that go to commuters into the area. Dividends, interest, and rent depend on the number of people in the area in the groups that receive this type of income, while transfer payments depend on the size and age of the dependent population. Personal income by place of residence is calculated in nominal (i.e., current) dollars. Taxes are then deducted from personal income to obtain disposable personal income as the sum of labor and proprietors' income, dividends, interest, and rent, transfer payments, and residence adjustment less personal contributions to social security.

**TABLE 2.9**

**NORTH CENTRAL FLORIDA REGION - PERSONAL INCOME COMPONENT**

Variable (Billions, Nominal \$2005)	Year			
	2005	2010	2020	2030
<b>Wage and Salary Disbursements</b>	6.056	8.384	13.599	21.048
<b>Proprietors and Other Labor Income</b>	2.217	3.079	5.392	9.256
<b>Total Labor and Proprietors Income</b>	8.273	11.462	18.991	30.304
<b>Less Personal Contributions to Social Security</b>	0.939	1.324	2.282	3.752
<b>Net Residence Adjustment</b>	(0.136)	(0.198)	(0.375)	(0.609)
<b>Dividends, Interest and Rent</b>	2.006	2.791	4.365	6.534
<b>Transfer Payments</b>	2.399	3.404	6.363	11.313
<b>Personal Income</b>	11.603	16.135	27.061	43.79
<b>Less Personal Taxes</b>	1.133	1.635	2.686	4.264
<b>Disposable Personal Income</b>	10.47	14.5	24.375	39.526
<b>Annual Expected Growth</b>		7.7%	6.8%	6.2%

Source: Regional Economic Models Inc, Florida Counties Forecast, version 8.0, calibrated by North Central Florida Regional Planning Council with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

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Of the region's eleven counties, Alachua County accounted for the greatest share of personal income, totaling \$6.2 billion, which was over 57 percent of the region's total personal income in 2004. After Alachua, Columbia County had the second largest amount of personal income of \$1.27 billion. As expected, Alachua County's higher relative personal income is attributable to the presence of the University of Florida.

#### i. Summary Findings

Despite gains in population and job growth, the per capita income in many of the counties in the region is almost half of the national average, indicating income is not gaining at a similar pace as job growth. Alachua County led the region with the highest per capita income of \$27,904 in 2004, while Hamilton and Union counties had the lowest per capita incomes in the region, of \$14,823 and \$14,535 respectively (Source: Florida Per Capita and Total Personal Income Report, 2002-2004, prepared by the Bureau of Economic and Business Research, University of Florida [www.bebr.ufl.edu](http://www.bebr.ufl.edu)).



**TABLE 2.10**  
**PER CAPITA INCOME BY COUNTY (Nominal \$)**

Area	1999	2002	2003	2004
<b>Alachua</b>	\$18,465	\$25,037	\$26,077	\$27,904
<b>Bradford</b>	14,226	19,509	20,408	21,377
<b>Columbia</b>	14,598	19,332	19,653	20,680
<b>Dixie</b>	13,559	16,261	16,385	17,124
<b>Gilchrist</b>	13,985	20,895	21,221	22,265
<b>Hamilton</b>	10,562	13,255	13,865	14,823
<b>Lafayette</b>	13,087	14,778	14,674	15,768
<b>Madison</b>	12,511	14,278	17,549	18,604
<b>Suwannee</b>	14,678	20,015	20,481	21,732
<b>Taylor</b>	15,281	19,770	19,796	21,225
<b>Union</b>	12,333	13,297	14,254	14,535
<b>Region</b>	16,187	22,061	22,553	23,194
<b>State</b>	-	29,079	30,128	31,469
<b>Nation</b>	-	30,810	31,484	33,050

Source: Florida Per Capita Income and Total Personal Income Report 2002 - 2004. Prepared by the Bureau of Economic and Business Research, University of Florida.

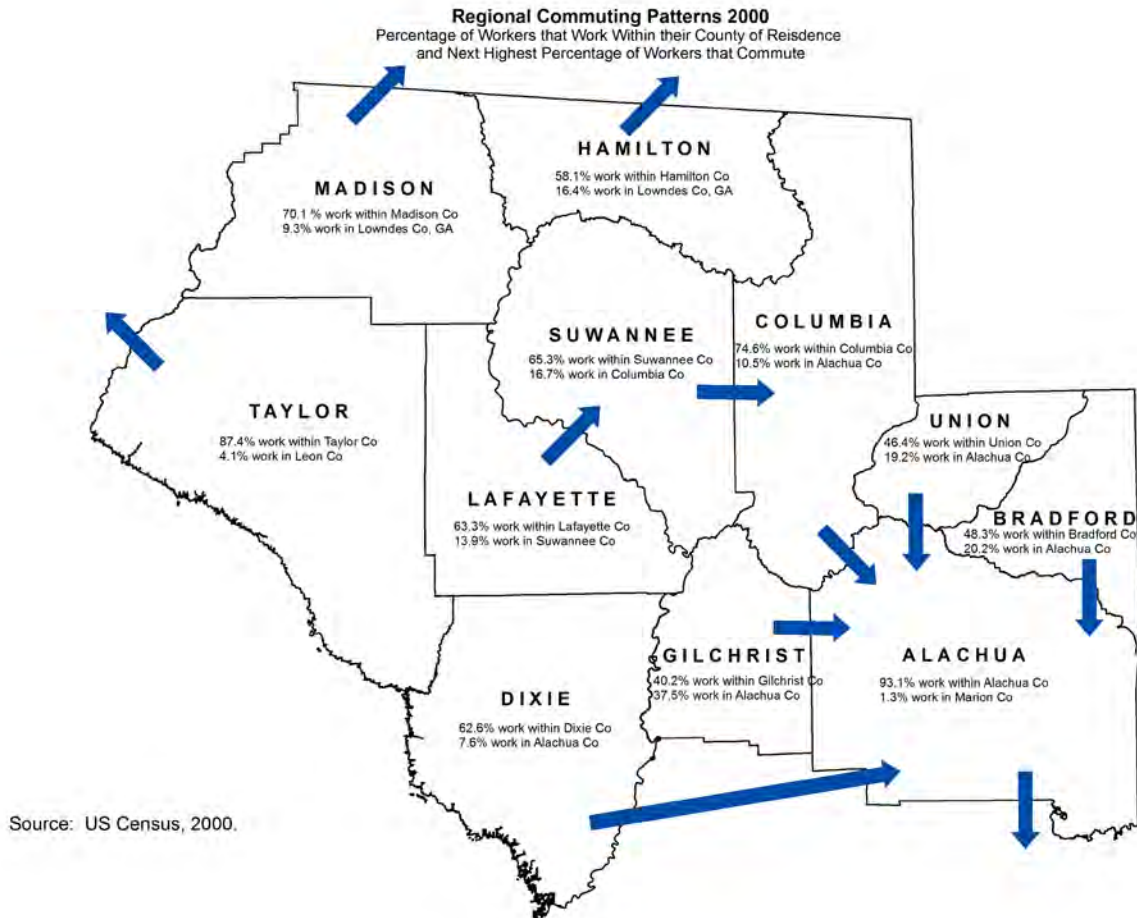
### e. Commuting Patterns

Given the rural nature of the area, with only one urban county within the region, the commuting patterns of the individual counties can illustrate the possible consequences of new industries locating within a county.

Over 93 percent of the residents in Alachua County work within that county. The counties immediately adjacent to Alachua County all have at least 10 percent of their residents working in Alachua County as well. Significant employment centers are found in Live Oak (Suwannee County) and Lake City (Columbia County) as well.

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**ILLUSTRATION 2.2  
REGIONAL COMMUTING PATTERNS**



ii. Summary Findings

Rural travel times to work are quite extensive – indicating the dearth of job opportunities within the rural counties of the region.

The above map indicates that the region has four separate employment clusters. The first and largest cluster centers around Alachua County. The second is Columbia/Suwannee County. The third and lesser cluster is located in Southern Georgia and causes workers in the northernmost counties to travel to Lowndes County, Georgia. The fourth cluster affects only Taylor County – where 4.1 percent of its workers travel to Tallahassee for employment opportunities.

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Regional projects that focus on the Alachua and Columbia/Suwannee County employment centers will affect workers in the majority of the region's counties.

## f. Housing Starts

Housing information on starts and median home price are typically tracked by metropolitan areas, rather than on a county-by-county basis. Therefore, only Gainesville Metropolitan Statistical Area information is available. The following is an excerpt from a December 2006 article by Florida Home Loan ([www.floridahomeloan.com](http://www.floridahomeloan.com)):

In the third quarter 2006, the median sales price of single-family existing homes was \$215,200 in the Gainesville Metropolitan Statistical Area. This is up 16 percent over 2005 and is the greatest increase in all of the state's 20 metro areas. The state prices remained flat in that time period.

For the third quarter, totals of existing condo units in Gainesville was up 14 percent, with the median sales price of \$156,300 up 19 percent, both the second-highest increases in the state.

Despite local increases in those areas, single-family home sales were down 22 percent in the Gainesville metropolitan area and 34 percent statewide for the quarter.

"The past two years - 2005 and the first half of 2006 - the appreciation in Gainesville was too high," said Jean Chalmers of Coldwell Banker. "I think a lot of people flipping property bought into the market. This made the whole market hotter than what one would normally expect."

Middle income families are finding that increases have priced them out of what would typically be their next home. The increases are fueling the local third quarter 2006 Gainesville housing market boom.

The following table summarizes median home prices throughout the United States, and the nearest Metropolitan Statistical Areas to the region:



**TABLE 2.11**  
**HOME PRICES IN FIRST QUARTER 2007**

Area	Median Home Price (000s)	Percent Increase (1 year)
Northeast	\$268.9	(2.5)
Midwest	154.6	(2.8)
South	177.8	(0.6)
West	336.2	(2.5)
Nation	212.3	(1.8)
<b>Some Florida Metropolitan Statistical Areas</b>		
Gainesville	216.4	(3.0)
Jacksonville	197.6	(1.0)
Ocala	167.9	(5.1)

Source: National Association of Realtors, 2007. [www.realtors.org](http://www.realtors.org).

### g. Natural Areas

The region consists of 6,813 square miles, all of which is classified by the Council as a natural resource of regional significance.<sup>1</sup>

A number of tracts of publicly-held lands are found in north central Florida. The regional plan identifies 316,823 acres of regionally significant public lands, representing 6.7 percent of the region. So much north central Florida land is in public ownership that some north central Florida county governments oppose additional public land acquisitions due to the resultant decline in the local tax base.

Publicly-owned lands recognized by the regional plan as natural resources of regional significance include Austin Cary Memorial Forest, Big Shoals Tract, Big Gum Swamp National Wilderness Area, Big Bend Coastal Tracts, Devils Millhopper State Geologic Site, Ichetucknee Springs State Park, Lower Suwannee River National Wildlife Refuge, Okefenokee National Wildlife Refuge, Osceola National Forest, O'Leno State Park, Paynes Prairie State Preserve, Peacock Springs State Recreation Area, River Rise State Preserve, San Felasco Hammock State Preserve, St. Marks National Wildlife Refuge, Steven Foster State Folk Cultural Center, Suwannee River State Park, water management district lands including Lochloosa Forest, various tracts along the Suwannee River, as well as other holdings.

Natural resources of regional significance are natural resources or systems of interrelated natural resources,

<sup>1</sup>Includes the Floridan Aquifer, a natural resource of regional significance which underlies the entire region.



which due to their function, size, rarity, or endangerment, provide benefits of regional significance to the natural or human environment.<sup>2</sup> They consist of both coastal and inland wetlands, rivers and their associated floodplains, large forested areas, lakes, springs, the Floridan Aquifer, and land areas with the potential to adversely affect the water quality of the aquifer (stream-to-sink watersheds and high recharge areas). Listed species are also recognized as natural resources of regional significance.<sup>3</sup>

Regionally significant natural resources play important roles in the region's economy and quality of life. Drinking water for most residents is drawn from the Floridan Aquifer. The Suwannee-Santa Fe river system and fresh water wetlands serve a valuable role in regulating surface water runoff and flooding. The salt marsh provides a valuable breeding ground for many varieties of commercial seafood. Commercial forest lands play an important role in the regional economy, while public lands provide valuable resource-based recreation for north central Florida residents. Both private and public lands provide important habitats for the survival of native plant and animal species. Nearly all identified natural resources of regional significance play, or can play, an important role in the region's budding ecotourism industry. For further information and detail on the natural resources in the area, please see the Natural Resources of Regional Significance Element.

#### i. Potential Problems: South Florida Need for Water

Today in south Florida, competition for water is intense and divided between a large, rapidly growing population along the coast and agriculture north and south of Lake Okeechobee, on the one hand, and the remaining natural ecosystem mostly within State and Federal parks, reserves, sanctuaries, and preserves, on the other. Satisfying the water-resource demands of these competing interests is a complicated and difficult task. The quantity of water required for urban and agricultural uses may, at times, exceed supply. There have been some suggestions that North Florida's waterways be utilized to supplement the water needs of South Florida. Therefore, local water management districts are beginning to plan for minimum flow levels and other means to protect the North Florida ecosystem for future generations in the face of these water pressures.

#### ii. Summary Findings

North central Florida is home to the largest concentration of first magnitude freshwater springs in the entire world. With over 20 state parks and an abundance of public lands dedicated to maintaining the wild state of the area, water and environmental quality in the region has been historically high. This is a strength in terms of pursuing eco-tourism for the region, the abundance of water can also attract water-based

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<sup>2</sup>North central Florida regionally significant facilities and resources, as defined in Rule 27E.005, Florida Administrative Code, consist of Regionally Significant Emergency Preparedness Facilities identified in Table 3.4, Natural Resources of Regional Significance identified in Table 4.1, Regionally Significant Transportation Facilities identified in Table 5.9, and Regionally Significant Facilities and Resources, identified in Section VI.

<sup>3</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, Florida Administrative Code; a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, Florida Administrative Code or an animal or plant species designated as Endangered or Threatened in Title 50 Code of Federal Regulations Part 17.



manufacturing facilities, such as water bottling plants. A careful balance must be maintained to ensure continued environmental quality and minimum flow levels in the region's waterways and natural areas.

The area, with its abundance of open space and surface water resources, exhibits potential for recreational development. The mineral resources throughout the region also represented economic potential as the world demand for fertilizer increases. However, environmental considerations cause local governments to scrutinize carefully any potential development which might impair the environment despite economic benefits.

## h. Infrastructure

The Florida Department of Transportation has identified its Strategic Intermodal System for Florida which includes Interstate Highway 75, Interstate Highway 10, U.S. Highway 19, U.S. Highway 301, State Road 26, State Road 100 and the Gainesville Regional Airport within the region. There are also freight rail corridors and one greyhound bus terminal in Gainesville that are part of the Strategic Intermodal System.

## i. Enterprise Zones

There are four enterprise zones within the region: An urban enterprise zone in Alachua County (Gainesville's downtown and East Gainesville zones), and rural enterprise zones in Hamilton, Madison and Taylor Counties. The zones were re-authorized through 2010. The Florida Enterprise Zone Program offers various tax incentives to businesses located within the designated enterprise zones. In addition, local governments may also offer their own incentives. There is not an opportunity to add additional state Enterprise Zones at this time.

## j. Existing Industrial Zoned Land

Alachua County's economic development organization has noted that there is a lack of available commercial and industrial zoned land within the county. The existing industrial park near the airport is fully occupied, the regional business incubator is also fully occupied. They have made plans to purchase land for additional business park development by the year 2012 (estimate).

There are eight industrial parks with land available for development at this time in the region. The largest industrially zoned parcel available is 900 acres in Alachua County.





**TABLE 2.12**  
**INDUSTRIAL ZONED LAND BY COUNTY, 2005**

County	Total Industrial Acreage	Largest Available Contiguous Parcel	Industrial Park?	Acreage in Park
<b>Alachua</b>	2,131	900	Yes	1,390
<b>Bradford</b>	N/A	N/A	Yes	300
<b>Columbia</b>	1,500	300	Yes	600
<b>Dixie</b>	600	242	Yes	160
<b>Gilchrist</b>	N/A	N/A	No	0
<b>Hamilton</b>	50	35	Yes	110
<b>Lafayette</b>	N/A	60	No	0
<b>Madison</b>	1,700	N/A	Yes	690
<b>Suwannee</b>	480	97	Yes	132
<b>Taylor</b>	N/A	27	Yes	27
<b>Union</b>	N/A	N/A	N/A	N/A
<b>Region</b>	6,461	900	8	3,509

N/A = not available.

Source: Enterprise Florida County Profiles, 2006.

In many instances, areas lack adequate public utilities and the basic framework for economic development. Recent examples include Lake City's lack of wastewater treatment which has hampered the growth of their industrial areas, and Gainesville Regional Utility is currently looking to expand its electrical generation capacity

There are 33 incorporated municipalities in the region. Twelve of the 33 do not have a municipal wastewater treatment facility.

### k. Gainesville Regional Utilities

Gainesville Regional Utilities' generating capacity is currently 611 megawatts, with a peak demand to date of 465 megawatts. For planning purposes, and in cooperation with the other Florida utilities that are connected to a statewide grid, it maintains a 15 percent reserve margin represented by the difference between capacity and demand, divided by demand. Based on 88,992 total customers during 2006, the demand per customer at time of peak (maximum hour) was approximately 5.2 kilowatts per customer. On

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an average hourly basis, per customer demand was 2.7 kilowatts. Over the course of the next 20 years, Gainesville's electrical system demand is expected to increase, and its generation fleet will experience retirements, such that Gainesville Regional Utilities expects to fall below the 15 percent reserve margin threshold by 2018. The five-year snapshots show the projected available generation capacity, summer peak demand, and system reserve margin (without generation additions).

**TABLE 2.13**

**GAINESVILLE REGIONAL UTILITIES LONG-RANGE DEMAND ESTIMATES**

Year	Available Capacity (MW)	Summer Demand (MW)	Reserve Margin
2010	612	492	25%
2020	547	518	6%
2035	464	546	(15%)

MW = megawatts

Source: Gainesville Regional Utilities, 2007.

As indicated above, the main utility in the region is expected to be unable to meet demand in the region sometime shortly after the year 2020. Gainesville is expected to construct a new power plant in the next few years and has recently voted to focus on biofuels as a means for power creation.

Tables 2.14 and 2.15 identify permitted levels of water and wastewater use for select cities in the region. The permitted amounts are based upon peak daily uses. For many of the smaller municipalities in the region, the lack of wastewater treatment is an impediment to growth. Many of the larger municipalities have peak loads that would preclude large industrial users from moving to a location within the region.



**TABLE 2.14**

**WATER CAPACITY FOR SELECT NORTH CENTRAL FLORIDA MUNICIPALITIES**

Municipality	Permitted Water Plant Capacity (Peak Gallons per Day)	Water Plant Average Daily Use (Gallons per Day)	Reserve Capacity	Residual Capacity	Projected Average Daily Water Use in Year 2030
Fanning Springs	630,400	106,973	60,774	462,653	192,807
Gainesville	54,000,000	26,000,000	2,000,000	26,000,000	N/A
Hawthorne	1,728,000	204,546	-	1,523,454	N/A
Jasper	1,400,000	636,000	-	764,000	N/A
Jennings	200,000	102,480	-	97,520	185,367
Lee	864,000	60,743	-	803,257	83,131
Live Oak	2,500,000	1,184,701	4,028	1,311,271	1,156,417
Madison	1,800,000	1,170,000	25,985	604,015	-
Mayo	1,728,000	217,868	3,630	1,506,502	250,891
Perry	3,940,000	1,850,000	-	2,090,000	-
Starke	2,400,000	911,000	-	-	1,376,205
Trenton	1,800,000	222,794	3,485	1,573,811	368,184

N/A = Not Available

Source: North Central Florida Regional Planning reporting from local government services contracts.



**TABLE 2.15**  
**WASTEWATER CAPACITY**  
**FOR SELECT NORTH CENTRAL FLORIDA MUNICIPALITIES**

Municipality	Permitted Wastewater Plant Capacity (Peak Gallons per Day)	Wastewater Plant Average Daily Use (Gallons per Day)	Reserve Capacity	Residual Capacity	Projected Average Daily Wastewater Use in Year 2030
<b>Fanning Springs</b>	-	-	-	-	None
<b>Gainesville</b>	22,400,000	15,300,000	1,530,000	5,570,000	N/A
<b>Hawthorne</b>	150,000	118,000	18,006	13,994	N/A
<b>Jasper</b>	1,200,000	686,000	-	514,000	158,567
<b>Jennings</b>	-	112,560	-	87,440	-
<b>Lake City</b>	-	-	-	-	None
<b>Lee</b>	-	-	-	-	N/A
<b>Live Oak</b>	1,250,000	770,997	3,089	475,914	N/A
<b>Madison</b>	1,370,000	845,000	18,608	506,392	126,673
<b>Mayo</b>	150,000	110,000	2,783	37,217	N/A
<b>Perry</b>	1,250,000	764,000	-	486,000	N/A
<b>Starke</b>	1,650,000	885,000	-	-	1,336,928
<b>Trenton</b>	200,000	90,160	2,638	107,202	116,187

N/A = Not Available

Source: North Central Florida Regional Planning reporting from local government services contracts.

Increased infrastructure, including water, wastewater, and road capacity enhancement has been identified as one of the key areas of focus for the Rural Area of Critical Economic Concern that encompasses most of the region. Many fixed costs for capital facilities needed to be incurred to provide the needed infrastructure. Feasibility studies or market analyses are needed to help prevent uninformed investment decisions and to determine the appropriate level of public works necessary to stimulating economic growth.

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Directly associated with the lack of existing infrastructure was the lack of local financial resources with which to finance the cost of infrastructure improvements. Local communities did not have the financial capacity to purchase sites suitable for industrial development or to extend the necessary utilities to those sites. Nor did they have the monetary resources to finance community facilities such as recreation facilities or cultural centers. These types of facilities, while not absolutely necessary to enhance economic development, make a community more attractive to private investors.

## I. Financial Resources

On average, the state's counties generate 31.4 percent of their revenue from taxes and impact fees. None of the counties in the region (with the exception of Alachua and Gilchrist Counties) have impact fees at this time. Most rural counties in Florida do not rely on impact fees because of their relatively low growth rates. However, many heavily rely on Special Assessments to provide needed infrastructure and other services. The following table identifies the debt service per capita for each county in the region.

**TABLE 2.16**

**COUNTY FINANCE: EXPENDITURE BY FUNCTION OF COUNTY GOVERNMENT, FISCAL YEAR 2003-2004**

County	(Thousands of Dollars)							(Dollars)
	Total	General Government	Public Safety	Physical & Economic	Transportation	Human Services, Culture & Recreation	Debt Service, Other Uses and Interfund Transfers	Debt Service per Capita
Alachua	273,005	40,314	76,726	19,588	8,739	10,105	117,532	488.2
Bradford	27,828	4,639	5,406	1,960	2,161	870	12,791	454.9
Columbia	67,299	6,638	15,197	8,346	11,649	3,453	21,925	356.7
Dixie	20,083	2,379	5,899	1,812	2,036	716	7,240	470.8
Gilchrist	16,415	3,503	3,274	555	3,452	501	5,128	316.1
Hamilton	20,789	2,482	5,346	2,003	2,791	1,039	7,127	497.9
Lafayette	8,702	1,292	1,867	1,004	783	684	3,072	385.4
Madison	23,331	2,115	5,827	1,941	3,448	1,295	8,704	441.9
Suwannee	40,156	5,226	8,947	4,234	7,402	3,671	10,675	279.6
Taylor	31,577	3,577	6,568	2,264	5,607	1,390	12,171	571.1
Union	11,044	1,452	2,659	1,017	1,083	473	4,360	289.8
<b>Florida</b>	<b>34,800,662</b>	<b>4,424,668</b>	<b>6,544,232</b>	<b>5,558,528</b>	<b>4,006,260</b>	<b>4,289,212</b>	<b>9,977,762</b>	<b>556.9</b>

Source: [Florida Statistical Abstract](#), 2006.

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The same information as above can be represented as a percentage of the total expenditure by county to compare the portion of each county budget going toward different components of service:

**TABLE 2.17**  
**COUNTY FINANCE: EXPENDITURE BY FUNCTION OF**  
**COUNTY GOVERNMENT, PERCENT OF TOTAL EXPENDITURES**  
**FISCAL YEAR 2003-2004**

County	Total	General Government	Public Safety	Physical and Economic	Transportation	Human Services, Culture and Recreation	Debt Service, Other Uses, and Interfund Transfers
Alachua	100.0%	14.8%	28.1%	7.2%	3.2%	3.7%	43.1%
Bradford	100.0	16.7	19.4	7.0	7.8	3.1	46.0
Columbia	100.0	9.9	22.6	12.4	17.3	5.3	32.6
Dixie	100.0	11.8	29.4	9.0	10.1	3.6	36.1
Gilchrist	100.0	21.3	19.9	3.4	21.0	3.1	31.2
Hamilton	100.0	11.9	25.7	9.6	13.4	5.0	34.3
Lafayette	100.0	14.8	21.5	11.5	9.0	7.9	35.3
Madison	100.0	9.1	25.0	8.3	14.8	5.6	37.3
Suwannee	100.0	13.0	22.3	10.5	18.4	9.1	26.6
Taylor	100.0	11.3	20.8	7.2	17.8	4.4	38.5
Union	100.0	13.1	24.1	9.2	9.8	4.3	39.5
Region	100.0	13.4	23.5	8.7	13.0	5.0	36.4
Florida	100.0	12.7	18.8	16.0	11.5	12.3	28.7

Source: [Florida Statistical Abstract](#), 2006.

The region's counties tend to spend more of their budgets on public safety and less on physical, economic, and human service improvements, as a percentage of their total budget than the state average. Furthermore, the average county's debt service as a percentage of total expenditure is higher in the region than the state's average of 28.7 percent of total expenditures.

Most of the counties in the region are near the 10 mil cap for government millage rates. The following table details the millage components for the counties in the region.



**TABLE 2.18**

**MILLAGE RATES BY COUNTY, 2005**

County	County Government		School Board		Other Millage	Total Millage
	Operating Millage	Debt Service Millage	Operating Millage	Debt Service Millage		
<b>Alachua</b>	8.9887	0.2500	8.1150	0.9190	1.5920	19.8647
<b>Bradford</b>	9.5000	0.0000	8.1740	0.0000	0.0000	17.6740
<b>Columbia</b>	8.7260	0.0000	7.9550	0.0000	2.3794	19.0604
<b>Dixie</b>	10.0000	0.0000	8.1840	0.0000	0.4914	18.6754
<b>Gilchrist</b>	10.0000	0.0000	8.0190	0.0000	0.4914	18.5104
<b>Hamilton</b>	10.0000	0.0000	8.0740	0.0000	0.4914	18.5654
<b>Lafayette</b>	10.0000	0.0000	7.8610	0.0000	0.4914	18.3524
<b>Madison</b>	10.0000	0.0000	6.3900	0.0000	0.4914	16.8814
<b>Suwannee</b>	9.7000	0.0000	8.0320	0.0000	0.4914	18.2234
<b>Taylor</b>	8.0760	0.0000	7.6590	0.0000	0.4914	16.2264
<b>Union</b>	10.0000	0.0000	8.3350	0.0000	0.4914	18.8264

Source: [Florida Statistical Abstract](#) 2006, Table 23.93.

i. **Assessed Value**

The 26 state parks in the region, the state university and several state prisons dramatically reduce the ad valorem tax base of the region. The taxable value of every north central county is considerably below the statewide average—so low that the combined taxable value of all 11 of north central Florida’s counties is less than that of the average Florida county in 2004. Thus, there is tremendous need for support from organizations outside of the region that have the capacity to help foster technology and economic stability.

Another constraint to development is the abundance of land in the region which is either in timber production or flood-prone. Likewise, the need to preserve prime agricultural land for agricultural production presents another prime consideration and constraint to economic expansion. The region lacks many raw materials which would enhance its potential for attracting heavy industry. However, the region has potential for supporting light industry such as textile, medical, technical, and electronic industries, and other industries with labor-intensive production techniques.

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In addition, the local governments in the region needed technical assistance in pursuing economic development at both the regional and local levels. Often local government staffs were small, and the time and expertise to pursue both economic and community development opportunities was not available. Thus, communities often did not pursue potential sources of funding available for infrastructure and other necessary improvements.

## m. Summary Findings

### i. Strengths

A factor enhancing the development potential of the region related to its undeveloped nature is the relative low cost of acquiring land. This, coupled with availability of transportation and lower labor costs, enhances the competitive position of the region and raises its standing in the relocation and expansion decisions of industrial firms.

### ii. Weaknesses/Problems

The combination of a high percentage of publicly owned land, millage rate caps, recent property tax rollbacks, and other fiscal restraints indicate that the region's governments are having difficulty providing basic services to the region. When analyzed in conjunction with the lack of adequate water and wastewater, it seems that local government units will not soon have the resources to improve their water and water systems on their own.

## 3. External Forces

### a. Natural Disasters

In early 2007, the region experienced the worst drought in several decades. As a result, several wildfires interrupted business in the employment centers in Columbia and Hamilton County.

Long term drought could impact flow levels in one of the region's key resources - fresh water springs and rivers.

In addition, the hurricane season in 2004 negatively impacted tourism in that year and 2005. Should another active hurricane season arise, the region could again be faced with reduced tourism, a key component of the state's economy.

### b. Insurance Crisis

Due in part to active hurricane seasons in the last few years, and due in part to state policies, Florida is facing sharp increases in the cost to insure property, and some providers are refusing to renew policies in the state. The Legislature has addressed this issue in a special session by enacting legislation that provides for the state to assume a higher level of risk in its catastrophic reinsurance fund. However, it is not clear if this change will lower the cost of insuring the average Floridian.





### c. Property Tax Reform

In the spring 2007 legislative session, the decision to dramatically reduce property taxes in the state was discussed. Action in a special session decreased tax revenues by 3 to 9 percent for individual counties and cities. The final impact of this reform is not yet known for local governments. Further tax cuts are possible through a statewide constitutional referendum which could also reduce public school funding. If this comes to pass, the impact on rural counties will be dramatic.

## 4. Identifying Clusters

Clusters are groups of inter-related industries that drive wealth creation in a region, primarily through export of goods and services. The use of clusters as a descriptive tool for regional economic relationships provides a richer, more meaningful representation of local industry drivers and regional dynamics than do traditional methods. Some technical factors that are important in determining which industries clusters are important to a region include, total employment, export-orientation and wealth generation.



TABLE 2.19

REGIONAL EMPLOYMENT BY INDUSTRY SECTOR

North Central Florida Employment by Industrial Sector	2007 (in Thousands)	Percent of Total Labor Force
Public Admin (State, Local and Federal Government)	69.212	28.1
Health Care, Social Asst	34.931	14.2
Retail Trade	27.793	11.3
Accom, Food Services and Art, Entertainment, Recreation	22.611	9.2
Other Services (excluding Government)	12.962	5.3
Manufacturing	11.822	4.8
Construction	11.133	4.5
Professional, Technical Services	10.537	4.3
Administration, Waste Services	8.567	3.5
Real Estate, Rental, Leasing	8.488	3.4
Finance, Insurance	7.886	3.2
Wholesale Trade	4.551	1.8
Transportation, Warehousing	4.449	1.8
Educational Services	4.182	1.7
Information	3.138	1.3
Forestry, Fishing, Other	2.975	1.2
Utilities	0.62	0.3
Mining	0.242	0.1
Management of Companies, Enterprises	0.233	0.1
<b>Total</b>	<b>246.332</b>	<b>100.0</b>

Source: Regional Economic Models Inc, Florida Counties Forecast, version 8.0, calibrated with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

The top four industry sectors, which employ almost 65 percent of the total employees in the region, are:

- Government, or public administration
- Healthcare
- Retail Trade
- Hospitality industries (Accommodation, Food Services, Art, Entertainment & Recreation)

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Table 2.19 indicates the top employers in the region. In 2007, over 28 percent of the workforce in the region is employed in the public administration sector. That is an increase from previous years. There is a high concentration of state prisons in the region, which accounts for some of the public administration employment. Furthermore, the largest population center in the region is in Alachua County, where employees of the University of Florida are classified as state employees.

### a. Summary Findings

The area's economy exhibits strength in the healthcare, retail, and hospitality industries. Retail and hospitality industries are typically lower paying than healthcare. Therefore, efforts to increase competitive advantage in healthcare and life science, and efforts to attract high-skilled, high-wage jobs to the region will be very beneficial.

### b. Location Quotient Analysis

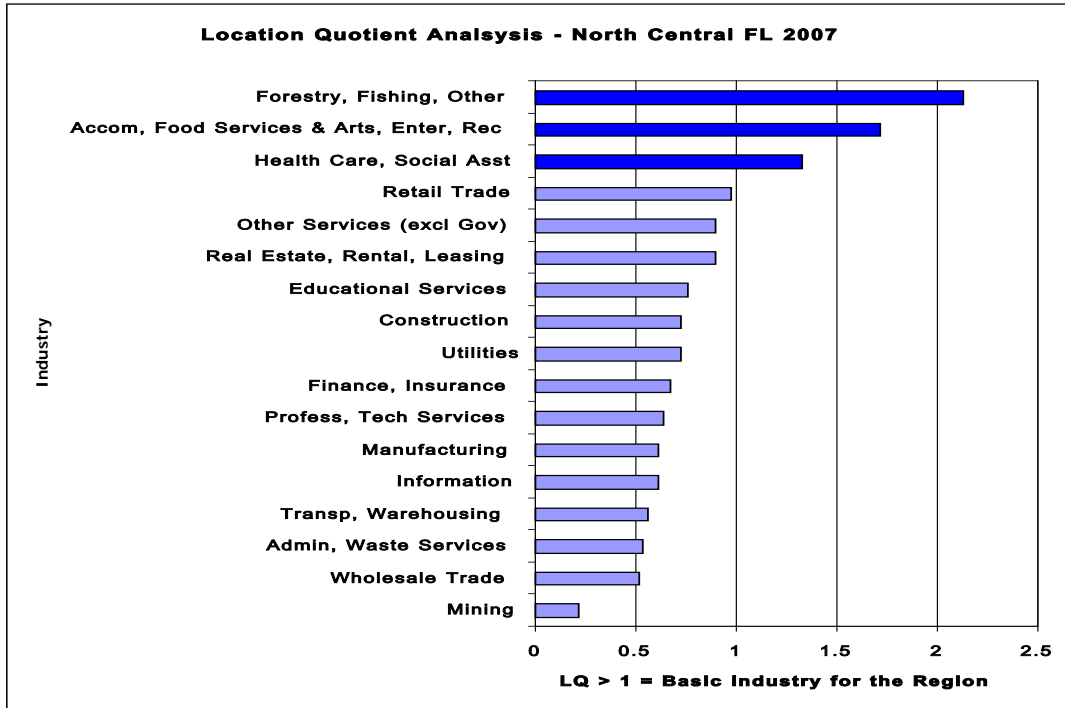
Ideally, when attempting to identify regional clusters one would like to know which industries export goods and services out of the region and bring wealth back into it. The standard approach is to use a "location quotient" which identifies the industries that employ more workers in the region than the national average for that same industry. The theory is that by employing more workers than the national average the industry is producing more goods and services than the region alone can consume; thus, the industries export the excess product out of the region. The following illustration identifies the 23 main industry categories in the North American Industry Classification System. It then examines the industries within the region as compared to industry presence in the nation as a whole.

A location quotient greater than one indicates that a particular industry exports its products outside of the region, and is a "basic" industry for that region.



ILLUSTRATION 2.3

LOCATION QUOTIENT ANALYSIS, 2007



Source: Regional Economic Models Inc., Florida Counties Forecast, version 8.0, calibrated with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

Only three of the 23 industry sectors are considered basic for the region:

- Forestry and Fishing;
- Accommodation and Arts, Entertainment and Recreation (Tourism Industry loosely defined); and
- Healthcare.

i. Summary Findings

Diversifying the regional economy to attract more basic industries is critical to improving the regional product.

The next section will analyze those industry clusters in detail.



## c. Characteristics of Primary Clusters in the Region

### i. Forestry

Forestry has long been an important part of the economy in north central Florida. A large portion of the region's vacant/agricultural land is used in silviculture production. Most of the product from this land is exported to other regions, as indicated by a location quotient of 2.13. However, this industry employs relatively few persons in the region.

#### **Key Characteristics of Forestry and Fishing Industry Employment in the Region from Regional Economic Models, Incorporated, Baseline Data**

2007 Employment	2,975 employees
Average Wages Paid	\$27,127
Percent of Regional Workforce Employed in Cluster	1.2%
Location Quotient	2.12

In economics there is a technique called shift-share analysis. Its purpose is to take the change in employment for an area and decompose it into the three sources that caused the change.

The shift share analysis of the industry in the illustration below identifies three types of employment change:

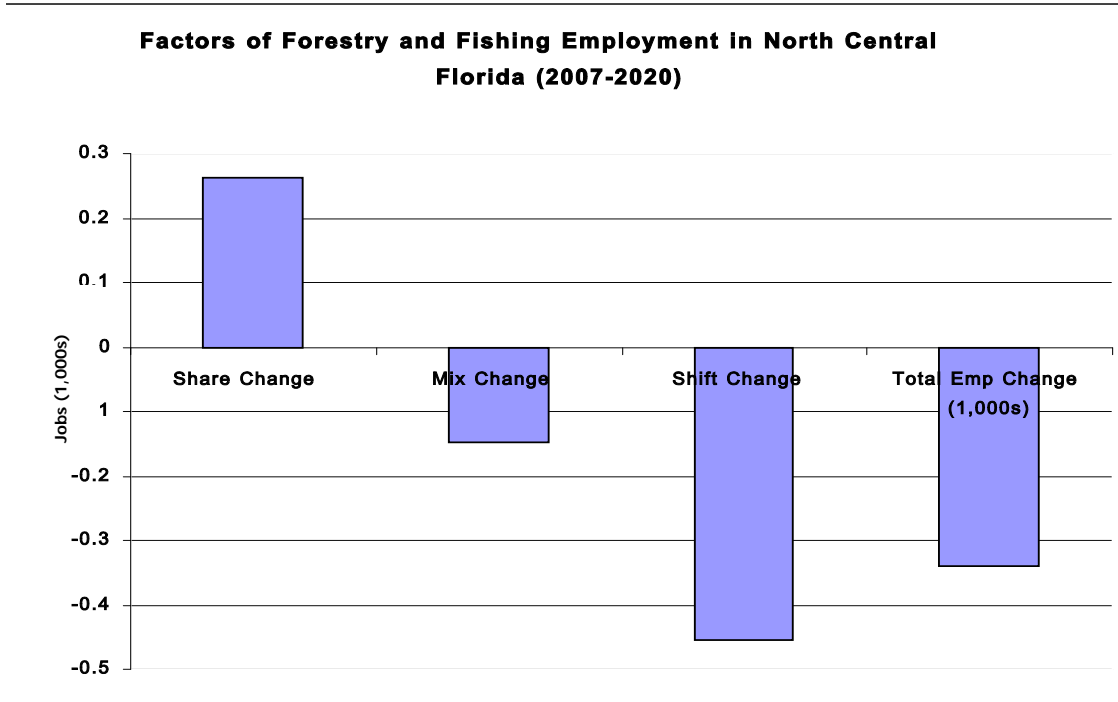
#### Shift Share Analysis Components

- Share Change = changes due to general national growth
- Mix Change = changes caused by industry on the national level
- Shift Change = changes caused by regional competitiveness



**ILLUSTRATION 2.4**

**SHIFT-SHARE ANALYSIS  
FORESTRY AND FISHING INDUSTRY**



Source: Regional Economic Models Inc., Florida Counties Forecast, version 8.0, calibrated with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

Thus, the industry is expected to decline nationally, but its regional competitive advantage is also expected to decline, leading to a net decline of approximately 340 jobs over the next 15 years.

ii. Tourism Industry

**Key Characteristics from Regional Economic Models, Incorporated, Baseline Data**

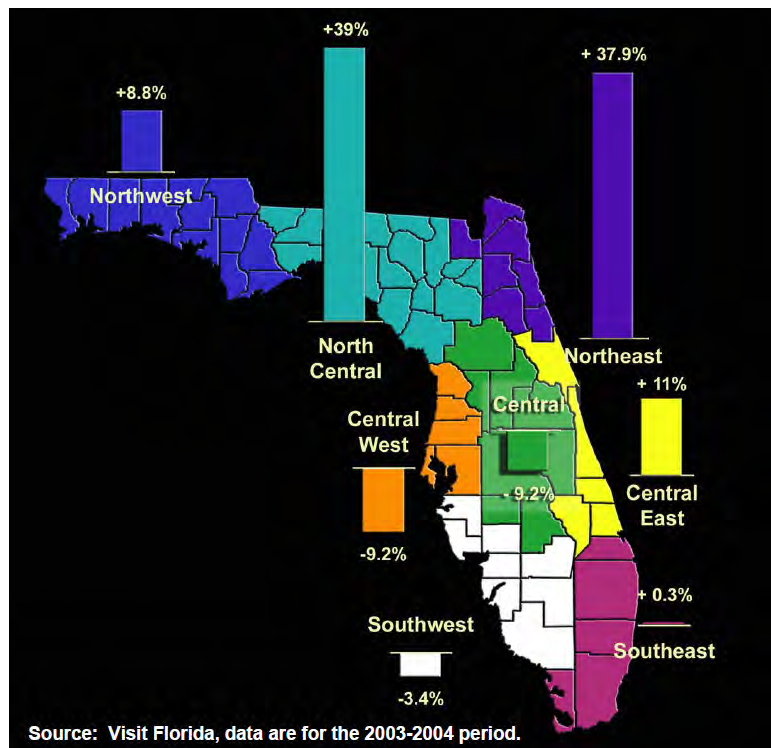
2007 Employment	22,611 employees
2007 Average Wages Paid	\$12,797 to \$18,050
Percent of Regional Workforce	
Employed in Cluster	9.2%
National Growth Rate (10-year from 2005)	+22%
Location Quotient	1.7

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North central Florida has underutilized Florida’s reputation as a tourism destination. Only 2.9 percent of all visitors to Florida come to this part of Florida for their vacations. However, visitors to the region are increasing, as trends toward “off the beaten path” locales strengthen. From 2003 to 2004, visitation to north central Florida increased by 29 percent, the highest increase in any subregion of the state of Florida. People are looking to visit small towns and uncrowded natural places, such as those that make up much of our region. Thus, this industry has excellent potential for increasing in the region in coming years.

**ILLUSTRATION 2.5**

**TOURISM INCREASES BY REGION IN FLORIDA, 2003 TO 2004**



A study completed for Enterprise Florida by Cambridge Systematics indicated that the U.S. growth rate for this industry for the next ten years is estimated at 22 percent. However, the average annual wage in the sector is the lowest of all the industry sectors at somewhere between \$12,797 and \$18,050, depending on how one classifies the industry.



iii. Retail Trade

**Key Characteristics of the Industry**  
**Regional Economic Models, Inc.,**  
**Baseline Data**

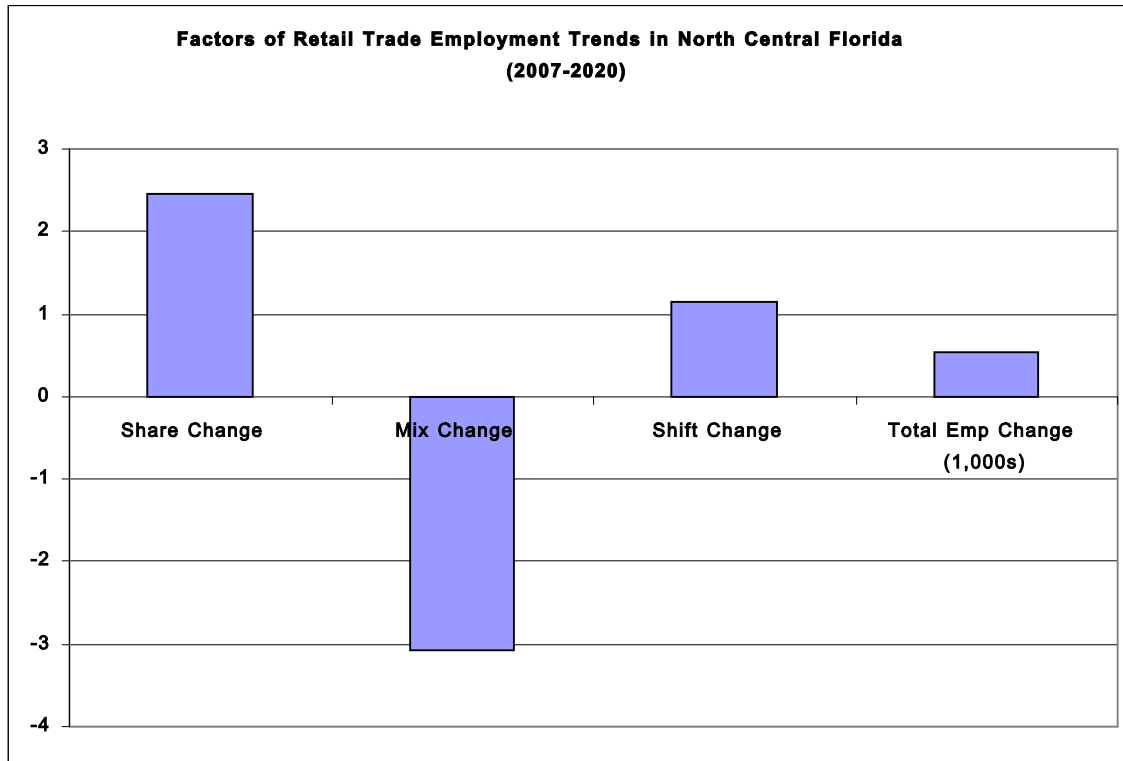
2007 Employment	27,793 employees
2007 Average Wages Paid	\$20,682 in North Central Florida
Percent of Regional Workforce Employed in Cluster	11.3%

Retail trade is often categorized with other types of trade and utilities in Labor Statistics reports. Trends indicate this industry will decline nationwide as a percentage of total employment, but that the region will improve in its competitiveness, thus the industry decline nationally will be offset by an increase in employment due to regional competitiveness. Overall, 544 new jobs are expected in this industry in north central Florida by the year 2020. The factors of growth: share change representing the overall national economy, mix change representing industry changes nationally, and shift change for regional competitiveness are summarized in the following illustration.





**ILLUSTRATION 2.6**  
**SHIFT-SHARE ANALYSIS**  
**RETAIL TRADE IN NORTH CENTRAL FLORIDA, 2007-2020**



Source: Regional Economic Models Inc., Florida Counties Forecast, version 8.0, calibrated with population forecasts from University of Florida's Bureau of Economic and Business Research, 2006.

iv. **Healthcare and Social Assistance Services**

Incorporated, baseline data

2007 Employment	34,931 employees
2007 Average Wages Paid	\$33,736 in N Central Florida
Percent of Regional Workforce Employed in Cluster	14.2%

This industry grew by 60 percent from 1990 to 2005 within the region. National trends indicate that healthcare will continue to grow as a portion of total US employment. With Shands planning to open a new 192 bed cancer hospital by Fall 2009, and the current health-related industries at the Sid Martin bio-tech park, it is likely that this region will continue to be strong in healthcare services into the future.

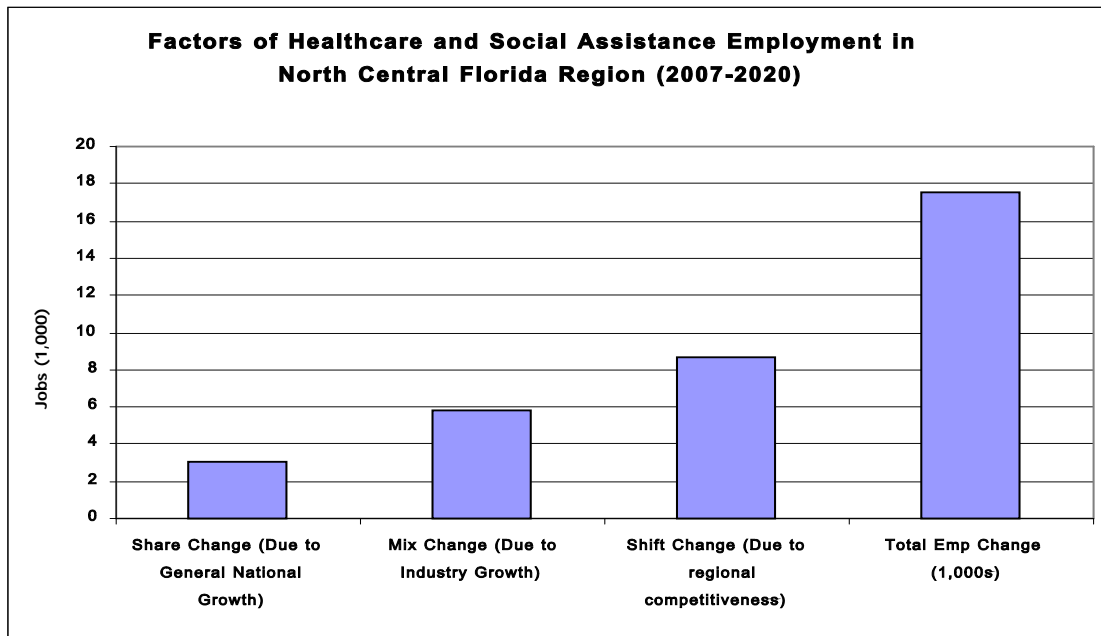
Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



Components of growth in the region’s healthcare industry employment are detailed on the following chart. It suggests that in addition to national and industry trends, the region will gain competitive advantage in the healthcare industry and that approximately 17,500 new jobs will be created in the region’s healthcare and social assistance sector by 2020.

**ILLUSTRATION 2.7**

**SHIFT-SHARE ANALYSIS  
HEALTHCARE & SOCIAL ASSISTANCE SERVICES, 2007 TO 2020**



Key Characteristics of the Healthcare Industry from Regional Economic Models.

Source: Regional Economic Models Inc., Florida Counties Forecast, version 8.0, calibrated with population forecasts from University of Florida’s Bureau of Economic and Business Research, 2006.

**d. Emerging Clusters or Targeted Clusters: Shift-Share Analysis**

As previously discussed, a technique called shift-share analysis is used to analyze the change in employment for an area. Shift-share analysis deconstructs employment into the three sources that caused the change.

The historical shift share analysis of the industry in the table below, combined with the shift share analysis of key segments of the economy gives an overview of the general trends for the industries that make up our regional economy. As a reminder, shift-share analysis identifies three types of employment change:

Shift Share Analysis Components:

- Share Change = changes due to general national growth
- Mix Change = changes caused by industry on the national level

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☐ Shift Change = changes caused by regional competitiveness

A shift-share analysis identifies trends within the region's industry clusters and determines which industries are expected to grow over time. First, the historical shift share for the region will be examined.

**TABLE 2.20**  
**SUMMARY SHIFT-SHARE ANALYSIS FOR NORTH CENTRAL FLORIDA**  
**1990-2005**

Sector	National Growth Component		Industrial Mix Component		Competitive Mix Component	
	Percent	Jobs	Percent	Jobs	Percent	Jobs
Manufacturing	20.9	2,103	(41.1)	(471)	40.7	4,094
Education & Health Services	20.9	4,023	20.9	4,031	18.2	3,495
Public Administration	20.9	1,993	(8.7)	(831)	29.5	2,810
Trade, Transportation & Utilities	20.9	5,094	(7.7)	(1,872)	9.5	2,314
Leisure & Hospitality	20.9	2,600	15.4	1,917	12.2	1,523
Construction	20.9	1,166	17.6	981	25.7	1,432
Financial Activities	20.9	1,201	(3.2)	(184)	16.6	952
Other Services	20.9	664	3.7	117	29.8	949
Professional & Business Services	20.9	1,598	39.4	3,012	7.4	567
Natural Resources & Mining	20.9	490	(22.5)	(524)	15.8	370
Information	20.9	466	(10.6)	(236)	3.9	88
<b>Total</b>	-	21,398	-	5,940	-	18,594

Source: U.S. Bureau of Labor Statistics, Census of Employment and Wages, for the years 1990 through 2005 and interactive Shift-Share website: [www.georgiastats.uga.edu/sshare1.html](http://www.georgiastats.uga.edu/sshare1.html).



## i. Discussion of Shift-Share Results for 1990 to 2005

### National Growth Component

The first source of change is the growth or contraction in the United States economy. During the time period 1990 to 2005, the nation's employment grew by 20.9 percent (i.e., America's employment in 1990 and 2005 was 108.6 million and 131.3 million, respectively. The growth rate is therefore  $(131.3 - 108.6) / 108.6 * 100 = 20.9$  percent).

This growth rate is listed in Table 2.20 as the national growth component. The effect of the national growth component is felt most acutely during the peaks and valleys of the business cycle, i.e. during recessions and boom times. Local businesses are very aware of how the general business climate affects them. As reported in Table 2.20, this area's biggest employer from 1990 to 2005, the Education and Health Services sector, had the highest national growth component. The 20.9 percent national growth component led to this sector's employment growing by 4,023 jobs (i.e., 20.9 percent times the sector's base employment, 19,245, equals 4,023 jobs). Overall, the national growth component was responsible for a total of 21,398 jobs in this 11-county area. An understandable goal of some local leaders is to make their economy more 'recession proof'. Economies with more employment in government, military and education will experience less fluctuation because those sectors are not directly related to the business cycle. Also, economic sectors that are experiencing more growth will provide larger employment gains to a local economy.

### Industrial Mix Component

Insight into these growing sectors is provided by the second aspect that shift-share analysis considers, the industrial mix component. This component is found by calculating the percent growth rate for an economic sector at the national level and subtracting from it the national growth component. Thus, the industrial mix component measures how well an industry has grown, net of effects from the business cycle. Table 2.20 lists these components for each sector. The highest industrial mix component was 39.4 percent in the Professional and Business Services sector, and it was responsible for 3,012 jobs (i.e., 39.4 percent times this sector's base employment, 7,643, equals 3,012 jobs). If this area's employment were concentrated in these sectors with higher industrial mix components, then the area could expect more employment growth. After adding up across all sectors, it appears that the industrial mix component was responsible for increasing the area's employment by 2,240 jobs. Thus, the area has a concentration of employment in industries that are increasing nation-wide, in terms of employment. The majority of these jobs can be attributed to growth in the Education and Health Services sector.

Shift-share analysis does not explain why an economic sector has slower or faster growth. Rather, the local development official must use knowledge about the business conditions facing particular industries to understand this. For example, in some rural counties the manufacturing sector was once dominated by apparel firms. The availability of low-priced imported clothing in the 1990's has meant that many apparel firms have gone out of business. Many counties therefore have a negative industrial mix component for manufacturing.

### Competitive Share

The third and final component of shift-share analysis is called the competitive share. It is the remaining employment change that is left over after accounting for the national and industrial mix components. If a sector's competitive share is positive, then the sector has a local advantage in promoting employment

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growth. For example, the Education and Health Services sector employment grew by 60 percent. Of this 60 percent, 20.9 percent was due to the national growth component and 20.9 percent was due to the industrial mix. This leaves a remainder of 18.2 percent that is attributable to the local conditions facing this economic sector. For the Education and Health Services sector, the competitive share translated into 3,495 jobs (i.e., 18.2 percent times the base employment level of 19,245 equals 3,495 jobs). The top three sectors in competitive share were Manufacturing, Education and Health Services, and the Public Administration sector. Across all sectors, the competitive share component totals to 18,594 jobs.

A positive competitive share component would indicate that your area has a productive advantage. This advantage could be due to local firms having superior technology, management, or market access, or the local labor force having higher productivity and/or lower wages. A negative competitive share component could be caused by local shortcomings in all these areas. By examining the competitive share components for each industry, the development official can easily identify which local industries have a positive competitive share component. This also indicates which industries have competitive advantages over other counties and regions. Local officials can then devise strategies to improve local conditions faced by particular industries selected for focus. These strategies may include specialized training programs for workers and management, improved access to input and product markets through transportation and telecommunications, or arranged financial alternatives for new machinery and equipment.

Quantitative calculation of economic concentrations has its limitations and may sometimes fail to identify certain types of clusters, like small and emerging clusters. Emerging cluster industries, such as environmental technology, may have a relatively lower current economic concentration than compared to the nation but have the potential to become more economically significant in the future. These are younger industries in their early stages of development. Emerging clusters may also be branches from older, more established industries that have chosen to pursue a new direction. They may be more sensitive to market conditions and policy decisions due to their smaller size and lack of entrenchment in the regional economy.

Emerging clusters are generally identified through analyzing growth and employment trends, interviews with local business people or by some source of local industry knowledge. Thus, both Gainesville and the rural counties in the region have hired consultants to identify emerging industries within the region that they may wish to target. The target industry analysis identifies statewide trends (such as Florida's recent effort to become a bio-technology center with several Scripps partnerships), and statewide goals of becoming an aerospace center, through work with National Aeronautics and Space Administration at Cape Canaveral. Furthermore, regional trends of a new concentration of transportation warehouses were analyzed using interviews with area economic development officials and using information on recent industry moves to the region.

Enterprise Florida recently worked with north central Florida through a series of workshops to identify target industries for the creation of catalyst projects that hope to increase those industries. They analyzed industry trends, statewide initiatives, and goals of economic development groups to identify five clusters of focus:

The target industries are as follows:

Urban County (Alachua) Target Industries as provided by Lockwood Greene Consulting:

- Pharmaceutical/Biotechnology
- Surgical, Medical and Dental Instruments and Supply

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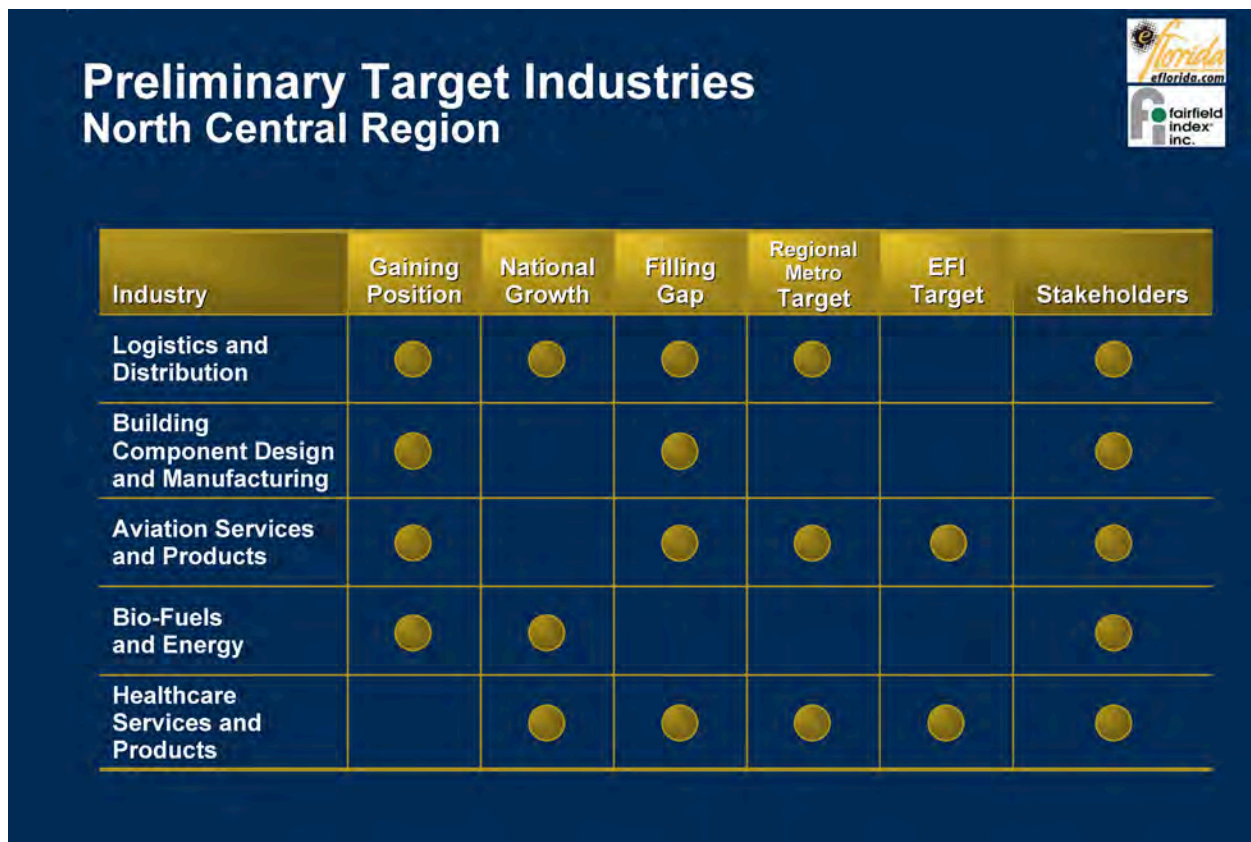
- Electronics, Instruments and Telecommunications Equipment

Rural County Target Industries as provided by Fairfield Index and Cambridge Systematics:

- Logistics and Distribution
- Building Component Design and Manufacturing  
Aviation Services and Products
- Bio-Fuels and Energy
- Healthcare Services and Products

**ILLUSTRATION 2.8**

**TARGET INDUSTRIES IDENTIFIED THROUGH ENTERPRISE FLORIDA**



Source: Enterprise Florida and Fairfield Index, 2006.

The industries in the above graph and for Alachua County are either growing, have been targeted as a high-skill, high-wage area of desired growth, or fill needs in economic diversification for the region.

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## Summary Findings

The region has a competitive advantage in healthcare provision and this acts as a basic industry bringing in outside dollars to benefit the local economy. It has been identified as a key industry for the region. It is then reasonable to focus on this as a priority for the region.

## 5. Regionally Significant Economic Facilities and Resources

### a. Enterprise Florida/Rural Economic Development Initiative Catalyst Sites

Among Enterprise Florida's eight priorities to support economic diversification, The Roadmap to Florida's Future: 2004-09 Strategic Plan for Economic Development calls for implementation of an economic stimulus strategy for three Rural Areas of Critical Economic Concern. Since their designation, the three Rural Areas of Critical Economic Concern (North Central, Northwest, and South Central Florida) have identified a significant number of overlapping agendas, including broadband, infrastructure and education, and produced a seven-point plan to support improvement in overall competitiveness. This plan included the need to conduct industry research, build regional teamwork around a catalytic economic opportunity, and go-to-market with a regional site.

On May 7, 2007, two regional sites were chosen to focus on prospects in the building/construction and distribution center market segments. Those were:

- a. Columbia County - Phillips site 504 acres
- b. Suwannee County - Harrell Site 500 acres

Both projects will need infrastructure improvements to be developed.

### b. The Original Florida Tourism Task Force

The North Central Florida Regional Planning Council's Economic Development staff assists local governments through sustainable economic development organization called The Original Florida Tourism Task Force. The group brings together the region and conducts marketing for 14 counties to increase tourism, but also entrepreneurial capacity development for the hospitality industry.

- Marketing and familiarization trips through the region generate over \$800,000 in advertising equivalency for the region annually.
- Return on Investments is > \$225 generated for each \$1 of dues to Original Florida (on average)
- Visitor Numbers (Source: VISIT FLORIDA)

2003:	1,663,200 visitors
2004:	2,311,300 visitors
2005:	2,006,160 visitors

This represents approximately \$180,505,000 injected into regional economy in 2005 (using average spending per party per day in our region).

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### c. Healthcare And Life Science Professionals

There is a shortage of healthcare and life science industry workers in the region, and nationwide. Santa Fe Community College, Lake City Community College, and possibly North Florida Community College are proposing a project that deals with workforce development, but may qualify for a U.S. Economic Development Administration planning grant to increase the number of healthcare and life science professionals in the region. This represents well over 1,000 jobs needed in the region.

The U.S. Economic Development Administration indicates that planning grants are possible for plans/curriculum creation, and for a “marketing” strategy for getting young people into health professions. A construction grant could also be given for a project that helps build a facility which will cater to educating people in this field.

### d. Regional Business Incubators and Research Parks

An integral ingredient in successful regional economic development is small business start-ups. Given the high failure rate of new businesses (80 percent collapse within five years), both the entrepreneur and the region have a vested interest in any initiative that has the potential to improve the success rate of new entrepreneurial initiatives.

The region wishes to support the expansion of business incubators and research parks which support high-tech business startups. Specific projects within the region include:

1. The Gainesville Technology Enterprise Center is a business incubator in Gainesville is full and is in need of expanded facilities and services. The center is currently fully occupied and has a waiting list. The facility could be expanded onsite, but could also provide a hub and spoke system of incubators throughout the region, building on the experience of the incubator manager and sharing best practices with new incubators.
2. Plan East Gainesville would like to acquire a building that would provide permanent office space for various non-profit organizations; meeting space for others (state of the art conference rooms for a fee), office/development space for emerging companies (i.e. a general small business incubator and temporary or permanent office space for non-incubated entities), and technology space (staffed computer center) offering revenue producing opportunities for all involved while serving as a center of commerce and pride for the community and emerging company and non-profit participants.
3. The Sid Martin Biotech park Wet labs, office space, conference rooms, a pilot fermentation facility, a small animal facility plus a climate controlled greenhouse and extensive scientific and business equipment and support services combine to create an unparalleled setting for biotech startups. To date, resident Client Companies have raised \$81 million in equity investment.
4. The TechCom and Advanced Food Nutrition research park proposed near Newberry Florida. This facility will utilize patents from a small biotech firm in Gainesville, to create a value-added agricultural business park with an estimated initial investment of \$140 million and over 150 jobs.





## e. Infrastructure Improvements Near I-75 and I-10 Interchanges to Improve Economic Development

Interstate Highway 75 is the gateway into Florida, with over 6.4 million vehicles traveling into Florida using Interstate Highway 75 each year. This Corridor is a portal to the communities of north central Florida, and the interchanges from the state line through Gainesville are critical to the prosperity of the region. Furthermore, the Florida Department of Transportation has identified its Strategic Intermodal System for Florida which includes Interstate Highway 75 and Interstate Highway 10.

Therefore, specific economic development projects which increase infrastructure and the ability to attract businesses to this area are desirable for the Comprehensive Economic Development Strategy Committee. Specific possible projects include:

1. State Road 6 and Interstate Highway 75 interchange in Hamilton County. Businesses have considered this location, but utilities need to be extended to the area to open it up for a series of both retail and industrial improvements. Therefore, the business locating here will leverage significant investment for the whole region.
2. Ellisville site is 294 acres off Interstate Highway 75 at U.S. Highway 41 intersection ¼ mile in Columbia County. This is a good location for logistics and distribution related industries (a Rural Area of Critical Economic Concern target industry). Columbia County officials note there is interest in the site.

## f. Long Range Priorities

In addition to the priority projects listed above, the region will support the following long range projects.

### i. Regional Energy Facilities

As the state grows, there will be a continued need for energy. A proposed energy facility in Taylor County would provide critical energy for growing communities in north and central Florida, and would provide approximately 180 high paying jobs. Additionally, a recent \$20 million bio-fuel plant development grant through the University of Florida is another example of a potential energy generating facility that may be located within the region. Bio-fuels and energy industry classifications are target industries identified by Enterprise Florida and by the Rural Area of Critical Economic Concern.

### ii. Regional Airport Facilities

The Gainesville Regional Airport is part of the state's Strategic Intermodal System and is a key component to economic development in the region. Aviation services and products is also a target industry of the Rural Area of Critical Economic Concern. Thus, rural airparks and the Gainesville Regional Airport's business park expansion in the next few years are long range priorities for the region.



## g. Other Projects

Other projects which were considered for inclusion in the North Central Florida Comprehensive Economic Development Strategy include the following.

### i. Dixie County

The Florida State Prison system is planning to expand, adding an estimated 50 jobs. A parcel of land adjacent to an existing prison could be used to expand the prison and house another business which would create approximately 35 jobs if water, sewer and a paved road could be extended to the area. A total 85 jobs is projected to be created.

### ii. Alachua County Fairgrounds

The City and County are working together to convert existing fairgrounds to a business park, and to create new fairgrounds and a new 50 acre industrial park. This project is located next to Gainesville Regional Airport and will dramatically improve the airport industrial land availability. The existing industrial park is full and business and industrial land within the county is scarce. Timeline: The fairgrounds must be constructed first. No timeline estimate for the business and industrial parks yet.

### iii. Bradford County Keystone Heights Airport

Needs an access road to create a lease based air park with approximately 20 potential parcels.

### iv. Union County Airport

Need road improvements and runway paving near small municipal airports. A company currently located in the county looking to expand and is considering this location. The company is a metal building manufacturer looking to create 200 jobs.

### v. Hamilton County State Road 6 and Interstate Highway 75 Interchange

Businesses have considered this location, but utilities need to be extended to the area..

### vi. Hamilton County Genoa Site

A home builder may locate in this area and provide 75 to 150 jobs. Water and sewer need to be extended.

### vii. Columbia County Ellisville Site

The Ellisville site consists of 294 acres located at the intersection of Interstate Highway 75 at U.S. Highway 41 in southern Columbia County. The site is a good location for logistics- and distribution-related companies (a Rural Area of Critical Economic Concern target industry). Interest in the site has been expressed by private companies.



viii. Columbia County Wastewater Treatment Facility

Several employers have noted that they would like to expand in Columbia County but cannot do so due to limitations in wastewater capacity.

## B. Problems, Needs and Opportunities

The Council identifies the following economic development problems, needs and opportunities.

1. Utilizing its location and natural resources and current labor force, the area possesses many opportunities for tourism development. Currently this area receives a smaller share of tourism than many similar sized land areas in the rest of the state. Thus there is significant opportunity for expansion of its tourism market share.
2. The region is predominantly rural with a relatively small population base. There is a lack of a skilled labor force in the area which may be needed to attract a more diverse set of industries, and may also preclude entrepreneurial development.
3. The region and the state have an established growth management process which directs growth and development to urban areas that have the capacity to accommodate new development.
4. There are few locations in the region that have excess capacity. In addition, not all the urban areas in the region have municipal water and sewer systems.
6. Counties are increasingly developing regional efforts to provide public services, such a system of state-of-the-art sub-regional landfills that have recently become established throughout the District.
7. The District is currently leading an effort to promote a regional tourism program which focuses on multi-county attraction zones.
8. Furthermore, regional and sub-regional alliances are being fostered by the Comprehensive Economic Development Strategies Strategy Committee process, the North Florida Economic Development Partnership program, as well as regional transportation organizations.
9. Cooperative efforts are often difficult because of parochialism on the part of local citizens and officials; however, as more regional "successes" are achieved, this aspect is easier to overcome.
10. The North Florida Economic Development Partnership has named leadership capacity improvement as one of its primary objectives in its early years of formation. Constraint: Rural economic developers and tourism officials often lack the resources and time to attend educational offerings.
11. The Florida Economic Development Council's educational conferences and similar programs provide technical assistance for area economic developers. VISIT FLORIDA and Florida Association of Convention and Visitor's Bureau and similar organizations provide educational opportunities for tourism professionals.

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12. The North Central Florida Regional Planning Council will focus on the following four opportunities.

A. Staffing and Executive Committee participation for the Economic Development Partnership as it coordinates efforts to utilize the Governor's Third Rural Area of Critical Economic Concern. Regarding the Partnership, Planning Council staff will utilize the newly formulated North Florida Economic Development Partnership as the primary economic development partnership for the region. Planning Council staff will be part of the Executive Committee for the new Partnership, based upon the organizational structure of the Rural Area of Critical Concern group, and will continue to provide technical support. Planning Council staff has been integral in the Ad Hoc Committee designed to create an organizational structure, its work plan and regional activities.

B. Staffing The Original Florida Tourism Task Force. The Original Florida Tourism Task Force will focus on reprinting its main collateral piece, the Natural North Florida brochure, as well as continue its highly successful Hidden Treasures campaign. Educational workshops on Agritourism and business development supporting The Suwannee River Wilderness Trail are anticipated.

C. Identifying projects for financial assistance by applying for at least two Economic Development Administration grants throughout the region in the coming year. The Council will continue to identify projects for funding by other agencies as well. The Council will also complete its projects funded through the United States Department of Agriculture, Community Development Block Grant and Florida Recreation Development Assistance Program grants. Finally, the North Central Florida Regional Planning Council will continue to work with the communities in the region to assist them with their projects. Staff will participate on task forces to address specific issues, gather information for grant applications, and help build support for projects as necessary.

Planning Council staff will work with the regional consortium of healthcare and life science providers to advance a planning grant application to increase the availability of healthcare workers in the region.

D. Providing technical assistance. The Planning Council will continue outreach to area local government units. Staff will alert local officials of our ability to provide Regional Economic Models, Incorporated, economic impact analysis, and will continue to respond to general assistance questions, including demographic and other planning related assistance.

Technical assistance will be provided through information based on the needs of local governments. A new form of technical assistance in the coming year is the provision of economic impact modeling using Regional Economic Models, Incorporated, software to help local decision-makers make more informed choices in terms of local incentives, impact fees, or other means of regulating their attempts to attract and retain businesses.



## C. Regional Goals and Policies

**REGIONAL GOAL 2.1.** Diversify the economy of the region and thereby increase the level of employment opportunities and decrease out-migration of productive members of the labor force. This includes non-traditional job sectors and high-skill, high-wage job sectors.

### Regional Indicators

1. In 2003, there were 1,641,000 visitors to the region.
2. In 2003, there were 20,363 professional and high-technical jobs in the region.

**Policy 2.1.1.** Support the efforts of programs such as the Economic Development Administration, University Center and the Florida Information Technology Centers of Excellence, CHOICES academies in high schools, community college banner programs and similar programs.

**Policy 2.1.2.** Encourage completion of necessary market analyses and feasibility studies to attract compatible development in an area to prevent expensive misuse of capital and resources. Provide technical assistance through the use of Regional Economic Models, Incorporated, as a tool in economic development decision-making.

**Policy 2.1.3.** Identify area workforce needs by conducting a business survey of the region every other year.

**Policy 2.1.4.** Promote business incubator programs throughout the region which will create more skilled workforce, opportunities for self employment or entrepreneurship, and higher paying jobs from these grass-roots initiatives and facilitate the expansion of at least one incubator, and add one incubator to the region.

**REGIONAL GOAL 2.2.** Encourage and guide infrastructure development into those areas where needed, and where development would not place undue strain on those aspects of the region that are already overloaded, and increase by three the number of communities in the region with centralized sanitary sewer systems.

### Regional Indicators

1. As of 2008, twelve of the 33 north central Florida incorporated municipalities do not have a municipal wastewater treatment facility.
2. As of 2008, three of the 44 north central Florida local government comprehensive plans contain an Economic Development Element.

**Policy 2.2.1.** Growth management laws and rural sprawl reduction must be considered in prioritization of infrastructure projects.

**Policy 2.2.2.** Provide technical assistance for government units desiring the addition of economic development elements to their comprehensive plans.

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**REGIONAL GOAL 2.3.** Encourage regional or multi-county cooperation wherever possible to avoid unnecessary and expensive duplication and to lower cost for each party involved.

**Regional Indicator**

As of 2008, the Planning Council provides staff support to one multi-county economic development organization.

**Policy 2.3.1.** Continue to assist in the establishment regional and sub-regional tourist attractions and regional economic development initiatives.

**REGIONAL GOAL 2.4.** Support educational and leadership capacity building programs for economic development and tourism industry within the region and graduate 25 persons from economic development leadership academy annually.

**Regional Indicator**

In 2008, 19 persons graduated from the economic development leadership academy.

**Policy 2.4.1.** Continue to support regional educational and capacity building workshops for economic development and hospitality industries through sponsoring at least one educational/entrepreneurial workshop annually.



# Chapter III

## Emergency Preparedness

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# Chapter III: Emergency Preparedness

## A. Conditions and Trends

### 1. Introduction

It was a cool, windy Friday, typical of the month of March in north central Florida. The National Weather Service was predicting the possibility of severe storms, particularly in Dixie and Taylor counties. Still, the weather forecast was nothing out of the ordinary and life went on as usual in the coastal fishing communities dotting Dixie and Taylor counties. Residents went to bed early, as they usually do in anticipation of an early morning fishing excursion. The rain came down hard with plenty of wind. It was so windy that electricity and telephone service was knocked out. Yes, it was a big storm, but how bad could it be? After all, it wasn't hurricane season and no evacuation order had been issued.

Hud Lillion and Laurie O'Quinn from the unincorporated Taylor County coastal community of Dekle Beach remember the night well. "After watching the water for a while I went to bed," said Hud. "I woke up about 2:00 a.m. and looked out and saw water up on the tires of my truck but it didn't particularly alarm me, so I went back to bed. Laurie woke up about 2:30 a.m. and told me Louis Lanier's house was gone and so was my truck. I knew then that this was more than just a storm, so we moved to the back of the house. Every wave that came in was knocking the boards up in the floor. I told Laurie we had to get out. I made my way to the back door. I fell through the floor two or three times. I couldn't hardly get the door open because of the wind and the door started smashing Laurie's hand."

"We finally got out on the deck, then everything started collapsing so we jumped. We swam across the road to a home that was still standing and managed to get up on the deck. We managed to get inside and tried to find some life jackets, then that house started crumbling but we managed to get on the roof. A wave came and knocked off the roof. We grabbed hold of a board and floated up to Carlton Hamilton's home. It was still dark then, about 5:30 a.m. We stayed there for some minutes. Mrs. Sapp was there holding a baby.<sup>1</sup> We all huddled together to try and stay warm but we were freezing. Fred Morgan and Tom Geohagen came wading in waist deep water. The wind was still blowing about 65 mph. They took us to Craig and Ruth Harvey's house where some other people had gathered and there was a fire in the fireplace. We were just glad to be alive."<sup>14</sup> At 5:42 a.m. a weather forecaster in Tampa went on a statewide emergency radio network to issue a flood warning.<sup>15</sup>

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<sup>1</sup>O'Quinn floated until she was able to grab another house, and that's when the woman swam by with a baby in her arms. 'She said, 'help me, my baby is dead,' and we just stood there and hugged each other until Fred and Tom came and got us out.' "Counting People Instead of Bodies," [Gainesville Sun](#), March 15, 1993.

<sup>14</sup>[TaCo Times](#), Perry, Florida, March 17, 1993

<sup>15</sup>"Why the Delay in Storm-Surge Warning?" [Gainesville Sun](#), March 19, 1993.



John Robertson was huddled in his travel trailer, listening to the rain and reading a mystery novel, when the owners of the nearby Keaton Beach Marina knocked on his door and told him he should join them in the marina's second-floor living quarters. "I'm 6-foot-4 and by the time I got to the marina I was swimming," Robertson said. "There is total destruction here. Just about everything is lost." Marina co-owner Brad Beach said a tidal surge caused the water to rise about 6 feet in 20 minutes before dawn Saturday, and it ebbed just as quickly. During its short stay, the surge crumbled concrete foundations, flooded buildings, immersed vehicles and took homes, docks, and other structures with it as it retreated. "I never saw anything like it in my life," Beach said, "It took just 20 (minutes) to get 6 feet, and then there were 4- to 5-foot waves on top of it. Houses finally floated away."<sup>16</sup>

In just 20 minutes Saturday morning, March 13, 1993, north central Florida coastal residents went from just another spring storm to the Storm of the Century. The storm devastated the region's entire coastline. Fully 25 percent of the region's coastal homes were destroyed and another 25 percent were damaged. Dixie County was lucky. No one died. Taylor County was not. Ten people drowned. On March 13th, President Clinton declared Florida a disaster area.

Predicting the severity of the storm and the height of the tide surge was difficult for the National Weather Service. The storm could not have occurred except for a unique set of circumstances. The storm developed suddenly late Friday as incoming Arctic air collided with a warm air stationary front over the Gulf of Mexico. The difference in temperature between the two air masses was estimated at 50 degrees. The dramatic contrast in air temperatures allowed the storm to develop very rapidly. A dramatic drop in barometric pressure followed. The storm produced the lowest barometric pressure ever recorded in the City of Tallahassee. Drops in barometric pressure are normally associated with tropical storms, which this was not. The drop in barometric pressure led to high winds. The region experienced a high tide when the storm hit land. These factors combined to produce a storm surge that surpassed forecasters predictions.<sup>17</sup>

Dixie and Taylor County coastal residents were unlikely to hear an evacuation warning had the weather service issued one. Neither Dixie nor Taylor County officials had access to the National Warning System radio network. Both counties were outside the range of the National Oceanic and Atmospheric Administration weather radio station network and neither county had emergency sirens.

## 2. Planning for Coastal Storms

As a result of the Presidential disaster declaration for the Storm of the Century, the President activated an Interagency Hazard Mitigation Team to identify areas of significant hazards, visit sites, and evaluate the impact of the disaster. The team was comprised of representatives of federal, state, regional, and local agencies who possess the varied backgrounds and expertise necessary to promote a comprehensive approach to hazard mitigation. The team issued a report containing 25 recommendations which describe the actions, time-lines, and potential funding sources necessary to reduce future losses from similar events. Among the team's findings were recommendations for the installation of additional weather monitoring equipment in coastal areas to help weather forecasters better predict storm events as well as a better warning system for coastal residents.

<sup>16</sup>"Taylor County Beach Residents Return to Ruins," [Gainesville Sun](#), March 16, 1993.

<sup>17</sup>"Weather Still Hard to Predict," [Gainesville Sun](#), March 17, 1993.



North central Florida National Oceanic and Atmospheric Administration weather radio signals coverage has been significantly expanded since the Storm of the Century. Computer-generated National Oceanic and Atmospheric Administration weather radio coverage maps developed by the National Oceanic and Atmospheric Administration suggest that, with the exception of a small area parallel to Interstate 10 in Madison County, all of north central Florida is covered by at least one of the weather radio stations identified in Table 3.1, below.

**TABLE 3.1**

**NORTH CENTRAL FLORIDA  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
WEATHER RADIO COVERAGE**

Location	Station	Broadcast Frequency	Counties Covered or Partially Covered
Lake City	KEB-97	162.400mHz	Alachua, Bradford, Columbia, Gilchrist, Hamilton, Lafayette, Suwannee, Union
Tallahassee	KIH-24	162.400mHz	Madison, Taylor
Palatka	WNG-522	162.425mHz	Alachua, Bradford
Salem (Taylor County)	WWF-88	162.425mHz	Dixie, Lafayette, Madison, Suwannee, Taylor
Morristown (Levy County)	KWN38	162.55mHz	Alachua, Bradford, Columbia Dixie, Gilchrist, Hamilton, Lafayette, Taylor, Union
Gainesville	WXJ-60	162.475mHz	Alachua, Bradford, Columbia, Dixie, Gilchrist, Lafayette, Suwannee, Union
Valdosta, GA	WWH-31	162.500mHz	Hamilton, Madison, Suwannee
Ocala	WWF-85	162.525mHz	Alachua

Source: [www.nws.noaa.gov/nwr/usframes.html](http://www.nws.noaa.gov/nwr/usframes.html), November 2010.

The National Oceanic and Atmospheric Administration weather radio website notes that the coverage maps were calculated using a computer model and station data using ideal weather conditions. The National Oceanic and Atmospheric Administration notes that coverage may be 5 to 10 percent less than indicated by the maps. Suwannee County Emergency Management personnel have noted that, since the Live Oak National Oceanic and Atmospheric Administration weather radio station was moved to Lake City in 2004, Suwannee County does not receive reliable coverage west of U.S. Highway 129, at least during periods of inclement weather. Upgrading the existing 300-watt National Oceanic and Atmospheric Administration

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weather radio station in Lake City to a 1,000-watt station may provide the necessary coverage for the remaining unserved areas of Suwannee County.

During the Storm of the Century, the statewide emergency warning system consisted of a dedicated telephone system linking federal and state weather forecasters with local governments. The system allows for two-way conversation similar to a telephone system party-line. Few local governments in north central Florida were connected to this system due to its high installation and maintenance costs. A sophisticated satellite-based communications system has replaced it, linking emergency management agencies throughout the state to provide voice, high-speed data, facsimile, and video communications capabilities. It is more reliable than the National Warning System since it is not dependent upon telephone lines and will perform under any weather conditions. The system has been installed in every county, solving a missing link in north central Florida emergency management capabilities.

At the time of the storm, no weather buoys or other government-owned weather monitoring instruments were located in the Gulf of Mexico off the Big Bend coastline. Weather buoys provide valuable information regarding temperature, wind speed, wind direction, and barometric pressure. Meteorologists can run computer models that predict storm surge height based upon these factors.

Storm surge increases in height as it nears land. As of November , 2010, one Coastal-Marine Automated Network coastal weather station is located in Keaton Beach, three weather buoys are located between 51 and 100 miles of Steinhatchee, two weather buoys are located between 101 and 150 miles of Steinhatchee, and four weather buoys are located in the Gulf of Mexico between 151 to 175 miles of Steinhatchee. However, no weather buoys are located in the Gulf of Mexico between 10 and 50 miles of Steinhatchee.

Dixie and Taylor counties have four small coastal communities: the unincorporated coastal communities of Jena-Steinhatchee, Dekle Beach-Keaton Beach, Suwannee, and the incorporated Town of Horseshoe Beach. Warning sirens can be useful means of notifying community residents of storm warnings and evacuation orders when other forms of communication fail. During the Storm of the Century, none of these communities had warning sirens. As of November 2010, four north central Florida coastal communities (Horseshoe Beach, Dekle Beach, Keaton Beach, & Steinhatchee) had emergency warning sirens. The unincorporated communities of Suwannee and Jena do not have sirens, However, Dixie County has installed a "Reverse 911" notification system which is capable of notifying Dixie County coastal residents who have telephone service of approaching coastal storms.

As was evident in the Storm of the Century, the greatest danger to coastal areas is the storm surge, a 20- to 100-mile wide wall of water generated by high winds, hurricane forward velocity, and sharp changes in barometric pressure present in coastal storms. Storm surges cause nine out of ten hurricane fatalities. Dixie and Taylor counties are among the most susceptible counties in the state and, perhaps, the nation, to inundation from storm surge. This is due to the geomorphology and the bathymetry of the Gulf of Mexico. Dixie and Taylor counties are located near the Florida panhandle where the coast curves west, creating a corner which can trap sea water. Along a straight coastline, the surge can dissipate more easily by flowing parallel to the coastline. However, in Dixie and Taylor counties, the seawater is trapped in Apalachee Bay where it piles up rather than flows out. The bathymetry, or sea bottom topography, of the gulf of Mexico is much shallower than most other U.S. coastal basins. A shallow basin can increase surge height by as much as 80 percent.<sup>18</sup>

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<sup>18</sup>North Central Florida Regional Planning Council, 1990 North Central Florida Regional Hurricane Inland Shelter Study Technical Report Update, Gainesville, Fl., 1990, pg. 10.



The potential loss of life and property damage due to hurricanes in Dixie and Taylor Counties is minimized due to their small populations and large coastal land holdings in public ownership. The 2008 Dixie County estimated population was 15,965, while 2008 Taylor County estimated population was 23,199. Population density is low in these counties. The 2008 Dixie County population density was 23 persons per square mile, ranked at 62 among Florida's 67 counties. Taylor County had an estimated 2008 population density of 22 persons per square mile, ranked at 64th among Florida's counties.<sup>19</sup> Additionally, approximately two-thirds of the Dixie and Taylor counties coastline is in public ownership.

### a. Clearance Times and Shelter Capacities

In 2010, the North Central Florida Regional Planning Council completed a hurricane evacuation study for the region. The 2010 hurricane evacuation study reports average clearance times by "Level." A "level" is comparable to the Category 1-5 Saffir-Simpson Hurricane classification system, with Level A comparable to a Category 1 hurricane and a Level E hurricane comparable to a Category 5 hurricane.

The 2010 hurricane evacuation study also identified clearance times to three separate destinations: Clearance Time to Shelter; In-County Clearance Time, and Out of County Clearance Time. Clearance Time to Shelter refers to the time necessary to safely evacuate vulnerable residents and visitors to a "point of safety" within the county based on a specific hazard, behavioral assumptions and evacuation scenario. Calculated from the point in time when the evacuation order is given to the point in time when the last vehicle reaches a point of safety within the county. In-County Clearance Time refers to the time required from the point an evacuation order is given until the last evacuee can either leave the evacuation zone or arrive at safe shelter within the county (excludes evacuees leaving the county, on their own). Out of County Clearance Time refers to the time necessary to safely evacuate vulnerable residents and visitors to a "point of safety" outside the county. It is calculated from the time an evacuation order is given to the time when the last vehicle assigned an external destination exits the county.

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<sup>19</sup>Bureau of Economic and Business Research, 2009 Florida Statistical Handbook, University Press of Florida, Gainesville, FL., 20010, Table 1.14.



**TABLE 3.2**  
**2010 CLEARANCE TIMES FOR BASE SCENARIO**

County	Clearance Times by Level (in Minutes)				
	Level A	Level B	Level C	Level D	Level E
<b>Clearance Time to Shelter</b>					
Dixie	11.0	11.0	11.0	11.5	11.5
Taylor	11.5	11.5	12.5	12.5	12.0
<b>In-County Clearance Time</b>					
Dixie	11.5	11.5	11.5	12.5	12.5
Taylor	12.5	12.5	12.5	13.0	13.0
<b>Out of County Clearance Time</b>					
Dixie	12.0	12.0	12.0	12.5	13.0
Taylor	13.5	13.5	13.0	13.5	13.5

Source: 2010 Statewide Regional Evacuation Study for the North Central Florida Region, Volume 1: Technical Data Report, North Central Florida Regional Planning Council, June 2010.

Table 3.3 below identifies risk shelter capacities for north central Florida counties.



TABLE 3.3

**NORTH CENTRAL FLORIDA PUBLIC SHELTER CAPACITY  
USING AMERICAN RED CROSS PUBLIC SHELTER GUIDELINES**

County	Number of Shelters	Risk Shelter Capacity American Red Cross 4496 Compliant	Category 4/5 Shelter Demand	Category 4/5 Shelter Surplus/ (Deficit)	Persons with Special Needs Storm Capacity	Persons with Special Needs Storm Demand	Persons with Special Needs Surplus/ (Deficit)
<b>Alachua</b>	24	6,451	9,576	(3,125)	534	2,450	(1,916)
<b>Bradford</b>	10	1,462	2,294	(832)	197	136	61
<b>Columbia</b>	21	4,661	6,337	(1,676)	0	76	(76)
<b>Dixie</b>	15	2,051	2,562	(511)	84	55	29
<b>Gilchrist</b>	9	3,243	2,170	1,073	102	52	50
<b>Hamilton</b>	12	1,397	1,537	(140)	101	10	91
<b>Lafayette</b>	8	570	1,185	(615)	60	1	59
<b>Madison</b>	21	4,487	1782	2,705	28	30	(2)
<b>Suwannee</b>	22	3484	5768	(2,284)	50	81	(31)
<b>Taylor</b>	17	3,623	2,576	1,050	0	142	(142)
<b>Union</b>	13	1,251	1,277	(26)	33	82	(49)
<b>Region</b>	172	32,680	37,064	(4,381)	1,189	3,115	(1,926)

Source: 2010 Statewide Emergency Shelter Plan, Florida Division of Emergency Management, January 31, 2010.



### 3. Riverine and Freshwater Flooding

The Suwannee River System has a broad, expansive floodplain which is regularly inundated in response to spring rains.<sup>20</sup> The Suwannee River Water Management District, in conjunction with the Federal Emergency Management Agency, has mapped the 100-year floodplain of the Suwannee River System in order to assist local governments with management of the floodplain. Many local governments within the region have adopted floodplain ordinances for the Suwannee River System to regulate the construction and location of structures within the 100-year floodplain.

Every north central Florida county adjacent to the Suwannee River System has, and requires through their comprehensive plans, low dwelling unit densities within the floodplain. The comprehensive plans of north central Florida local governments limit rural floodplain dwelling unit densities to one unit per five acres and one unit per ten acres. Six small urban areas (Branford, Dowling Park, Fanning Springs, Old Town, Suwannee, and White Springs) are located within the Suwannee River 100-year floodplain. Within these urban areas, the maximum allowable residential density within the floodplain is four units per acre.

Along the major tributaries of the Suwannee (Alapaha, Santa Fe, and Withlacoochee Rivers), dwelling unit densities within the 100-year floodplain are also limited to one unit per five acres and one unit per ten acres. No north central Florida municipalities or urban areas are located within the 100-year floodplains of these rivers. The 100-year floodplains of the region's regionally significant coastal rivers (Aucilla, Econfinia, and Steinhatchee) are similarly protected with maximum allowable dwelling unit densities ranging from one unit per five acres to one unit per ten acres. Only one urban area, the unincorporated town of Steinhatchee, is within the 100-year floodplain of a coastal river (the Steinhatchee River).

In addition to the Suwannee River System, the Federal Emergency Management Agency has prepared maps which identify flood hazard areas for all unincorporated areas of the region as well the region's incorporated municipalities. As of November 2010, 39 of the region's 41 local governments with mapped flood hazard areas within their jurisdiction participated in the National Flood Insurance Program. Participation in the program makes federal flood insurance, the only flood insurance in the nation, available for properties located within the 100-year floodplain. All north central Florida local governments with floodable areas within their jurisdiction, regardless of whether they participate in the National Flood Insurance Program, have comprehensive plans which identify floodable areas and contain policies which address flood management.

### 4. Tornadoes

Between 1950 and 2007, tornadoes have touched down in north central Florida resulting in one death and 59 injuries.<sup>21</sup> Tornadoes occur most frequently in the region during the months of May through August, with June as the peak month. However, tornadoes can occur year-round. Currently, there is no accurate way to predict where or when a tornado will "touch down." Due to their violent nature and the increasing number of mobile homes locating in the region, the probability of property damage and deaths due to tornadoes is increasing.

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<sup>20</sup>The Suwannee River System consists of the Suwannee River and its major tributaries the Alapaha, Santa Fe, and the Withlacoochee rivers.

<sup>21</sup>Tornado History Project, March 24, 2009, <http://www.tornadohistoryproject.com>.





While mobile homes are of special concern, all north central Florida buildings are vulnerable to tornado damage. Few conventionally-built homes in the region have basements or underground tornado shelters due to a high water table which makes their construction impractical. None of the region's local governments require construction of tornado shelters or safe rooms for large shopping malls, schools, hospitals, or mobile home parks. The construction of safe rooms may be financially infeasible given the level of risk.

Improvements have been made to the region's tornado warning system. The National Weather Service installed Doppler weather radar at its Jacksonville and Tallahassee weather stations in 1995 as part of a nationwide modernization program. These locations provide Doppler weather radar information for all eleven north central Florida counties. Doppler radar is a significant improvement over the older weather radar system. Under the old system, meteorologists had to identify tornadoes based on certain visual patterns displayed on the radar screen. Doppler radar detects wind directions and wind velocities at a high degree of resolution within a storm. In addition to displaying radar data on a screen, Doppler radar data is fed to a computer which helps meteorologists understand the storm's dynamics. Meteorologists at the Jacksonville weather station believe Doppler radar allows the National Weather Service to issue tornado warnings ten to 15 minutes earlier than they could using the prior system. Accuracy is also increased. In June, 1995's, Hurricane Allison, the Jacksonville weather station identified 16 of the 17 tornadoes which occurred within their area of jurisdiction. According to Al Sandrick, a meteorologist stationed at the Jacksonville National Weather Service station, "We would never have imagined achieving that type of accuracy with the old radar system."

## 5. Regionally Significant Emergency Preparedness Facilities

The facilities listed in Table 3.4 are recognized as regionally significant facilities.<sup>22</sup>

**TABLE 3.4**

### **REGIONALLY SIGNIFICANT EMERGENCY PREPAREDNESS FACILITIES**

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Alachua County Emergency Operations Center  
 Public Emergency Shelters  
 NOAA Radio Stations  
 Weather Buoys and Similar Off-shore Weather Monitoring Equipment  
 Doppler Weather Radar Installations Covering the Region  
 Warning Sirens in Coastal Communities  
 Gainesville Fire Rescue Hazardous Materials Emergency Response Team

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Source: North Central Florida Regional Planning Council, 2010.

<sup>22</sup>Hurricane evacuation routes recognized as regionally significant transportation facilities are listed in Table 5.8. North central Florida regionally significant facilities and resources, as defined in Rule 27E.005, [Florida Administrative Code](#), consist of Regionally Significant Emergency Preparedness Facilities identified in Table 3.4, Natural Resources of Regional Significance identified in Table 4.1, Regionally Significant Transportation Facilities identified in Table 5.8, and Regionally Significant Facilities and Resources, identified in Section VI.

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## 6. Hazardous Materials Releases

Under contract with the Florida Division of Emergency Management, the North Central Florida Regional Planning Council serves as staff to the North Central Florida Local Emergency Planning Committee. The North Central Florida Local Emergency Planning Committee was established in 1988 in response to the federal Emergency Planning and Community Right-to-Know Act which requires the preparation of local emergency response plans for hazardous materials releases which, for the State of Florida, have been developed utilizing the eleven regional planning council districts.<sup>23</sup> The North Central Florida Local Emergency Planning Committee is composed of representatives of 17 different occupational categories. Membership is also distributed geographically to assure that each of the region's eleven counties has at least one resident serving as a member. Committee members are appointed by the State Emergency Response Committee.

The local emergency response plan for north central Florida was adopted by the Committee on June 9, 1989, is updated annually. The North Central Florida Local Emergency Planning Committee emergency response plan identifies locations of possible hazardous materials releases based upon known locations of hazardous materials. The plan also delineates vulnerable zones.<sup>24</sup>

In addition to the emergency response plan, the North Central Florida Local Emergency Planning Committee is also involved in establishing training programs, conducting emergency response exercises, providing public information campaigns, and other activities aimed at minimizing risks from hazardous materials releases.

Given the rural nature of north central Florida and the large populations located south of the region, it is likely that the biggest hazardous materials emergencies involving unknown chemicals could result from releases from trucks and trains passing through the region. In 2003, the Local Emergency Planning Committee conducted a hazardous materials commodity flow study. The study was used to identify the most common chemicals transported through the region. The information helps guide the selection of hazardous materials training classes as well as planning efforts by the Local Emergency Planning Committee. The commodity flow study looked at transportation on Interstate Highways 10 and 75, as well as U.S. Highways 19 and 301. The most common hazardous materials identified in the study included flammable liquids, toxic and corrosive noncombustible substances, water-miscible, flammable liquids and other toxic or corrosive substances.

When a hazardous materials release occurs, a local fire department or other local government personnel arrive at the scene and determine if local resources can deal with the release. If the incident requires greater than local resources, the local government contacts one of the region's regional response teams.

No regional hazardous materials response team is located within a sixty minute response time of Perry or Greenville. North Central Florida Regional Hazardous Materials Response Team members are located in the City of Alachua, Lake City, Gainesville, Starke and Fanning Springs, and Dixie County. Response times to all eleven counties by at least one of the regional hazardous materials response teams is 60 to 90 minutes. The District 2 Regional Domestic Security Task Force has hazmat response capabilities located in

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<sup>23</sup>Although referred to as a local plan, it is, in fact, a regional plan which addresses all eleven north central Florida counties.

<sup>24</sup>Vulnerable zones are areas where the estimated chemical concentration from an accidental release is at a level where people's health could be adversely impacted during a worst-case release.



Tallahassee that also provide coverage to Madison and Perry. However, the response times to Perry, Cross City, and Greenville are still in excess of 60 minutes.

There are areas of north central Florida where the closest hazardous materials response team is in either Valdosta, Georgia or Dothan, Alabama. The Local Emergency Planning Committee has been working to establish a tri-state hazardous materials mutual aid agreement. As of 2010, an agreement has not been adopted by all of the parties. Nevertheless, cross-state hazardous materials response is occurring in the absence of an agreement.

## 7. State Emergency Management Efforts

In the aftermath of 1992's Hurricane Andrew, the state revitalized its efforts in emergency preparedness planning, especially for hurricanes. After Andrew, the Governor's Disaster Planning and Response Review Committee was established to identify problems with statewide disaster preparedness and recommend improvements. In a report commonly known as the Lewis Report after Committee Chairman Philip D. Lewis, the Committee made 99 recommendations as to how the state could improve its ability to handle emergencies.<sup>25</sup> The Committee identified five key recommendations: improve communications at and among all levels of government; strengthen plans for evacuation, shelter, and post-disaster response and recovery; enhance intergovernmental coordination; improve training; and provide sufficient funding for the development of emergency management plans and activities.

The major recommendations of the Lewis report were incorporated into amendments to the State Emergency Management Act (Chapter 252, Florida Statutes). Formerly, the act required the preparation of three, and sometimes four, county emergency management plans: a Peacetime Emergency Plan, a Nuclear Civil Protection Plan, a Hazardous Materials Emergency Plan, and a Radiological Emergency Plan for counties located within 50 miles of a nuclear power plant. These plans are now consolidated into a single Comprehensive Emergency Management Plan. Nuclear civil protection planning was de-emphasized due to the greater likelihood of emergencies resulting from other events. Another major change to the legislation was the creation of the Emergency Management Preparedness and Assistance Trust Fund from surcharges on residential and commercial property insurance policies. Funds from the trust are used to support the Florida Division of Emergency Management, as well as local government emergency preparedness agencies. The trust fund allowed, by 1994, every north central Florida county to hire a full-time emergency management director.<sup>26</sup>

## 8. Local Government Comprehensive Emergency Management Plans

Rule 9G-6, Florida Administrative Code, requires local governments to prepare revised Comprehensive Emergency Management Plans which meet the requirements of rule 9G-7, Florida Administrative Code. The county Comprehensive Emergency Management Plan is to provide a detailed description of the process to be followed at the local level whenever an emergency or disaster occurs as a result of natural or manmade causes. Such emergencies include, but are not limited to: tornadoes, hurricanes, wind storms, floods,

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<sup>25</sup>Governor's Disaster Planning and Response Review Committee, Draft Final Report, Executive Office of the Governor, Tallahassee, FL, December 2, 1992.

<sup>26</sup>With the exception of Madison County, every north central Florida county has a full-time emergency management director.



freezes, electrical generating capacity shortages, drought, hazardous materials releases, and civil disturbances. Each county Comprehensive Emergency Management Plan is required to address the following 17 emergency support functions: animal services, communications, energy, fire fighting, food and water, hazardous materials, health and medical services, information and planning, law enforcement and security, mass care, military support, public works and engineering, public information, resource support, transportation, search and rescue, and volunteers and donations. County Comprehensive Emergency Management Plans are submitted to the Florida Division of Emergency Management for compliance review.

## 9. Mutual Aid Agreements

Most north central Florida local governments have not entered into formal mutual aid agreements with their neighbors. If a north central Florida local government requires assistance, it merely calls and their neighboring local government responds. Few such requests have been made, and where they occurred, in the spirit of cooperation, local governments did not charge the requesting local government to cover the costs of the request. However, in an age of increasingly tight local government budgets, the need for more specialized regional response teams, and concerns regarding liability issues, formal mutual aid agreements are becoming increasingly important to assure assistance is available.

Mutual aid agreements provide greater assurances that assistance will be provided, when available, by other local governments. An agreement can decrease the time required by local governments to exchange resources during an emergency without the delay of declaring a formal “state of emergency.” This is especially important due to the short timeframes associated with hazardous materials releases.

The State Emergency Management Act authorizes the Division of Emergency Management to develop and enter into mutual aid agreements. The Division has prepared a statewide mutual aid agreement and is requesting all local governments to adopt the agreement.

The statewide agreement allows for reimbursement to assisting local governments for most incurred costs from the Emergency Management Preparedness and Assistance Trust Fund as well as from the requesting local government. The agreement also establishes a supervision and control structure for assisting local government personnel and resources at the scene of the emergency, formalizes procedures for making emergency assistance requests, and resolves other mutual aid issues. As of January 2011, 41 of the region’s 44 local governments had adopted the agreement.

## B. Problems, Needs and Opportunities

The Council identifies the following emergency preparedness problems, needs, and opportunities:

1. A need exists for an additional National Oceanic and Atmospheric Administration weather station radio to better serve Suwannee County.
2. A need exists for additional weather monitoring buoys or other meteorological instruments in the Gulf of Mexico between 10 and 50 miles of Steinhatchee.
3. A need exists for the installation of emergency warning sirens in north central Florida coastal communities.

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4. An opportunity exists to make flood hazard insurance available within all north central Florida local government jurisdictions.
5. A need exists to reduce the response times of regional hazardous material response teams to hazardous materials emergencies to 60 minutes in Perry and Greenville.
6. Both a need and an opportunity exist for all north central Florida local governments to receive assistance from other local governments during emergencies by becoming signatories to the Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery.

## C. Regional Goals and Policies

**REGIONAL GOAL 3.1.** Improve emergency preparedness for coastal storms in the region.

### Regional Indicators

1. As of 2010, one Coastal-Marine Automated Network coastal weather station is located in Keaton Beach, no weather buoys are located in the Gulf of Mexico between 10 and 50 miles of Steinhatchee, three weather buoys are located between 51 and 100 miles of Steinhatchee, two weather buoys are located between 101 and 150 miles of Steinhatchee, and four weather buoys are located in the Gulf of Mexico between 151 to 175 miles of Steinhatchee.
2. As of 2010, National Oceanic and Atmospheric Administration weather radio transmissions covered approximately 96.5 percent of the region.
3. As of 2010, eight National Oceanic and Atmospheric Administration weather radio stations serve north central Florida.
4. As of 2010, four north central Florida coastal communities (Horseshoe Beach, Dekle Beach, Keaton Beach, & Steinhatchee) had emergency warning sirens.
5. As of 2010, Dixie County had a Level E In-county clearance time of 12.5 hours.
6. As of 2010, Taylor County had a Level E In-county clearance time of 13.0 hours.
7. As of January 31, 2010, the American Red Cross 4496-Compliant Risk Public Shelter Capacity for the region was 32,680.

**Policy 3.1.1.** Install weather monitoring buoys or other meteorological instruments at 100, 50, and 10 mile locations in the Gulf of Mexico spaced approximately 50 miles apart along the west Florida coastline from Pinellas to Franklin counties.

**Policy 3.1.2.** Establish National Oceanic and Atmospheric Administration weather radio station radio coverage for all of north central Florida.

**Policy 3.1.3.** Establish emergency warning sirens for north central Florida coastal communities.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**Policy 3.1.4.** Maintain up-to-date hurricane evacuation and inland hurricane shelter plans for north central Florida.

**Policy 3.1.5.** With the exception of enhancements necessary for the health, safety, and welfare of its residents, avoid the expenditure of state funds that subsidize development in Coastal High Hazard Areas.

**Policy 3.1.6.** Complete public shelter surveys to determine their compliance status with American Red Cross Publication 4496 guidelines in order to determine the public shelter Risk Capacity for the region.

**Policy 3.1.7.** Determine the public shelter Risk Capacity net surplus/deficit for all north central Florida counties.

**Policy 3.1.8.** Encourage local governments to include in their comprehensive plans to require an analysis of public shelter capacity and evacuation times of new development locating within the Coastal High Hazard Area and within coastal storm evacuation areas to ensure that such development is adequately notified of an approaching storm, evacuated in a timely fashion and does not adversely impact public shelter capacity.

**REGIONAL GOAL 3.2.** Participation by all north central Florida local governments in the National Flood Insurance Program.

#### **Regional Indicators**

1. As of 2010, 39 of the 41 local governments in the region with mapped flood hazard areas within their jurisdictions participated in the National Flood Insurance Program.
2. As of 2010, National Flood Insurance Rate Maps are available for all north central Florida local governments.
3. As of 2010, two north central Florida local governments do not contain mapped flood hazard areas within their jurisdictions.

**Policy 3.2.1.** Maintain local government eligibility for the Federal Emergency Management Agency Flood Insurance program.

**Policy 3.2.2.** Assist non-participating north central Florida local governments whose jurisdictions contain floodable area to become eligible and apply for the National Flood Insurance Program.

**Policy 3.2.3.** Request the Federal Emergency Management Agency to prepare National Flood Insurance Rate Maps for north central Florida municipalities for which such maps have not been prepared.

**REGIONAL GOAL 3.3.** Reduce response times of regional hazardous materials response teams to 60 minutes for hazardous materials emergencies in Perry and Greenville.

#### **Regional Indicators**

1. As of 2010, a hazardous materials commodity flow study was completed to determine the types and amounts of hazardous materials moving via highways in the region.



2. As of 2010, North Central Florida Regional Hazardous Materials Response Team members are located in the Cities of Alachua, Fanning Springs, Gainesville, Lake City, Starke and Dixie County.

**Policy 3.3.1.** Establish a regional hazardous materials response team in or near the City of Perry.

**Policy 3.3.2.** Provide state funding for regional hazardous materials emergency response teams.

**Policy 3.3.3.** Promote coordination among Valdosta, Georgia, Dothan, Alabama, Tallahassee, Florida and north central Florida local governments to provide hazardous materials emergency response services with response times of 60 minutes or less to Madison County.

**REGIONAL GOAL 3.4.** Improve the ability of emergency response teams to respond to hazardous materials emergencies.

#### **Regional Indicators**

1. As of 2010, a hazardous materials commodity flow study was completed to determine the types and amounts of hazardous materials moving via highways in the region.
2. As of 2010, no commodity flow studies have been undertaken to determine the types and amounts of hazardous materials moving via railroads in the region.

**Policy 3.4.1.** Conduct a commodity flow study to determine the types and amounts of hazardous materials moving via railroads located in the region.

**Policy 3.4.2.** Continue to provide technical assistance to local governments in the preparation of their hazardous materials response plans.

**Policy 3.4.3.** Continue to serve as staff to the North Central Florida Local Emergency Planning Committee.

**Policy 3.4.4.** Provide local emergency dispatch operators with a summary of hazards analysis information so as to inform responders as to what types of hazardous materials at the scene of the emergency.

**Policy 3.4.5.** Provide training to local emergency personnel for dealing with hazardous materials emergencies.

**Policy 3.4.6.** Keep the general public informed of potential hazardous materials dangers facing their communities by promoting annual hazardous materials spill prevention week programs.

**REGIONAL GOAL 3.5.** All north central Florida local governments are signatories to the Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery.

#### **Regional Indicator**

As of January 2011, 41 north central Florida local governments have adopted the Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery.

**Policy 3.5.1.** Actively promote north central Florida local governments to adopt the statewide mutual aid agreement for catastrophic disaster response and recovery.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



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# Chapter IV

## Natural Resources of Regional Significance



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# Chapter IV: Natural Resources of Regional Significance

## A. Conditions and Trends

### 1. Introduction

North central Florida is one of the largest planning districts in the state in terms of area yet one of the smallest in terms of population. As a result, the region has large expanses of undeveloped areas and unspoiled natural resources. The region consists of 6,813 square miles, all of which is classified by the Council as a Natural Resource of Regional Significance.<sup>1</sup>

Natural resources of regional significance are natural resources or systems of interrelated natural resources, which due to their function, size, rarity, or endangerment, provide benefits of regional significance to the natural or human environment.<sup>2</sup> They consist of both coastal and inland wetlands, rivers and their associated floodplains, large forested areas, lakes, springs, the Floridan Aquifer, and land areas with the potential to adversely affect the water quality of the aquifer (stream-to-sink watersheds and high recharge areas). High priority habitat of listed species is also recognized as a Natural Resource of Regional Significance.<sup>3</sup>

Regionally significant natural resources play important roles in the region's economy and quality of life. Drinking water for most residents is drawn from the Floridan Aquifer. The Suwannee-Santa Fe river system and fresh water wetlands serve a valuable role in regulating surface water runoff and flooding. The salt marsh provides a valuable breeding ground for many varieties of commercial seafood. Commercial forest lands play an important role in the regional economy, while public lands provide valuable resource-based recreation for north central Florida residents. Both private and public lands provide important habitats for the survival of native plant and animal species. Nearly all identified Natural Resources of Regional Significance play, or can play, an important role in the region's budding ecotourism industry.

The mission of the North Central Florida Regional Planning Council is to improve the quality of life of the Region's citizens by coordinating growth management, protecting regional resources, promoting economic development and providing technical services to local governments. The North Central Florida Strategic

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<sup>1</sup>Includes the Floridan Aquifer, a Natural Resource of Regional Significance which underlies the entire region.

<sup>2</sup>North central Florida regionally significant facilities and resources, as defined in Rule 27E.005, [Florida Administrative Code](#), consist of Regionally Significant Emergency Preparedness Facilities identified in Table 3.4, Natural Resources of Regional Significance identified in Table 4.1, Regionally Significant Transportation Facilities identified in Table 5.8, and Regionally Significant Facilities and Resources, identified in Section VI.

<sup>3</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.



Regional Policy Plan implements the mission statement by balancing sustainable economic development with the protection of Natural Resources of Regional Significance.

The regional plan balances economic development with the protection of Natural Resources of Regional Significance. It seeks the protection of the functions and qualities of Natural Resources of Regional Significance. Therefore, the plan allows development and economic activity within and near Natural Resources of Regional Significance to the extent that such development and economic activity does not significantly and adversely affect the functions of the resource.

Furthermore, the scope of the regional plan goals and policies is limited to Natural Resources of Regional Significance and regional facilities which are specifically identified and mapped in the regional plan, as well as the extent to which the plans of one local government effect other local governments. The type and extent of economic activity which can occur without significantly and adversely impacting a Natural Resource of Regional Significance is framed by the goals and policies of the regional plan.

Although mapped as discrete geographic units, Natural Resources of Regional Significance are really parts of an interconnected natural system extending across and beyond the region. Actions in one part of the system can have significant adverse consequences elsewhere. For example, the Big Bend Seagrass Beds and the fishery it supports are dependent upon fresh water flows from the Suwannee and other coastal rivers. The rivers are in turn dependent upon headwater swamps for their base flows of fresh water. Dredging and filling headwater swamps, such as the Okefenokee Swamp in Georgia and north central Florida's San Pedro Bay and Mallory Swamp, could have negative impacts upon the seagrass beds and coastal fishery. One purpose of the regional plan is to identify Natural Resources of Regional Significance and include strategies to minimize potential adverse impacts to these resources while promoting economic activities such as agriculture and silviculture within these areas, especially where such resources are in private ownership.

Natural resources of regional significance are grouped into five categories: Coastal and Marine Resources, Groundwater Resources, Natural Systems, Planning and Resource Management Areas, and Surface Water Systems. The text, maps, and policies of this element are organized around the five map layers.<sup>4</sup>

Natural resources of regional significance are listed in Table 4.1. The regional plan identifies 213 Natural Resources of Regional Significance. Quantifying the number of identified Natural Resources of Regional Significance is difficult. Several are listed multiple times. Some natural resources, such as Peacock Springs State Recreation Area, contain springs which are designated as Natural Resources of Regional Significance in their own right. Areas of High Recharge Potential to the Floridan Aquifer are listed only once. However, the Groundwater Resources map identifies over one million acres as potential high aquifer recharge area. Some resources defy counting. For example, approximately 1,331 parcels of land owned by the Suwannee and St. Johns water management districts are recognized as Natural Resources of Regional Significance. Many of these parcels are adjacent to one another, which could justify grouping them together for a lower parcel count. Instead, they are counted as one natural resource and classified as "Water Management District Lands." Similarly, local government-owned land is counted as one natural resource and classified as Local Government Conservation Areas.

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<sup>4</sup>The Floridan Aquifer is not mapped since it underlies the entire region; the Florida Middle Ground and the Okefenokee National Wildlife Refuge are also not mapped as they are outside the region; the Big Bend Seagrass Beds are only partially mapped as much of the resource is located beyond the state's jurisdiction.



Maps of Natural Resources of Regional Significance included in the regional plan vary widely in terms of accuracy. Some coverages, such as the Suwannee River Corridor, were imported directly into the Council's computerized geographic information system from the Suwannee River Water Management District. Coverages (maps) which are directly imported from one geographic information system to another represent the most accurate coverages contained in the regional plan. However, most coverages depicted in the regional plan maps were hand-digitized by Council staff from paper maps. The Council's hand-digitized coverages vary widely in terms of detail and accuracy. While reasonably accurate for purposes of presentation in the regional plan, they should not be used as a substitute for the source maps from which they were derived.

**TABLE 4.1**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Coastal and Marine Resources	Big Bend Salt Marsh	Big Bend Salt Marsh	48,190.00
Coastal and Marine Resources	Big Bend Seagrass Beds	Big Bend Seagrass Beds	486,657.00
Coastal and Marine Resources	Florida Middle Ground	Florida Middle Ground	132,000.00
Groundwater Resources	Areas of High Recharge Potential to the Floridan Aquifer	Areas of High Recharge Potential to the Floridan Aquifer	968,600.90
Groundwater Resources	Floridan Aquifer	Floridan Aquifer	4,415,998.00
Groundwater Resources	Ichetucknee Trace	Ichetucknee Trace	10,767.00
Groundwater Resources	Sinks	Alachua Sink	1.00
Groundwater Resources	Sinks	Aucilla River Sinks	2,000.00
Groundwater Resources	Sinks	Brooks Sink	1.00
Groundwater Resources	Sinks	Clay Sink	1.00
Groundwater Resources	Sinks	Devil's Millhopper	1.00
Groundwater Resources	Sinks	O'leno Sink	1.00
Groundwater Resources	Sinks	Rose Sink	1.00
Groundwater Resources	Sinks	Saylor Sink	1.00
Groundwater Resources	Stream-to-Sink Watershed	Sinking Branch	1,596.00
Groundwater Resources	Stream-to-Sink Watershed	Cannon Creek/Columbia Rose Creek/ Clay Hole Creek	34,303.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Groundwater Resources	Stream-to-Sink Watershed	Indian Mound Swamp/ South Falling Creek/ Turkey Prairie	30,759.00
Groundwater Resources	Stream-to-Sink Watershed	Little River	35,639.00
Groundwater Resources	Stream-to-Sink Watershed	Norton Creek	9,337.00
Groundwater Resources	Stream-to-Sink Watershed	Alachua Slough/Blues Creek/Burnett Lake/Mill Creek Sink/Hammock Branch/North Alachua/Pareners Branch/Turkey Creek	41,954.00
Natural Systems	State Ecological Greenways Network	Regional Ecological Greenways Network	1,316,360.00
Planning & Resource Management Areas	Private Lands	n/a	2,640.00
Planning & Resource Management Areas	Public Lands	Aucilla River Sinks	1,097.00
Planning & Resource Management Areas	Public Lands	Austin Cary Memorial Forest	2,076.00
Planning & Resource Management Areas	Public Lands	Big Bend Coastal Tracts	70,949.00
Planning & Resource Management Areas	Public Lands	Big Gum Swamp National Wilderness Area	3,374.00
Planning & Resource Management Areas	Public Lands	Big Shoals State Forest	1,636.00
Planning & Resource Management Areas	Public Lands	Blue Springs State Forest	2,004.00
Planning & Resource Management Areas	Public Lands	Local Government Conservation Areas	16,229.00
Planning & Resource Management Areas	Public Lands	Devil's Millhopper Geologic State Park	67.00
Planning & Resource Management Areas	Public Lands	Econfina River State Park	4,389.00
Planning & Resource Management Areas	Public Lands	Gum Root Park	370.00
Planning & Resource Management Areas	Public Lands	Ichetucknee Springs State Park	2,525.00
Planning & Resource Management Areas	Public Lands	Lake Alto Preserve	672.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 4.1 (Continued)

NATURAL RESOURCES OF REGIONAL SIGNIFICANCE (Continued)

Map Layer	Classification	Name	Acreage
Planning & Resource Management Areas	Public Lands	Lochloosa Wildlife Conservation Area	10,352.00
Planning & Resource Management Areas	Public Lands	Lower Suwannee River National Wildlife Refuge	28,634.00
Planning & Resource Management Areas	Public Lands	Okefenokee National Wildlife Refuge	0.00
Planning & Resource Management Areas	Public Lands	O'leno State Park	1,720.00
Planning & Resource Management Areas	Public Lands	Osceola National Forest	109,247.00
Planning & Resource Management Areas	Public Lands	Paynes Prairie Preserve State Park	21,657.00
Planning & Resource Management Areas	Public Lands	Peacock Springs Conservation Area	1,115.00
Planning & Resource Management Areas	Public Lands	River Rise State Preserve	4,480.00
Planning & Resource Management Areas	Public Lands	St. Marks National Wildlife Refuge	1284.00
Planning & Resource Management Areas	Public Lands	San Felasco Hammock State Preserve	7,129.00
Planning & Resource Management Areas	Public Lands	Santa Fe Swamp Conservation Area	7,403.00
Planning & Resource Management Areas	Public Lands	Steven Foster State Folk Cultural Center	895.00
Planning & Resource Management Areas	Public Lands	Suwannee River State Park	1,994.00
Planning & Resource Management Areas	Public Lands	Upper Alapaha Conservation Area	2,245.00
Planning & Resource Management Areas	Public Lands	Water Management District Easements	93,064.00
Planning & Resource Management Areas	Public Lands	Water Management District Lands	153,756.47
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Alapaha River	218.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Alligator Lake	968.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Aucilla River	509.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Econfina River	212.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Fenholloway River	212.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Hampton Lake	816.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Lake Alto	548.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Lake Crosby	534.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Lochloosa Lake	5,629.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Lake Rowell	357.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Lake Sampson	2,013.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Lake Santa Fe	4,211.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Little Santa Fe Lake	1,096.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	New River	182.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Newnans Lake	6,019.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Olustee Creek	121.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Orange Lake	9,533.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Santa Fe River	836.40

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011





**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Steinhatchee River	170.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Suwannee River	3,764.00
Planning & Resource Management Areas	Surface Water Improvement Management Waterbodies	Withlacoochee River	376.00
Surface Water Systems	Fresh Water Wetlands	Bee Haven Bay	7,125.00
Surface Water Systems	Fresh Water Wetlands	California Swamp	21,786.00
Surface Water Systems	Fresh Water Wetlands	Dixie County Coastal Fresh Water Wetlands	155,642.00
Surface Water Systems	Fresh Water Wetlands	Gum Root Swamp	1,448.00
Surface Water Systems	Fresh Water Wetlands	Hixtown Swamp	10,289.00
Surface Water Systems	Fresh Water Wetlands	Lake Alto Swamp	1,405.00
Surface Water Systems	Fresh Water Wetlands	Lochloosa Forest	28,451.00
Surface Water Systems	Fresh Water Wetlands	Mallory Swamp	210,399.00
Surface Water Systems	Fresh Water Wetlands	Osceola National Forest/Pinhook Swamp	184,350.00
Surface Water Systems	Fresh Water Wetlands	Paynes Prairie	21,657.00
Surface Water Systems	Fresh Water Wetlands	San Pedro Bay	305,375.00
Surface Water Systems	Fresh Water Wetlands	Santa Fe Swamp	7,403.00
Surface Water Systems	Fresh Water Wetlands	Spring Warrior Swamp	16,039.00
Surface Water Systems	Fresh Water Wetlands	Taylor County Coastal Fresh Water Wetlands	51,731.00
Surface Water Systems	Fresh Water Wetlands	Tide Swamp	15,236.00
Surface Water Systems	Fresh Water Wetlands	Wacassassa Flats	61,653.00
Surface Water Systems	Lakes	Alligator Lake	968.00
Surface Water Systems	Lakes	Lake Butler	436.00
Surface Water Systems	Lakes	Lake Geneva	57.76
Surface Water Systems	Lakes	Lake Sampson	2,013.00
Surface Water Systems	Lakes	Lake Santa Fe	4,211.00
Surface Water Systems	Lakes	Little Santa Fe Lake	1,096.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Surface Water Systems	Lakes	Lochloosa Lake	5,629.00
Surface Water Systems	Lakes	Newnans Lake	6,019.00
Surface Water Systems	Lakes	Orange Lake	9,533.00
Surface Water Systems	Lakes	Watermelon Pond	989.00
Surface Water Systems	River Corridors	Alapaha River	9,069.00
Surface Water Systems	River Corridors	Aucilla River	4,059.00
Surface Water Systems	River Corridors	Cross Creek	530.00
Surface Water Systems	River Corridors	Econfina River	11,743.00
Surface Water Systems	River Corridors	Ichetucknee River	451.00
Surface Water Systems	River Corridors	Prairie Creek	873.00
Surface Water Systems	River Corridors	River Styx	1,772.00
Surface Water Systems	River Corridors	Santa Fe River	17,868.00
Surface Water Systems	River Corridors	Steinhatchee River	8,983.00
Surface Water Systems	River Corridors	Suwannee River	133,924.00
Surface Water Systems	River Corridors	Withlacoochee River	12,880.00
Surface Water Systems	Springs	ALA112971	1.00
Surface Water Systems	Springs	ALA930971	1.00
Surface Water Systems	Springs	ALA930972	1.00
Surface Water Systems	Springs	Alapaha Rise	1.00
Surface Water Systems	Springs	Allen Mill Pond	1.00
Surface Water Systems	Springs	Anderson Spring	1.00
Surface Water Systems	Springs	Bathtub	1.00
Surface Water Systems	Springs	Blue Hole	1.00
Surface Water Systems	Springs	Blue Sink	1.00
Surface Water Systems	Springs	Blue Spring Near Mayo	1.00
Surface Water Systems	Springs	Bonnet	1.00
Surface Water Systems	Springs	Branford Spring	1.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Surface Water Systems	Springs	Cedar Head	1.00
Surface Water Systems	Springs	Charles Spring	1.00
Surface Water Systems	Springs	COL61981	1.00
Surface Water Systems	Springs	COL928972	1.00
Surface Water Systems	Springs	COL930971	1.00
Surface Water Systems	Springs	COL1012971	1.00
Surface Water Systems	Springs	COL101974	1.00
Surface Water Systems	Springs	Columbia Spring	1.00
Surface Water Systems	Springs	Copper Spring	1.00
Surface Water Systems	Springs	Darby	1.00
Surface Water Systems	Springs	Devil's Ear	1.00
Surface Water Systems	Springs	Devil's Eye Spring	1.00
Surface Water Systems	Springs	DIX625993	1.00
Surface Water Systems	Springs	Dogwood	1.00
Surface Water Systems	Springs	Ellaville Spring	1.00
Surface Water Systems	Springs	Falmouth Spring	1.00
Surface Water Systems	Springs	GIL84971	1.00
Surface Water Systems	Springs	GIL94972	1.00
Surface Water Systems	Springs	GIL107971	1.00
Surface Water Systems	Springs	GIL107972	1.00
Surface Water Systems	Springs	GIL729971	1.00
Surface Water Systems	Springs	GIL1012971	1.00
Surface Water Systems	Springs	GIL1012973	1.00
Surface Water Systems	Springs	Ginnie Spring	1.00
Surface Water Systems	Springs	Grassy Hole	1.00
Surface Water Systems	Springs	Guaranto Spring	1.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Surface Water Systems	Springs	HAM610981	1.00
Surface Water Systems	Springs	HAM610982	1.00
Surface Water Systems	Springs	HAM610983	1.00
Surface Water Systems	Springs	HAM610984	1.00
Surface Water Systems	Springs	HAM612981	1.00
Surface Water Systems	Springs	HAM1023971	1.00
Surface Water Systems	Springs	HAM1023974	1.00
Surface Water Systems	Springs	Hart Spring	1.00
Surface Water Systems	Springs	Holton Spring	1.00
Surface Water Systems	Springs	Hornsby Spring	1.00
Surface Water Systems	Springs	ICH001C1	1.00
Surface Water Systems	Springs	ICH001C2	1.00
Surface Water Systems	Springs	ICH001C3	1.00
Surface Water Systems	Springs	ICH001C4	1.00
Surface Water Systems	Springs	ICH001C5	1.00
Surface Water Systems	Springs	ICH001C6	1.00
Surface Water Systems	Springs	ICH001C7	1.00
Surface Water Systems	Springs	ICH001C8	1.00
Surface Water Systems	Springs	Ichetucknee Spring	1.00
Surface Water Systems	Springs	July Spring	1.00
Surface Water Systems	Springs	LAF718971	1.00
Surface Water Systems	Springs	LAF718972	1.00
Surface Water Systems	Springs	LAF924971	1.00
Surface Water Systems	Springs	LAF929973	1.00
Surface Water Systems	Springs	Lilly Spring	1.00
Surface Water Systems	Springs	Lime	1.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Surface Water Systems	Springs	Lime Run Sink	1.00
Surface Water Systems	Springs	Little River Spring	1.00
Surface Water Systems	Springs	MAD610982	1.00
Surface Water Systems	Springs	MAD612981	1.00
Surface Water Systems	Springs	MAD612982	1.00
Surface Water Systems	Springs	MAD922977	1.00
Surface Water Systems	Springs	Mearson Spring	1.00
Surface Water Systems	Springs	Mill Pond	1.00
Surface Water Systems	Springs	Mission	1.00
Surface Water Systems	Springs	Morgan's Spring	1.00
Surface Water Systems	Springs	Nutall Rise	1.00
Surface Water Systems	Springs	Orange Grove	1.00
Surface Water Systems	Springs	Otter Spring	1.00
Surface Water Systems	Springs	Owens Spring	1.00
Surface Water Systems	Springs	Peacock Springs	1.00
Surface Water Systems	Springs	Perry	1.00
Surface Water Systems	Springs	Pickard	1.00
Surface Water Systems	Springs	Poe Spring	1.00
Surface Water Systems	Springs	Pot	1.00
Surface Water Systems	Springs	Pothole	1.00
Surface Water Systems	Springs	Rock Bluff Spring	1.00
Surface Water Systems	Springs	Rock Sink	1.00
Surface Water Systems	Springs	Rum Island	1.00
Surface Water Systems	Springs	Running Spring	1.00
Surface Water Systems	Springs	Ruth Spring	1.00
Surface Water Systems	Springs	Santa Fe Blue Spring	1.00

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 4.1 (Continued)**  
**NATURAL RESOURCES OF REGIONAL SIGNIFICANCE**

Map Layer	Classification	Name	Acreage
Surface Water Systems	Springs	Santa Fe Rise	1.00
Surface Water Systems	Springs	Shingle	1.00
Surface Water Systems	Springs	Steinhatchee Rise	1.00
Surface Water Systems	Springs	Sunbeam	1.00
Surface Water Systems	Springs	SUW107971	1.00
Surface Water Systems	Springs	SUW923973	1.00
Surface Water Systems	Springs	SUW925971	1.00
Surface Water Systems	Springs	SUW1017972	1.00
Surface Water Systems	Springs	Suwanacoochee Spring	1.00
Surface Water Systems	Springs	Suwannee Spring	1.00
Surface Water Systems	Springs	Suwannee Blue Spring	1.00
Surface Water Systems	Springs	TAY625992	1.00
Surface Water Systems	Springs	TAY730991	1.00
Surface Water Systems	Springs	Telford Spring	1.00
Surface Water Systems	Springs	Trail Spring	1.00
Surface Water Systems	Springs	Troy Spring	1.00
Surface Water Systems	Springs	Turtle Spring	1.00
Surface Water Systems	Springs	Twin	1.00
Surface Water Systems	Springs	White Spring	1.00
Surface Water Systems	Springs	Wilson	1.00
Surface Water Systems	Springs	Withlacoochee Blue Spring	1.00

n/a = Not Applicable. An identification name or number is not provided as the natural resource is either located beyond the jurisdiction of the region, covers the entire region, or is adequately identified on the associated map without the need of a map identification name/number.

Source: North Central Florida Regional Planning Council, 2009.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



## 2. Coastal and Marine Resources

The region's coastline bordering the Gulf of Mexico extends approximately 80 miles from the Aucilla River, separating Taylor and Jefferson Counties, south to the Suwannee River which forms the boundary between Dixie and Levy counties. The environmental quality of the Gulf coast in Dixie and Taylor counties is generally excellent with few problems of regional significance. Salt marsh, broken only by rivers and their estuaries as well as a very few areas of beach, extends nearly the entire length of the coastline of Dixie and Taylor counties. Seaward of the salt marsh are the Big Bend Seagrass Beds. The seagrass beds provide an attractive environment for many commercially valuable fish and invertebrates. The Suwannee River is the largest coastal river in the region and forms a large estuary which supports large, commercially-viable, oyster beds.

The salt marsh, estuaries, coastal fresh water wetlands, as well as the Gulf itself all interact to provide fish and wildlife species with the elements required for their propagation, growth, and survival.<sup>5</sup> Identified coastal and marine natural resources of regional significance are the Big Bend Salt Marsh, the Big Bend Seagrass Beds, and the Florida Middle Ground.

### a. Big Bend Salt Marsh

Nearly the entire length of the Dixie and Taylor county coastline consists of salt marsh. The Big Bend Salt Marsh averages between one-half and one mile in width while penetrating several miles inland in some places, most notably at Shired Island and Horseshoe Cove where waters from the Suwannee River and California Swamp enter the Gulf.

Nutrients from the land and sea combine in the salt marsh to produce more biomass than some of the most intensively managed farms. It is a rich breeding ground for plant and animal life and is a primary nursery for commercially-valuable fish. Spotted sea trout, mullet, redfish and others spend much of their lives in the salt marsh. In addition, crabs, oysters, clams, shrimp, and other Gulf marine life depend on the salt marsh for food, protection, and propagation.

Other animal species found in the salt marsh include birds such as rails, egrets, gulls, terns, and seaside sparrows, all of which depend upon the salt marsh for food. The bald eagle breeds in several areas of salt marsh habitat. Besides the bald eagle, other listed species found in the Big Bend Salt Marsh include the diamond-back terrapin, salt marsh snake, mink, otter, and raccoon.<sup>6</sup>

The salt marsh is dependent for its existence upon an unrestricted flow of fresh water and sediments from coastal estuaries and sheet-flow runoff from fresh water coastal wetlands. Sand is an important ingredient in wetland building as it provides a stable platform in shallow water areas for marsh plant communities to develop. Once the flow of sand to the marsh is shut off, the forces of erosion and submergence take over.

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<sup>5</sup>Coastal fresh water wetlands are addressed under Surface Water Systems, beginning on page IV-47.

<sup>6</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.



## b. Big Bend Seagrass Beds

Three marine leagues seaward of land's end lies the limits of the jurisdiction of the state.<sup>7</sup> The area between land's end and the state's jurisdictional limit consists of salt marsh, oyster bars, as well as part of the Big Bend Seagrass Beds, which extend approximately 30 miles westward from land's end into the Gulf of Mexico to depths of 33 feet.<sup>8</sup> The seagrasses are comprised predominantly of *Thalassia testudinum*, *Halodule wrightii*, *Syringodium filiforme*, and *Halophilla eugolmannii*.

Similar to the salt marsh, the seagrass beds are an important community in terms of basic productivity. They provide habitat for many species of commercially-valuable invertebrate and fish. Submerged grass beds supply food to grazing animals, provide nutrients to the water, add oxygen, and stabilize sediments on the sea floor. The Big Bend Seagrass Beds are designated as both a State Aquatic Preserve and an Outstanding Florida Water. The beds are part of the second-largest area of continuous seagrasses in the eastern Gulf of Mexico.

The region has several small but growing coastal communities where development could, if not properly managed, adversely affect coastal resources. These include the town of Horseshoe Beach and the unincorporated communities of Steinhatchee, Suwannee, Keaton Beach, Cedar Island, and Dekle Beach. Population growth in coastal communities is likely to increase demand for access to coastal areas and resources.

Seagrass beds and coastal marshes can be adversely affected by channel dredging and associated spoils. Spoil deposition as well as the dredging process can deposit bottom muds on oyster beds and seagrass beds, causing their death through suffocation. Two areas of particular concern are the Keaton Beach - Cedar Island Channel near the mouth of Blue Creek and the Alligator Pass-Shark Channel at the mouth of the Suwannee River. The estuary at the mouth of the Suwannee provides a very important summer feeding and resting habitat for the endangered West Indian manatee. As a result, dredging activities have been confined to maintenance of existing channels only in West Pass.

Drilling activities have the potential for very high impacts on the seagrass beds.<sup>9</sup> Live bottoms, oyster beds, and seagrass beds may be at risk from drilling muds and cuttings discharge during drilling operations. Muds and cuttings deposited on top of coral, oysters, and seagrass can deprive these species of oxygen, causing them to suffocate. In addition, the ecology of the salt marsh may be severely disrupted by oil spills reaching such areas.

A study of the sensitivity of Florida's coastal environment corroborates these concerns. The study ranked the region's coastline as among the most environmentally sensitive in the state.<sup>10</sup> Environmentally

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<sup>7</sup>Chapter 258.395, Florida Statutes.

<sup>8</sup>U.S. Department of the Interior, Minerals Management Service, Proposed 5-Year Outer Continental Shelf Oil and Gas Leasing Program, January 1987 - December 1991 Draft Environmental Impact Statement, Vol. 2, (1968), pp. IV.B.6.-31 and 32.

<sup>9</sup>Proposed 5-Year Outer Continental Shelf Oil and Gas Leasing Program January 1987- December 1991 Draft Environmental Impact Statement, pg. IV.B.6.-19.

<sup>10</sup>The Sensitivity of Coastal Environments and Wildlife to Spilled Oil in the North-Central Florida Region, Research Planning Institute, Inc., Columbia, S.C., 1984.

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sensitive fish and benthic invertebrate species found along the north central Florida coast include the eastern blue oyster, blue crab, stone crab, bay scallop, pink shrimp, white shrimp, rock shrimp, spotted sea trout, red drum, mullet, sheepshead, Atlantic sturgeon, Spanish mackerel, bluefish, spotfish, and pompano.

### c. Florida Middle Ground

The Florida Middle Ground is found between 47 and 66 miles southwest of the mouth of the Steinhatchee River in water depths of up to 125 feet. It consists of approximately 132,000 acres of coral reefs similar to those found in the Caribbean and represents the northernmost extent of coral reefs in the eastern Gulf of Mexico. Live bottom areas such as the Florida Middle Ground are of concern because of their biological productivity and their use as fish habitats.<sup>11</sup> The Florida Middle Ground is probably the best known and most biologically developed of the live bottom areas of the Gulf and has been designated as a Habitat Area of Particular Concern by the Gulf of Mexico Fishery Management Council.

Its considerable distance from shore and moderating currents attract fish normally found in the Caribbean-west Indies. The middle ground's transparent waters, shallow reef crests, irregular bottom topography, well-defined currents, and carbonate sediments attract many reef fishes which are either rare or absent at other west Florida shelf reefs. The dominant stony corals of the middle ground include *Madracis decactis*, *Porites divaricata*, *Dichochoencia stellaris*, and *Dichochoencia stokesii*. Octocorals, a minor component of other Gulf reefs, are prominent. Dominant forms include *Muricea elongata* (orange Muricea), *Muricea laxa* (Dekucate muricea), *Eunicea calyculata* (warty Eunicea), and *Plexaura flexuosa* (sea rod).

Sport fishermen and recreational divers frequent the area despite its distance from the coast. Commercial fishermen also frequent the middle grounds since it is inhabited by red snapper and grouper. Although recognized by the regional plan as a Natural Resource of Regional Significance, the Florida Middle Ground is not mapped due to its location beyond the state's jurisdiction. Despite its location, the Council has commented, and will likely continue to comment, on environmental impact statements produced for proposed activities which could affect the Florida Middle Ground.

## 3. Groundwater Resources

Groundwater Natural Resources of Regional Significance consist of the Floridan Aquifer, sinks with direct connection to the Floridan Aquifer, stream-to-sink watersheds, and high recharge areas of the Floridan Aquifer.

### a. Floridan Aquifer

Three different aquifers underlie north central Florida, a surficial water table aquifer, an intermediate artesian aquifer, and the Floridan Aquifer. Of the three, only the Floridan Aquifer is recognized in the regional plan as a Natural Resource of Regional Significance. The Floridan Aquifer is one of the largest and most productive fresh water aquifers in the world and is the region's primary source of potable water.

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<sup>11</sup>Proposed 5-Year Outer Continental Shelf Oil and Gas Leasing Program, January 1987 - December 1991 Draft Environmental Impact Statement, pp. IV.B.6.-31 and 32.



Underground limestone formations up to 5,000 feet thick exist within the region. However, the thickness of the permeable portion of the aquifer varies from approximately 600 to 1,700 feet. The potable portion of the aquifer increases in thickness from 250 feet near the coast to 1,250 feet in the northern portions of the region.<sup>12</sup>

The Floridan Aquifer can be divided into three classes. In Class I, the Floridan Aquifer is unconfined and is the sole source for groundwater supplies. In Class II, which may be thought of as a transitional area, a semi-artesian secondary system or water table aquifer overlays a semi-confined Floridan. In Class III, the Floridan Aquifer is confined. A water table aquifer and intermediate artesian aquifers overlay the Floridan. The aquifer ranges from Class III in the northeastern portion of the region where the aquifer is overlain by the Hawthorne Formation, through Class II which is roughly located in areas identified as High Recharge Areas of the Floridan Aquifer on the Groundwater Resources map, to Class I near the coastline. Generally, groundwater within the Floridan Aquifer moves from Class III to Class I areas (northeast to southwest).

#### i. Water Quantity of the Floridan Aquifer

Table 4.2 indicates that north central Florida has a much higher reliance on groundwater than the rest of the state. In 2000, 68.5 percent of all north central Florida water withdrawn for human use came from groundwater sources, compared with 25.2 percent statewide. Table 4.2 also reveals that north central Florida water consumption by type of user is similar to statewide usage. The region's reliance on groundwater sources is even higher than depicted in Table 4.2 as this table includes the one-time pass-through use of river water for cooling Florida Power Corporation's Suwannee River electrical generation station. When Suwannee County is excluded, groundwater comprises 97.8 percent of the water withdrawals of the remaining 10-county area.

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<sup>12</sup>Water Management Plan, Suwannee River Water Management District, Live Oak, Fl., August 8, 1994, Review Draft, pp. 34-35.



**TABLE 4.2**  
**WATER WITHDRAWALS BY SOURCE, 2000**  
**(MILLION GALLONS PER DAY)**

Area	Total Withdrawal		Withdrawal Source			
			Groundwater		Surface Water	
	Amount	Percent	Amount	Percent of Total	Amount	Percent of Total
<b>Alachua</b>	60.2	100.0	59.6	99.1	0.6	0.9
<b>Bradford</b>	5.9	100.0	5.8	99.0	0.1	1.0
<b>Columbia</b>	14.1	100.0	13.9	98.5	0.2	1.5
<b>Dixie</b>	3.5	100.0	3.5	99.2	0.0	0.9
<b>Gilchrist</b>	16.2	100.0	15.9	98.1	0.3	1.9
<b>Hamilton</b>	41.7	100.0	41.6	99.7	0.1	0.3
<b>Lafayette</b>	6.9	100.0	6.8	97.7	0.2	2.3
<b>Madison</b>	9.2	100.0	9.1	98.2	0.2	1.8
<b>Suwannee</b>	127.8	100.0	26.4	20.7	101.4	79.3
<b>Taylor</b>	49.8	100.0	46.8	93.9	3.0	6.1
<b>Union</b>	2.9	100.0	2.9	99.3	0.0	0.7
<b>Region</b>	338.2	100.0	232.2	68.6	106.1	31.4
<b>Florida</b>	20,146.4	100.0	5,082.5	25.2	15,065.1	74.8

Source: Florida Statistical Abstract, 2006, Table 8.41.

Most of the water used in the region is for commercial/industrial and power generation uses. However, these figures include water used for once-through cooling at the power plant, and water that is recycled several times at the PCS, Inc. phosphate plant in Hamilton county. The largest industrial user of water in the region is the Buckeye, Florida pulp mill in Taylor County with a 1990 average withdrawal of 46 million gallons per day.<sup>13</sup>

Table 4.3 presents the latest data reported in the Florida Statistical Abstract regarding groundwater withdrawals by type.

<sup>13</sup>Suwannee River Water Management District, 1996.



TABLE 4.3

**WATER USE: WATER WITHDRAWALS BY CATEGORY, 2000  
(MILLIONS OF GALLONS PER DAY)**

Area	All Water		Public (Fresh)	Domestic (Fresh)	Industrial (Fresh)	Water Used for Irrigation		Thermo-electric (Fresh & Saline)
	Total (Fresh & Saline)	Pct. of Total (Fresh)				Agriculture (Fresh)	Recreation (Fresh)	
<b>Alachua</b>	60.2	1.0	28.3	4.1	2.5	18.2	4.5	2.6
<b>Bradford</b>	5.9	1.0	1.4	1.9	1.3	1.0	0.3	0.0
<b>Columbia</b>	14.1	1.0	3.7	3.7	0.3	5.9	0.5	0.0
<b>Dixie</b>	3.5	1.0	0.7	1.0	0.3	1.6	0.0	0.0
<b>Gilchrist</b>	16.2	1.0	0.3	1.3	0.3	14.3	0.0	0.0
<b>Hamilton</b>	41.7	1.0	1.0	0.7	34.4	5.6	0.0	0.0
<b>Lafayette</b>	6.9	1.0	0.2	0.6	0.2	5.9	0.0	0.0
<b>Madison</b>	9.2	1.0	1.7	1.2	0.2	5.9	0.3	0.0
<b>Suwannee</b>	127.8	1.0	1.4	2.7	1.5	21.0	0.1	101.1
<b>Taylor</b>	49.8	1.0	1.7	1.0	45.1	1.9	0.1	0.0
<b>Union</b>	2.9	1.0	0.4	1.1	0.4	1.1	0.0	0.0
<b>Region</b>	338.2	1.0	40.5	19.4	86.4	82.5	5.7	103.7
<b>Florida</b>	20,146.4	0.5	2,436.8	198.7	563.3	3,923.0	411.7	12,614.1

Source: Florida Statistical Abstract 2006, Table 8.43

Table 4.4 reports water withdrawal information from Table 4.3 in percentage terms. As can be seen, 80.6 percent of north central Florida water withdrawals are used for industrial, agriculture, and thermoelectric uses. Only 17.7 percent of north central Florida water withdrawals are used for public and domestic uses. Agricultural use accounts for approximately 24.4 percent of the region's total 2000 water use, which is slightly higher than the statewide percentage of 19.5. Agricultural water uses are not routinely reported as agricultural water use metering is not required in north central Florida.



**TABLE 4.4**  
**WATER WITHDRAWALS BY CATEGORY, 2000**  
**PERCENT OF TOTAL**

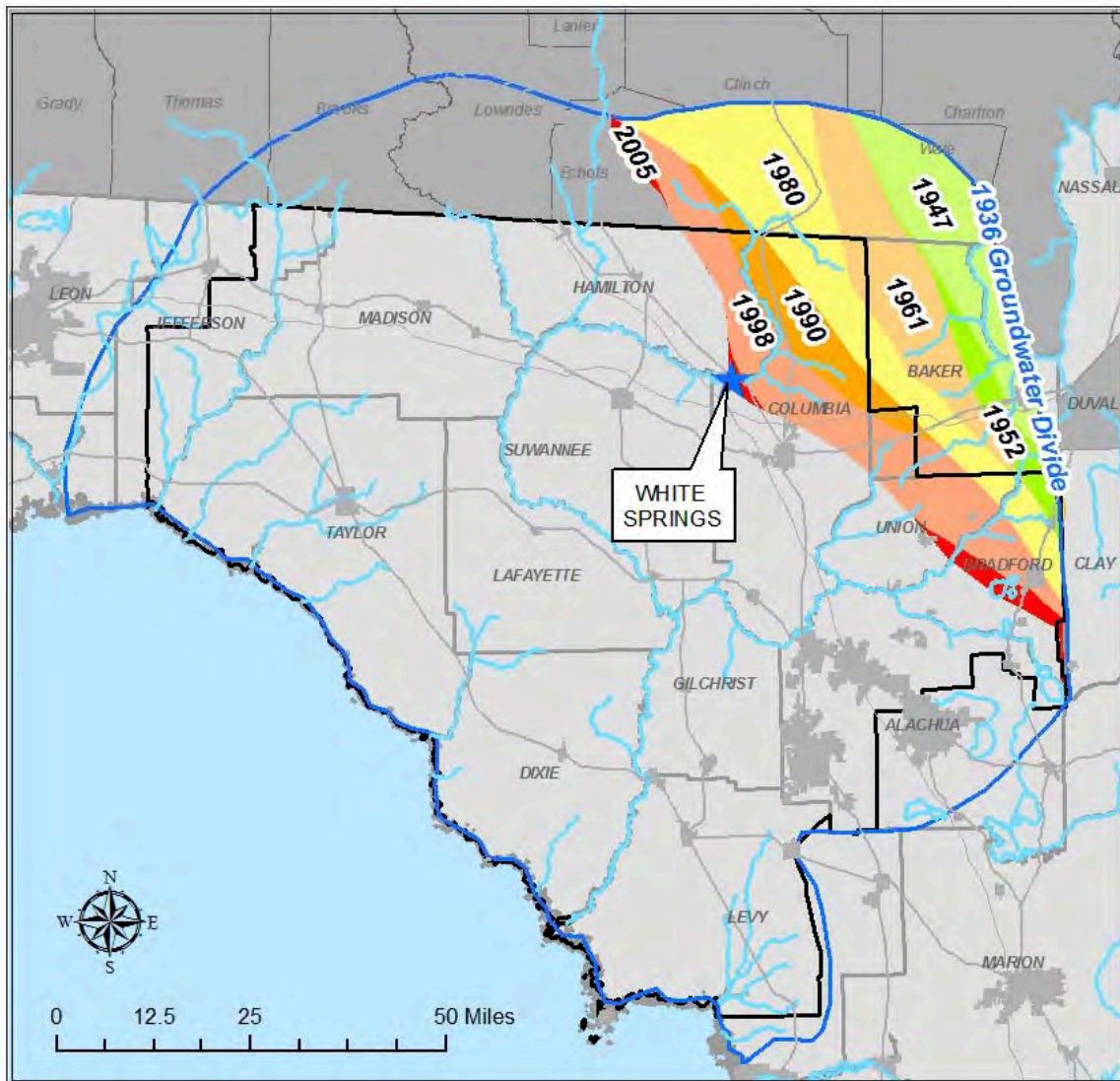
Area	Total (Fresh & Saline)	Public (Fresh)	Domestic (Fresh)	Industrial (Fresh)	Water Used for Irrigation		Thermo- electric (Fresh & Saline)
					Agriculture (Fresh)	Recreation (Fresh)	
<b>Alachua</b>	100.0	47.0	6.8	4.2	30.2	7.4	4.4
<b>Bradford</b>	100.0	23.6	32.3	21.4	17.4	5.3	0.0
<b>Columbia</b>	100.0	26.0	26.5	2.4	41.8	3.2	0.0
<b>Dixie</b>	100.0	19.0	27.8	7.4	45.9	0.0	0.0
<b>Gilchrist</b>	100.0	1.7	8.2	1.6	88.5	0.0	0.0
<b>Hamilton</b>	100.0	2.3	1.8	82.4	13.5	0.0	0.0
<b>Lafayette</b>	100.0	2.9	8.8	2.9	85.4	0.0	0.0
<b>Madison</b>	100.0	17.9	13.3	1.6	64.4	2.8	0.0
<b>Suwannee</b>	100.0	1.1	2.1	1.2	16.4	0.1	79.1
<b>Taylor</b>	100.0	3.5	1.9	90.6	3.9	0.2	0.0
<b>Union</b>	100.0	12.3	37.5	13.7	36.5	0.0	0.0
<b>Region</b>	100.0	12.0	5.7	25.5	24.4	1.7	30.7
<b>Florida</b>	100.0	12.1	1.0	2.8	19.5	2.0	62.6

Source: [Florida Statistical Abstract 2006](#), Table 8.43.

The 2010 Suwannee River Water Management District Water Supply Assessment notes that the water resources of the eastern and northeastern portions of the District are in decline and that this trend is especially evident in the potentiometric surface of the Upper Floridan Aquifer.<sup>14</sup> The Water Supply Assessment notes that a southwestern migration of the groundwater basin divide has occurred between 1936 pre-development conditions through 2005 (see Illustration 4.1). The Assessment notes that the divide has migrated more than 35 miles to the southwest during this time period. The result of the migration is a decrease in the size of the groundwater contributing area to the eastern portion of the Suwannee River Water Management District by more than 20 percent or 1,900 square miles.

<sup>14</sup>[Water Supply Assessment: Water for Nature, Water for People](#), 2010, Suwannee River Water Management District, December 6, 2010, Live Oak, Florida, pg. 46.

**ILLUSTRATION 4.1**  
**MIGRATION OF THE GROUNDWATER BASIN DIVIDE**



Source: Water Supply Assessment 2010, Suwannee River Water Management District, 2010.

The Assessment further notes that the decrease, "... is apparently a result of groundwater withdrawals originating in the District, the St. Johns River Water Management District, and the State of Georgia."<sup>15</sup> Illustration 4.2 depicts water demand projections through the year 2030 of the Southwest Florida Water Management District, the Northwest Florida Water Management District, southern Georgia, the Suwannee

<sup>15</sup>Water Supply Assessment: Water for Nature, Water for People, 2010, Suwannee River Water Management District, December 6, 2010, Live Oak, Florida, pg. 46.

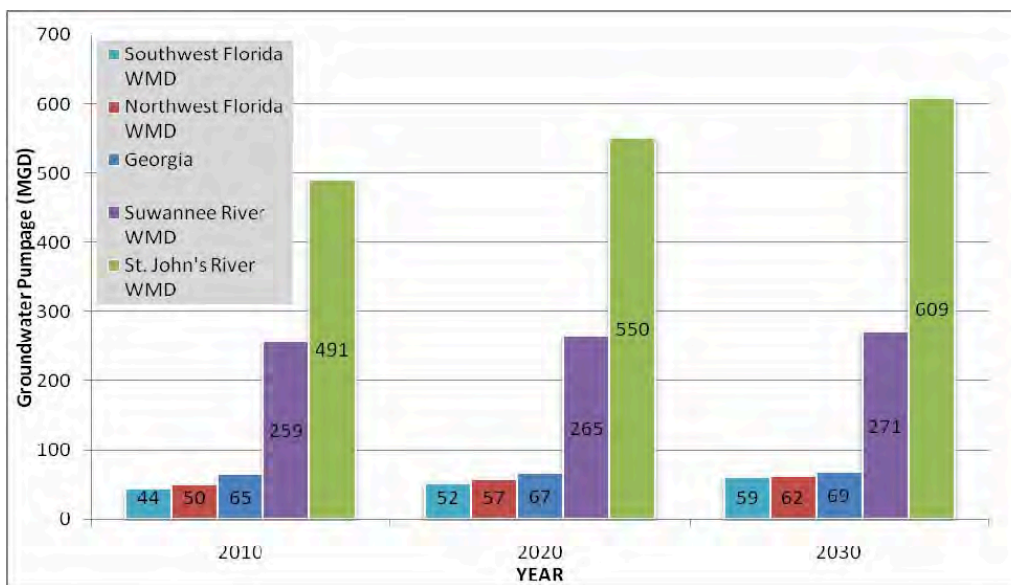
Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



River Water Management District and the St. Johns River Water Management District. The water withdrawals from these water management districts, as well as southern Georgia, are accounted for in a computer model used by the Suwannee River Water Management District and the St. Johns River Water Management District to identify groundwater impacts. The Assessment notes that, within the geographic area subject to computer modeling, the magnitude of groundwater withdrawals occurring in the St. Johns River Water Management District's northern-most nine counties "... is significantly larger than the withdrawals in the entire Suwannee River Water Management District."<sup>16</sup>

**ILLUSTRATION 4.2**

**NORTH FLORIDA MODEL AREA WATER DEMAND PROJECTIONS**



Source: Water Supply Assessment 2010, Suwannee River Water Management District, 2010.

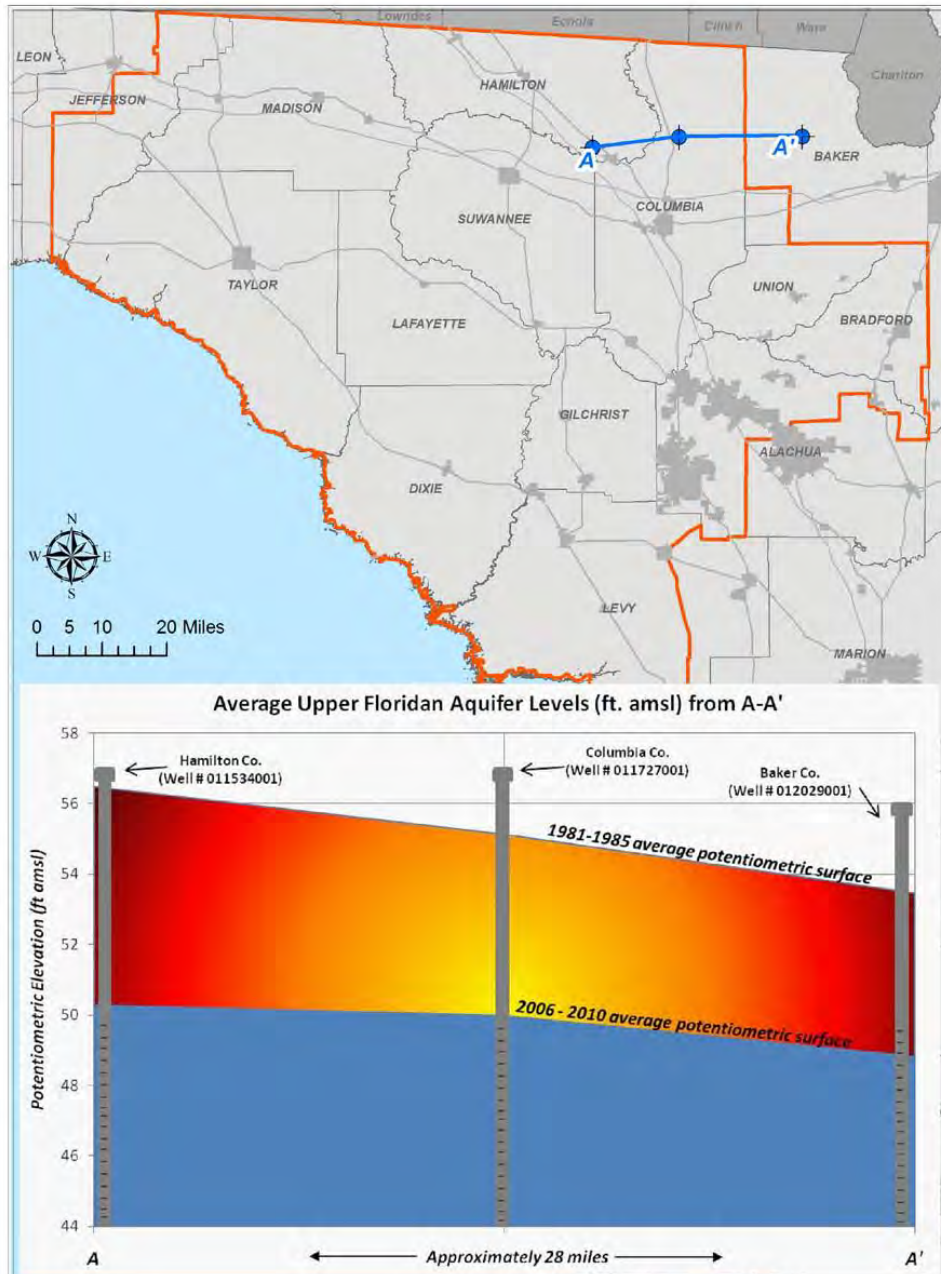
Illustration 4.3 depicts the magnitude of the decline in average potentiometric levels from 1981 to the present along a 28-mile cross-section through the Upper Floridan Aquifer.

<sup>16</sup>Water Supply Assessment: Water for Nature, Water for People, 2010, Suwannee River Water Management District, December 6, 2010, Live Oak, Florida, pg. 34.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011

ILLUSTRATION 4.3

POTENTIOMETRIC SURFACE DECLINE ACROSS SECTION A-A



Source: Water Supply Assessment 2010, Suwannee River Water Management District, 2010.

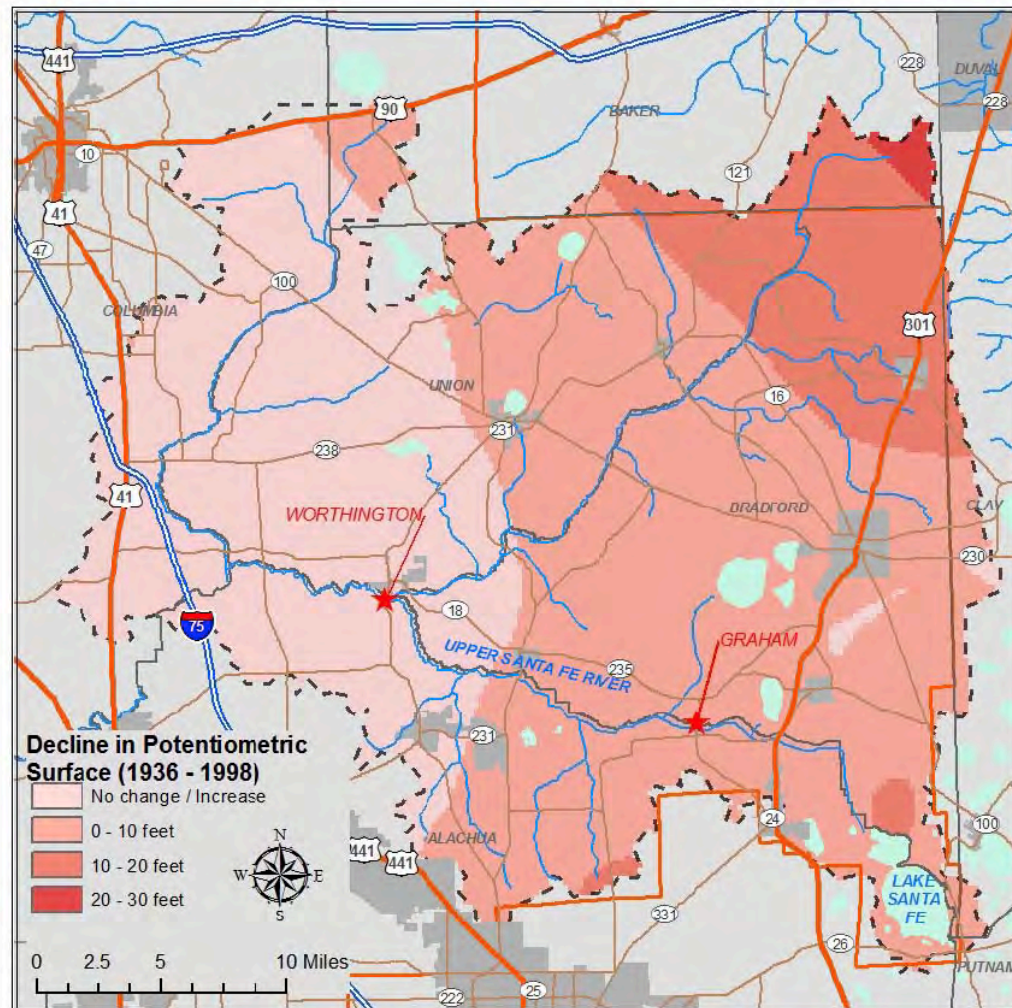




The Water Supply Assessment notes that Section A-A has experienced a cumulative drawdown of approximately six feet over a 29-year period. The Assessment further notes that this decline is in addition to significant a drawdown which occurred prior to 1981.<sup>17</sup> The drawdown is particularly notable in the Upper Santa Fe River Basin, as shown in Illustration 4.4, below.

**ILLUSTRATION 4.4**

**UPPER SANTA FE RIVER BASIN POTENTIOMETRIC SURFACE DECLINE FROM PRE-DEVELOPMENT THROUGH 1998**



Source: Water Supply Assessment 2010, Suwannee River Water Management District, 2010.

<sup>17</sup>Water Supply Assessment: Water for Nature, Water for People, 2010, Suwannee River Water Management District, December 6, 2010, Live Oak, Florida, pg. 48.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



The Water Assessment concludes that the decline in the potentiometric surface of the Floridan Aquifer in the northeastern portion of the Water Management District apparently has impacted a number of rivers, and springs to the degree that they are not currently meeting their established minimum flows and levels, or will not meet them at some point during the 20-year planning period of the Water Supply Assessment. More specifically, the Water Supply Assessment notes that the Aucilla River, a portion of the Suwannee River near White Springs, the Alapaha River, the Santa Fe River, Hornsby Spring, and Santa Fe Rise are anticipated to fall below their established minimum flows at some point by 2030.<sup>18</sup>

Subsection 373.042(2), Florida Statutes, requires water management districts to establish minimum flows and levels to protect surface waters. Minimum flows and levels represent the water level below which significant harm can occur to surface water bodies, be it to navigation, recreation, fish and wildlife, or fish and wildlife habitat. Once established, they are used as part of the water supply planning and permitting criteria for consumptive use permits issued by the districts. Essentially, water flows and levels which are above the minimum flow can be allocated for consumptive uses without significantly adversely impacting the water body from which the water is withdrawn.

The Water Supply Assessment recommends the creation of four Water Supply Planning Areas as depicted in Illustration 4.5 and associated Water Supply Plans. Designation as a Water Supply Planning Area can result in the area being classified by the Water Management District as a Water Resource Caution Area. A Water Resource Caution Area is an area where existing sources of water will not be adequate to satisfy future water demands and sustain water resources, including Natural Resources of Regional Significance. Future water users within Water Resource Caution Areas will be required to find water sources other than groundwater withdrawals from the Floridan Aquifer. Alternative water sources could include surface water from rivers, reclaimed water, brackish groundwater, and seawater. The Water Supply Assessment notes that water conservation is also considered to be an alternative water source even though it is a demand management method and not technically a source of water.<sup>19</sup>

Pursuant to Section 163.3177(4), Florida Statutes, within 18 months after the adoption of a Water Supply Plan, even if a Water Supply Area is not identified as a Water Resource Caution Area, local governments must amend their Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element to incorporate alternative water supply projects from those identified in the regional water supply plan. The element must identify such alternative water supply projects and traditional water supply projects and conservation and reuse necessary to meet the water needs identified in the Water Supply Plan.

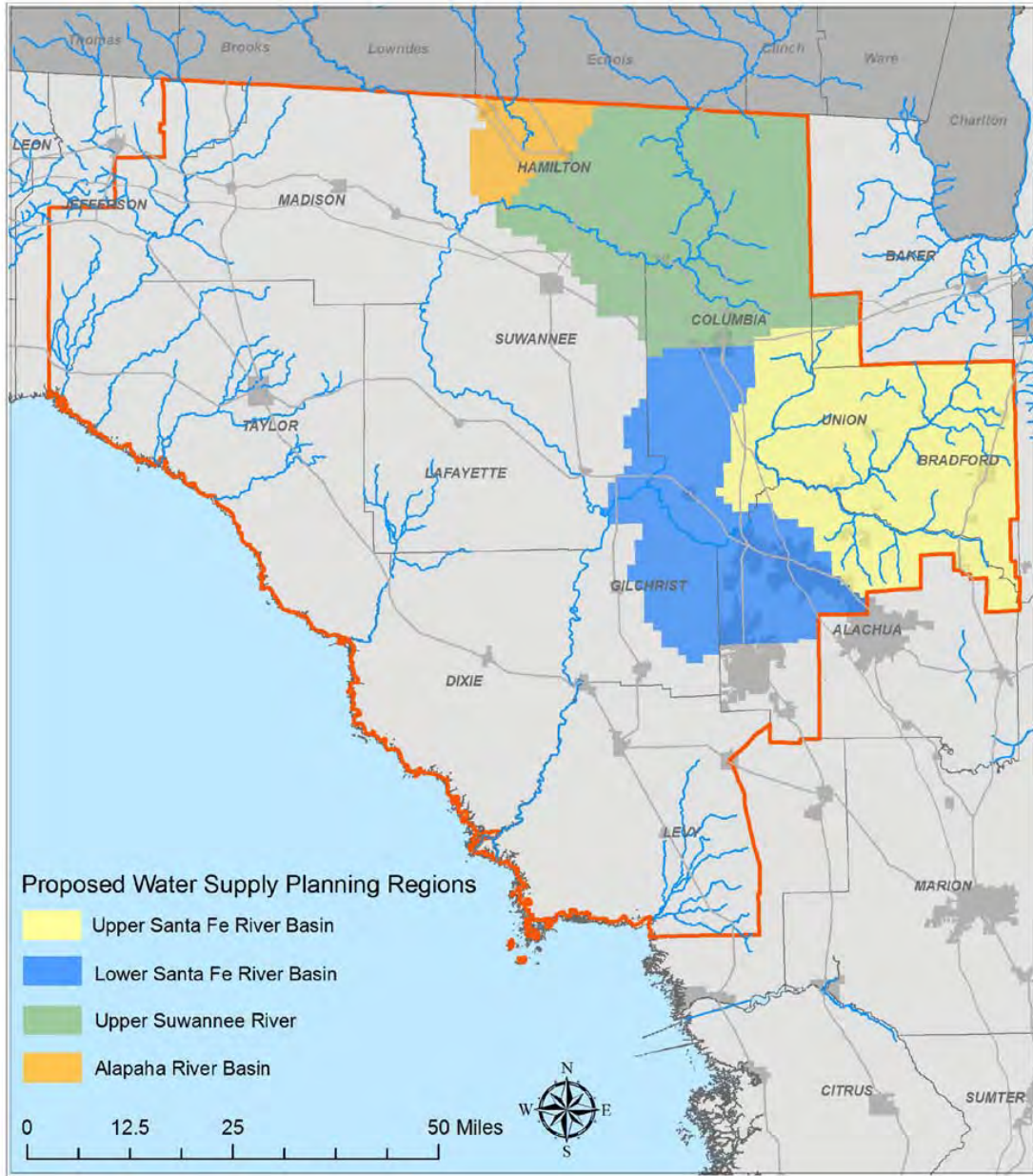
The element must also include a work plan, covering at least a 10-year planning period, for building public, private, and regional water supply facilities, including development of alternative water supplies, which are identified in the element as necessary to serve existing and new development. The work plan must also include an estimate of the capital costs, as well as the operating and maintenance costs, of the listed projects, including the identification of possible funding sources.

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<sup>18</sup>Water Supply Assessment: Water for Nature, Water for People, 2010, Suwannee River Water Management District, December 6, 2010, Live Oak, Florida, ppg. 44 and 46.

<sup>19</sup>Water Supply Assessment: Water for Nature, Water for People, 2010, Suwannee River Water Management District, December 6, 2010, Live Oak, Florida, pg. 4.

**ILLUSTRATION 4.5**  
**PROPOSED WATER SUPPLY PLANNING REGIONS**



Source: Water Supply Assessment 2010, Suwannee River Water Management District, 2010.



## ii. Water Quality of the Floridan Aquifer

Generally, the water quality of that portion of the Floridan Aquifer which underlies north central Florida is excellent. North central Florida groundwater contamination is local in nature, consisting of point source discharges, underground storage tanks, landfills, storm water drainage wells, direct recharge from untreated storm water, and direct recharge from untreated intensive agricultural runoff.<sup>20</sup> The Floridan Aquifer is almost entirely contained within a bed of limestone. Rainfall, surface water, and surficial aquifer water is slightly acidic. As a result, the carbonate rock of the Floridan Aquifer is slowly dissolving. The dissolved rock appears as dissolved particles in the groundwater. Consequently, water from the Floridan Aquifer is relatively high in specific conductivity, alkalinity, magnesium, and calcium.<sup>21</sup>

The region's springs can also provide a useful measure of groundwater quality. Nitrate Nitrogen is present in Floridan Aquifer and can be measured from spring discharges. High concentrations of nitrates may create an imbalance in a natural surface water system, causing algal blooms or other adverse effects. Nitrate Nitrogen concentrations in excess of the state drinking water standard of 10 mg per liter of water can result in Methemoglobinemia (blue baby syndrome) in infants.

Table 4.5 identifies Nitrate Nitrogen concentration changes over time in the region's first-magnitude springs. As can be seen, six springs have experienced an increase in nitrate nitrogen, while 17 springs have experienced a decrease in nitrate nitrogen. Perhaps most noteworthy is the frequency of the sampling. Of the 26 springs identified in Table 4.5, two have not been sampled since 2005, seven have not been sampled since 2002 and an additional seven have not been sampled since 2001.

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<sup>20</sup>Suwannee River Water Management District, 1996.

<sup>21</sup>Draft Water Management Plan, Live Oak, FL., August 8, 1994, pg. 35.



**TABLE 4.5**  
**NORTH CENTRAL FLORIDA FIRST MAGNITUDE SPRINGS:**  
**WATER QUALITY CHANGE OVER TIME**

Spring Name	County	Nitrate Nitrogen (Milligrams per Liter)	Date of Measure	Nitrate Nitrogen (Milligrams per Liter)	Date of Measure	Percent Change
ALA 112971	Alachua	0.80	5/26/98	.53	6/8/06	(33.75)
Alapaha Rise	Hamilton	0.24	9/25/97	.26	11/21/06	8.33
Blue	Lafayette	1.87	7/16/97	2.35	7/18/06	25.67
Blue Hole	Columbia	0.04	6/17/98	.74	7/31/05	1,750.00
Blue Spring	Madison	1.72	6/15/98	1.53	6/1/06	(11.05)
COL61981	Columbia	0.45	6/1/98	.25	6/8/06	(44.44)
Columbia	Columbia	0.76	5/26/98	.39	6/8/06	(48.68)
Devil's Ear	Gilchrist	1.47	11/4/97	2.0	7/14/05	36.05
Falmouth Spring	Suwannee	0.78	6/17/98	1.14	6/28/06	46.15
GIL1012973	Gilchrist	1.38	10/12/97	0.69	8/22/01	(50.00)
Holton Spring	Hamilton	0.40	9/25/97		no new information available	n/a
Hornsby Spring	Alachua	1.07	4/27/98	0.72	4/27/06	(32.71)
<b>Ichetucknee Group</b>	Columbia					
ICH001C1	Ichetucknee Springs Group	0.67	10/16/91	0.83	9/16/02	23.88
ICH001C2	Ichetucknee Springs Group	.85	6/10/92	0.70	6/25/02	(17.65)
ICH001C3	Ichetucknee Springs Group	.59	6/10/92	0.49	6/25/02	(16.95)

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 4.5 (Continued)

**NORTH CENTRAL FLORIDA FIRST MAGNITUDE SPRINGS:  
WATER QUALITY CHANGE OVER TIME**

Spring Name	County	Nitrate Nitrogen (Milligrams per Liter)	Date of Measure	Nitrate Nitrogen (Milligrams per Liter)	Date of Measure	Percent Change
ICH001C4	Ichetucknee Springs Group	0.57	6/10/92	0.45	6/25/02	(21.05)
ICH001C5	Ichetucknee Springs Group	0.46	6/10/92	0.32	6/25/02	(30.43)
ICH001C6	Ichetucknee Springs Group	1.45	6/17/98	0.88	6/25/02	(39.31)
ICH001C7	Ichetucknee Springs Group	0.50	6/16/98	0.40	6/25/02	(20.00)
ICH001C8	Ichetucknee Springs Group	0.71	6/16/98	0.57	6/25/07	(19.72)
July	Columbia	1.55	11/4/97	1.43	6/7/00	(7.74)
Lime Run Sink	Suwannee	0.70	5/14/98	0.48	7/19/00	(31.43)
Nutall Rise	Taylor	0.08	7/6/99		no new information available	n/a
Santa Fe Rise	Columbia	0.78	5/26/98	0.25	5/22/00	(67.95)
Steinhatchee Rise	Taylor	0.03	7/6/99		no new information available	n/a
Troy Spring	Lafayette	2.68	7/7/99	2.36	7/16/06	(11.94)

n/a = not available.

Sources: Springs of the Suwannee River Basin in Florida and Springs of the Aucilla, Coastal, and Waccasassa Basins in Florida, Suwannee River Water Management District, Live Oak, Florida. February, 2000; Suwannee River Water Management District unpublished data, May 2007; and Florida Department of Environmental Protection, May 2007.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



### iii. Impact of Stormwater on the Floridan Aquifer

Land use decisions and land management practices, particularly within high recharge areas and stream-to-sink watersheds, can have direct impacts upon both the quality and quantity of water contained within the Floridan Aquifer. Local government comprehensive plans and water management district surface water permitting regulations should ensure that adverse impacts resulting from development which does occur within high recharge areas and stream-to-sink watersheds are minimized.

Statewide stormwater management requirements began in 1982 with Chapter 17-25, Florida Administrative Code, rule requiring stormwater treatment. In 1983, the St. Johns River Water Management District adopted Chapter 40C-4, Florida Administrative Code, for regulation of stormwater quantity. In 1986 both St. Johns and Suwannee River Water Management Districts adopted rules for stormwater quality (40C-42 and 40B-4, Florida Administrative Code, respectively), which replaced Chapter 17-25, Florida Administrative Code, in their respective jurisdictions. Prior to the enactment of these rules, there were no uniform stormwater management guidelines. Development occurring in some north central Florida local governments prior to 1982 faced no storm water management requirements whatsoever. This created a situation whereby stormwater in many of the region's older development, contaminated with pollutants such as oil, pesticide, and fertilizer residues, flows untreated into the Floridan Aquifer through high recharge areas and stream-to-sink watersheds. Inadequately treated stormwater also pollutes several surface waters identified as Natural Resources of Regional Significance.

### b. Areas of High Recharge Potential to the Floridan Aquifer

The Floridan Aquifer is replenished by rainfall. Certain areas of the region, due to the characteristics of the underlying soils, geology, and depth to the Floridan Aquifer, recharge more groundwater to the Floridan Aquifer faster than other areas. Areas of potential high recharge found within the region, as identified by the St. Johns River and Suwannee River water management districts, are recognized by the regional plan as Natural Resources of Regional Significance.<sup>22</sup>

Generally, Areas of High Recharge Potential to the Floridan Aquifer run northwest-southeast band that is approximately 38 miles wide. High aquifer recharge areas occur in Alachua, Columbia, Dixie Gilchrist, Hamilton, Lafayette, and Madison counties. The regional plan identifies and maps 968,600.9 acres, 21.9 percent of the entire region, as areas of high recharge potential to the Floridan Aquifer a Natural Resource of Regional Significance.

Alachua County has undertaken a study to produce a more accurate map of high aquifer recharge areas. In its review of County Comprehensive Plan amendments in 2004, the Council indicated it was willing to accept the County high aquifer recharge map, once completed, in lieu of the high aquifer recharge map included in the regional plan. Therefore, the new County aquifer recharge map is recognized as a Natural Resource of Regional Significance and is used as a source map for the high aquifer recharge potential map

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<sup>22</sup>The water management districts used different methods to determine areas of high recharge, resulting in apparent inconsistencies between high aquifer recharge areas near district boundaries. For the St. Johns River Water Management District, the regional plan considers areas identified by the district as recharging 12 inches or more of water annually as Areas of High Recharge Potential to the Floridan Aquifer. For the Suwannee River Water Management District, the regional plan considers areas identified by the district as "High" to be Areas of High Recharge Potential to the Floridan Aquifer.



included in the regional plan. Columbia County has also produced a new aquifer recharge map using the same methodology employed in the development of the new Alachua County map. Therefore, the new Columbia County aquifer recharge map is also recognized as a Natural Resource of Regional Significance and included in the regional plan in place of the Suwannee River Water Management District map.

#### i. Stream-to-Sink Watersheds

Stream-to-sink watersheds are drainage basins containing one or more sinkholes which, in some cases, have direct connection to the Floridan Aquifer. In a stream-to-sink watershed, surface water runoff usually finds its way to streams that, in turn, flow into a sinkhole. Identification and management of these areas is necessary to prevent chemicals, pollutants, and fertilizers from finding direct or near-direct access to the drinking water supply through surface water runoff. The regional plan recognizes six stream-to-sink watersheds as Natural Resources of Regional Significance. These are Norton Creek in Madison County, Sinking Branch in Hamilton County, Little River in Suwannee County, Indian Mound Swamp/South Falling Creek/Turkey Prairie in northwest Columbia County, the Cannon Creek/Columbia Rose Creek/Clay Hole Creek area in southern Columbia County, and Alachua Slough/Blues Creek/Burnett Lake/Mill Creek/Hammock Branch/North Alachua/Pareners Branch/Turkey Creek in northern Alachua and southern Columbia Counties.

#### ii. Ichetucknee Trace

Ichetucknee Trace is located immediately north of Ichetucknee Springs State Park. The trace represents an ancient river corridor of the Ichetucknee River which is now underground. The waters of this ancient underground river re-emerge in the springs contained in Ichetucknee Springs State Park. Topographic analysis and recent ink dye tracing studies indicate a well-defined and integrated drainage system beneath the Ichetucknee Trace and the headwater springs of Ichetucknee Springs State Park. The trace itself represents an area of high karst activity, approximately one-mile in width on both sides of the ancient stream bank from Ichetucknee Springs State Park northward to the corridor's intersection with the 75-foot elevation contour. The entire trace area is approximately 13 miles in length. The northern portions of the trace include Rose and Clay Hole creeks. The trace area immediately north of the park is locally referred to as "Swiss cheese" due to the many sinkholes and chimneys located in the area. The entire Ichetucknee Trace abounds with sinkholes, ancient springs, isolated wetlands, and other solution features. Much of the trace is heavily forested.

Investigations by the University of Florida Geology Department have confirmed the direct connectivity of Rose Creek to the Ichetucknee Springs, as well as the connectivity of at least one sinkhole in the trace lying between Rose Creek sink and the springs. Septic tanks associated with urban development as well as agricultural activities are a special concern regarding the impact on water quality of the underground flows and ultimately on the surface water quality of the headwater springs located in Ichetucknee River State Park.

#### iii. Sinks

Besides stream-to-sink watersheds and the sinks which drain them, four additional sinks and one sink group are identified as Natural Resources of Regional Significance. These include O'leno Sink in O'leno State Park, Devil's Millhopper in Devil's Millhopper State Geologic Site, Alachua Sink in Paynes Prairie State Preserve, Brooks Sink in Bradford County, and the Aucilla River Sinks in Taylor County. Three of these Natural Resources of Regional Significance are discussed in detail below.





### Aucilla River Sinks

Aucilla River Sinks comprise a four-mile section of the Aucilla River sometimes referred to as the "natural bridge" or "sink area" where the river disappears and rises in many sinkholes. This unique geological feature combined with a variety of wildlife in a diverse forest setting combine to make the sinks area of the Aucilla River a Natural Resource of Regional Significance.

The entire sink area encompasses some 2,000 acres along the river's trace in Taylor and Jefferson Counties. The four-mile river segment contains at least 50 to 60 sinkholes.<sup>23</sup> Some are simply limestone chimneys only a few feet in diameter; many are several hundred feet across with an elongated shape. Many sinks have a distinct flowing current.

The origin of these sinkholes is likely due to a ceiling collapse of an underground limestone river channel. Throughout the area, limestone banks are evident along the borders of all the sinks, usually forming banks from three to ten feet above the water surface. During periods of high rainfall the entire area may flood with the river as well as the sinkholes overflowing their banks.

The area along the river trace is predominantly a hardwood hammock. The limestone formation near the surface effectively prohibits most pine tree growth along the immediate river trace area. Much of the surrounding forest is overgrown with a dense understory, but paths and trails are frequent and provide access to the sinks. The area is not well used as few people know of its existence. Approximately two-thirds of the area was recently purchased by the State of Florida through the Conservation and Recreational Lands program.

### Brooks Sink

Brooks Sink is located within a privately-owned pine forest approximately four miles east of the Town of Brooker in Bradford County. The natural character of the sink is similar to Devil's Millhopper. It is located in a small, well maintained area of natural vegetation within an eight square mile area of planted pine forest. The site is closed to the public. Although in the midst of an intensively managed pine forest, the immediate surroundings of the sink, approximately ten acres, have not been harvested.

The value of Brooks Sink lies primarily in its significance as a site for geologic study. The area is known for its excellent exposures of soil and rock strata, particularly of the Hawthorne Formation. The relatively small natural forest surrounding the sink contributes to the aesthetic appeal of the site.

The sink itself has almost sheer limestone banks lined with large oak and elm trees which occasionally fall into the sink. The walls are covered with a variety of mosses and ferns, and only on its south side do the banks have sufficient slope for trees and shrubs to grow partially into the basin. The sink is approximately 85 feet deep and 400 feet in diameter. A deep gully has been eroded into the southeast side of the sink draining some 600 acres of planted pines northeast of the sink. This channel has eroded deeply into the sides of the sink.

Almost every common pine species occurs here including slash, longleaf, and loblolly pine, as well as large oak, elm, and gum trees. The planted pine forest surrounding the sink area consists primarily of loblolly

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<sup>23</sup>North Central Florida Regional Planning Council, Significant Natural Areas in Planning District Three, Gainesville, Fl., 1977, pg. 41.



pinus in various stages of maturity. The retention of natural vegetation around the sink greatly minimizes erosion. Common wildlife in the area include wild pig, deer, and rabbit. A variety of panfish have been caught in the sink but no other aquatic species have yet been identified.

#### Devil's Millhopper Geological State Park

The Devil's Millhopper is a large sinkhole located north of Gainesville in Alachua County. The bowl-shaped sink, one of the largest in the state, measures 500 feet across and approximately 120 feet deep. Currently owned and managed by the Florida Department of Environmental Protection, Division of Recreation and Parks, the Devil's Millhopper was purchased by the state in 1972.

The sinkhole displays a gradation of micro-ecosystems, each with its own biotic community. In addition to its unique ecological features, the exposed slopes of the sinkhole reveal a slice of Florida's fossil and geologic record. Although located in an area of rapid residential development, continued state ownership should buffer most adverse impacts caused by development.

## 4. Natural Systems

Natural Systems identified in the regional plan as Natural Resources of Regional Significance consist of the Regional Ecological Greenways Network, which is a subset of the of the Florida Ecological Greenways Network included in the legislatively-adopted Florida Greenways Plan administered by the Office of Greenways and Trails. The Florida Ecological Greenways Network consists of a statewide network of ecological hubs and linkages designed to maintain large-scale ecological functions including focal species habitat and ecosystem services throughout the state. Critical Linkages 1 Critical Linkages 2, Priority 1 and Priority 2 coverages identified in the Critical Lands and Waters Identification Project initiated by the Century Commission for Sustainable Florida are, collectively, the areas of the Florida Ecological Greenways Network with the highest state and regional significance and are therefore included in the Regional Plan as the Regional Ecological Greenways Network, a Natural Resource of Regional Significance.

The Florida Ecological Greenways Network aggregates various data which identify areas of ecological significance from the Florida Natural Areas Inventory, Florida Fish and Wildlife Conservation Commission, existing and proposed conservation lands, and other relevant data. The data were combined to identify large areas of ecological significance (ecological hubs), and a network of linkages and corridors connecting the hubs into a statewide system of hubs and corridors.

It is the intent of this plan to protect listed species and their associated habitats located within the Regional Ecological Greenways Network while, at the same time, allowing development and economic activity to occur within the Network to the extent that such development and economic activity does not significantly and adversely harm the function of the resource as an ecological greenway.<sup>24</sup>

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<sup>24</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, Florida Administrative Code; a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, Florida Administrative Code, or an animal or plant species designated as Endangered or Threatened in Title 50, Code of Federal Regulations, Part 17.



## 5. Planning and Resource Management Areas

Planning and Resource Management Areas can more accurately be thought of as natural resource designations rather than the mapping of natural resources per se. Planning and Resource Management Areas recognized by the regional plan as Natural Resources of Regional Significance include privately- and publicly-owned conservation and resource-based recreation lands, and Surface Water Improvement Management waterbodies.

### a. Surface Water Improvement Management Waterbodies

The Surface Water Improvement Management Act was passed into law by the Florida Legislature, effective July 1, 1987. The purpose of the act is to restore and/or protect the quality of surface waters in the state and to provide an on-going planning and coordination mechanism to maintain surface water quality. The Legislature delegated the responsibility for evaluating, prioritizing, and developing management plans to the state's water management districts in cooperation with other state agencies and local governments.

The Suwannee River Water Management District has identified 18 north central Florida waterbodies as priority waters to be addressed through the program. Four north central Florida waterbodies are included in the St. Johns River Water Management District Surface Water Improvement Act priority list. The Suwannee River Water Management District has developed management plans for all 18 north central Florida waterbodies. The plans focus on identification of surface water quality problems, monitoring surface water quality trends, and promoting interagency coordination for addressing identified issues. All Surface Water Improvement Management Act waterbodies are recognized as Natural Resources of Regional Significance and are listed in Table 4.1.

### b. Private Conservation and Resource-Based Recreation Lands

Privately-owned conservation and resource-based recreation lands designated as Natural Resources of Regional Significance are lands owned by the Nature Conservancy and similar organizations. The Nature Conservancy often works in concert with government agencies to acquire public conservation lands. Typically, the Nature Conservancy will acquire the property from a private owner and sell to a government agency. This technique was successfully used in the early 1990s to enlarge the Osceola National Forest. The Nature Conservancy also played an intermediary role in the state's Big Bend Coastal Tract acquisitions. Currently, privately-owned conservation lands total to 2,640 acres in the region.

### c. Public Conservation and Resource-Based Recreation Lands

Publicly-owned lands used for conservation and resource-based recreation purposes include national forests, state parks and preserves, other state lands owned for conservation and resource recreation purposes, lands owned by water management districts, and a few county-owned properties. Mapped categories of publicly-owned conservation and recreation lands are Federal, State, Water Management District, and County.

A number of tracts of publicly-held lands are found in north central Florida. The regional plan identifies 550,363 acres of regionally significant public lands (and conservation easements), representing 12.6 percent of the region. So much north central Florida land is in public ownership that some north central



Florida county governments oppose additional public land acquisitions due to the resultant decline in the local tax base.

Every state park and preserve, and every national forest, wildlife refuge, and wilderness area has a management plan. The Council can, through its regional plan, provide input into the direction of future management plans prepared for such areas located within the region. Council input can help to coordinate the management plans for specific public lands with the policies of the regional plan. For example, recent Council emphasis on eco-tourism promotion may suggest a management plan place greater emphasis on recreational or environmental activities.

Publicly-owned lands recognized by the regional plan as Natural Resources of Regional Significance include Austin Cary Memorial Forest, Big Shoals State Forest, Big Gum Swamp National Wilderness Area, Big Bend Coastal Tracts, Devil's Millhopper State Geologic Site, Ichetucknee Springs State Park, Lower Suwannee River National Wildlife Refuge, Okefenokee National Wildlife Refuge, Osceola National Forest, O'leno State Park, Paynes Prairie State Preserve, Peacock Springs State Recreation Area, River Rise State Preserve, San Felasco Hammock State Preserve, St. Marks National Wildlife Refuge, Steven Foster State Folk Cultural Center, Suwannee River State Park, water management district lands including Lochloosa Forest, various tracts along the Suwannee River, as well as other holdings. Fifteen of these areas are highlighted below.

i. Austin Cary Memorial Forest

Comprising 2,076 acres, Austin Cary Memorial Forest is in northeastern Alachua County immediately north of Gum Root Swamp, a Natural Resource of Regional Significance. The forest is owned by the University of Florida and managed by the university's School of Forest Resources and Conservation.

ii. Big Bend Coastal Tracts

The Big Bend Coastal Tracts consist of approximately 81,158 acres on the coast in Dixie and Taylor counties, 4,389 acres of which comprise the Econfina River State Park. The tracts were purchased under the Conservation and Recreational Lands program in 1988 and 1990. The tracts were part of a larger acquisition intended to protect the low energy coastline of the Gulf of Mexico.

The area contains salt marsh, hydric hammock, mesic flatwoods, sandhills, upland hardwood forest, maritime hammock, and coastal swamp. Much of the drier sites have been converted to planted pine forest. The areas support excellent populations of wildlife. The tracts are adjacent to the Big Bend Seagrass Aquatic Preserve. Four wildlife management areas (Hickory Mound, Spring Creek, Tide Swamp, and Big Bend) are located within the tracts. The Big Bend Salt Marsh and Tide Swamp are discussed in greater detail on pages IV- 11 and IV-48, respectively.

iii. Big Gum Swamp National Wilderness Area

The Big Gum Swamp National Wilderness Area is located within the Osceola National Forest and is administered by the U.S. Forest Service. The area comprises 13,847 acres, of which 3,374 acres are in Columbia County. The remainder is located in Baker County and the Northeast Florida Regional Planning District. National wilderness areas differ from national forest lands in that no economic or mechanical activity may take place in wilderness areas. The land and wildlife must be left in its natural state.

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#### iv. Local Government Conservation Areas

Local government conservation areas designated as Natural Resources of Regional Significance consist of 16,229 acres. The parcels are located in Alachua, Columbia, and Suwannee counties as well as the Cities of Starke and Gainesville. The City of Starke property consists of 138 acres known as the Edwards Bottomland. The City of Gainesville owns and manages 21 separate properties consisting of 1,755 acres. The Columbia County property consists of the 968-acre Alligator Lake Park and Recreation Area as well as the 136-acre Falling Creek Park. The Alachua County property includes 27 separate holdings consisting of 13,155 acres either owned or managed by the County. The Suwannee County property consists of the 77-acre Suwannee River Greenway at Branford.

#### v. Ichetucknee Springs State Park

Ichetucknee Springs State Park consists of 2,525 acres along the Ichetucknee River. The park includes the head waters of the Ichetucknee River, which consists of a number of springs, including Ichetucknee Springs. The park was purchased by the state in 1970 and listed on the National Registry of Natural Landmarks in 1972. It is known for its clear water and is a very popular location for canoeing, rafting, and tubing.

The river bank ranges from high limestone outcrops to river swamp/marsh. Sandhills dominate the highest elevations in the park. The sandhill community comprises 30 percent of the park and has well-drained soil with an open canopy. Common plants include turkey oaks, sand post oak, longleaf pine, bracken fern, and wiregrass. Mesic hammock constitutes 65 percent of the park area. It is moderately drained and has a closed canopy consisting of mixed hardwoods including southern red oak, laurel oak, sweetgum, flowering dogwood, and sparkleberry. The park contains a small area of river swamp, which is poorly drained and frequently flooded with a dense canopy. The dominant plants of the river swamp are red maple, sweetgum, American elm, Florida ash, and bald cypress. Animals common to the park include beaver, turkey, limpkin, apple snail, Suwannee bass, gulf pipe fish, and river otter.

#### vi. Lower Suwannee National Wildlife Refuge

The Lower Suwannee National Wildlife Refuge comprises approximately 52,935 acres of coastal marsh, of which 28,634 acres are located in Dixie County. The remainder is in Levy County and the Withlacoochee Regional Planning District. Within Dixie County, the refuge starts eight miles south of Fanning Springs, continues southward along the Suwannee River to the unincorporated coastal community of Suwannee, and extends ten miles northward along the coast.

National wildlife refuges are created by Congress for the protection of migratory waterfowl and endangered species. They are owned or leased by the federal government and managed by the U.S. Fish and Wildlife Service. While economic activities may occur in a national wildlife refuge, the activity must not threaten the habitats of endangered species or migratory birds. It is common for selected timber harvesting or limited agricultural activities to occur in a wildlife refuge.

#### vii. Okefenokee National Wildlife Refuge

The Okefenokee National Wildlife Refuge consists of 396,000 acres, a small portion of which is adjacent to the northeast corner of Columbia County. The bulk of the refuge is in Georgia. The refuge is located approximately four miles north of the Osceola National Forest. The Nature Conservancy is slowly



purchasing land between the Osceola National Forest and the Okefenokee National Wildlife Refuge in an effort to link the two federal holdings for purposes of wildlife preservation.

#### viii. O'leno State Park and River Rise Preserve State Park

O'leno State Park and River Rise Preserve State Park are adjacent state land holdings encompassing 6,200 acres along the Santa Fe River. O'leno State Park is on the Columbia County side of the river while River Rise Preserve State Park is located on the Alachua County side. The Santa Fe River enters the O'leno State Park at its northeast corner and proceeds in a southwesterly direction through the property. Similar to the Aucilla River, the Santa Fe River disappears within in an area known as the river sink. The river travels approximately three miles underground before reappearing in the highly scenic area known as the river rise. The area between river sink and river rise is known as the natural bridge.

The area has significant historical interest. The northern portion of the property is traversed by the Old Bellamy Road which was authorized by Congress in 1824 to link the east and west coasts of Florida. The Bellamy Road was the second federal road in the nation. An abundance of chert artifacts adds to the archaeological value of the area. Chert, also known as flint or flintrock, was used by American Indians in the manufacture of axe heads, spear heads, and arrow points.

Major plant communities within the park and preserve are sandhill, mesic hammock, bottomland hardwood swamp, and sandy scrub. Dominant species of the sandhill community include longleaf pine and loblolly pine. Other sandhill species include turkey oak and wiregrass. Dominant plant species in the mesic hammock community include the live oak, laurel oak, pignut hickory, and swamp chestnut oak with the sub-canopy made up of hollies, many shrubs, and wildflowers.

Areas of sandy scrub are found on the natural levees and the floodplain along the river. Due to a lack of nutrients and dry soil conditions, trees growing here seldom attain great height. Plant species include sand live oak, chapman oak, and extensive areas of saw palmetto. Woody swamp borders much of the river and is inundated at least part of the year. Plant species in the swamp area include bald cypress, river birch, red maple, American hornbeam, and black gum. Animals found in the park include fox squirrel, gopher tortoise, red tail hawk, indigo snake, pine snake, rufus-sided towhee, alligator, river otter, wood duck, white ibis, whitetail deer, opossum, raccoon, wild turkey, and pileated woodpecker.

#### ix. Osceola National Forest

Osceola National Forest consists of 198,484 acres, 109,247 acres of which are in northwest Columbia County. The remainder of the forest is outside the region in Baker County and in the Northeast Florida Regional Planning District. Osceola National Forest is the largest federal government land holding in the region. Most of the forest consists of forested wetlands. The higher, better-drained areas are in the southern half of the property. The forest is covered by pine flatwoods with longleaf pine predominating the western one-third and slash pine predominating the eastern two-thirds of the forest. The most common understory includes saw palmetto and gallberry. Runner oak and wiregrass are the most common ground cover. Cypress is the second most-common tree type in the Forest. Blackgums, red bay, red maple, and holly accompany the bald cypress and pond cypress. Creek swamps featuring sweetbay, blackgum, and red maple occupies about 12 percent of the forest. A variety of wildflowers can be found throughout.



Osceola National Forest holds a variety of wildlife and fish. Game animals include white-tailed deer, black bear, wild turkey, quail, rabbit, squirrel, and dove. Non-game species include more than 50 species of fish, 40 species of amphibians, 60 species of reptiles, 180 species of birds, and 48 species of mammals.<sup>25</sup> The red-cockaded woodpecker, Florida sandhill crane, American alligator, indigo snake, and Suwannee bass are among the listed species found within the forest.<sup>26</sup>

The National Forest Management Act of 1976 designates the U.S. Forest Service as the management agency for national forest lands. Under the act, the U.S. Forest Service is mandated to produce a continuous supply of goods and services from national forest lands. Goods and services are limited to timber, wildlife, water, forage, minerals, outdoor recreation, and soil conservation. Essentially, any activity detrimental to these items is prohibited in national forest lands. The National Environmental Policy Act of 1976 requires the preparation of an Environmental Impact Statement for major projects proposed in national forests.

The forest is extensively used for timber production and contains economically valuable phosphate deposits. Exploratory drilling during the late 1960s indicated a high quality reserve in excess of 100 million tons. There may also be some potential for oil and gas reserves, but limited exploration has shown no deposits. In 1984, the federal government prohibited oil, gas, and mineral extraction from the Osceola National Forest.

#### x. Paynes Prairie Preserve State Park

Encompassing approximately 21,657 acres in southeastern Alachua County, Paynes Prairie was acquired as part of Florida's state parks and preserves system in 1973. State preserves differ from state parks as they are established primarily to protect natural wildlife and habitat. Access is limited when necessary to prevent adverse environmental damage. State parks are generally more accessible and emphasize outdoor recreation and camping activities. The prairie is intermittently flooded and receives surface water runoff from the City of Gainesville. The quality of surface water runoff to the prairie is of particular concern as the prairie has direct access to the Floridan Aquifer via Alachua Sink.

The major plant community of the prairie is marsh. The depth of water governs plant species and several vegetative zones can be found from the dry prairie edge to the deep water in the center of the prairie. Dog fennels, maiden cane, pickerel weed, cattails, and spatterdock occupy the dry zone. Woody plants such as coastal plain willow, wax myrtle, elderberry, and persimmon have invaded the prairie along its artificial dikes.

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<sup>25</sup>Final Environmental Impact Statement for National Forests in Florida Land Resource Management Plan, U.S.D.A. Forest Service, Southern Region, Tallahassee, FI, December 1985, pg. III-13.

<sup>26</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, Florida Administrative Code; a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, Florida Administrative Code, or an animal or plant species designated as Endangered or Threatened in Title 50, Code of Federal Regulations, Part 17.



Paynes Prairie is famous as a wildlife and waterfowl habitat. The abundance and diversity of animal life in the prairie has been well known since it was first described by explorer-naturalist William Bartram in 1784. Deer, otter, muskrat, alligator, and raccoon exist in the prairie along with many birds, including herons, egrets, ibises, ducks, and bobwhites. Listed species inhabiting the prairie include wood stork, Florida sandhill crane, and American kestrel.<sup>27</sup>

Paynes Prairie, despite its size, does not include the prairie's entire ecosystem. The state Department of Environmental Protection is concerned about development on the fringe of the prairie and would like to expand its boundaries. An area of land on the northeast side of the preserve is proposed for purchase under the Conservation and Recreation Lands program to link the preserve with Prairie Creek and Newnans Lake.

#### xi. Peacock Springs Conservation Area

Peacock Springs State Recreation Area is located ten miles southwest of Live Oak adjacent to the Suwannee River in Suwannee County. The area was recently purchased by the state through the Conservation and Recreational Lands Program. The area is an exemplary natural ecosystem containing elements of statewide and regional significance. The area encompasses excellent examples of surface and subsurface karst limestone features, including sizeable sinks, many smaller sinks, and depressions. It has one of the most extensive underwater cave systems in the continental United States and contains a total of 28,000 feet of explored and surveyed underwater passages.<sup>28</sup> The underwater cave system is widely regarded as one of the best underwater cave diving areas in the United States. In addition, the property has important archeological value as an early Spanish mission site.

The sinks and associated aquatic cave system provide critical habitat for at least three listed species of cave crustaceans endemic to Florida.<sup>29</sup> The area also contains mature, second-growth and old-growth forest stands.

#### xii. St. Marks national wildlife refuge

The St. Marks National Wildlife Refuge comprises approximately 68,000 acres, of which 1,284 acres are in Taylor County on the Gulf of Mexico adjacent to the Aucilla River. The remaining acreage is located in Jefferson and Wakulla Counties in the Appalachian Regional Planning District.

#### xiii. San Felasco Hammock Preserve State Park

San Felasco Hammock is located in the center of Alachua County between the cities of Gainesville and Alachua. The hammock has the most fertile soil on the Florida peninsula and is the last large remaining

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<sup>27</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.

<sup>28</sup>J. Merrill Lynch, [Suwannee River Preserve Design Project](#), The Nature Conservancy, Tallahassee, FL., 1984, pg. 119.

<sup>29</sup>Florida Fish and Wildlife Conservation Commission, loc. cit.





example of hardwood hammock in the region. San Felasco Hammock has many steep slopes, ravines, sinkholes, ponds, scattered swamps, and sand ridges. It contains virtually every species of plant and animal native to Alachua County. In addition, the hammock recharges to the Floridan Aquifer. Surface water runoff is transported into the hammock via Turkey Creek and Blue's Creek. San Felasco Hammock was purchased by the state in 1972.

The hammock comprises approximately 7,192 acres of wild forest land with some pasture land on its northern edge. Most of the forest has been selectively logged during the 20 years prior to its purchase by the state. The selective cutting does not appear to have caused any permanent damage.

#### xiv. Suwannee River State Park

Located 14 miles west of Live Oak and 15 miles east of the City of Madison, Suwannee River State Park features the confluence of the Suwannee and Withlacoochee rivers. The park comprises approximately 1,994 acres of open pine sandhills, rich hardwood hammocks, and dense river swamps. The banks of the Suwannee have striking exposed walls of limestone outcroppings where the river has cut through the underlying rock.

Typical plants found in the sandhill community include longleaf pine, turkey oak, blue jack oak, and wiregrass. Sandhills are relatively high rolling prairies populated with pine trees. They are places of expansive openness, with wide spacing between the trees and a grassy ground cover. Original explorers of the area found miles upon miles of open sandhills with virgin longleaf pines towering above them. Most have been logged and cleared or left to succeed into hardwoods through the exclusion of natural fire. Sandhills are fire dependent, and constitute a fire-climax community where they appear. Wildlife found in sandhills include fox squirrel, gopher tortoise, red-tail hawk, indigo snake, pine snake, fence lizard, quail, rufous-sided towhee, and red cockaded woodpecker.

Hardwood hammock is an important Florida forest type. It is considered the climax forest of the southeastern coastal plain. Due to heavy logging and clearing, very few sizeable areas of hardwood hammock remain in Florida. Wildlife species dependent on hardwood hammock are diminishing. Suwannee River State Park provides a rich habitat for a wide variety of wildlife dependent upon hardwood hammock including bobcat, deer, turkey, gray squirrel, river otter, pileated woodpecker, wood duck, alligator, white ibis, cottonmouth moccasin, turtles, and a variety of songbirds.

#### xv. Water Management District Conservation Areas

Water management districts have acquired approximately 153,756 acres of land in the region. The districts have also acquired conservation easements on an additional 93,064 acres of otherwise privately-held lands within the region. While the protection of surface water quality is one of the major reasons for water management district acquisitions, many other benefits are provided by these lands. The two primary sources of funds for water management district land acquisitions are the Save Our Rivers Act and the Preservation 2000 Act. The Save Our Rivers legislation created the Water Management Lands Trust Fund for acquiring "lands necessary for water management, water supply, and the conservation and protection of water resources..." The Preservation 2000 Act directs that acquisitions should be "planned so as to protect the integrity of ecological systems and provide multiple benefits, including preservation of fish and wildlife habitat, recreational space, and water recharge areas." Most of the land acquired by the Suwannee River Water Management District is located within the 100-year floodplain of the Suwannee River and its tributaries. The St. Johns River Water Management District owns a portion of Lochloosa Wildlife

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Conservation Area in southeast Alachua County. Water management districts continue to receive state funding for land acquisition through the Water Management Lands Trust Fund and Preservation 2000. The districts continue to add to their holdings.

## 6. Surface Water Systems and Surface Water Quality

The region contains a rich assortment of lakes, springs, and wetlands. The headwaters of several rivers are found in the region. The headwaters of other rivers that flow through the region, such as the Suwannee, Alapaha, and Withlacoochee, are located in Georgia. Overall, the quality of surface waters is good. The regional plan identifies ten lakes, 11 river corridors, 57 springs, and 13 wetlands as Natural Resources of Regional Significance.

### a. Surface Water Quality

According to the 1998 Suwannee River Basin Surface Water Quality Report, the overall water quality of the Suwannee River basin, and the water quality of surface waters listed as Natural Resources of Regional Significance, is good, with a few localized exceptions.<sup>30</sup> The report notes that in many respects, water quality has improved in the basin from conditions which existed in the 1960s and 1970s, when numerous point sources of pollution discharged wastes to the Suwannee River and its tributaries. The report notes that contamination from agricultural and urban runoff are priority water quality management issues. Nutrients, primarily nitrate nitrogen, are the primary concern.<sup>31</sup>

In 1995, 19 of the region's 33 incorporated municipalities had centralized sewer systems. While the unincorporated community of Suwannee has since added a centralized wastewater system, no incorporated north central Florida municipality has converted to a centralized wastewater treatment system since. The Suwannee River Water Management District commissioned a 1998 study entitled Quality Communities Needs Report to identify the needs of north central Florida communities for improvements to their wastewater treatment, systems, potable water systems, stormwater management systems. The study notes that Fanning Springs, Archer, Lee, Steinhatchee, and the Dekle Beach - Keaton Beach area of Taylor County are in need of either a centralized wastewater treatment system or feasibility studies to determine the cost-effectiveness of the installation of a centralized wastewater treatment system.

Table 4.6 below identifies 14 surface water Natural Resources of Regional Significance with a fish consumption advisory issued by the Florida Department of Health. All of the fish consumption advisories are due to excessive levels of mercury in the identified fish species. No fish consumption advisories are in effect in north central Florida due to dioxin, pesticide or saxitoxin contamination.<sup>32</sup> Although not included as a regional indicator in 2002, a No Consumption Advisory was in effect for all fish caught in the Fenholloway River due to dioxin contamination. As of 2006, the Fenholloway River fish consumption

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<sup>30</sup>David Hornsby and Marvin Raulston, Suwannee River Basin 1998 Surface Water Quality Report: Florida and Georgia, Suwannee River Water Management District, Live Oak, Florida, 2000, page 8.

<sup>31</sup>Hornsby and Raulston, page 35.

<sup>32</sup>Saxitoxin is a neurotoxin found in algae. It is also found in Puffer fish caught in Indian River Lagoons and from waterbodies in Volusia, Brevard, Indian River, St. Lucie and Martin Counties. None of these waterbodies are located in north central Florida.



advisory had been limited to Bowfin fish for mercury contamination. Additionally, the 2006 advisory recommends limiting the consumption of Bowfin fish from the Fenholloway River to no more than 1 fish per month for women of childbearing age and children.

New criteria for fish advisories for the general population were adopted in 2006. The Florida Department of Health also started listing information for any water body that had been tested and no longer included "Unrestricted Consumption" as a recommendation. The highest rate of consumption included in the recommendations is "two meals per week." The two meals per week limitation is used since it meets the American Heart Association recommendation in the Healthy Heart Diet and there was growing evidence that people who consumed excessive amounts of seafood, some as high as 21 meals per week, could result in mercury poisoning in adults.



TABLE 4.6

2006 FLORIDA DEPARTMENT OF HEALTH FISH CONSUMPTION ADVISORIES

Location	Largemouth Bass	Women of Childbearing Age and Children - # of Meals per Month	Black Crappie	Women of Childbearing Age and Children - # of Meals per Month	Bluegill	Women of Childbearing Age and Children - # of Meals per Month	Brown Bullhead	Women of Childbearing Age and Children - # of Meals per Month
Alapaha River	yes	1					yes	1
Aucilla River	yes	1						
Econfina River								
Fenholloway River								
Lake Butler			yes	4	yes	4		
Lake Lochloosa	yes	1						
Lake Sampson	yes	1	yes	1	yes	4		
Lake Santa Fe	yes	1						
Newnans Lake	yes	1	yes	4	yes	4	yes	4
Orange Lake	yes	1	yes	4	yes	8		
Santa Fe	yes	1					yes	1
Steinhatchee River	yes	1						
Suwannee River	yes	1					yes	1
Withlacoochee River	yes	1					yes	1
<b>Total</b>	11		4		4		5	

See note at end of table.

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TABLE 4.6 (Continued)

2006 FLORIDA DEPARTMENT OF HEALTH FISH CONSUMPTION ADVISORIES

Location	Bowfin	Women of Childbearing Age and Children - # of Meals per Month	Chain Pickerel	Women of Childbearing Age and Children - # of Meals per Month	Channel Catfish	Women of Childbearing Age and Children - # of Meals per Month	White Catfish	Women of Childbearing Age and Children - # of Meals per Month
Alapaha River	yes	1			yes	1	yes	4
Aucilla River	yes	1						
Econfina River								
Fenholloway River	yes	1						
Lake Butler								
Lake Lochloosa	yes	1						
Lake Sampson	yes	1	yes	1				
Lake Santa Fe	yes	1						
Newnans Lake	yes	1						
Orange Lake	yes	1						
Santa Fe	yes	1			yes	1	yes	4
Steinhatchee River	yes	1						
Suwannee River	yes	1			yes	1	yes	4
Withlacoochee River	yes	1			yes	1	yes	8
<b>Total</b>	12		1		4		4	

See note at end of table.

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TABLE 4.6 (Continued)

2006 FLORIDA DEPARTMENT OF HEALTH FISH CONSUMPTION ADVISORIES

Location	Gar	Women of Childbearing Age and Children - # of Meals per Month	Redbreast Sunfish	Women of Childbearing Age and Children - # of Meals per Month	Redeer Sunfish	Women of Childbearing Age and Children - # of Meals per Month	Spotted Sunfish	Women of Childbearing Age and Children - # of Meals per Month	Warmouth	Women of Childbearing Age and Children - # of Meals per Month
Alapaha River	yes	1	yes	4	yes	4				
Aucilla River	yes	1	yes	1			yes	1		
Econfina River			yes	1			yes	1		
Fenholloway River										
Lake Butler					yes	4				
Lake Lochloosa	yes	1								
Lake Sampson	yes	1			yes	4				
Lake Santa Fe	yes	1								
Newnans Lake	yes	1								
Orange Lake	yes	1			yes	8			yes	4
Santa Fe	yes	1	yes	4	yes	4				
Steinhatchee River	yes	1	yes	1			yes	1		
Suwannee River	yes	1	yes	4	yes	4				
Withlacoochee River	yes	1	yes	4	yes	4				
<b>Total</b>	<b>11</b>		<b>7</b>		<b>7</b>		<b>3</b>		<b>1</b>	

Note: yes= Fish consumption advisory issued.

Source: Your Guide to Eating Fish Caught in Florida, Florida Department of Health, 2006.

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## b. Total Maximum Daily Loads

Section 303(d) of the federal Clean Water Act requires states to submit lists of surface waters that do not meet applicable water quality standards (impaired waters) after implementation of technology-based effluent limitations, and establish Total Maximum Daily Loads for these waters on a prioritized schedule. Total Maximum Daily Loads establish the maximum amount of a pollutant that a water body can assimilate without causing violations of water quality standards. Florida submitted a list of Total Maximum Daily Load waterbodies to the U.S. Environmental Protection Agency, Region 4, in 1998. The list was prepared by the Florida Department of Environmental Protection with input from the water management districts. The U.S. Environmental Protection Agency issued its final list of north central Florida Total Maximum Daily Load waterbodies in 2003.

Table 4.7, below, presents the U.S. Environmental Protection Agency-approved list of north central waterbodies which do not meet applicable water quality standards. The table also identifies the water quality parameters to be addressed through the development of Total Maximum Daily Loads.

As of June 2007, Total Maximum Daily Loads have been finalized for only one north central Florida watershed; the Fenholloway River (including Bevins/Boggy Creek). The Total Maximum Daily Load report includes a map of the waterbody and its watershed. It also identifies the sources of the pollutants. In the case of the Fenholloway River, the Total Maximum Daily Load report notes that discharge from the Buckeye Cellulose pulp mill may move its discharge point from its current location to 1.7 miles upstream from the Fenholloway River estuary. Such an approach is anticipated to meet the established Total Maximum Daily Loads for dissolved oxygen and un-ionized ammonia for the river. The Total Maximum Daily Load report notes, however, that moving the discharge point may increase chlorophyll concentrations to levels in the estuary that would cause a water quality standard violation. To address this issue, Buckeye Cellulose has undertaken additional monitoring and modeling activities. Buckeye Cellulose will also conduct additional nutrient modeling analysis to assess the possible effluent nutrient reductions that might be required to prevent harmful chlorophyll concentrations.

The Total Maximum Daily Load for the Bevins/Boggy Creek portion of the watershed suggests that rural farms with animals with access to streams as a possible source of fecal coliform.



TABLE 4.7

**VERIFIED LIST OF IMPAIRED NORTH CENTRAL FLORIDA WATERS  
(AS APPROVED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY)**

Water-body Identification Number	Waterbody Segment	Waterbody Type	Parameter of Concern	Priority	Projected Year of Total Managed Daily Load Development	Comments
<b>Fenholloway</b>						
3473A	Fenholloway at Mouth	Stream	Total Coliforms, Dissolved Oxygen, Biochemical Oxygen Demand	High	2002	Total Managed Daily Loads Finalized by U.S. Environmental Protection Agency, May 2007
3473B	Fenholloway Below Pulp Mill	Stream	Dissolved Oxygen, Biochemical Oxygen Demand, Un-ionized Ammonia, Conductivity	High	2002	Total Managed Daily Loads Finalized by U.S. Environmental protection Agency, May 2007
3603	Bevins/Boggy Creek	Stream	Fecal Coliform	-	2002	Total Managed Daily Loads Finalized by U.S. Environmental Protection Agency, May 2007. Although not listed in Water Quality Assessment Report: Suwannee, Fecal Coliform Total Managed Daily Loads were nevertheless established by U.S. Environmental Protection Agency for this waterbody.
<b>Lower Suwannee</b>						
3422A	Suwannee River, Lower	Stream	Mercury - Fish	Low	2011	Mercury concentrations for 1995, 1996, 1998, 1999, 2000, 2001, 2002 exceeded 0.5 milligram/kilogram.

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TABLE 4.7 (Continued)

**VERIFIED LIST OF IMPAIRED NORTH CENTRAL FLORIDA WATERS  
(AS APPROVED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY)**

Water-body Identification number	Waterbody Segment	Waterbody Type	Parameter of Concern	Priority	Projected Year of Total Managed Daily Load Development	Comments
3422D	Suwannee Estuary	Estuary	Coliforms - Shellfish	Medium	2007	Listed due to downgrade in shellfish classification.
3422B	Suwannee River, Lower	Stream	Mercury - Fish	Low	2011	Mercury concentrations for 1995-2002 exceeded 0.5 milligram/kilogram.
<b>Other Coastal</b>						
8032A	Dekle Beach	Estuary	Coliforms - Beach Advisory	Medium	2007	Has advisories for more than 21 days in 2001.
8032B	Keaton Beach	Estuary	Coliforms - Beach Advisory	Medium	2007	Has advisories for more than 21 days in 2001.
8032C	Cedar Beach	Estuary	Coliforms - Beach Advisory	Medium	2007	Has advisories for more than 21 days in 2001.
8035	Suwannee Gulf 7	Estuary	Coliforms - Beach Advisory	Medium	2007	Has advisories for more than 21 days in 2001.
<b>Santa Fe</b>						
3516	Alligator Lake Outlet	Lake	Nutrients	Medium	2007	Linked to nutrients, and Biochemical Oxygen Demand. Nitrogen limited.
3516	Alligator Lake Outlet	Lake	Dissolved Oxygen	Medium	2007	Linked to nutrients. Nitrogen limited.

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TABLE 4.7 (Continued)

**VERIFIED LIST OF IMPAIRED NORTH CENTRAL FLORIDA WATERS  
(AS APPROVED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY)**

Water-body Identification number	Waterbody Segment	Waterbody Type	Parameter of Concern	Priority	Projected Year of Total Managed Daily Load Development	Comments
3516A	Alligator Lake	Lake	Nutrients	Medium	2007	Linked to nutrients and Biochemical Oxygen Demand. Nitrogen limited.
3516A	Alligator Lake	Lake	Dissolved Oxygen	Medium	2007	Linked to nutrients. Nitrogen limited.
3605A	Santa Fe River	Stream	Nutrients (Algal Mats and Historical Chlorophyll)	Medium	2007	Total Nitrogen is limiting nutrient.
3605C	Santa Fe River	Stream	Dissolved Oxygen	Medium	2007	Linked to nutrients.
3520	Cannon Creek	Stream	Fecal Coliforms	Medium	2007	
3626	Pareners Branch	Stream	Fecal Coliforms	Medium	2007	
<b>Upper Suwannee</b>						
3341	Suwannee River (Upper)	Stream	Dissolved Oxygen	High	2002	Linked to nutrients.
3375	Swift Creek	Stream	Dissolved Oxygen	High	2002	Linked to nutrients.
3477	Falling Creek	Stream	Dissolved Oxygen	High	2002	Linked to nutrients.

Sources: Water Quality Assessment Report: Suwannee, Florida Department of Environmental Protection, September 2003, and Total Managed Daily Loads in Florida, <http://www.epa.gov/region4/water/tmdl/florida/#econ>.

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## c. Fresh Water Wetlands

Wetlands play a vital role in controlling flood waters, tempering the impacts of hurricanes, and providing habitat to native Florida animal species. Vast amounts of Florida, including north central Florida, were originally wetlands. Over time, wetlands have been filled and drained for development, mosquito control, agricultural production, timber harvesting, and mining. Despite a lengthy history of drain and fill practices, the region still contains substantial wetland acreage.

Wetlands identified by the regional plan as Natural Resources of Regional Significance consist of Bee Haven Bay, California Swamp, Dixie County Coastal Fresh Water Wetlands, Fowlers Prairie, Gum Root Swamp, Hixtown Swamp, Lake Alto Swamp, Mallory Swamp, Osceola National Forest/Pinhook Swamp, Paynes Prairie, San Pedro Bay, Santa Fe Swamp, Spring Warrior Swamp, Taylor County Coastal Fresh Water Wetlands, Tide Swamp, and Wacassassa Flats.

### i. Coastal Fresh Water Wetlands

The coastal fresh water wetlands are located adjacent to and landward of the Big Bend Salt Marsh and west of U.S. Highways 19 and 98. Coastal fresh water wetlands moderate the flow of surface water runoff to the Gulf by releasing water during dry periods and storing water during wet periods. The flow of fresh water to the gulf is vital to maintaining the brackish salt marsh environment. As coastal communities grow, it becomes increasingly important to minimize the alteration of coastal fresh water wetlands in order to maintain a healthy salt marsh and to minimize coastal flooding. Growth within coastal communities should not significantly alter the coastal wetland sediment deposition process.

Regionally significant coastal fresh water wetlands comprise 207,373 acres. The Dixie County Coastal Fresh Water Wetlands comprise 155,642 acres while the Taylor County Coastal Fresh Water Wetlands comprise 51,731 acres. Located within the fresh water coastal wetlands are three areas that, in their own right, qualify as Natural Resources of Regional Significance: California Swamp, Spring Warrior Swamp, and Tide Swamp. These areas are described below.

#### California Swamp

California Swamp is located in southwest Dixie County between Cross City and the Gulf of Mexico. It is adjacent to the Lower Suwannee National Wildlife Refuge and the Big Bend Salt Marsh. California Swamp is a coastal fresh water wetland. The variety of its habitat, wildlife, and its undeveloped nature make California Swamp a Natural Resource of Regional Significance in its own right. The major feature of California Swamp is an extensive cypress-hardwood swamp. However, a wide range of habitat types ranging from tidal marsh near the coast to upland hammocks and pine forest are found within California Swamp.

California Swamp occupies approximately 21,786 acres. It extends from Station Lake to the Big Bend Salt Marsh along Sanders Creek. Its width varies from five miles near California Lake to two miles farther south along Sanders Creek where the forest grades into salt marsh. California Swamp is generally flat, having a relief of approximately two to five feet and a gentle slope to the south. Drainage is poorly developed. In the area from Station Lake southward some flow is channelized through Fishbone and California Creeks into California Lake. From there water moves through Sanders Creek for the remaining five miles to the Gulf.



Although numerous logging roads were established, portions of the lower regions of the swamp are still inaccessible. Dirt roads are passable to California Lake and to a few private hunting camps located in the swamp.

Approximately 94.0 percent of the swamp watershed is forested land. The principal tree species include slash and loblolly pines, black gum, ash, oak, red maple, and cypress. Much of the land adjacent to the swamp has been extensively harvested and is planted pine forests. The swamp has a good population of deer, turkey, and squirrel. Other wildlife species include alligator, bear, raccoon, opossum, mink, and otter. The wetlands near the coast have many varieties of shore birds such as terns, plovers, and sandpipers. Wading birds living within the swamp include large populations of common and cattle egret, white ibis, and limpkin.

In 1973, California Swamp area was added to the Steinhatchee Wildlife Management Area. The now defunct Florida Bureau of Coastal Zone Planning generally outlined the entire Gulf Coastal marsh at the mouth of Sanders Creek and the hardwood swamp inland along the creek as an area deserving preservation status. The remaining areas of the California Lake watershed were also designated as deserving conservation status in the Bureau's management and development plans.

#### Spring Warrior Swamp

Spring Warrior Swamp is located in Taylor County approximately five miles south of the City of Perry and west of U.S. Highway 19. It comprises approximately 16,039 acres and includes floodplain forest with good stands of cypress and diverse hardwoods. The swamp is an important source of fresh water to the gulf coastal marsh. Drainage is provided from the swamp to the gulf via Spring Warrior Creek. The upland areas of the swamp include live oak, magnolia, cabbage palm, elm, maple, hickory, sweet gum, and others. This habitat is heavily used by spring and fall migratory passerine birds. Both upland and floodplain hardwoods in this area constitute a prime wildlife habitat and a source of raw materials for the timber industry.

#### Tide Swamp

Tide Swamp is located in southwest Taylor County on the Gulf side of State Road 361 just north of the Steinhatchee River. Tide Swamp comprises 15,236 acres. The swamp was purchased in 1986 by the State of Florida as part of the Big Bend Coastal Tracts acquisition. Tide Swamp is heavily vegetated and includes a variety of softwood and hardwood timber species along with an abundance of mixed grasses and reeds. Its diverse vegetation makes the area appealing to many wildlife species common to north central Florida including game and non-game migratory birds.

Portions of the swamp were previously cleared for forestry products in the 1930s. Proctor and Gamble, the former owners, managed the area for sustained yield timber production, hunting, and recreation in cooperation with the Florida Fish and Wildlife Conservation Commission. The state's management of Tide Swamp now focuses less on timber production and more on wildlife management through controlled burning, food plot maintenance, and some timber harvesting.

Wildlife found in Tide Swamp include whitetail deer, wild turkey, feral hogs, and squirrels. Additionally, numerous wading birds can be seen throughout the year all along the coastline. Migratory ducks and geese can be seen from September through April. Bald eagles and ospreys also frequent Tide Swamp.



Facilities at Tide Swamp are consistent with outdoor recreational uses. The state operates a public beach site at Hagin's Cove and maintains picnic tables and a boat ramp at Dallus Creek. In recognition of the growing popularity of bird watching, the state has constructed an observation tower near Hagin's Cove.

## ii. Inland Wetlands

Inland wetlands consist of wetlands located north and east of U.S. highways 19 and 98. They comprise large areas of north central Florida and perform many valuable functions. Inland wetlands provide habitat for native species and moderate the flow of surface and spring waters to prevent flooding. They are thought to provide the base flow for the region's rivers and springs. Almost every inland fresh water wetland identified as a Natural Resource of Regional Significance consists of a combination of wetlands and uplands. Within the wetland areas proper, virtually every wetland is either seasonal or semi-permanent in nature. Their degree of wetness is dependent upon the amount and timing of annual rainfall. The regional plan recognizes nine inland wetlands as Natural Resources of Regional Significance, eight of which are described below.

### Bee Haven Bay

Bee Haven Bay is located north of County Road 6 and Occidental Chemical's phosphate mining area and approximately four miles east of the City of Jasper in Hamilton County. As the name implies, Bee Haven Bay is a bayhead swamp consisting of bay trees, dahoon lolly, cypress, red maple, and other mixed hardwoods. The bay is prime habitat for black bear and other mammals. Drainage of the bay is by Rock Creek to the Suwannee River. The bay contains several species of bay pitcher plants listed as threatened species by the Florida Department of Agriculture and Consumer Services. Bee Haven Bay comprises 7,125 acres. Occidental has donated the mineral rights to Beehaven Bay to the Suwannee River Water Management District.

### Gum Root Swamp

Gum Root Swamp is a natural hardwood swamp covering 1,448 acres on the north side of Newnans Lake in eastern Alachua County. The swamp owes its environmental value to its function as a natural filter and purifier for runoff waters for a large watershed.

At its position at the base of the Hatchett Creek watershed, all the waters from the creek as well as overland flow from a wide area pass through the swamp before entering Newnans Lake. These waters are very high in nutrients due to the large amount of surrounding agricultural land and the number of homes in the vicinity. Biological processes occurring in the swamp convert nutrients in the water to cellulose and plant life, leaving the water in a more purified form as it flows into Newnan's Lake. Currently, the large nutrient production in the watershed exceeds the capacity of Gum Root Swamp to assimilate these nutrients and has contributed to the eutrophication of the lake.

A wide, often wet, and heavily vegetated fringe area has helped restrict access and development of the swamp. In this fringe area the dominant forest vegetation includes live oak, laurel oak, and red maple. The predominant understory species include gallberry, palmetto, wax myrtle, red bay, blackberry, and American holly.

Cypress and gum trees predominate the swamp while red maple and bay trees are also abundant. The numbers of sweet gum, wax myrtle, and gallberry increase in density toward the edge of the swamp. Many

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ferns, mosses, and lichen are evident as undergrowth vegetation. Selective cutting of hardwood occurred approximately 50 years ago. Abandoned, overgrown tramways as well as debris left over from earlier cuttings have been found among the thick vegetation. The swamp appears to have regained its natural state and no evidence of recent harvesting is apparent. Mixed hardwoods of commercial value exist in the swamp.

Gum Root Swamp is considered to have one of the largest varieties of wildlife species of any area in Alachua County. There are at least two rare or endangered species living in this swamp including a small colony of wood storks and a small number of bald eagles. Other birds which frequent the area include egrets, herons, bitterns, and white ibis. Also identified in the area are anhinga, osprey, loon, cormorant, black and turkey vulture, and turkey. Deer and otter also inhabit the swamp and its marginal areas.

#### Hixtown Swamp

Hixtown Swamp is located between the cities of Madison and Greenville in central Madison County. It is roughly confined on the north by U.S. Highway 90 and on the south by Interstate 10. Hixtown Swamp comprises approximately 10,289 acres.

The swamp is a wide expanse of wetlands interspersed with islands, peninsulas, and cypress stands. It is surrounded by higher rolling country. The highlands surrounding the swamp often reach elevations approximately 50 feet higher than the swamp. It is the most extensive, undisturbed cypress swamp still found in northern Florida. Many of the islands of pond and bald cypress which were cut around 1900 have returned to sizeable trees of 12 to 18 inches in diameter. The luxuriant undergrowth includes many species commonly found in more northern areas and is almost totally different from the semitropical cypress swamps of south Florida.

A rich diversity of wildlife occurs in the swamp. The area contains one of north Florida's heaviest concentrations of wildlife. In addition to alligator, other large species include otter, raccoon, wildcat, deer, fox, and black bear. Wading birds are abundant, including white ibis, American egret, sandhill crane, great blue heron, Louisiana heron, little green heron, little blue heron, least bittern, common bittern, limpkin, many duck species, black and turkey vulture, osprey, bald eagle and the wood stork.<sup>33</sup>

The highlands surrounding the swamp are largely devoted to farming and cattle grazing. A small amount of pulp cutting and some cypress timbering occurs in the fringe areas. However, there appears to be no large-scale tree harvesting at present. Domestic cattle use pastures abutting the swamp when dry. The adjacent waters of the swamp often provide a source of drinking water to these animals.

Cypress and bottomland hardwoods predominate the isolated hammock islands and in low areas bordering the swamp. Plant species occurring in the fringe area include spruce, slash, loblolly and longleaf pines, bottomland gums, and many varieties of oak, magnolia, and willow. The dense understory consists of way myrtle, sea myrtle, elderberry, green briar, sumac, and wild plum.

The swamp is one of the most productive wetlands in north central Florida. The dominant aquatic vegetation in the swamp is maidencane. Associated species are abundant and consist of frogbit, floating hear, wampee, pickerel weed, cow tongue, golden club, dotted smartweed, watershield, water lily, and a variety of aquatic grasses.

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<sup>33</sup>Significant Natural Areas, pg. 54.



Drainage in the marsh is generally in a southeasterly direction with one small stream, Sundown Creek, carrying a majority of the outflow for the area. Several other culverts running beneath I-10 transmit water to southern portions of the swamp.

#### Lochloosa Conservation Area

The Lochloosa Wildlife Conservation Area is located in southeastern Alachua County and comprises 10,352 acres, including 1,200 acres of Orange Lake. Approximately 62.0 percent of the land area is composed of commercial pine plantation. The remainder is in natural condition and the biological communities are in good health. Lochloosa Forest forms the habitat for several listed species.<sup>34</sup> Approximately 16 active bald eagle nests are in the area.<sup>35</sup> The River Styx rookery, located within the forest, contains one of the two most important wood stork colonies in northern Florida. Between 100 and 125 nesting pairs of wood stork, recognized as an endangered species, nest in the large cypress trees of the rookery.<sup>36</sup> It is one of the few stable and constantly productive rookeries in the state. The few colonies of wood storks in Florida and one colony in Georgia, are all that exist in North America. In addition, the rookery is used as a nesting site by many ospreys and herons.<sup>37</sup>

The River Styx flows through the conservation area into the northern tip of Orange Lake. The river environment is defined by a broad expanse of swamp forest and hammock for two and one-half miles from Camps Canal on the north to Orange Lake on the south. The river's sluggish trace southward is obscured within a 3,500 acre area of swamp, forest, and hardwood hammock. The dense, undisturbed vegetation system gives way to a shallow marsh area at its junction with Orange Lake. The inaccessibility of the area creates a large rookery for colonies of wading birds otherwise sensitive to human encroachment.

#### Mallory Swamp and San Pedro Bay

Totaling 515,774 acres, Mallory Swamp and San Pedro Bay comprise the largest inland wetland system in the region. They form a nearly continuous band of wetlands through Dixie, Lafayette, and Taylor counties north of U.S. Highway 19. These large wetlands form the headwaters of the streams that comprise the coastal rivers basin, including the Econfina, Fenholloway, and Steinhatchee rivers. Most of the area consists of large tracts owned by timber companies. Between the 1930s and the 1970s, canals were dug to drain the wetlands for pine production but, due to the wetness of the area, were only partially successful. As a result, the area is currently a mixture of pine plantation and wetlands.

Mallory Swamp and San Pedro Bay are of regional significance due to their role in maintaining the hydrologic balance of the coastal rivers and their estuaries. In a natural state, these wetlands serve as a wide, shallow

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<sup>34</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.

<sup>35</sup>[Annual Report of the Conservation and Recreation Lands Section Committee](#), Division of State Lands, Tallahassee, Fl., 1985, pg. 211.

<sup>36</sup>Robert M. Brantley, Executive Director of the Florida Game and Fresh Water Fish Commission, correspondence of March 6, 1984 to Mr. John Bethea, Director, Division of Forestry, Department of Agriculture and Consumer Services, Tallahassee, Fl.

<sup>37</sup>[Significant Natural Areas](#), pg. 82.

reservoir of both ground and surface waters. They provide the base flow for the coastal rivers through surface runoff and seepage from surficial aquifers. The past drainage efforts have altered the hydrologic balance by releasing too much storm water too quickly, resulting in disruptions to sensitive estuarine ecosystems. Because estuaries are uniquely adapted to, and dependent on, cyclical changes of fresh water inflow, changes to that balance can have significant adverse impacts to the estuary.

The Suwannee River Water Management District in the late 1980s examined the issue at the request of the Steinhatchee River Association, whose members were concerned about declining fisheries in the Steinhatchee River estuary. The District's study determined there was too much water draining too quickly into the river and estuary after storm events, but the hydrologic alterations upstream alone could not be the sole cause for the declining fishery.

The Steinhatchee River study confirmed that the past drainage attempts created significant hydrologic changes in the watershed. The study identified six major canal systems totaling 76 miles. Dug by timber companies, the canals were designed to speed drainage for improved pine tree growth and improved access for logging trucks. The canals caused surface water runoff within the basin to move much faster to the Gulf after heavy rains. Research studies in other Florida waters have shown the runoff interferes with fish using estuaries.

The area timber companies voluntarily agreed to change practices to allow the land to retain more water after rains. Those changes include installing flashboard culverts, allowing canals to become overgrown with vegetation and reducing road elevations to allow water to overflow from roadside canals into adjacent wetlands. The results to date have been noticeable downstream with less freshwater flooding after rains. The District has purchased 31,321 acres of Mallory Swamp in southern Lafayette County to help alleviate the concern.

#### Osceola National Forest/Pinhook Swamp

Lying 15 miles northeast of Lake City and extending through much of Columbia County to the Georgia border, the Osceola National Forest/ Pinhook Swamp area is essentially one continuous wetland system from the Okefenokee Swamp to Interstate Highway 10. The swamp extends eastward from U.S. Highway 441 into Baker County and the Northeast Florida Regional Planning District. Covering 184,350 acres within north central Florida, the swamp is the largest continuous wilderness area in the region.

The northern portion of the area is dominated by Pinhook Swamp, which is predominantly a cypress, gum, and loblolly bay swamp. It is a vast open area which is almost continually flooded, interspersed with dotted pine, cypress, and shrubs in open areas. The swamp is not as aesthetically pleasing as other Natural Resources of Regional Significance within the region but has a unique character due to the bleak wilderness quality of the expansive tree dotted prairie and thick fetter bush and titi-based vegetation around its fringe.

The swamp is very wet with many peat bogs and generally has a very rich humus soil. Pine forests are found in higher areas around the swamp and the southern half of Osceola National Forest. Slash pines are, in many cases, planted in fringe areas, but harvesting has apparently not been on a large scale due to the wetness of the ground. These fringe areas are typical pine flatwoods which give way near the swamp to cypress, slash and long-leaf pine, magnolia, and sweet bay.

The area is a valuable wildlife habitat. Rare, endangered, or protected species included in this habitat are the Black Bear, the Florida sandhill crane, and the bald eagle. It has one-third of Florida's entire bear population. The swamp has a good population of deer and turkey, squirrel, rabbit, otter, beaver, and many



varieties of snakes and other reptiles, including alligators. Common birds reported in this area include the anhinga, many species of egrets, heron, and ibis, as well as many duck species, including wood duck. Canadian geese now frequent the area as winter residents.

Drainage of the swamp is very poor. Timber companies have dug a few canals to drain portions of the swamp by channeling runoff water into fringe areas and off of access roads. However, no large scale drainage works have been undertaken. Surface runoff generally flows westerly to the Suwannee River principally through Little Creek with some runoff flowing easterly to St. Mary's River in Baker County.

#### Santa Fe Swamp

Santa Fe Swamp is located north of Little Santa Fe Lake in northeastern Alachua County and southeastern Bradford County. The swamp in its natural capacity performs valuable services to the region as part of the headwaters of Santa Fe River, contributing to aquifer recharge and serving as an excellent and remote wildlife habitat. Santa Fe Swamp was donated by the Georgia-Pacific Corporation to the Suwannee River Water Management District in 1984.

Santa Fe Swamp encompasses 7,403 acres. The major feature of this area is its extensive hardwood swamp. A 300-acre sandhill community dominated by longleaf pine, turkey oak, and wire grass is found along the eastern side of the swamp. The remainder of the property consists primarily of inaccessible wetlands. The swamp community consists of a mosaic of vegetation types including pine flatwoods, cypress swamps, bayheads, wet prairies, and marshes, portions of which resemble Okefenokee Swamp. The dominant swamp vegetation includes cypress, gum, and bay trees.

Water quality is largely unknown but is probably good based upon limited available records and visual inspection of the Santa Fe River near the swamp. A considerable number of wading birds have been observed in the feeding ponds and prairies, and the area provides habitat for waterfowl and game species. In addition, nesting pairs of bald eagles have been observed in the swamp along with black bear and wood stork.

Animal species inhabiting the area around the Santa Fe River likely reside in the swamp. There are no roads or access to it of any kind. Appearing completely undisturbed and of high aesthetic value, the area is expected to be the habitat of a diverse and abundant wildlife population.

#### Wacassassa Flats

Occupying approximately 61,653 acres, Wacassassa Flats runs down the center of Gilchrist County. The flats are part of a larger wetland system which runs into Levy County and the Withlacoochee Regional Planning District. During the rainy season, waters in the aquifer build up sufficient pressure to spill out of the many sinkholes and ponds scattered throughout the flats to inundate the area.

The area is predominantly comprised of commercial pine plantation. Pine stands are interspersed among numerous cypress ponds, depression marshes, hydric hammock, and other wetland communities. Several lakes (the largest of which is 150 acres), small areas of upland hardwood forest, sandhill, and other minor natural communities contribute to the diversity of the flats.



## d. Lakes

Lakes identified as Natural Resources of Regional Significance include those of relatively large size, those with shorelines under the control of two or more local governments, and those which are environmentally sensitive. Several of the lakes are recognized by the state as Outstanding Florida Waters while others are included in the Suwannee River Water Management District's Surface Water Improvement Management (SWIM) program. Regionally significant lakes are Orange Lake, Santa Fe Lake, Little Santa Fe Lake, Newnans Lake, Lake Lochloosa, Watermelon Pond, Lake Sampson, Lake Butler, Lake Geneva, and Alligator Lake.<sup>38</sup> Two lakes are highlighted below.

### i. Alligator Lake

Alligator Lake is 968 acres of lake, wetlands, and flood plain located in central Columbia County. The lake proper consists of two interconnected waterbodies. The northern lake, locally known as "Big Lake" is located within the City of Lake City. The smaller waterbody, known as "Small Lake" is located in unincorporated Columbia County. Alligator Lake owes its regional significance to several plugged sinkholes which are located within the lake. The sinkholes have direct connection to the Floridan Aquifer. Approximately once every five to seven years, one or more of the sinkholes become unplugged, draining the contents of the lake into the Floridan Aquifer. Approximately one-half of the lake was diked and drained by private property owners during the 1950s and 1960s. A Florida State Supreme Court decision (Hill vs. McDuffie) ruled, among other things that the diked area was land, not lake, and that the dike could remain.

The lake is located in an area of low elevation and receives considerable surface water runoff from the city of Lake City. Most of Lake City was developed before enactment of surface water management regulations. As a result, surface waters entering the lake receive little treatment. Alligator Lake was recognized as one of the 50 poorest lakes in the state in terms of water quality by the Florida Department of Environmental Regulation in 1983. The ranking was primarily due to high nutrient levels, chronic algal blooms, and fish kills.<sup>39</sup> In 1988, the Suwannee River Water Management District classified Alligator Lake as a "priority water" in their Surface Water Improvement Management program. It is the only waterbody listed as a "restoration" waterbody on the District's Surface Water Improvement Management program priority list. In 1995, Columbia County applied for and received funding from Florida Communities Trust to purchase the diked portion of Alligator Lake and to restore the lake to its original condition.

### ii. Newnans Lake

Located just east of the city of Gainesville in Alachua County, Newnans Lake is a perched surface waterbody with an area of 6,007 acres and a mean depth of six feet.<sup>40</sup> The lake obtains regional significance for several reasons. The northern lake shoreline is the boundary of Gum Root Swamp, a Natural Resource of Regional Significance. Prairie Creek, the lake's only surface outflow, flows directly to Paynes Prairie State

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<sup>38</sup>Surface area information was generally obtained from Edward A. Fernald and Donald J. Patton, Water Resources in Florida, Florida State University, Tallahassee, FL., 1984, pg. 285. The surface area of Alligator Lake, is estimated by the North Central Florida Regional Planning Council, September, 1994.

<sup>39</sup>Myers, V.B. and Edmiston, Florida Lake Classification and Prioritization, Final Report. Project #S004388. Florida Department of Environmental Regulation Technical Report, Tallahassee, FL., 1983.

<sup>40</sup>Ad Hoc Committee for Newnan's Lake Environmental Concerns, Report: 1983 Alachua County, Gainesville, FL., 1983, pg. 13.



Preserve. A natural edge of cypress and gum trees in a relatively undisturbed state surrounds the entire lake. Due to a wet shoreline, very little residential development exists next to the lake.

## e. River Corridors

Regionally significant river corridors consist of the Alapaha, Aucilla, Econfina, Ichetucknee, Santa Fe, Steinhatchee, Suwannee and Withlacoochee rivers. In addition, three small streams located in southeastern Alachua County, the River Styx, Prairie Creek, and Cross Creek, are also recognized by the regional plan as Natural Resources of Regional Significance. River corridors consist of the stream channel and the 100-year floodplain. In the case of the Econfina, and Steinhatchee rivers, as well as the River Styx, Prairie Creek, and Cross Creek, the river corridor consists of the river/stream channel and a buffer area extending landward 1/4-mile from the commonly-recognized river/stream banks. The buffers will be replaced by the 100-year floodplain of these rivers as floodplain information becomes available. The 1/4-mile river buffers and the 100-year floodplain of the Suwannee River system comprise 165,123 acres.

### i. Alapaha River Corridor

The Alapaha River travels 125 miles from its headwaters in southwestern Georgia to the Suwannee River in Hamilton County. The Alapaha drainage basin contains 1,840 square miles. Only a small portion of the river, approximately 40 miles, flows through north central Florida. Similarly, only 140 square miles of its 1,840 square mile drainage basin is located in the region. The river flow averages 1,346 cubic feet per second.<sup>41</sup>

The Alapaha is similar to the upper Suwannee with high and steep banks winding through undeveloped forest lands. Unlike the Suwannee, the Alapaha is divided into two distinct segments by a group of sinks. The river flows continuously year-round in the northern segment. The northern segment flows into the sinks, channeling a significant portion of the river flow underground. The southern segment flows intermittently. The sinks absorb all of the northern segment waters during periods of low flow. Water flows the entire length of the Alapaha about 60 percent of the time. The river's waters travel through underground limestone channels for 19 miles to re-emerge at Alapaha Rise and possibly Holton Spring.

### ii. Aucilla River Corridor

The Aucilla River begins near the Georgia community of Boston and meanders 69 miles through Florida to the Gulf of Mexico. The river drains approximately 805 square miles and has an average discharge of 436 cubic feet per second.<sup>42</sup>

Forming the boundary between Jefferson, Madison, and Taylor counties, the Aucilla River flows through the Aucilla Wildlife Management Area in northern Taylor County to the St. Marks Wildlife Management Area on the gulf. The Aucilla River provides some of Florida's most unspoiled river vistas available to canoeists and hikers. The river has been designated an Outstanding Florida Water. The state recently purchased property adjacent to the river to protect a unique sink area known as the Aucilla River Sinks, a Natural Resource of Regional Significance in its own right. The river traverses upland forests of longleaf pine and

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<sup>41</sup>Water Resources Division, United States Geological Survey, Water Resource Data for Florida, Vol. 4, Northwest Florida, Tallahassee, Fl., 1984.

<sup>42</sup>Water Resource Data for Florida, Vol. 4, Northwest Florida.



turkey oak, old growth mesic and hydric hardwood forests, cypress and gum swamps, beech-magnolia groves, live oak hammocks, and finally the salt marsh of the St. Marks National Wildlife Refuge.

Bald eagles, osprey, otters, and turkeys are seen, as are smaller animals such as fox squirrels and raccoons. Many species of birds either nest or migrate through the coastal marsh segment of the river. Indian mounds dating back more than 2,000 years are scattered along it. Much of the river floodplain is owned and managed by timber companies effectively restricting residential development. The two wildlife management areas provide habitat for many plant and wildlife species.

### iii. Econfina River Corridor

Located approximately midway between the Aucilla River and the City of Perry, the Econfina River has a length of approximately 32 miles and a drainage area of 198 square miles. The river has an average discharge of 138 cubic feet per second.<sup>43</sup> Its principal attraction is the relatively natural condition of its banks and estuary. Virtually no residential development has taken place along its entire length. Hardwood forest lines the banks of the river while numerous adjacent lands are in managed pine forest. The river is much wider at the Gulf and forms an important estuary.

Water quality of the river and adjoining salt marsh is very good. The adjoining forests contribute to the quality of the salt marsh by filtering water before it reaches the coast and by acting as a buffer between the salt marsh and the forest industry land to the north. The river corridor is primarily a mixture of hydric and mesic communities. The major ecosystems found on the river include salt marsh, mixed-pine-hardwood community, pine-oak-palm community, and river swamp.

### iv. Ichetucknee River Corridor

Ichetucknee Springs forms the headwaters of this five-mile long river which forms the border between southern Columbia and Suwannee counties. Its clear waters make the river a very popular location for canoeing, rafting, and tubing. The Ichetucknee River is designated by the State of Florida as an Outstanding Florida Water.

The river runs past high limestone banks, river swamp, and marsh shoreline where dominant plant types are ribbon grass, spatterdock, coastal willow, and buttonbush. The swamp area has several beaver lodges. Animals common to the park include turkey, limpkin, apple snail, Suwannee bass, gulf pipe fish, and river otter. Recently, manatees have been sighted in the river.

The river floodplain is mainly composed of sandhills and mesic hammock vegetation. A sandhill community is located in the highest elevations. Common plants include turkey oaks, sand post oak, longleaf pine, bracken fern, and wiregrass. The corridor contains a small area of river swamp which is poorly drained, frequently flooded, and has a dense canopy. Dominant trees include red maple, sweetgum, American elm, Florida ash, and bald cypress.

### v. Santa Fe River Corridor

The Santa Fe River is the largest tributary of the Suwannee, flowing 75 miles from its headwaters at Santa Fe Lake in northeast Alachua County to its confluence with the Suwannee River in northwest Gilchrist

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<sup>43</sup>Water Resource Data for Florida, Vol. 4, Northwest Florida.



County. The river drains a watershed of 1,440 square miles. The Santa Fe has four major tributaries of its own: the Ichetucknee River, New River, Sampson River, and Olustee Creek. Both the Santa Fe River and Olustee Creek are designated as Outstanding Florida Waters. With average recorded flows of more than 1,500 cubic feet per second, the large volume of surface waters flowing through the river make the Santa Fe a Natural Resource of Regional Significance independent of the Suwannee.<sup>44</sup>

The forest areas which surround the river consist of swamp forest and hammock forest. The swamp forest has an abundant diversity of tree species including sweet gum, tupelo gum, pumpkin ash, Carolina ash, laurel oak, Florida elm, red maple, bald cypress, water hickory and water locust. The intermittently flooded areas of the river swamp show a preponderance for live oak trees. The overcup oak and river birch species reach the southern limit of their range along the Santa Fe River.

Most wildlife species found in north central Florida can also be found along the Santa Fe River. Bobcats and an occasional black bear may still be found. Wide-ranging species such as deer, grey squirrel, turkey, and otter are also present. Alligators are abundant, particularly in the eastern portion of the river. The bird population is extensive and includes the common egret and heron, pileated woodpecker, limpkin, kingfisher, red shouldered hawk, barn owl, several species of warbler, and the rare Mississippi kite.<sup>45</sup>

The Santa Fe River is in a nearly natural state and receives almost no domestic or industrial pollution. The most notable attribute of the upper Santa Fe River is the Santa Fe Swamp, which is owned by the Suwannee River Water Management District. The lower Santa Fe is noted for its many springs. The area between O'leno State Park and the Suwannee River confluence is the center of the range of the Suwannee Bass, a species of very restricted distribution, which is also an excellent game fish. The lower Santa Fe harbors an estimated 80 to 90 percent of the total population of this unique species. The area between the Ichetucknee River and Poe Springs is an important fossil site. Many springs are found along the river, including Poe Spring, Lily Spring, Ginnie Springs, Devil's Eye Spring, Dogwood Spring, July Spring, Blue Spring, Naked Spring, and Rum Island Spring.

#### vi. Steinhatchee River Corridor

The Steinhatchee River Corridor forms the border between Dixie and Taylor counties. The Steinhatchee River is approximately 30 miles long and has an average flow of 325 cubic feet per second.<sup>46</sup> The river is formed out of many small tributaries whose headwaters are found in San Pedro Bay, which is in northern Taylor and southern Lafayette counties. Approximately four miles downstream of Steinhatchee Springs, the river disappears underground for a distance of approximately ½ mile. From its resurgence it is possible to canoe the entire distance to the Gulf without portage. Downstream, the river forms a large estuary at the Gulf coast. The town of Steinhatchee, a small fishing village, is located at the river's mouth.

The outstanding feature of the Steinhatchee is its undeveloped nature. Virtually the entire length of the river from Steinhatchee Springs to the town of Steinhatchee is in a relatively natural state. Many hardwood trees line its banks. Another distinctive feature of the river are the extensive tidal flats at its mouth. The river has a relatively large coastal drainage basin of approximately 375,000 acres, most of which is wet forests and titi-based swamps.

<sup>44</sup>Water Resource Data for Florida, Vol. 4, Northwest Florida.

<sup>45</sup>Significant Natural Areas, Gainesville, Fl., 1977, pg. 60.

<sup>46</sup>Water Resource Data for Florida, Vol. 4, Northwest Florida.



## vii. Suwannee River Corridor

The Suwannee River Corridor consists of the 100-year floodplain of the Suwannee River. The Suwannee River Corridor serves an important role in the region by linking inland wetlands to Gulf coastal marshes. The river also plays an important role in the control of fresh water flooding. No flood control structures are found along the river within the State of Florida. Instead, the Suwannee relies upon its large floodplain to control flood waters. The Suwannee River is the setting of many natural features including an abundance of fresh water springs, sinks, and underwater caves. The river is widely used as a recreational resource for camping, boating, canoeing, skin diving, and fishing.

The Suwannee River is the second largest Florida river in terms of water flow and is one of the most important water resources in the region. The river is 235 miles in length, of which 207 miles traverse north central Florida. From its headwaters in the Okefenokee Swamp in southern Georgia, the river flows south across the Northern Highlands and into the Gulf Coastal Lowlands, eventually draining 9,950 square miles into its estuary at the Gulf of Mexico. The Suwannee forms the borders of seven north central Florida counties and drains all, or portions of, ten counties within the region.<sup>47</sup> The Suwannee River estuary is a complex system of diverse natural communities and is a major nursery for commercial fish and shellfish.

The Suwannee has a flow of approximately one billion gallons per day at its entrance to the State of Florida and empties seven billion gallons per day into the Gulf of Mexico.<sup>48</sup> Unlike many rivers, the Suwannee's water quality is generally better downstream than up. The headwaters of the Suwannee, the Okefenokee Swamp in Georgia, produce a dark-colored water flow high in tannic and humic acids from the decay of lush swamp vegetation. Downstream springs provide the Suwannee with a high quality water source. The Suwannee is fed by more than 50 springs. During periods of drought the springs are a major source of the Suwannee's water.

The Suwannee has relatively few tributaries compared with most rivers due to the basin's well-draining sands and underlying limestone channels. Instead of having many tributaries as sources of water, the great number of sinks and lakes in the region collect rain and local runoff before it can reach the Suwannee. Thus the soils and sinkholes contribute to water pressure deep inside the aquifer, helping to promote the flow of high quality spring water to the Suwannee.

The Suwannee River flows across sediments formed over a time span of 40 million years. Many of these sediments, deposited in large deltas, estuaries, and shallow ocean environments, are composed of limestone, dolostone, and other sandy materials. The dissolution of underlying limestone produces scenic rock outcroppings, sinkholes, and the many springs along the river. This diversification of geologic features greatly contributes to its scenic and recreational value.

The vegetation along the river adds to its scenic beauty. Its forested banks are unique in that they traverse every major terrestrial habitat in Florida. Fresh water marsh and swamp forests occur at its headwaters while salt marsh can be found at the river's mouth. The variety, size, and geographic location of its plant communities are noteworthy.

The river and its heavily forested floodplains provide excellent habitat for many fish and animal species, most notably the Suwannee black bass, Okefenokee pigmy sunfish, West Indian manatee and Atlantic

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<sup>47</sup>Except Taylor County.

<sup>48</sup>Water Resource Data for Florida, Vol. 4, Northwest Florida.

sturgeon. The sturgeon have historically been a mainstay of fishermen all along the Gulf coast. However, due to over-fishing, dam construction, and river pollution, their numbers have declined to the point where it is considered an endangered specie on the Mississippi River. The Suwannee River is the only river in the eastern Gulf of Mexico which supports a normally functioning population of Atlantic sturgeon. In the spring, adult sturgeons migrate upstream from their wintering grounds over the continental shelf to spawning areas in shallow portions of the upper Suwannee. Adults return to the Gulf of Mexico in the fall. Juveniles may remain in fresh or brackish water for three to five years before entering the open ocean.<sup>49</sup> West Indian manatees occur in the lower Suwannee River during the warmer months of the year. During the winter months, they concentrate at Manatee Springs, one of six natural warm water refuges within the state for this endangered species.<sup>50</sup>

Thirty-nine species of amphibians, 73 species and subspecies of reptiles, 232 species and subspecies of birds, and 42 species and subspecies of mammals are present within the Suwannee River Corridor.<sup>51</sup> The large number of species may be attributable to the river's diverse and undeveloped habitat. The river forms an important dividing line that abruptly terminates the range of a number of species. Some animal species such as the alligator snapping turtle, wood thrush and marsh hawk reach the southern and eastern limits of their range on the northeast bank of the Suwannee. Other species reach their westerly and northerly limits at the river, such as the Florida crow and the Florida black bass.<sup>52</sup> Forested areas along the river support white-tailed deer and wild turkey. Black bear can be found in small numbers.

Small game species occurring in the watershed include bobwhite quail, mourning dove, grey squirrel, woodcock and common snipe. The Suwannee River estuary has abundant habitat for waterfowl. Many duck species use the river including mallard, pintail, red-breasted merganser, black duck, and gadwall.

The Suwannee has not been significantly degraded due to human use. The river's water quality is high and its banks are relatively free of streamside development. Recreational use of the Suwannee River and its tributaries (Alapaha, Ichetucknee, Santa Fe, and Withlacoochee rivers) is increasing as the region's population grows and people from around the state become increasingly aware of its recreational resources. Potential for conflicts and resource degradation (e.g., bank and shoreline erosion, water pollution, manatee collisions, etc.) increases in direct proportion to increased use of the river system.

The Florida Fish and Wildlife Conservation Commission has the primary responsibility for establishing boating safety zones. Local governments have limited responsibility for establishing boating safety zones, which in turn are enforced by the Florida Fish and Wildlife Conservation Commission, the Florida Marine Patrol, and local law enforcement agencies. There are no consistent, enforceable boating traffic controls currently in effect on the Suwannee or its tributaries. An opportunity exists for state agencies and local governments to coordinate in the development of a comprehensive boating safety and resource protection strategy for the Suwannee River system.

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<sup>49</sup>Angelo D. Becasso, Nick Fotheringham, Alice E. Redfield, Ronald L. Frew, William M. Levitan, Joel E. Smith, and Jarrett O. Woodrow, Jr., Gulf Coast Ecological Inventory: User's Guide and Information Base, Dames and Moore, Bethesda, Md., 1982, pg. 132.

<sup>50</sup> Gulf Coast Ecological Inventory: User's Guide and Information Base, pg. 130.

<sup>51</sup> Gulf Coast Ecological Inventory: User's Guide and Information Base, pg. 132.

<sup>52</sup>S. David Webb, "A Short Report on the Ecology of the Suwannee River Drainage", Florida State Museum, Gainesville, Fl., 1970, pg. 4-7.



### viii. Withlacoochee River Corridor

The Withlacoochee River begins its 108-mile journey to the Suwannee near Tifton, Georgia. Flowing southeasterly, it joins the Suwannee near Ellaville at Suwannee River State Park. Some 28 miles of the river lies within Florida, forming the border between Madison and Hamilton counties. The river flows through some of the state's most picturesque wetlands, with its varying river channel exhibiting such features as sandy beaches and impressive limestone outcroppings. Several springs feed the Withlacoochee and add to its scenic qualities, including Withlacoochee Blue Spring, Suwanacoochee Spring, and Morgan Springs. Approximately 2,120 square miles are contained within the Withlacoochee drainage basin in Georgia and Florida. The river itself has a recorded discharge at the Suwannee ranging from 93 to 2,060 cubic feet per second with an average flow of approximately 1,000 cubic feet per second.<sup>53</sup>

The river is accessible by small boats and canoes. Shoals and shallow areas severely limit powerboat access. Only one public boat launch is on the Withlacoochee, with canoes and other small boats primarily launched at road crossings. The Withlacoochee River Canoe Trail was the first river canoe trail established in Florida. The Florida Department of Environmental Protection maintains the trail in cooperation with the Coastal Plain Area Tourism Council of Valdosta, Georgia. The trail begins north of Valdosta and ends 56 miles downstream at its confluence with the Suwannee River.

The ecology of the Withlacoochee River is similar to the Suwannee. Forest types vary considerably. Longleaf and slash pine forest located in the sandhills give way to bottomland forest near the river. Oak and pine form the predominant tree types. The forests along the river's bank are harvested primarily for pulpwood. There are very few areas with residential development along the river, and these are located near the river's mouth at its junction with the Suwannee. The remainder of the river corridor is in a relatively natural condition.

Wildlife species occurring within the river corridor include a year-round population of wood duck. Beaver, once trapped out of the river for their fur, are active and contributing to tree damage. Deer, gray and red fox, and a variety of bird species including the kingfisher and many species of swallow are abundant. A fish survey of the river by the Florida Fish and Wildlife Conservation Commission identified 31 species including Suwannee bass, warmouth, blue gill, shellcracker, red breast sunfish, spotted sucker, several species of shiner, and shad in the river.

Agricultural runoff and industrial pollution affect the river's water quality. The latter results from the discharge of approximately 11.7 million gallons per day of paperboard mill wastewater into the Withlacoochee River near Clyattville, Georgia. Nutrient overloads and low levels of dissolved oxygen in the river are caused, at least in part, by these effluents. Runoff from adjacent agricultural lands is the likely source of high levels of coliform bacteria and phosphate found in the river.

Despite the pollution concerns regarding small segments of the river, it remains essentially an undeveloped natural river affording excellent recreation potential. The varied character of the river itself, besides the profuse natural vegetation and absence of development, creates a very impressive aesthetic appearance offering a pleasing, and perhaps primitive, river experience.

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<sup>53</sup>Water Resource Data for Florida, Vol. 4, Northwest Florida.





## ix. Cross Creek, Prairie Creek and River Styx Corridors

Cross Creek, Prairie Creek, and the River Styx are small perennial streams in southeastern Alachua County. Cross Creek is the smallest of the three at approximately one mile in length. It is designated an Outstanding Florida Water and connects two regionally significant lakes, Orange Lake and Lake Lochloosa, both of which are also designated as Outstanding Florida Waters. At six miles in length, the River Styx is the longest of the three streams. The River Styx is also designated as an Outstanding Florida Water and connects Paynes Prairie State Preserve to Orange Lake. Prairie Creek is approximately two miles in length and connects Newnans Lake, a Natural Resource of Regional Significance, to Paynes Prairie State Preserve.

## f. Springs

More than 100 springs exist in the region, most of which are found along the Suwannee and Santa Fe rivers. Most of the springs issue under artesian pressure from the Floridan Aquifer with an average water temperature of 70 degrees Fahrenheit.<sup>54</sup> Regionally significant springs are identified in Table 4.1. Most regionally significant springs flow into the Suwannee River system. These springs provide significant volume to the flow of the river and affect the river's water quality. During periods of low water tables, the springs occasionally act as sinkholes; whereby, the Suwannee discharges its flow to the Floridan Aquifer. The springs are a primary source of recreation, providing locations for camping, canoeing, swimming, and snorkeling. In addition, north central Florida springs are internationally famous among cave divers.

Groundwater that maintains the region's springs is susceptible to contamination from activities occurring within spring capture zones. Spring capture zones are similar to water wellhead capture zones. They represent a geographic area near the spring where, if groundwater is contaminated, it will be disgorged by the spring at the earth's surface. Similar to wellhead capture zones, spring capture zones can be delineated by treating springs as pumping wells and using the U.S. Environmental Protection Agency's Wellhead Protection Area computer model to determine the size and shape of the capture zones. Spring capture zones have not been delineated for north central Florida springs. Delineation is important in order to protect the water quality of north central Florida springs and the surface waters supplied by springs. Three of the region's springs are highlighted below.

## i. Ginnie Spring

Located on the Santa Fe River in northeast Gilchrist County and northwest Alachua County, Ginnie Spring is associated with nine other nearby springs: Poe, Lily, Devil's Pond, Dogwood, July, Blue, Rum Island, Naked, and Poe. They are in a natural woodland setting easily accessible from each other. Much of the plant life near the springs is in a near natural state. Large species of cypress, oak, and maple trees surrounded by a dense undergrowth of natural vegetation, occur along the adjacent Santa Fe River and the spring group. A privately-owned campground surrounds Ginnie Spring.

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<sup>54</sup>Jack C. Rosenau, et. al., Springs of Florida, Florida Bureau of Geology, Tallahassee, FL. 1977, pg. 4. Spring classes are based upon their rate of discharge. The Bureau identifies eight classes, or magnitudes, of springs. First magnitude springs discharge an average of 100 cubic feet or more of water per second. Second magnitude springs discharge between ten and 100 cubic feet per second. Third magnitude springs discharge between one to 10 cubic feet per second. By way of comparison, eighth magnitude springs discharge less than one pint per minute. The regional plan recognizes all first, and second magnitude springs and their runs, a total of 105 springs, as Natural Resources of Regional Significance.

Ginnie Spring is a large clear water spring with depths to 40 feet and is one of the most popular scuba-diving springs in the region. Devil's Eye Spring is in the middle of three boils in one of the most beautiful combinations of springs in the state. The spring contains a multi-caved tunnel leading to the Santa Fe River.

## ii. Holton Spring and Holton Creek

Holton Spring and its run to the Suwannee River, Holton Creek, are located on the north side of the Suwannee River approximately one mile east of the Alapaha River in Hamilton County. Holton Spring is one of the region's ten first magnitude springs. More importantly, it is one of the few remaining first magnitude springs in a relatively undisturbed, natural state.<sup>55</sup> Endangered species found in the area include the gopher tortoise and Suwannee cooter. The area also contains the cedar elm, an endangered tree. The area contains the largest known population of cedar elm in Florida with an estimated 100 to 1,000 individual trees.<sup>56</sup>

## iii. Withlacoochee Blue Spring

Withlacoochee Blue Spring is approximately five miles east of the City of Madison on the west bank of the Withlacoochee River in Madison County. The site is widely used by Madison and Hamilton county residents for recreational activities. The spring has also gained a national reputation for cave diving.

Withlacoochee Blue Spring is a first magnitude spring with an average flow of 78 million gallons per day. The spring pool is 90 feet wide and 30 feet deep. A clear run travels approximately 150 feet from the spring to the Withlacoochee River. Vegetation around the spring consists of high pine lands and sandhills on the west giving way to a dense hardwood forest along the river. The vegetation is diverse with many large trees contributing to the aesthetic appearance of the site.<sup>57</sup>

## B. Problems, Needs and Opportunities

The Council identifies the following Natural Resources of Regional Significance problems, needs, and opportunities:

1. A need exists to preserve Big Bend coastal and marine resources identified as Natural Resources of Regional Significance for future generations.
2. A need exists to maintain an adequate supply of high-quality groundwater for all of north central Florida for future generations.
3. A need exists to increase our knowledge of the relationship between ground and surface waters, the surface water needs of native species and natural systems, including minimum flows necessary to the survival of native species and natural systems.

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<sup>55</sup>Suwannee River Preserve Design Project, pg. 55.

<sup>56</sup>Ibid, pg. 55.

<sup>57</sup>Significant Natural Areas, pg. 69.



4. A need exists to protect all sources of recharge to the Floridan Aquifer from activities which would impair these functions or cause a degradation in the quality of recharging waters.
5. A need exists to ensure the survival of flora and fauna native to the region.
6. A need exists to ensure the survival of all listed species currently found in the Regional Ecological Greenways Network.<sup>58</sup>
7. A need exists for the state to protect the identified attributes of the habitats of listed species within the Regional Ecological Greenways Network.<sup>59</sup>
8. A need exists to plan and manage Planning and Resource Management Areas identified as Natural Resources of Regional Significance.
9. A need exists to maintain the quantity and quality of the region's surface water systems identified as Natural Resources of Regional Significance.
10. A need exists to map the capture zones of all springs identified as Natural Resources of Regional Significance.
11. An opportunity exists for state agencies and local governments to coordinate in the development of a comprehensive boating safety and resource protection plan for the Suwannee River System.
12. A need exists to balance environmental concerns with existing needs for raw materials by industry. The survival of the timber industry is very important to the region as it provides the reason to own and protect much of what is identified in this plan as a Natural Resource of Regional Significance. The use of Best Management Practices is important to the sustainability of forests.
13. A need exists to encourage growth of biomass within the region in light of increasing demand for biomass electrical power generation.
14. As our region contains very sizeable quantities of biomass material for renewable energy production, there is an opportunity to increase the acreage of forested lands, improve the ecological quality of forested lands and provide for renewable energy supplies.
15. There is a need to encourage the sustainability of our forests.

## C. Regional Goals and Policies

### 1. All Natural Resources of Regional Significance

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<sup>58</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.

<sup>59</sup>Ibid.



**REGIONAL GOAL 4.1.** Use the natural resources of the region in a sustainable manner.

**Regional Indicators**

1. As of 2009, the number of north central Florida local government comprehensive plans and Developments of Regional Impact which encourage the use of silvicultural best management practices is unknown.
2. As of 2009, the number of north central Florida local government comprehensive plans and Developments of Regional Impact which encourage the use of low impact development practices is unknown.
3. As of 2009, the number of north central Florida local government comprehensive plans and Developments of Regional Impact which encourage the use of energy conservation design principles is unknown.
4. As of 2009, the number of north central Florida local government comprehensive plans and Developments of Regional Impact which encourage the use of water conservation and reuse strategies is unknown.
5. As of 2009, with the exception of intracounty groundwater transfer by Gainesville Regional Utilities, no interbasin transfer of water occurs in the region.
6. As of January 2010, north central Florida has 39 megawatts of electrical generation capacity using biomass as the primary fuel source.

**Policy 4.1.1.** Ensure that local government comprehensive plans and Developments of Regional Impact include provisions which encourage the use of silvicultural best management practices for silviculture uses within Natural Resources of Regional Significance.

**Policy 4.1.2.** Ensure that local government comprehensive plans and Developments of Regional Impact include provisions which encourage the use of low impact development practices within Natural Resources of Regional Significance.

**Policy 4.1.3.** Ensure that local government comprehensive plans and Developments of Regional Impact include provisions which encourage the use of energy conservation design principles in order to minimize demand on regional electric power generation facilities.

**Policy 4.1.4.** Ensure that local government comprehensive plans and Developments of Regional Impact include provisions which encourage the inclusion of water conservation and reuse strategies in order to minimize demand for surface water and groundwater Natural Resources of Regional Significance.

**Policy 4.1.5.** Discourage the transfer of water across water management district boundaries until the receiving jurisdiction has implemented all practicable water supply alternatives and conservation measures, unless it is within a county which is located within two water management districts.

**Policy 4.1.6.** Discourage the transfer of groundwater and surface water across water management district boundaries, as provided for in Policy 4.1.5, where the current and projected water needs of the area from where the water is taken cannot be met, unless it is within a county which is located within two water management districts.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**Policy 4.1.7.** Encourage cooperative efforts to develop local and regional water supplies within water management districts, instead of the transport of water across water management district boundaries, and use water from sources nearest the area of use whenever practicable.

**Policy 4.1.8.** Encourage water management districts to take into account and to not violate the minimum flows and levels of waterbodies located within adjacent water management districts when preparing water supply plans and when issuing consumptive use permits.

**Policy 4.1.9.** Ensure that local government comprehensive plans and developments of regional impact do not include provisions relying upon Regional Plan Policies 4.1.5 and 4.1.6 contained herein as encouragement or justification to require the issuance of a local government permit for the consumptive use of water or the exercise of any other local government regulatory action preempting or having the effect of preempting the exclusive authority of water management districts over the consumptive use of water as authorized by Chapter 373, Florida Statutes.

## 2. Coastal and Marine Resources

### a. Big Bend Salt Marsh, Big Bend Seagrass Beds and Florida Middle Ground

**REGIONAL GOAL 4.2.** Preserve Big Bend coastal and marine resources identified as Natural Resources of Regional Significance for future generations of residents in recognition of their economic and ecological importance to the region.

#### Regional Indicators

1. As of January, 2000, the Big Bend Salt Marsh (Dixie and Taylor County) coastline comprised 48,190 acres.
2. In 2001, that portion of the Big Bend Seagrass Beds extending 6 nautical miles seaward of the Dixie County and Taylor County coastline was comprised of 102,530.5 acres of bays and estuaries, 63,992.3 acres of open water, 7,638.6 acres of tidal flats, 11,515.0 acres of patchy seagrass, 192,556.6 acres of continuous seagrass, and 108,423.7 acres which were unclassified.<sup>60</sup>
3. In 1996, the Florida Middle Ground comprised 132,000 acres.
4. As of January 2007, a Florida Department of Health No-Fish-Consumption Advisory is in effect for the Fenholloway River due to elevated mercury levels in the river's of fish in the river.
5. As of April 2007, the Fenholloway River is in violation of U.S. Environmental Protection Agency water quality standards for dissolved oxygen, biochemical oxygen demand, un-ionized ammonia, fecal coliform and dioxin.
6. As of January 2007, there were 16 National Pollutant Discharge Elimination System stormwater facility permits and 8 National Pollutant Discharge Elimination System wastewater permits in Taylor

<sup>60</sup>North Central Florida Regional Planning Council, March 2007. Derived from Seagrass Habitat and Monitoring in Florida's Big Bend, Florida Fish and Wildlife Research Institute and Suwannee River Water Management District, 2006.



County. In 2006, there were 4 National Pollutant Discharge Elimination System stormwater facility permits and 2 National Pollutant Discharge Elimination System wastewater permits in Dixie County.

7. As of January 2007, the communities of Fanning Springs and Old Town were not serviced by a centralized wastewater treatment system.
8. As of January 2007, no offshore oil or natural gas wells are located within 100 miles of the Dixie and Taylor counties coastline.
9. As of January, 2007, no offshore oil or natural gas wells are located within the Florida Middle Ground.

**Policy 4.2.1.** Use non-structural water management controls as the preferred water management approach for the coastal areas of the region.

**Policy 4.2.2.** Provide technical assistance to local governments in ensuring the preservation of the region's coastal and marine resources through their local planning processes.

**Policy 4.2.3.** Minimize the need for excavating and/or filling of the region's coastal wetlands and ensure impacts are mitigated where such activity occurs.

**Policy 4.2.4.** Minimize the impacts of development activities which occur within and/or adjacent to the coastal wetlands.

**Policy 4.2.5.** Remove either the Big Bend Seagrass Beds or an area 35 miles seaward of the coastline of Dixie and Taylor Counties, whichever is of the greater seaward extent, from areas available for oil, gas and mineral leasing in the eastern Gulf of Mexico.

**Policy 4.2.6.** Remove the Florida Middle Ground from areas available for oil, gas and mineral leasing in the eastern Gulf of Mexico.

**Policy 4.2.7.** Minimize the need for establishing new channels and maintenance dredging of existing channels within the seagrass beds and mitigate impacts where such activity occurs.

**Policy 4.2.8.** Coordinate land use and water resources planning for coastal and marine resources designated as Natural Resources of Regional Significance among the Council, local governments, and the water management districts through regional review responsibilities, participation in committees and study groups, and ongoing communication.

**Policy 4.2.9.** Assist in environmental education efforts to increase public awareness of the region's coastal and marine resources through the North Central Florida Tourism Task Force.

**Policy 4.2.10.** Use incentives to encourage future development located within the service area of the unincorporated Town of Suwannee's wastewater treatment plant to hook up to the plant.

**Policy 4.2.11.** Monitor the entire Big Bend Seagrass Beds for a distance of six nautical miles seaward of the coastline and the Florida Middle Ground on a regular basis using a consistent methodology which provides meaningful trend analysis of their health and areal extent.



**Policy 4.2.12.** Ensure that local government comprehensive plans, developments of regional impact, and requests for federal and state funds for development activities reviewed by the Council include adequate provisions for the protection of the Beg Bend Salt Marsh and the Big Bend Seagrass Beds.

### 3. Groundwater Resources

#### a. Floridan Aquifer, Areas of High Recharge Potential to the Floridan Aquifer, Ichetucknee Trace, Stream-to-Sink Watersheds and Sinks

**REGIONAL GOAL 4.3.** Maintain an adequate supply of high-quality groundwater to meet the needs of north central Florida residents, in recognition of its importance to the continued growth and development of the region.

#### Regional Indicators

1. As of January 2002, the quantity of potable water contained in the Floridan Aquifer underlying the north central Florida region, its average daily recharge and discharge, were unknown.
2. In 2000, an estimated 232.2 million gallons per day of water were withdrawn from north central Florida groundwater sources.
3. As of January, 2002, north central Florida contained 26 first-magnitude springs, 101 second-magnitude springs, and 70 third-magnitude springs.
4. As of May 2007, the known Nitrate Nitrogen readings for north central Florida first magnitude springs, and their date of measure, were as follows (see Table 4.5):

**Policy 4.3.1.** Water management districts should monitor at regular intervals the water quality and flows of springs identified as Natural Resources of Regional Significance.

**Policy 4.3.2.** Continue to increase the region's knowledge of the relationship between ground and surface waters, the surface water needs of native species and natural systems, including minimum flows necessary to the survival of native species and natural systems.

**Policy 4.3.3.** Provide technical assistance to local governments in developing strategies in their local planning and land development regulations processes which can be used in addressing known water quantity, quality or recharge problem areas within their jurisdictions.

**Policy 4.3.4.** Coordinate land use and water resources planning for groundwater resources designated as Natural Resources of Regional Significance among the Council, local governments, and the water management districts through regional review responsibilities, participation in committees and study groups, and ongoing communication.

**Policy 4.3.5.** Assist in environmental education efforts to increase public awareness of the region's ground water resources through The Original Florida Tourism Task Force.

**Policy 4.3.6.** Identify and map the capture zones of all public water supply wellfields.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**Policy 4.3.7.** Provide technical assistance to local governments in implementing wellfield protection programs based upon capture zones delineated by either the Florida Department of Environmental Protection or the local water management districts when such information becomes available.

**Policy 4.3.8.** Ensure that local government comprehensive plans, developments of regional impact, and requests for federal and state funds for development activities reviewed by the Council include adequate provisions for the protection of the Floridan aquifer, Areas of High Recharge Potential to the Floridan aquifer, the Ichetucknee Trace, as well as Stream-to-Sink Watersheds and Sinks which have been identified and mapped in the regional plan as Natural Resources of Regional Significance.

**Policy 4.3.9.** Encourage local and regional development of alternative water supplies within south Georgia, the Suwannee River Water Management District and the St. Johns River Water Management District, including desalination, conservation, reuse of nonpotable reclaimed water and stormwater, as well as aquifer storage and recovery.

**REGIONAL GOAL 4.4.** Protect all sources of recharge to the Floridan aquifer from all activities which would impair these functions or cause a degradation in the quality of the water being recharged in recognition of the importance of maintaining adequate supplies of high-quality groundwater for the region.

#### Regional Indicators

1. As of January, 2011, the St. Johns River, the Suwannee River Water Management District, Alachua County, and Columbia County had identified and mapped 968,600.90 acres of areas of high recharge potential to the Floridan Aquifer within north central Florida.
2. In Fiscal Year 2005-06, there were 167,629 visitors to Ichetucknee Springs State Park.<sup>61</sup>
3. As of January, 2007, the Suwannee River Water Management District had identified and mapped 153,588 acres of stream-to-sink watersheds located within both its jurisdictional boundaries and within north central Florida.
4. In 2007, eight sinks were delineated as Natural Resources of Regional Significance in the North Central Florida Strategic Regional Policy Plan.

**Policy 4.4.1.** Coordinate the mapping of high recharge areas in order to assure consistency in identification of such areas near district boundaries.

**Policy 4.4.2.** Update the regional map series delineating Areas of High Recharge Potential to the Floridan Aquifer with a map series depicting High Recharge Areas of the Floridan Aquifer when the latter information becomes available.

**Policy 4.4.3.** Assist state and local agencies in developing and implementing strategies for the protection of the Ichetucknee Trace so that activities occurring within the Trace do not adversely impact the water quality and flow of surface waters within Ichetucknee Springs State Park.

**Policy 4.4.4.** Provide technical assistance to local governments in the development and implementation of appropriate local government comprehensive plan policies and land development regulations necessary

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<sup>61</sup>2006 Florida Statistical Abstract, Table 19.52.





to maintaining the quantity and quality of ground water recharge in Areas of High Recharge Potential to the Floridan Aquifer, Stream-to-Sink Watersheds, and Sinks.

**Policy 4.4.5.** Ensure that local government comprehensive plans, developments of regional impact, and requests for federal and state funds for development activities reviewed by the Council include adequate provisions for stormwater management and aquifer recharge protection in order to protect the quality and quantity of water contained in the Floridan Aquifer.

**Policy 4.4.6.** Work with the water management districts to develop and apply coordinated review procedures and criteria for reviewing groundwater issues related to developments of regional impact, federally-assisted projects, local plan amendments and revisions, local comprehensive plan evaluation and appraisal reports, and local comprehensive plan intergovernmental coordination elements.

**Policy 4.4.7.** Minimize the effect of mining activities on water quality and quantity of the Floridan Aquifer.

## 4. Natural Systems

### a. Regional Ecological Greenways Network

**REGIONAL GOAL 4.5.** Protect all listed species within the Regional Ecological Greenways Network.<sup>62</sup>

#### Regional Indicators

1. As of September 2009 the Regional Ecological Greenways Network comprised 1,316,360 acres in north Central Florida.

**Policy 4.5.1.** Allow development and economic activity within and near the Regional Ecological Greenway to the extent that such development and economic activity does not significantly and adversely affect the functions of the resource as an ecological greenway.

**Policy 4.5.2.** Work with local governments and the Florida Fish and Wildlife Conservation Commission to ensure the survival of all listed species and their habitats found in the Regional Ecological Greenways Network.<sup>63</sup>

**Policy 4.5.3.** Increase citizen awareness on the effects of human activities on listed species and their habitats in the Regional Ecological Greenways Network.<sup>64</sup>

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<sup>62</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.

<sup>63</sup>Ibid.

<sup>64</sup>Loc. cit.



**Policy 4.5.4.** Coordinate planning efforts to protect listed species and their habitats found within the Regional Ecological Greenways Network.<sup>65</sup>

**Policy 4.5.5** Endangered and threatened species and their habitats within the Regional Ecological Greenways Network shall be protected.<sup>66</sup>

**Policy 4.5.6.** When a land use designation change is proposed or an increase in allowable land use density or intensity is proposed, listed species and their habitat known to exist within the Regional Ecological Greenways Network shall be protected. Protection should include, but not necessarily be limited to, the following:

- a) conservation easements;
- b) on and offsite mitigation/conservation banks;
- c) tax breaks;
- d) transferable densities;
- e) management agreements; and,
- f) agriculture and silviculture best management practices.<sup>67</sup>

**Policy 4.5.7.** Working with private property owners, encourage voluntary protection of listed species and their habitat located on private property within the Regional Ecological Greenways Network through the use of best management practices and public education programs.<sup>68</sup>

**Policy 4.5.8** Provide technical assistance to local governments in the development of appropriate local government comprehensive plan policies and land development regulations necessary to maintain the identified attributes of listed species and their habitat within the Regional Ecological Greenways Network.<sup>69</sup>

**Policy 4.5.9.** Support agricultural and silvicultural practices that maintain the function and value of natural systems through the use of best management practices.

**Policy 4.5.10.** Ensure that requests for federal and state funds, federal and state permits, and direct federal and state actions for development activities reviewed by the Council include adequate provisions for the protection of listed species and their habitat within the Regional Ecological Greenways Network.<sup>70</sup>

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<sup>65</sup>Loc. cit.

<sup>66</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.

<sup>67</sup>Ibid.

<sup>68</sup>Loc. cit.

<sup>69</sup>Loc. cit.

<sup>70</sup>Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, [Florida Administrative Code](#); a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, [Florida Administrative Code](#), or an animal or plant species designated as Endangered or Threatened in Title 50, [Code of Federal Regulations](#), Part 17.



**Policy 4.5.11.** Ensure that local government comprehensive plans include policies which, for developments within the Regional Ecological Greenways Network require an evaluation to determine the presence of listed species and their habitat and, if such species are found, require the development of a management plan, including modifications to the proposed development as necessary, to ensure the protection of listed species and their habitat.<sup>71</sup>

**Policy 4.5.12.** Ensure that local government comprehensive plans include policies which protect native vegetation and provides for the use of native vegetation, thereby promoting the regeneration of natural habitats within the Regional Ecological Greenways Network.

**Policy 4.5.13.** Within the Regional Ecological Greenways Network, when listed species and their habitat are identified on a Development of Regional Impact project site, prepare a listed species management plan to prevent and/or mitigate adverse impacts to listed species and their habitat, and prohibit development activities until the survey is conducted and the plan is approved by the Council and the local government of jurisdiction.<sup>72</sup>

## 5. Planning and Resource Management Areas

### a. Private Conservation Lands, Public Conservation Lands and Surface Water Improvement Management Waterbodies

**REGIONAL GOAL 4.6.** Protect Natural Resources of Regional Significance identified in this plan as “Planning and Resource Management Areas.”

#### Regional Indicators

1. As of January 2011, north central Florida contained 2,640 acres of private conservation lands.
2. As of January 2011, north central Florida contained approximately 139,165 acres of federally-owned conservation lands.
3. As of January 2011, north central Florida contained 125,992 acres of state-owned conservation and recreation lands.
4. As of January 2011, north central Florida contained approximately 246,820 acres of water management District-owned conservation lands (including less than fee simple ownership).
5. In January 2011, north central Florida had 22 waterbodies identified as SWIM waterbodies.

**Policy 4.6.1.** Provide technical assistance to local governments in the development of appropriate local government comprehensive plan policies and land development regulations necessary to maintaining areas and water bodies identified as Natural Resources of Regional Significance classified in this plan as “Planning and Resource Management Areas”.

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<sup>71</sup>Ibid.

<sup>72</sup>Loc. cit.



**Policy 4.6.2.** Seek the input of local governments and the regional planning council in the preparation of management plans for public conservation lands, private conservation lands, and SWIM water bodies identified as Natural Resources of Regional Significance.

**Policy 4.6.3.** Continue to provide input to state and local agencies in reviewing existing or proposed designations of areas or water bodies as one of the categories identified as Natural Resources of Regional significance classified in this plan as "Planning and Resource Management Areas".

**Policy 4.6.4.** Ensure that local government comprehensive plans, developments of regional impact, and requests for federal and state funds for development activities reviewed by the Council include adequate provisions for the protection of Planning and Resource Management Areas identified and mapped in the regional plan as Natural Resources of Regional Significance.

**Policy 4.6.5.** Ensure that Developments of Regional Impact located proximate to lands classified as Planning and Resource Management Areas in the regional plan do not increase costs for the control and removal of invasive exotic plant species within such areas by including conditions in Development of Regional Impact local government development orders which prohibit the planting of Category I Invasive Exotic Plant Species as classified by the Florida Exotic Pest Plant Council.

## 6. Surface Water Systems

### a. Fresh Water Wetlands, Lakes, River Corridors and Springs

**REGIONAL GOAL 4.7.** Maintain the quantity and quality of the region's surface water systems in recognition of their importance to the continued growth and development of the region.

#### Regional Indicators

1. As of January, 2000, the water management districts had identified 1,109,868 acres of fresh water wetlands within the region.
2. As of January, 2002, 10 north central Florida lakes were identified as Natural Resources of Regional Significance in the North Central Florida Strategic Regional Policy Plan.
3. As of January, 2002, 11 river corridors were designated as Natural Resources of Regional Significance in the North Central Florida Strategic Regional Policy Plan.
4. As of January, 2002, 202,152 acres of river corridor were designated as Natural Resources of Regional Significance in the North Central Florida Strategic Regional Policy Plan.
5. As of January, 2011, 111 North central Florida springs were listed as Natural Resources of Regional Significance in the North Central Florida Strategic Regional Policy Plan.
6. In January, 2006, 12 north central Florida Natural Resources of Regional Significance were under a consumption advisory for Bowfin.
7. In January, 2006, 11 north central Florida Natural Resources of Regional Significance were under a consumption advisory for Large-mouth bass and Gar.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



8. In January, 2006, seven north central Florida Natural Resources of Regional Significance were under a consumption advisory for Redbreast Sunfish and Redear Sunfish.
9. In January, 2006, five north central Florida Natural Resources of Regional Significance were under a consumption advisory for Brown Bullhead.
10. In January, 2006, four north central Florida Natural Resources of Regional Significance were under a consumption advisory for Black Crappie, Bluegill, Channel Catfish, and White Catfish.
11. In January, 2006, three north central Florida Natural Resources of Regional Significance were under a consumption advisory for Spotted Sunfish.
12. In January, 2006, one north central Florida Natural Resource of Regional Significance were under a consumption advisory for Chain Pickerel and Warmouth.
13. As of June 2007, minimum flows and levels have been established for the lower Suwannee River, Madison County Blue Spring, and Fanning Spring.

**Policy 4.7.1.** Provide technical assistance to local governments in the development and implementation of appropriate local government comprehensive plan policies and land development regulations necessary to maintaining the quantity and high quality of the region's surface water systems.

**Policy 4.7.2.** Continue the mapping of river floodplains.

**Policy 4.7.3.** Update the regional map series delineating river floodplains as this information becomes available.

**Policy 4.7.4.** Work with north central Florida local governments to standardize on a common source for wetland maps contained in local government comprehensive plans.

**Policy 4.7.5.** Use non-structural water management controls as the preferred water management approach for rivers, lakes, springs, and fresh water wetlands identified as Natural Resources of Regional Significance.

**Policy 4.7.6.** Support the coordination of land use and water resources planning for surface water resources designated as Natural Resources of Regional Significance among the Council, local governments, and the water management districts through regional review responsibilities, participation in committees and study groups, and ongoing communication.

**Policy 4.7.7.** Assist in environmental education efforts to increase public awareness of the region's surface water systems through the North Central Florida Tourism Task Force.

**Policy 4.7.8.** Establish and enforce consistent boating safety zones along the Suwannee and Santa Fe rivers.

**Policy 4.7.9.** Assist local governments in establishing consistent regulations for development projects within river corridors identified as Natural Resources of Regional Significance.



**Policy 4.7.10.** Identify and map the capture zones of all springs identified as Natural Resources of Regional Significance. Once delineated, provide technical assistance to local governments in implementing spring protection programs based upon capture zones.

**Policy 4.7.11.** Provide technical assistance to local governments in obtaining grants to establish centralized sewer systems in identified septic tank problem areas.

**Policy 4.7.12.** Ensure that local government comprehensive plans, developments of regional impact, and requests for federal and state funds for development activities reviewed by the Council include adequate provisions for stormwater management, including retrofit programs for known surface water runoff problem areas, and aquifer recharge protection in order to protect the quality and quantity of water contained in the Floridan Aquifer and surface water systems identified as Natural Resources of Regional Significance.

**Policy 4.7.13.** Work with local governments, state and federal agencies, and the local water management districts in the review of local government comprehensive plans and developments of regional impact as they affect wetlands identified as Natural Resources of Regional Significance to ensure that any potential adverse impacts created by the proposed activities on wetlands are minimized to the greatest extent possible.

**Policy 4.7.14.** Minimize the effect of mining on the surface water quality and seasonal flows of surface waters identified as Natural Resources of Regional Significance.

**Policy 4.7.15.** Encourage water management districts to monitor at regular intervals the quality and quantity of surface waters identified as Natural Resources of Regional Significance.

**Policy 4.7.16.** Assist water quality working groups formed to meet the water quality standards of waterbodies included in the State of Florida 303(d) list.



# Chapter V

## Regional Transportation



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# Chapter V: Regional Transportation

## A. Conditions and Trends

### 1. Introduction

The region is served by four public transit system service providers, two major and three shuttle/commuter air carriers, one passenger and three freight rail systems, one bus line, and the regional road network. Due to its rural nature, north central Florida is heavily dependent upon automobile and truck transportation. Generally, the existing motor vehicle ground transportation and rail freight transportation systems are adequate.

### 2. Public Transit

Public transit is lightly utilized in north central Florida. The Gainesville Regional Transit System is the region's only community with a fixed-route public transit system. Paratransit services are available throughout the region provided by Big Bend Transit, Inc., the Suwannee River Economic Council, A & A Transport, MV Transportation, and Suwannee Valley Transit Authority. The Gainesville Regional Transit System also provides paratransit services in Alachua County. Intercity bus transportation is provided by Greyhound Bus Lines. The carrier stops in the following north central Florida municipalities: Gainesville, Hawthorne (bus stop), Waldo (bus stop), Starke, Lake City, and Perry.<sup>1</sup>

The region's rural character and low population density does not easily lend itself to the provision of public transit systems. Correspondingly, only a small percentage of the region's population use public transit. As indicated in Table 5.1 only 1.5 percent of year 2000 north central Florida workers age 16 and over reported using public transportation as their means of transportation to work. Alachua County, which includes Gainesville's fixed-route bus system, had the highest percentage of workers using public transit at 2.4 percent. Lafayette County reported the lowest usage at 0.0 percent. The table also reveals a decline in public transit usage between 1990 and 2000.

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<sup>1</sup>Greyhound Bus Lines, Inc., July 8, 2009, <http://www.greyhound.com/home/TicketCenter/en/locations.asp?state=fl>



**TABLE 5.1**  
**NORTH CENTRAL FLORIDA RESIDENTS USING PUBLIC TRANSPORTATION**  
**AS PRIMARY MEANS OF TRAVEL TO WORK**  
**WORKERS AGE 16 AND OVER**

Area	Number of Workers Age 16 and Over		Number Using Public Transportation		Percent Using Public Transportation	
	1990	2000	1990	2000	1990	2000
<b>Alachua</b>	83,897	102,713	1,510	2,465	1.8	2.4
<b>Bradford</b>	8,278	9,314	0	37	0.0	0.4
<b>Columbia</b>	17,323	22,707	52	23	0.3	0.1
<b>Dixie</b>	3,223	4,506	13	14	0.4	0.3
<b>Gilchrist</b>	3,504	5,686	4	40	0.1	0.7
<b>Hamilton</b>	3,723	4,076	34	33	0.9	0.8
<b>Lafayette</b>	2,083	2,475	0	0	0.0	0.0
<b>Madison</b>	5,986	6,736	36	7	0.6	0.1
<b>Suwannee</b>	10,289	13,496	21	27	0.2	0.2
<b>Taylor</b>	6,718	7,218	54	14	0.8	0.2
<b>Union</b>	3,283	3,239	7	16	0.2	0.5
<b>Region</b>	148,307	182,166	1,729	2,675	1.8	1.5
<b>State</b>	5,794,452	6,910,168	115,889	131,293	2.0	1.9

Source: U.S. Census Bureau, Census 2000 Summary File 3, Matrices P30, P31, P33, and P35, and Florida Statistical Abstract, 1994, Table 13.01.

a. **Public Transit Service Providers**

i. **Big Bend Transit, Inc.**

Big Bend Transit operates a demand-response system of vans and mini-buses within Madison and Taylor counties. The service is provided to employment centers as well as to social service, health, medical, shopping, and recreational facilities. Intra- and inter-county transportation service is provided within/from each of the rural counties in the service area with an emphasis on inter-county service to Leon County, which provides a high concentration of employment opportunities and specialized medical services. Big Bend Transit, Inc., is the designated coordinated community transportation provider for Madison and Taylor Counties.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



## ii. Gainesville Regional Transit System

The Gainesville Regional Transit System operates ten fixed main bus routes which serve the City of Gainesville and the adjacent surrounding urbanized area of Alachua County. The fixed route system operates on a radial pattern with seven of its ten routes originating at a downtown transfer point. The University of Florida contracts with the Gainesville Regional Transit System to provide campus shuttles. The Gainesville Regional Transit System also contracts with MV Transportation to provide paratransit service.

Between 1999 and 2007, Gainesville Regional Transit System fixed route ridership increased by 170.9 percent, from 3,299,933 to 8,939,334.<sup>2</sup> The growth in ridership was primarily due to the University of Florida student government providing a subsidy to the Gainesville Regional Transit System in exchange for allowing university students to ride the system free of charge.

## iii. Suwannee Valley Transit Authority

Suwannee Valley Transit Authority offers a variety of transportation services within Columbia, Hamilton, and Suwannee counties. These range from a weekly service which brings rural residents to Jasper, Lake City, and Live Oak, to daily commuter runs which carry workers to several major employment locations. Other services provided by the Suwannee Valley Transit Authority include the Gainesville Medical Bus which is a daily run which connects Jasper, Lake City, and Live Oak to regional medical facilities located in Gainesville. The Suwannee Valley Transit Authority also provides services to various human services agencies within its three-county area as well as charter services for groups needing special transportation requirements. The Suwannee Valley Transit Authority is the designated coordinated community transportation provider for Columbia, Hamilton, and Suwannee counties.

## iv. Suwannee River Economic Council, Inc.

The Suwannee River Economic Council provides demand-responsive paratransit services for senior citizens and is the designated coordinated community transportation provider for Bradford, Dixie, Gilchrist, and Lafayette counties.

## b. Paratransit Services and the Transportation Disadvantaged

Paratransit services for the transportation disadvantaged are available in all north central Florida counties. These systems operate as a part of Florida's Transportation Disadvantaged program. The purpose of the program is to provide transportation services to the transportation disadvantaged in a manner that is cost-effective, efficient, and reduces fragmentation and duplication of services.<sup>3</sup> Transportation services for the transportation disadvantaged are provided through the systems using a variety of vehicles, including

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<sup>2</sup>Gainesville Regional Transit System, June 2000, and Gainesville Regional Transit System, Fiscal Year 2007 Ridership by Route, ([http://www.go-rts.com/pdf/FY07\\_Ridership.pdf](http://www.go-rts.com/pdf/FY07_Ridership.pdf))

<sup>3</sup>The transportation disadvantaged are those persons who, due to physical or mental disability, income status, or age are unable to transport themselves or to purchase transportation and are, therefore, dependent upon others to obtain access to health care, employment, education, shopping, social activities, or other life-sustaining activities, or children who are handicapped or high risk or at-risk as defined in s.411.202, Florida Statutes and 427.011(1), Florida Statutes.



mini-buses, vans, mini-vans and automobiles. Many of the vehicles used are specially equipped to serve the needs of the disabled and public transit riders. Coordinated transportation systems which receive government public transit grants serve the general public, including the transportation disadvantaged general public. All of the coordinated transportation systems in the region heavily rely upon local, state, and federal financial assistance.

The Florida Commission for the Transportation Disadvantaged serves as the policy development and implementing agency for the state's transportation disadvantaged program. Major participants which implement the program at the county level include:

The Official Planning Agency, a Metropolitan Planning Organization or designated entity which performs long-range transportation disadvantaged planning and assists the Florida Commission for the Transportation Disadvantaged and the Local Coordinating Board in implementing the transportation disadvantaged program within a designated service area;

The Local Coordinating Board, a group with a diverse membership appointed by the Official Planning Agency which identifies local service needs, advises the Community Transportation Coordinator on the coordination of services, and serves as an advisory body to the Florida Commission for the Transportation Disadvantaged in its designated service area;

The Community Transportation Coordinator, a public, private non-profit, or private for-profit entity functioning as a sole provider, partial brokerage or complete brokerage which is responsible for, among other things, the delivery of transportation disadvantaged services originating in its designated service area;

Purchasers of transportation services such as the Florida Agency for Health Care Administration for Medicaid trips; and

Transportation operators, which are either public, private non-profit, or private for-profit entities which contract with a partial or complete brokerage Community Transportation Coordinator to provide transportation services within a coordinated transportation system.

Table 5.2 identifies the Official Planning Agency, Local Coordinating Board, and Community Transportation Coordinator for each of the counties within the region. The transportation services provided or arranged by Community Transportation Coordinators include program trips subsidized by government or social services agencies and general trips subsidized by state Transportation Disadvantaged Trust Fund trip/equipment grants or other sources. A general trip is one made by a transportation disadvantaged person or member of the general public to a destination of his or her choice. A program trip is one made by a client of a government or social service agency for the purpose of participating in a program of that agency. Examples include Medicaid, congregate meal, day training and day treatment program trips. Examples include medical, shopping, employment, and social/recreational trips. As can be seen in Table 5.2, the North Central Florida Regional Planning Council directly serves as the official planning agency for nine of the region's counties. The Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area is the official planning agency for Alachua County and is staffed by the Council.<sup>4</sup>

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<sup>4</sup>See Coordination Outline, page VII-4, for additional information regarding the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area and the transportation disadvantaged program.



**TABLE 5.2**  
**NORTH CENTRAL FLORIDA**  
**TRANSPORTATION DISADVANTAGED PROGRAMS**

Area	Planning Agency	Community Transportation Coordinators
<b>Alachua</b>	Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area 2009 N.W. 67th Place Gainesville, FL 32653-1603	MV Transportation 3713 SW 42nd Ave Gainesville, FL 32608 (sole provider)
<b>Bradford</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee River Economic Council P.O. Box 70 Live Oak, FL 32060 (partial brokerage)
<b>Columbia</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee Valley Transit Authority 1907 Voyles St. Live Oak, FL 32060 (partial brokerage)
<b>Dixie</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee River Economic Council P.O. Box 70 Live Oak, FL 32060 (sole provider)
<b>Gilchrist</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee River Economic Council P.O. Box 70 Live Oak, FL 32060 (sole provider)
<b>Hamilton</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee Valley Transit Authority 1907 Voyles St. Live Oak, FL 32060 (partial brokerage)
<b>Lafayette</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee River Economic Council P.O. Box 70 Live Oak, FL 32060 (sole provider)
<b>Madison</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Big Bend Transit, Inc. P.O. Box 1721 Tallahassee, FL 32302 (partial brokerage)
<b>Suwannee</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	Suwannee Valley Transit Authority 1907 Voyles St. Live Oak, FL 32060 (partial brokerage)
<b>Taylor</b>	Taylor County Board of County Commissioners P.O. Box 620 Perry, FL 32347	Big Bend Transit, Inc. P.O. Box 1721 Tallahassee, FL 32302 (partial brokerage)
<b>Union</b>	North Central Florida Regional Planning Council 2009 N.W. 67th Place Gainesville, FL 32653-1603	A & A Transport 55 North Lake Ave. Lake Butler, FL 32054 (sole provider)

Source: North Central Florida Regional Planning Council, April 2008.

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The state's transportation disadvantaged program serves two population groups. The first group, the "Transportation Disadvantaged Category I" population, includes disabled, elderly, and low-income persons and "high-risk" or "at-risk" children. These individuals are eligible for government and social service agency programs based on their demographic status. They are also eligible to receive agency subsidies for program and general trips. The second group, the "Transportation Disadvantaged Category II" population, includes individuals who are transportation disadvantaged according to the guidelines in Chapter 427, Florida Statutes, (i.e., unable to transport themselves or purchase transportation) and are therefore eligible to receive Transportation Disadvantaged Trust Fund subsidies for non-sponsored general trips. The Transportation Disadvantaged Category II population is a subset of the Transportation Disadvantaged Category I population.

Table 5.3 presents 2000 to 2025 Transportation Disadvantaged Category I and Transportation Disadvantaged Category II population forecasts for north central Florida counties and the region as a whole. Forecasted annual rates of increase in the Transportation Disadvantaged Category I population range from 129.5 percent for Gilchrist County to 14.4 percent for Madison County. Forecasted rates of increase in the Transportation Disadvantaged Category II population range from 139.8 percent for Gilchrist County to 13.6 percent for Taylor County.

**TABLE 5.3**

**PROJECTED TRANSPORTATION DISADVANTAGED POPULATION**

Area/Group	2000	2005	2010	2015	2020	2025	Percent Increase 2000-2025
<b>Alachua</b>							
Category I	79,884	86,385	94,221	103,263	113,731	125,885	57.6
Category II	14,320	15,696	17,499	19,607	22,074	24,969	74.4
<b>Bradford</b>							
Category I	9,070	9,429	9,784	10,154	10,541	10,948	20.7
Category II	3,055	3,171	3,286	3,405	3,530	3,660	19.8
<b>Columbia</b>							
Category I	20,300	21,865	23,948	26,277	28,883	31,802	56.7
Category II	6,992	7,528	8,268	9,096	10,025	11,068	58.3



TABLE 5.3 (Continued)

PROJECTED TRANSPORTATION DISADVANTAGED POPULATION

Area/Group	2000	2005	2010	2015	2020	2025	Percent Increase 2000-2025
<b>Dixie</b>							
Category I	6,924	7,616	8,373	9,211	10,143	11,176	61.4
Category II	1,521	1,675	1,843	2,031	2,239	2,471	62.5
<b>Gilchrist</b>							
Category I	5,013	5,831	6,815	8,020	9,500	11,326	125.9
Category II	1,735	2,039	2,415	2,878	3,451	4,161	139.8
<b>Hamilton</b>							
Category I	5,220	6,029	6,458	6,930	7,452	8,029	53.8
Category II	1,597	2,389	2,550	2,725	2,918	3,131	96.1
<b>Lafayette</b>							
Category I	2,867	3,079	3,301	3,544	3,806	4,091	42.7
Category II	634	680	728	781	837	899	41.8
<b>Madison</b>							
Category I	7,954	8,180	8,400	8,629	8,860	9,099	14.4
Category II	3,806	3,919	4,023	4,130	4,240	4,353	14.4
<b>Suwannee</b>							
Category I	13,396	14,478	15,779	17,219	18,812	20,582	53.6
Category II	3,659	3,948	4,281	4,650	5,056	5,503	50.4
<b>Taylor</b>							
Category I	7,726	7,879	8,120	8,379	8,656	8,952	15.9
Category II	2,257	2,297	2,357	2,421	2,489	2,563	13.6
<b>Union</b>							
Category I	4,091	4,442	4,824	5,250	5,729	6,266	53.2
Category II	1,690	1,848	2,020	2,214	2,434	2,679	58.5

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



**TABLE 5.3 (Continued)**

**PROJECTED TRANSPORTATION DISADVANTAGED POPULATION**

Area/Group	2000	2005	2010	2015	2020	2025	Percent Increase 2000-2025
<b>Region</b>							
<b>Category I</b>	162,445	175,213	190,023	206,876	226,113	248,156	52.8
<b>Category II</b>	41,266	45,190	49,270	53,938	59,293	65,457	58.6
<b>Florida</b>							
<b>Category I</b>	5,945,540	6,549,138	7,334,244	8,247,091	9,312,260	10,559,703	77.6
<b>Category II</b>	1,286,906	1,412,767	1,572,775	1,758,221	1,973,962	2,225,975	73.0

Note: TD = Transportation Disadvantaged

Source: Center for Urban Transportation Research, T20YDMD.123, 2001.

Table 5.4 compares the 2000 and 2025 Transportation Disadvantaged Category I and II population forecasts to the estimated and projected year 2000 and 2025 populations for north central Florida counties. Table 5.4 indicates the north central Florida Transportation Disadvantaged category I population is projected to increase from 37.3 percent of the regional population in 2000 to 40.5 percent of the regional population in 2025. It also indicates that the year 2025 Transportation Disadvantaged Category I populations range from a high of 53.5 percent of total county population in Dixie County to a low of 32.5 percent in Bradford County. The Transportation Disadvantaged Category II population is projected remain stable between 2000 and 2025, rising from 8.1 percent of the total regional population in 2000 to 8.2 percent in 2025. The 2025 Transportation Disadvantaged Category II population range from a high of 19.4 percent in Hamilton County to a low of 8.2 percent in Alachua County.





**TABLE 5.4**  
**TRANSPORTATION DISADVANTAGED POPULATION**  
**AS A PERCENTAGE OF TOTAL POPULATION, 2000 - 2025**

Area	Year					
	2000	2005	2010	2015	2020	2025
<b>Alachua</b>						
Category I	36.7%	35.9%	36.1%	37.2%	39.0%	41.3%
Category II	6.6%	6.5%	6.7%	7.1%	7.6%	8.2%
<b>Bradford</b>						
Category I	34.8	33.5	32.8	32.5	32.4	32.5
Category II	11.7	11.3	11.0	10.9	10.9	10.9
<b>Columbia</b>						
Category I	35.9	35.6	34.8	35.4	36.5	38.1
Category II	12.4	12.2	12.0	12.3	12.7	13.3
<b>Dixie</b>						
Category I	50.1	49.5	49.5	50.1	51.5	53.5
Category II	11.0	10.9	10.9	11.0	11.4	11.8
<b>Gilchrist</b>						
Category I	34.7	35.9	36.6	38.7	41.9	46.0
Category II	12.0	12.6	13.0	13.9	15.2	16.9
<b>Hamilton</b>						
Category I	39.2	42.1	43.1	44.7	46.6	49.0
Category II	12.0	16.7	17.0	17.6	18.2	19.4
<b>Lafayette</b>						
Category I	40.8	38.6	39.3	39.8	40.9	42.6
Category II	9.0	8.5	8.7	8.8	9.0	9.4
<b>Madison</b>						
Category I	42.5	41.5	41.0	40.5	40.3	42.6
Category II	20.3	19.9	19.6	19.4	19.3	19.2
<b>Suwannee</b>						
Category I	38.4	37.9	36.3	36.3	37.2	38.5
Category II	10.5	10.3	9.8	9.8	10.0	10.3
<b>Taylor</b>						
Category I	40.1	37.0	36.3	35.8	35.5	35.4
Category II	11.7	10.8	10.5	10.3	10.2	10.1

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 5.4 (Continued)

**TRANSPORTATION DISADVANTAGED POPULATION  
AS A PERCENTAGE OF TOTAL POPULATION, 2000 - 2025**

Area	Year					
	2000	2005	2010	2015	2020	2025
<b>Union</b>						
Category I	30.4	29.5	29.8	30.9	32.2	33.9
Category II	12.6	12.3	12.5	13.0	13.7	14.5
<b>Region</b>						
Category I	37.3	36.6	36.5	37.3	38.6	40.5
Category II	9.5	9.4	9.5	9.7	10.1	10.7
<b>Florida</b>						
Category I	37.2	36.6	36.7	36.4	37.4	39.0
Category II	8.1	7.9	7.9	7.8	7.9	8.2

Note: TD = Transportation Disadvantaged.

Source: Florida Statistical Abstract 2007, Tables 1.20 and 1.41, and Center for Urban Transportation Research, T20YDMD.123, 2001.

Table 5.5 presents 2000 to 2023 general trip demand forecasts for north central Florida counties. They were computed by applying a trip rate of 1.2 trips per month for rural areas to the Transportation Disadvantaged Category II population forecasts included in Table 5.3. The trip rate was developed through a study of seven paratransit systems around the country which were meeting most or all of the trip demand in their service areas, were providing high levels of service and ad eligibility guidelines similar to those contained in Chapter 427, Florida Statutes.<sup>5</sup> Surveys on the trip purposes of transportation disadvantaged persons in other U.S. paratransit systems indicate that approximately 35.0 percent of the general trips taken are medical trips, 20.0 percent are work or educational trips, 10.0 percent are shopping trips, and 35.0 percent are social, recreational, and other trips.<sup>6</sup>

<sup>5</sup>Rural areas include counties without an Federal Transit Administration Section 9 operator. The rate developed for urban areas is 1.0 trips per month. See Center for Urban Transportation Research, University of South Florida, Florida Five Year Transportation Disadvantaged Plan, 1992-1996, June 1992. Prepared for the Florida Transportation Disadvantaged Commission and the Florida Department of Transportation.

<sup>6</sup>Center for Urban Transportation Research, 1992.



**TABLE 5.5**

**PROJECTED TRANSPORTATION DISADVANTAGED GENERAL TRIP DEMAND**

Area	2000	2005	2010	2015	2020	2023
<b>Alachua</b>	186,275	204,174	227,627	255,048	287,139	309,005
<b>Bradford</b>	43,992	45,662	47,318	49,032	50,832	51,941
<b>Columbia</b>	100,685	108,403	119,059	130,982	144,360	153,158
<b>Dixie</b>	21,902	24,120	26,539	29,246	32,242	34,200
<b>Gilchrist</b>	24,984	29,362	34,776	41,443	49,694	55,570
<b>Hamilton</b>	32,184	34,402	36,720	39,240	42,019	43,834
<b>Lafayette</b>	9,130	9,792	10,483	11,246	12,053	12,571
<b>Madison</b>	54,806	56,434	57,931	59,472	61,056	62,050
<b>Suwannee</b>	52,690	56,851	61,646	66,960	72,806	76,579
<b>Taylor</b>	32,501	33,077	33,941	34,862	35,842	36,475
<b>Union</b>	24,336	26,611	29,088	31,882	35,050	37,123
<b>Region</b>	583,484	628,887	685,129	749,414	823,092	872,506
<b>State</b>	17,166,861	18,854,037	20,986,511	23,449,309	26,302,457	28,231,244

Source: Center for Urban Transportation Research, Florida Statewide Transportation disadvantaged Plan, Population and Demand Forecasts 96-2015, 1996.

As indicated in Table 5.6, north central Florida paratransit ridership increased by 36.9 percent between 1999 and 2009, rising from 568,554 trips in 1999 to 778,348 trips in 2009. Significant increases in ridership occurred in Columbia, Hamilton and Suwannee Counties, while noticeable declines occurred in Bradford, Lafayette, Madison and Dixie Counties.



TABLE 5.6

**NORTH CENTRAL FLORIDA PARATRANSIT RIDERSHIP  
FISCAL YEARS 1998-99 AND 2008-09**

Area	Fiscal Year 1998-99	Fiscal Year 2008-09	Percent Change
<b>Alachua</b>	176,078	157,997	(10.3)
<b>Bradford</b>	61,048	13,617	(77.7)
<b>Columbia, Hamilton &amp; Suwannee</b>	201,169	515,415	156.2
<b>Dixie</b>	12,050	8,591	(28.7)
<b>Gilchrist</b>	6,056	4,892	(19.2)
<b>Lafayette</b>	12,282	4,485	(63.5)
<b>Madison</b>	36,296	24,232	(33.2)
<b>Taylor</b>	33,773	22,737	(32.7)
<b>Union</b>	29,802	26,382	(11.5)
<b>Region</b>	568,554	778,348	36.9
<b>Region, w/o Alachua</b>	392,476	620,351	58.1

Sources: 1999 & 2009 Annual Performance Reports, Florida Commission for the Transportation Disadvantaged, Tallahassee, Florida.

Table 5.7 indicates that paratransit funding for north central Florida Transportation Disadvantaged service providers increased by 140.4 percent during this period, rising from \$5,404,914 in fiscal year 1999 to \$10,906,472 in 2009. The primary reason for the increased funding is due to changes made at the state and federal levels in Medicaid reimbursement for Medicaid-eligible transportation services in 2003. In north central Florida, the primary beneficiaries of these changes were, as indicated in Table 5.7, rural counties.



TABLE 5.7

NORTH CENTRAL FLORIDA PARATRANSIT FUNDING  
FISCAL YEARS 1998-99 AND 2008-09

Area	Fiscal Year 1998-99	Fiscal Year 2008-09	Percent Change
<b>Alachua</b>	\$2,192,689	3,183,962	45.2
<b>Bradford</b>	341,602	623,353	82.5
<b>Columbia, Hamilton &amp; Suwannee</b>	836,887	4,233,836	405.9
<b>Dixie</b>	442,055	428,013	(3.2)
<b>Gilchrist</b>	137,976	237,581	72.2
<b>Lafayette</b>	152,952	335,578	119.4
<b>Madison</b>	617,026	684,942	11.0
<b>Taylor</b>	454,970	638,539	40.3
<b>Union</b>	228,757	540,668	136.4
<b>Region</b>	5,404,914	10,906,472	101.8
<b>Region w/o Alachua</b>	3,212,225	7,722,510	140.4

Source: 1999 & 2009 Annual Performance Reports, Florida Commission for the Transportation Disadvantaged, Tallahassee, Florida.



It should be noted that not all paratransit riders consist of the Transportation Disadvantaged. If they were, then a comparison of Transportation Disadvantaged trip demand in Table 5.5 to paratransit ridership portrayed in Table 5.6 would suggest that the transportation needs of the Transportation Disadvantaged are currently being met five north central Florida counties (Columbia, Hamilton Suwannee, Taylor and Union). Information provided by the Center for Urban Transportation Research indicates this is not the case. Table 5.8 provides estimated and projected Transportation Disadvantaged population total unmet trip demand through 2023. As can be seen, every county is projected to have significant unmet demand for trips from its Transportation Disadvantaged population.

**TABLE 5.8**  
**ESTIMATED AND PROJECTED TRANSPORTATION DISADVANTAGED**  
**TOTAL UNMET TRIP DEMAND**

Area	1995	2000	2005	2010	2015	2020	2023
<b>Alachua</b>	112,792	122,168	134,601	152,122	173,104	198,206	215,596
<b>Bradford</b>	31,730	33,148	34,265	35,339	36,442	37,600	38,308
<b>Columbia</b>	60,301	63,825	68,499	75,858	84,213	93,728	100,056
<b>Dixie</b>	13,620	15,303	16,544	17,841	19,261	20,777	21,746
<b>Gilchrist</b>	16,338	18,687	22,026	26,231	31,489	38,098	42,861
<b>Hamilton</b>	21,324	22,923	24,326	25,758	27,314	29,045	30,186
<b>Lafayette</b>	4,758	5,276	5,558	5,831	6,135	6,437	6,630
<b>Madison</b>	46,130	47,554	48,941	50,191	51,476	52,795	53,626
<b>Suwannee</b>	28,065	30,037	32,328	35,097	38,218	41,690	43,945
<b>Taylor</b>	24,917	25,293	25,633	26,252	26,922	27,640	28,113
<b>Union</b>	10,677	11,286	11,556	11,719	11,844	11,933	11,937
<b>Region</b>	370,652	395,500	424,276	462,241	506,417	557,949	593,004
<b>State</b>	9,995,138	11,058,976	12,256,251	13,845,142	15,703,106	17,881,326	19,367,266

Source: Center for Urban Transportation Research, TD20YDMD.123, 2001.



### 3. Regionally Significant Transportation Facilities

Regionally significant transportation facilities are those facilities used to provide transportation between cities located both within and outside the region and other specially designated facilities. They include one airport, two interstate highways, nine U.S. highways, 25 state roads, and four public transit service providers.<sup>7</sup>

TABLE 5.9

REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES

Type	Name	Description	Length (miles)
<b>Airport</b>	Gainesville Regional Airport	Gainesville	n/a
<b>Public Transit Service Provider</b>	A & A Transit	Designated coordinated community transportation provider for Union County	n/a
<b>Public Transit Service Provider</b>	MV Transportation	Designated coordinated community transportation provider for Alachua County	n/a
<b>Public Transit Service Provider</b>	Big Bend Transit, Inc.	Designated coordinated community transportation provider for Madison and Taylor counties	n/a
<b>Public Transit Service Provider</b>	Gainesville Regional Transit System	Fixed-route public transit service provider for Gainesville and nearby urbanized, unincorporated Alachua County	n/a
<b>Public Transit Service Provider</b>	Suwannee Valley Transit Authority	Designated coordinated community transportation provider for Columbia, Hamilton, and Suwannee counties	n/a
<b>Public Transit Service Provider</b>	Suwannee River Economic Council	Designated coordinated community transportation provider for Bradford, Dixie, Gilchrist and Lafayette counties	n/a
<b>Regional Road Network - Interstate Highways</b>	I-75	From Hamilton County line at the Georgia border to the Alachua County/Marion County line (SIS)	96

<sup>7</sup> North central Florida regionally significant facilities and resources, as defined in Rule 27E.005, Florida Administrative Code, consist of Regionally Significant Emergency Preparedness Facilities identified in Table 3.2, Natural Resources of Regional Significance identified in Table 4.1, Regionally Significant Transportation Facilities identified in Table 5.8, and Regionally Significant Facilities and Resources, identified in Section VI.



TABLE 5.9 (Continued)

REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES

Type	Name	Description	Length (miles)
Regional Road Network - Interstate Highways	I-10	From the Madison County/Jefferson County line to the Columbia County/Baker County line (SIS)	80.5
Regional Road Network - State Road	SR 2	From Columbia Co. - Georgia border to Columbia Co. - Baker Co. line	1.0
Regional Road Network - State Road	SR 6	From I-10 to U.S. 41	1.5
Regional Road Network - State Road	SR 10A	From US 90 to US 90	4.0
Regional Road Network - State Road	SR 14	From I-10 to SR 53	5.5
Regional Road Network - State Road	SR 18	From SR 121 to SR 231	4.5
Regional Road Network - State Road	SR 20	From SR 26 to Alachua Co. - Putnam Co. line (SIS)	18.0
Regional Road Network - State Road	SR 21	From Putnam Co. Line to Clay Co. line	3.6
Regional Road Network - State Road	SR 24	Levy Co. - Alachua County line to US 441	17.0
Regional Road Network - State Road	SR 24	From SR 26 to SR 120 (SIS)	1.6
Regional Road Network - State Road	SR 24	From SR 120 to US 301	12.4
Regional Road Network - State Road	SR 26	From US 19/98 to I-75(SIS)	34.5
Regional Road Network - State Road	SR 26	From I-75 to U.S. Highway 301 (SIS)	18.6
Regional Road Network - State Road	SR 26	From U.S. Highway 301 to Alachua Co. - Putnam County line (SIS)	5.5





TABLE 5.9 (Continued)

REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES

Type	Name	Description	Length (miles)
Regional Road Network - State Road	SR 26A	From SR 26 to SR 26	2.0
Regional Road Network - State Road	SR 47	From US 441 to US 129	41.0
Regional Road Network - State Road	SR 51	From US 129 to terminus in unincorporated community of Steinhatchee	53.0
Regional Road Network - State Road	SR 53	From Madison Co. - Georgia border to I-10	19.0
Regional Road Network - State Road	SR 100	From US 90 to US 301(SIS)	35.4
Regional Road Network - State Road	SR 100	From US 90 to Bradford Co. - Clay Co. line (SIS)	10.6
Regional Road Network - State Road	SR 120	From US 441 to Greyhound Bus Station	1.1
Regional Road Network - State Road	SR 120	From Greyhound Bus Station to SR 24 (SIS)	1.4
Regional Road Network - State Road	SR 121	From Union Co. - Baker Co. line to Alachua Co. - Levy Co. line	60.0
Regional Road Network - State Road	SR 145	From Madison Co. - Georgia border to SR 53	16.0
Regional Road Network - State Road	SR 222	From I-75 to entrance to Gainesville Regional Airport (SIS)	10.5
Regional Road Network - State Road	SR 222	From entrance to Gainesville Regional Airport to SR 26	4.1
Regional Road Network - State Road	SR 226	From SR 24 to SR 331	2.3
Regional Road Network - State Road	SR 231	From Fl. Dept. of Corrections Lake Butler Receiving and Medical Center to SR 121	3.0

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 5.9 (Continued)

REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES

Type	Name	Description	Length (miles)
Regional Road Network - State Road	SR 235	From US 441 to SR 121	21.2
Regional Road Network - State Road	SR 238	From US 441 to SR 100	15.0
Regional Road Network - State Road	SR 247	From US 129 to US 90	15.5
Regional Road Network - State Road	SR 329	From SR 20 to SR 331	4.0
Regional Road Network - State Road	SR 331	From I-75 to SR 20 (SIS)	6.0
Regional Road Network - State Road	SR 349	From US 27 to US 19/98	24.5
Regional Road Network - U.S. Highway	US 19	From Madison Co. - Jefferson Co. line to Gilchrist Co. - Levy Co. line (SIS)	82.0
Regional Road Network - U.S. Highway	US 27	From Madison Co. - Jefferson Co. line to Alachua Co. - Levy Co. line	96.0
Regional Road Network - U.S. Highway	US 41	From Hamilton Co. - Georgia border to I-10	37.0
Regional Road Network - U.S. Highways	US 41	From I-10 to U.S. 90 (SIS)	4.5
Regional Road Network - U.S. Highway	US 90	From Jefferson Co. - Madison Co. line to U.S. 41	80.0
Regional Road Network - U.S. Highway	US 90	From U.S. 41 to SR 100 (SIS)	2.1
Regional Road Network - U.S. Highway	US 90	From SR 100 to Columbia Co. - Baker County line	8.9
Regional Road Network - U.S. Highway	US 98	From Taylor Co. - Jefferson Co. line to intersection with US 19 at Perry	27.5
Regional Road Network - U.S. Highway	US 129	From Hamilton Co. - Georgia border to Gilchrist Co. - Levy Co. line	78.0

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 5.9 (Continued)

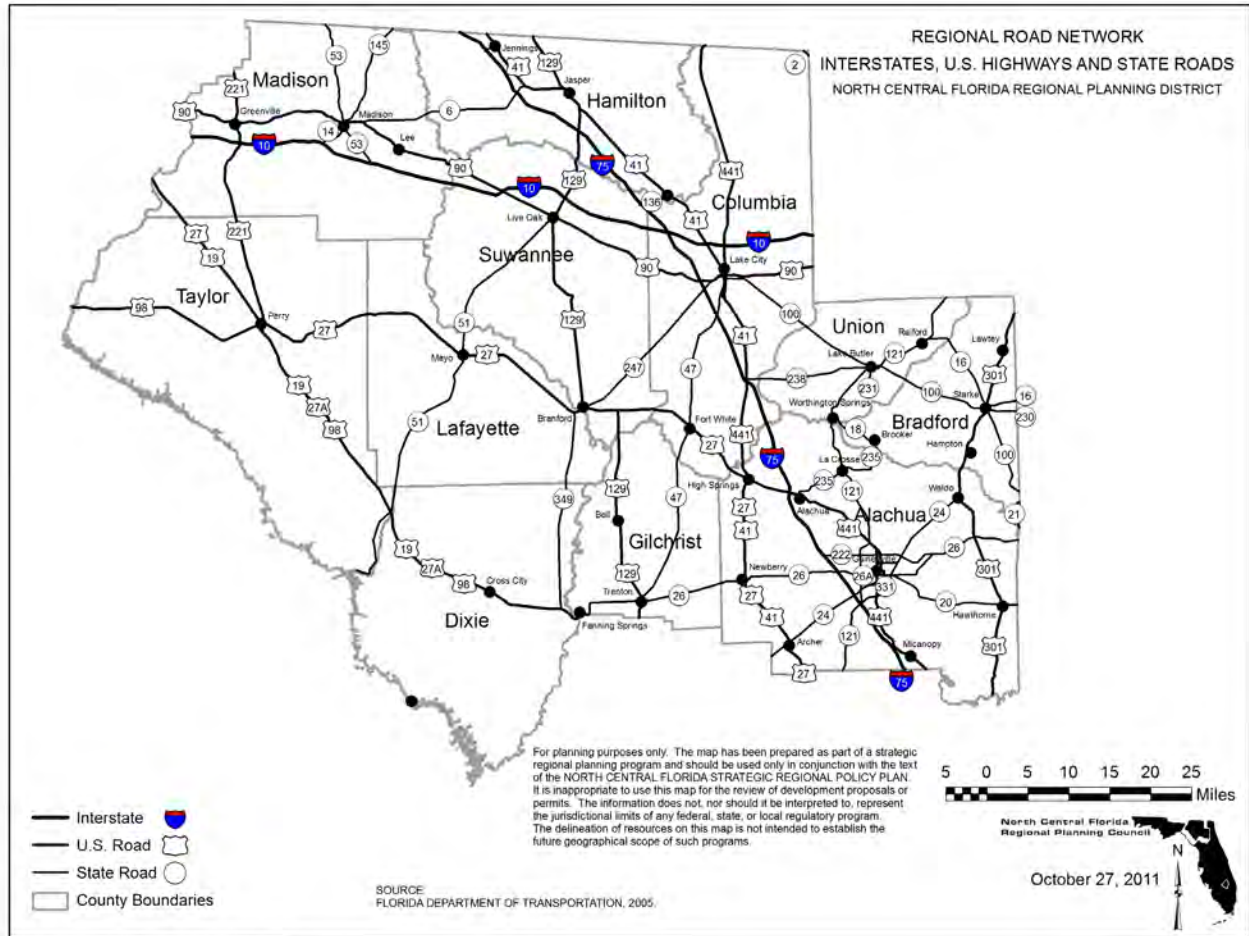
REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES

Type	Name	Description	Length (miles)
Regional Road Network - U.S. Highway	US 221	From Madison Co. - Jefferson Co. line to Perry	32.7
Regional Road Network - U.S. Highway	US 301	From Bradford Co. - Clay Co. line to Alachua Co. - Marion Co. line (SIS)	50.5
Regional Road Network - U.S. Highway	US 441	From Columbia Co. - Georgia border to Alachua Co. - Marion Co. line	69.5
Regional Rail Line	CSX Transportation	From Jefferson County - Madison County line to the Columbia County - Baker County line	85.1
Regional Rail Line	CSX Transportation	From Bradford County - Alachua County line to the Alachua County - Marion County line	33.4
Regional Rail Line	CSX Transportation	From Bradford County - Alachua County line to the City of Newberry	24.2
Regional Rail Line	CSX Transportation	From the City of Hawthorne to the Alachua County - Putnam County line	2.1
Regional Rail Line	CSX Transportation	From Alachua County - Bradford County line to the Bradford County - Clay County line	19.5
Regional Rail Line	CSX Transportation	From Alachua County - Bradford County line to the Bradford County - Clay County line	20.4
Regional Rail Line	CSX Transportation	From the City of Gainesville to the Bradford County - Alachua County line in the City of Newberry	12.4
Regional Rail Line	Florida Northern Railroad	From western Alachua County terminus to the Alachua County - Levy County line	21.7
Regional Rail Line	Georgia and Florida Railnet	From Georgia State line - Madison County line to the City of Perry	48.2
Regional Rail Line	Norfolk Southern	From Georgia State line - Columbia County line to the City of Lake City	47.8

Source: North Central Florida Regional Planning Council, May 2010.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011

**ILLUSTRATION 5.1  
NORTH CENTRAL FLORIDA REGIONAL ROAD NETWORK  
GAINESVILLE REGIONAL AIRPORT**



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Gainesville Regional Airport provides commercial air carrier service to north central Florida. The airport is a state-designated Strategic Intermodal System facility. The Gainesville Airport Authority oversees all aspects of airport operations. The Authority is composed of nine members, five of whom are appointed by the City of Gainesville, one by the Alachua County Commission, and three by the Governor.

The airport is serviced by two major airlines and three smaller shuttle/commuter airlines. Along with providing service to north central Florida, it also serves nearby Marion, Levy, and neighboring counties to the south and east of the region. Other major airports providing air service to the region are Jacksonville International Airport, Tallahassee Municipal Airport, Tampa International Airport, and Orlando International Airport.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



The airport has one runway with the capacity to safely handle full-sized jet aircraft. The area to the east of the airport is most impacted by the noise, but population density under the flight path is low (four homes were affected by noise when a 1,000 foot runway extension was constructed in the late 1980s). Land to the west of the airport is expected to develop as urban uses, but both the City of Gainesville and Alachua County have adopted land use plans which assure compatible land uses in noise-sensitive areas near the airport.

In 2000, Gainesville Regional Airport experienced 54,432 itinerant airport operations (non-local aircraft arrivals or departures). By 2009, the number of itinerant airport operations had increased by 55.2 percent, to 84,495.<sup>8</sup>

The Multi-County Regional Airport Task Force was formed in 1987 to address the question of whether or not airport service could be improved by building a new airport located between the cities of Ocala (Marion County) and Gainesville. It was thought at the time that the combined market area of the two cities might be large enough to attract additional air carriers and more through flights than currently provided by Gainesville Regional Airport. The task force concluded that the combined market area was not large enough to attract a significant number of new flights and that the 174 million dollar price tag for a new airport was prohibitive.<sup>9</sup>

## a. Regional Road Network

The regional road network is comprised of interstate highways, U.S. highways and state roads. Overall, the regional road network consists of 1,263.3 miles of roadways, of which 177.2 miles are comprised of interstate highways while 1086.1 miles are designated as of U.S. highways and state roads. Additionally, 430.3 miles of the regional road network are designated as a part of the Strategic Intermodal System. The regional road network provides good transportation service to the region. With the exception of a few specific segments in Gainesville, the largest municipality in the region, nearly all the regional road network operates at or above the minimum level of service standards contained within local government comprehensive plans.

Chapter 163, Florida Statutes, allows local governments to establish concurrency requirements for local government comprehensive plans. Concurrency requires public facilities to be adequate to service new development. New development cannot occur which will drop roadways below the minimum operating level of service standard established by the local comprehensive plan. The level of service for a road segment is determined by the average travel speed a motorist can reasonably attain through the section. The 2009 Quality/Level of Service Handbook, published by the Florida Department of Transportation, establishes five levels of service ranging from A (free-flowing traffic) to F (highly congested).

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<sup>8</sup>Florida Statistical Abstract 2000, and Florida Statistical Abstract 2009, University of Florida, Bureau of Economic and Business Research, 2010, Table 13.90.

<sup>9</sup>Multi-County Regional Airport Task Force, Economic/Market Feasibility Study, pp. V-1 - V-13, Aviation Planning Associates, Inc., Cincinnati, OH, January 1989.



**TABLE 5.10**  
**MILES OF REGIONAL ROAD NETWORK SEGMENTS NOT MEETING**  
**ADOPTED LEVEL OF SERVICE STANDARDS**  
**BY YEAR**

Segment Type	Total		Year			
			2009	2015	2020	2025
All Segments	Miles	1,263.3	33.9	55.4	59.6	95.2
	Percent	100.0%	2.7%	4.4%	4.7%	7.5%
Strategic Intermodal System Only	Miles	430.3	23.4	40.3	40.3	69.1
	Percent	100.0%	5.4%	9.4%	9.4%	16.1%
State Highway System, Less Strategic Intermodal System	Miles	833.0	10.5	15.1	19.3	26.1
	Percent	100.0%	1.3%	1.8%	2.3%	3.1%
Unincorporated Areas	Miles	1,037.8	20.5	34.7	34.7	66.0
	Percent	100.0%	2.0%	3.3%	3.3%	6.4%
Incorporated Areas	Miles	225.5	13.4	20.7	24.9	29.3
	Percent	100.0%	5.9%	9.2%	11.0%	13.0%
Incorporated Areas, Strategic Intermodal System Only	Miles	68.2	0.0	7.4	7.4	9.8
	Percent	100.0%	0.0%	10.9%	10.9%	14.4%

Source: North Central Florida Regional Planning Council, January 2011. Derived from Florida State Highway System Level of Service Report, 2009, Florida Department of Transportation, Jacksonville, Florida, September 2010.

Table 5.10 indicates that Strategic Intermodal System facilities have a higher percentage of miles which did not meet minimum service standards in 2009 than the region average (5.4 percent for Strategic Intermodal System facilities versus 1.3 percent for non Strategic Intermodal System facilities). It also indicates that incorporated areas have a higher percentage of roads which do not meet level of service standards than unincorporated areas (5.9 percent for incorporated areas compared to 2.0 percent for unincorporated areas).

As can be seen in Table 5.10, the percentage of Regional Road Network anticipated to not meet adopted level of service standards is projected to increase from 2.7 percent in 2009 to 7.5 percent in 2025. Strategic Intermodal System facilities are projected to have an even higher percentage of miles which do not meet minimum service standards (5.4 percent in 2009 compared to 16.1 percent in 2025).

Table 5.10 also indicates that incorporated areas are projected to have a higher percentage of road miles which do not meet level of service standards than unincorporated areas in 2025 (13.0 percent in incorporated areas compared to 6.4 percent in unincorporated areas). Finally, the table indicates that incorporated areas are projected to have a large increase in the percentage of Regional Road Network miles which do not meet level of service standards, nearly doubling from 5.9 percent in 2009 to 13.0 percent in 2025. When Gainesville is removed from consideration, the percentage of regional roads in the remaining north central Florida incorporated areas are also projected to experience noticeable declines in service.

At least one north central Florida local government has established policy directives in their comprehensive plan which establishes higher levels of planning and design considerations for development when road segments are at or above 85 percent of their maximum service volume. The 85 percent trigger is indicative of roads which need a higher level of planning as they are nearing their design capacity.



TABLE 5.11

MILES OF REGIONAL ROAD NETWORK SEGMENTS, LESS GAINESVILLE,  
NOT MEETING ADOPTED LEVEL OF SERVICE STANDARDS, BY YEAR

Segment Type	Total		Year			
			2009	2015	2020	2025
All Segments	Miles	1,187.9	26.2	44.5	47.8	80.9
	Percent	100.0%	2.2%	3.7%	4.0%	6.8%
Strategic Intermodal System Only	Miles	406.5	23.4	40.3	40.3	68.1
	Percent	100.0%	5.8%	9.9%	9.9%	16.8%
State Highway System, Less Strategic Intermodal System	Miles	781.4	2.8	4.3	7.6	12.7
	Percent	100.0%	0.4%	0.6%	1.0%	1.6%
Unincorporated Areas	Miles	1,037.8	20.5	34.7	34.7	66.0
	Percent	100.0%	2.0%	3.3%	3.3%	6.4%
Incorporated Areas	Miles	150.1	5.7	9.8	13.1	14.9
	Percent	100.0%	3.8%	6.5%	8.7%	9.9%
Incorporated Areas, Strategic Intermodal System Only	Miles	44.4	0.0	7.4	7.4	8.7
	Percent	100.0%	0.0%	16.7%	16.7%	19.6%

Source: North Central Florida Regional Planning Council, January 2011. Derived from Florida State Highway System Level of Service Report, 2009, Florida Department of Transportation, Jacksonville, Florida, September 2010.

Table 5.11 reports the same information as Table 5.10, but removes data for the City of Gainesville. When Gainesville is removed, one significant difference is revealed between Tables 5.10 and 5.11. The percentage of roads in incorporated areas which do not operate at the adopted level of service standard drops from 5.9 percent with Gainesville to 3.8 percent without Gainesville. This suggests that Gainesville has a higher percentage of roads which do not operate at the adopted level of service standard than the remaining 32 incorporated cities and towns within the region. Table 5.11 notes that the percentage of regional road network mileage which does not meet level of service standards is projected to rise from 2.2 percent in 2009 to 6.8 percent in 2025.





TABLE 5.12

**MILES OF REGIONAL ROAD NETWORK MEETING  
ADOPTED LEVEL OF SERVICE STANDARDS BUT WITHIN 15 PERCENT OF  
SERVICE VOLUME CAPACITY, BY YEAR**

Segment Type	Total		Year			
			2009	2015	2020	2025
All Segments	Miles	1,263.3	17.8	69.7	141.8	117.3
	Percent	100.0%	1.4%	5.5%	11.2%	9.3%
Strategic Intermodal System Only	Miles	430.3	0.0	43.0	105.1	78.8
	Percent	100.0%	0.0%	10.0%	24.4%	18.3%
State Highway System, Less Strategic Intermodal System	Miles	833.0	17.8	26.7	36.8	38.4
	Percent	100.0%	2.1%	3.2%	4.4%	4.6%
Unincorporated Areas	Miles	1,037.8	7.7	54.6	109.2	79.3
	Percent	100.0%	0.7%	5.3%	10.5%	7.6%
Incorporated Areas	Miles	225.5	10.1	15.1	32.6	38.0
	Percent	100.0%	4.5%	6.7%	14.5%	16.9%
Incorporated Areas, Strategic Intermodal System Only	Miles	68.2	7.4	4.3	19.2	19.2
	Percent	100.0%	10.9%	6.3%	28.2%	28.2%

Source: North Central Florida Regional Planning Council, January 2011. Derived from Florida State Highway System Level of Service Report, 2009, Florida Department of Transportation, Jacksonville, Florida, September 2010.



TABLE 5.13

MILES OF REGIONAL ROAD NETWORK SEGMENTS, LESS GAINESVILLE, MEETING ADOPTED LEVEL OF SERVICE STANDARDS BUT WITHIN 15 PERCENT OF SERVICE VOLUME CAPACITY, BY YEAR

Segment Type	Total		Year			
			2009	2015	2020	2025
All Segments	Miles	1,187.9	14.7	59.7	126.9	100.7
	Percent	100.0%	1.2%	5.0%	10.7%	8.5%
Strategic Intermodal System Only	Miles	406.5	0.0	40.0	96.3	69.4
	Percent	100.0%	0.0%	9.8%	23.7%	17.1%
State Highway System, Less Strategic Intermodal System	Miles	781.4	14.7	19.7	30.6	31.4
	Percent	100.0%	1.9%	2.5%	3.9%	4.0%
Unincorporated Areas	Miles	1,037.8	7.7	54.6	109.2	79.3
	Percent	100.0%	0.7%	5.3%	10.5%	7.6%
Incorporated Areas	Miles	150.1	6.9	5.1	17.7	21.4
	Percent	100.0%	4.6%	3.4%	11.8%	14.3%
Incorporated Areas, Strategic Intermodal System Only	Miles	44.4	7.4	1.3	10.5	9.7
	Percent	100.0%	16.7%	2.9%	23.6%	21.8%

Source: North Central Florida Regional Planning Council, January 2011. Derived from Florida State Highway System Level of Service Report, 2009, Florida Department of Transportation, Jacksonville, Florida, September 2010.

Tables 5.12 and 5.13 examine the total mileage as well as percentage of Regional Road Network which is either at or projected to be within 85 percent of, but still operating within its maximum service volume, through the year 2025. The 85 percent threshold represents a level whereby the road segment is approaching its maximum capacity, where one moderate-to-large sized development could cause the road segment to fail.<sup>10</sup>

As can be seen in Table 5.12, an additional 17.8 miles of Regional Road Network were operating within 85 percent of the remaining service volume in 2009. By 2025, a total of 117.3 miles of regional roads are projected to operate within 85 percent of their maximum service volumes. Table 5.13, which removes the City of Gainesville, indicates that an additional 14.7 miles of Regional Road Network was operating within 85 percent of the remaining service volume in 2009. By 2025, a total of 100.7 miles of regional road segments, less Gainesville, are projected to be operating within 85 percent of their maximum service volumes.

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<sup>10</sup>North central Florida maximum service volumes at level of service D range between 15,000 and 50,000 average annual daily trips, depending on number of travel lanes, frequency of traffic lights, and whether the road is divided or undivided. This suggests that, at the 85 percent threshold, available excess capacity generally ranges between 2,250 to 7,500 average annual daily trips for identified road segments in Tables 5.12 and 5.13. Assuming a 0.25 floor area ratio, this suggests that a retail shopping center ranging from 5.8 to 19.4 acres would use up all of the available excess capacity, depending on the factors identified in the above-paragraph. Similarly, an office building ranging between 18.8 and 62.5 acres could use up all of the available capacity. For a single-family residential development built at 4 dwelling units per acre, a development ranging between 58.8 to 196 acres could use up all of the available capacity. Derived from Institute of Transportation Engineers, Trip Generation, 7th Edition, Washington, D.C., for land use codes 814, Specialty Retail, 710, General Office Building, and 210, Single-family Detached Housing. A 25 percent pass-by trip allowance for land use code 814 is also included in the transportation analysis.



TABLE 5.14

PROJECTED MILES OF ROAD WITHIN 85 PERCENT AND OVER OF MAXIMUM  
VOLUME CAPACITY AT ADOPTED LEVEL OF SERVICE STANDARD  
BY JURISDICTION AND YEAR

Jurisdiction		Total	Year			
			2009	2015	2020	2025
<b>Alachua County</b>						
Unincorporated Area	Miles	150.8	12.6	26.6	40.0	40.0
	Percent	100.0%	8.4%	17.6%	26.5%	26.5%
Alachua, City of	Miles	19.5	0.9	0.9	10.4	10.4
	Percent	100.0%	4.6%	4.6%	53.3%	53.3%
Archer	Miles	4.1	2.0	2.0	2.0	2.0
	Percent	100.0%	48.8%	48.8%	48.8%	48.8%
Gainesville	Miles	75.4	10.9	20.9	26.6	30.9
	Percent	100.0%	14.5%	27.7%	35.3%	41.0%
Hawthorne	Miles	4.5	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
High Springs	Miles	11.1	2.3	2.8	5.6	5.6
	Percent	100.0%	20.7%	25.2%	50.5%	50.5%
LaCrosse	Miles	5.5	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Micanopy	Miles	1.0	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Newberry	Miles	19.1	3.0	3.0	3.0	8.0
	Percent	100.0%	15.7%	15.7%	15.7%	41.9%
Waldo	Miles	4.2	1.3	1.3	1.3	1.3
	Percent	100.0%	31.0%	31.0%	31.0%	31.0%
<b>Bradford County</b>						
Unincorporated Area	Miles	56.7	6.4	16.6	20.9	21.3
	Percent	100.0%	11.3%	29.3%	36.9%	37.6%
Brooker	Miles	1.2	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Hampton	Miles	0.0	0.0	0.0	0.0	0.0
	Percent	0.0%	0.0%	0.0%	0.0%	0.0%
Lawtey	Miles	1.3	0.0	1.3	1.3	1.3
	Percent	100.0%	0.0%	97.6%	97.6%	97.6%
Starke	Miles	9.8	1.8	1.8	1.8	1.8
	Percent	100.0%	18.4%	18.4%	18.4%	18.4%

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 5.14 (Continued)

PROJECTED MILES OF ROAD WITHIN 85 PERCENT AND OVER OF MAXIMUM  
VOLUME CAPACITY AT ADOPTED LEVEL OF SERVICE STANDARD  
BY JURISDICTION AND YEAR

Jurisdiction		Total	Year			
			2009	2015	2020	2025
<b>Columbia County</b>						
Unincorporated Area	Miles	186.6	0.5	21.3	30.1	30.4
	Percent	100.0%	0.3%	11.4%	16.1%	16.3%
Fort White	Miles	3.4	0.0	0.0	2.0	2.0
	Percent	100.0%	0.0%	0.0%	58.8%	58.8%
Lake City	Miles	13.9	0.3	0.4	2.5	2.5
	Percent	100.0%	2.2%	2.9%	18.0%	18.0%
<b>Dixie County</b>						
Unincorporated Area	Miles	44.5	0.0	0.0	0.0	0.0
	Percent	0.0%	0.0%	0.0%	0.0%	0.0%
Cross City	Miles	1.8	0.0	0.0	0.0	0.0
	Percent	0.0%	0.0%	0.0%	0.0%	0.0%
Horseshoe Beach	Miles	0.0	0.0	0.0	0.0	0.0
	Percent	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Gilchrist County</b>						
Unincorporated Area	Miles	54.0	8.6	8.6	15.9	15.9
	Percent	100.0%	15.9%	15.9%	29.4%	29.4%
Bell	Miles	1.6	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Fanning Springs	Miles	0.6	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Trenton	Miles	4.0	1.4	1.4	1.4	1.9
	Percent	100.0%	35.0%	35.0%	35.0%	47.5%
<b>Hamilton County</b>						
Unincorporated Area	Miles	86.3	0.0	0.0	18.4	18.4
	Percent	100.0%	0.0%	0.0%	21.3%	21.3%
Jasper	Miles	1.6	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Jennings	Miles	1.0	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
White Springs	Miles	1.7	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
<b>Lafayette County</b>						
Unincorporated Area	Miles	60.1	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



TABLE 5.14 (Continued)

PROJECTED MILES OF ROAD WITHIN 85 PERCENT AND OVER OF MAXIMUM  
VOLUME CAPACITY AT ADOPTED LEVEL OF SERVICE STANDARD  
BY JURISDICTION AND YEAR

Jurisdiction		Total	Year			
			2009	2015	2020	2025
Mayo	Miles	2.1	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
<b>Madison County</b>						
Unincorporated Area	Miles	130.4	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Greenville	Miles	2.4	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Lee	Miles	1.1	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Madison	Miles	4.5	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
<b>Suwannee County</b>						
Unincorporated Area	Miles	119.4	0.0	15.9	18.4	19.0
	Percent	100.0%	0.0%	13.3%	15.4%	15.9%
Branford	Miles	2.2	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Live Oak	Miles	7.3	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0	0.0	0.0	0.0
<b>Taylor County</b>						
Unincorporated Area	Miles	101.2	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Perry	Miles	9.5	0.0	0.0	1.7	1.7
	Percent	100.0%	0.00%	0.00%	17.89%	17.89%
<b>Union County</b>						
Unincorporated Area	Miles	51.3	0.0	0.2	0.2	0.2
	Percent	100.0%	0.0%	0.4%	0.4%	0.4%
Lake Butler	Miles	4.3	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Raiford	Miles	0.5	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%
Worthington Springs	Miles	1.5	0.0	0.0	0.0	0.0
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%

Source: North Central Florida Regional Planning Council, January 2011. Derived from Florida State Highway System Level of Service Report, 2009, Florida Department of Transportation, Jacksonville, Florida, September 2010.

Table 5.14 identifies Florida Department of Transportation projections for miles and percentage of total Regional Road Network anticipated to be above 85 percent of the maximum service volume threshold, by jurisdiction. The table reveals that in 2009, five of the 44 local governments in the region had at least 10 percent of the regional road mileage within their jurisdiction operating at or above 85 percent of maximum



service volumes. If current trends continue, by year 2025, the number of local governments in this category is projected to increase to 15.

Some communities are projected to experience significantly higher percentage of Regional Road Network mileage at or above the 85 percent threshold. By 2025, 48.8 percent of regional road segment road miles within the Gainesville are at or above the 85 percent threshold. Other notable jurisdictions projected to have high percentages of Regional Road Network operating above the 85 percent threshold by 2025 include: City of Alachua, at 53.3 percent; Archer, 48.8 percent; Lawtey, at 97.6 percent; and Trenton, at 47.5 percent.

## b. Local Government Comprehensive Plans

Chapter 163, Florida Statutes, authorizes the Council to review the effects of proposed comprehensive plan amendments on regional transportation facilities identified in the Strategic Regional Policy Plan. Between 2000 and 2009, the Council reviewed 278 proposed amendments to local government comprehensive plan future land use maps. Of these, 96 amendments, or 34.5 percent, were identified by the Council as having potential significant adverse impacts to one or more segments of the Regional Road Network.<sup>11</sup>

Typically, comprehensive plans of north central Florida local governments contain concurrency management provisions designed to protect the level of service standards of regional roads. However, the policy language is generally not explicit as to how this is to be accomplished. Local government data and analysis reports for future land use map amendments generally limit transportation impact analysis to road segments adjoining the subject property of the amendment. Sometimes, these segments have adequate capacity, but road segments adjoining the analyzed segments do not. Generally, local government data and analysis reports do not include a trip distribution. Trip distributions would assist the Council in determining impacts to these adjoining segments. Without a trip distribution, the Council must assume a worst case scenario to assess the impacts of the proposed amendment on the Regional Road Network.

At least one north central Florida local government has addressed the concurrency issue through its land development regulations by requiring developers to submit a trip distribution analysis prior to receiving a building permit for developments over a specified size. By requiring a trip distribution, impacts on adjoining roads can be properly assessed. However, such analysis may identify needed road modifications to allow construction of the proposed development which are beyond the financial capacity of many north central Florida local governments, thereby restricting development or forcing development to rural areas where the road system has sufficient remaining capacity to support the development, thus encouraging urban sprawl.

## c. Funding for Capacity Enhancements

State funding for roadway modifications to the Regional Road Network is not keeping pace with demand. The Florida Department of Transportation publishes per-mile road construction cost estimates. These cost estimates can be used to estimate the cost of road improvements needed to maintain the Regional Road Network at adopted level of service standards. Tables 5.15 and 5.16 provide such estimates.

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<sup>11</sup>The reported numbers are skewed by one local government comprehensive plan amendment which consisted of 27 separate amendments to the Future Land Use Plan Map. The Council identified potential significant adverse impacts to the regional road network for all 27 amendments. If this item is removed, the Council reviewed 251 proposed amendments to local government comprehensive plan future land use maps. Of these, 69 amendments, or 27.5 percent, were identified by the Council as having potential adverse impacts to the regional road network.



TABLE 5.15

**ESTIMATED COSTS TO UPGRADE REGIONAL ROAD NETWORK  
OPERATING OVER 100 PERCENT OF CAPACITY TO  
MINIMUM LEVEL OF SERVICE STANDARDS - 2009 DOLLARS\***

Area	Years				Total
	2009	2010-2015	2016 -2020	2021-2025	
<b>Unincorporated Total</b>	\$167,772,624	\$116,764,890	\$0	\$256,490,643	\$541,028,157
<b>Incorporated Total</b>	49,513,723	35,694,325	28,897,473	15,355,851	129,461,372
<b>Total</b>	217,286,347	152,459,215	28,897,473	271,846,494	670,489,529

\*Excludes the City of Gainesville. Includes all regional road segments operating above capacity. Assumes 50 percent of needed modifications consists of adding 2 additional lanes to existing roadways and 50 percent of needed modifications consist of adding 1 traffic signal per mile.

Source: North Central Florida Regional Planning Council, January 2011. Per mile costs for road widening, including engineering, land acquisition, and construction and traffic signal costs from Florida Department of Transportation, "Roadway Cost per Centerline Mile, Revised June 2009."

TABLE 5.16

**ESTIMATED COSTS TO UPGRADE REGIONAL ROAD NETWORK  
OPERATING AT 85 PERCENT AND OVER OF MAXIMUM VOLUME CAPACITY  
TO MINIMUM LEVEL OF SERVICE STANDARDS - 2009 DOLLARS\***

Area	Years				Total
	2009	2010-2015	2016-2020	2021-2025	
<b>Unincorporated Total</b>	\$231,142,637	\$501,094,793	\$448,446,412	\$10,573,974	\$1,191,257,816
<b>Incorporated Total</b>	109,791,299	19,670,073	138,254,746	47,864,423	315,580,541
<b>Total</b>	340,933,936	520,764,866	586,701,158	58,438,397	1,506,838,357

\*Excludes the City of Gainesville. Includes all regional road segments operating at or above 85 percent of capacity. Assumes 50 percent of needed modifications consists of adding 2 additional lanes to existing roadways and 50% of modifications consist of adding two traffic signals per mile.

Source: North Central Florida Regional Planning Council, January 2011. Per mile costs for road widening, including engineering, land acquisition, and construction and traffic signal costs from Florida Department of Transportation, "Roadway Cost per Centerline Mile, Revised June 2009."

As shown in Tables 5.15 and 5.16, the cost of meeting and maintaining the Regional Road Network at the adopted level of service standard is substantial. Excluding the City of Gainesville, the estimated average annual cost ranges between \$39.4 to \$88.6 million, not adjusting for inflation.<sup>12</sup> Meanwhile, the Florida Department of Transportation Fiscal Year 2010-14 five-year work program schedules \$26.5 million, or \$5.3 million per year, for transportation capacity enhancements, exclusive of the City of Gainesville, to the

<sup>12</sup>These figures include addressing an existing \$217.3 to \$340.9 million backlog.





Regional Road Network.<sup>13</sup> In some ways, the gap between available funds and needed funds is understated in the above example. The estimated unmet need for the years between 2010 and 2025 ranges between \$453.2 to \$1,165.9 million, while available Florida Department of Transportation funds are estimated at \$79.5 million, or \$5.3 million per year.<sup>14</sup>

North central Florida local governments are not financially able to fund this shortfall. The 2008 regionwide taxable value, minus property located within the City of Gainesville, was \$20,090,983,000.<sup>15</sup> Assuming all county governments levied a 10 mil tax rate, the maximum amount of revenue which could be generated equals \$200.9 million per year. However, several north central Florida counties ad valorem tax rates are already near the 10 mil cap.

In 2008, north central Florida county governments, excluding property located within the City of Gainesville, collected \$167.3 million in ad valorem revenues, leaving an untapped “surplus” of approximately \$33.6 million which could be raised by increasing all county millage rates to 10 mils.<sup>16</sup> These untapped funds could be applied to upgrading the Regional Road Network. Comparable numbers are not readily available for north central Florida municipalities. Assuming they could generate one-third of what the counties can generate, the municipalities could add an additional \$11.2 million, raising the local government theoretical total to \$44.8 million per year, short of the estimated unmet need which ranges between \$31.0 million and \$81.9 million annually between 2009 and 2025.

#### d. Transportation Concurrency and Proportionate Share

Recent amendments to Chapter 163, Florida Statutes, make traditional transportation concurrency management optional for local government comprehensive plans. If local governments rely on traditional transportation concurrency, recent changes to Chapter 163, Florida Statutes, authorize the local government to establish minimum level of service level standards for all state roads, including state roads which are part of the Strategic Intermodal System. Additionally, local governments relying on traditional level of service standards must also allow mitigation of transportation impacts through the use of proportionate-share. Proportionate share was previously limited to Developments of Regional Impact. However, recent changes to Chapter 163, Florida Statutes, expands the use of the technique to all development, including development which is below the Development of Regional Impact thresholds.

The dollar amount of proportionate share mitigation is determined through a transportation impact study of the project to determine which road segments will fail to meet level of service standards as a result of the development, what it will cost to modify the failing facilities to meet level of service standards, and what

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<sup>13</sup> North Central Florida Regional Planning Council, January 2011. Derived from Florida Department of Transportation 2010/11-2013/14 State Transportation Improvement Program (<http://www.dot.state.fl.us/programdevelopmentoffice/federal/STIP/stipfile.xls>) Excludes transit projects, resurfacing, bicycle lanes, landscaping, and similar projects.

<sup>14</sup> Assumes the 2010/11-2013/14 \$5.3 million annual State Transportation Improvement Program funds allocated for new construction in north central Florida, excluding Gainesville, remains constant through 2025.

<sup>15</sup> Florida Statistical Abstract 2009, Bureau of Business and Economic Research, University of Florida, Table 23.91 and 23.92.

<sup>16</sup> North Central Florida Regional Planning Council, January 2011. Derived from Florida Statistical Abstract 2009, Bureau of Business and Economic Research, University of Florida, Tables 23.91 and 23.93.



proportion of the trips on the failing road network are attributable to the project. The percentage is multiplied by the costs of the transportation projects needed to restore level of service for the failing facilities to determine an amount of money, which is the developer's proportionate-fair share payment.

## e. Transportation Planning Best Practices

While north central Florida local governments are financially unable to fund traditional transportation concurrency, adverse impacts to the regional road network can be minimized through sound transportation planning. Transportation Planning Best Practices for north central Florida local governments could include enhancing road network connectivity, providing parallel local routes to the Regional Road Network, incorporating access management strategies, and developing multimodal transportation systems. By relying on transportation planning best practices, urban development can still be directed to incorporated municipalities, urban service areas, and urban development areas while minimizing transportation infrastructure costs and declines in level of service. Examples of policy areas which could be addressed in local government comprehensive plans to implement these transportation planning best practices include the following.

### Enhance Road Network Connectivity by

Establishing a comprehensive system of street hierarchies with appropriate maximum spacing for local, collector, and arterial street intersection and arterial spacing, including maximum intersection spacing distances for local, collector, and arterial streets;

Establishing a thoroughfare plan and right-of-way preservation requirements to advance the development of arterial and collector streets throughout the jurisdiction;

Limiting or discouraging the use of cul-de-sacs and dead-end streets, limiting the maximum length of cul-de-sacs and dead end streets, and encouraging the use of traffic calming devices and strategies as an alternative to dead end streets and cul-de-sacs;

Encouraging street stubs for connections to future development requiring connections to existing street stubs/dead end streets when adjacent parcels are subdivided/developed in the future, and requiring developments to connect through to side streets at appropriate locations;

Encouraging the creation of paths that provide shortcuts for walking and cycling where dead-end streets exist, mid-block bike paths and pedestrian shortcuts, and limiting the maximum spacing between pedestrian/bicycle connections as well as; or

Limiting or discouraging gated communities and other restricted-access roads.

Provide Parallel Local Routes and Other Alternative Local Routes to the Regional Road Network.

Planning and mapping parallel roadway and cross street networks to provide a clear framework for implementing alternative routes to the Regional Road Network;



Adding segments of the parallel roadway and cross street networks to the capital improvements program;

Encouraging developer participation in implementing the system through fair share agreements as a condition of development approval for Regional Road Network concurrency mitigation; or

Encouraging the establishment of a long-term concurrency management system plan for accomplishing the parallel local routes and interparcel cross-access in selected areas.

Promote Access Management Strategies by

Requiring large commercial developments to provide and/or extend existing nearby local and collector streets and provide street connections with surrounding residential areas so residents may access the development without traveling on the Regional Road Network;

Requiring shopping centers and mixed-use developments to provide a unified access and circulation plan and require any outparcels to obtain access from the unified access and circulation system;

Properties under the same ownership or those consolidated for development will be treated as one property for the purposes of access management and will not received the maximum potential number of access points for that frontage indicated under minimum access spacing standards;

Existing lots unable to meet the access spacing standards for the Regional Road Network must obtain access from platted side streets, parallel streets, service roads, joint and cross-access or the provision of easements;

Establishing minimum access spacing standards for locally maintained thoroughfares and use these to also guide corner clearance;

Maintaining adequate corner clearance at crossroad intersections with the Regional Road Network;

Encouraging sidewalk connections from the development to existing and planned public sidewalk along the development frontage;

Encouraging cross-access connections easements and joint driveways, where available and economically feasible;

Encouraging closure of existing excessive, duplicative, unsafe curb cuts or narrowing of overly wide curb cuts at the development site;

Encouraging safe and convenient on-site pedestrian circulation such as sidewalks and crosswalks connecting buildings and parking areas at the development site;



Encouraging intersection and/or signalization modifications to improve roadway operation and safety;

Encouraging the addition of dedicated turn lanes into and out of development;

Encouraging the construction of public sidewalks along all street frontages, where they do not currently exist;

Encouraging the widening of existing public sidewalks to increase pedestrian mobility and safety;

Encouraging the deeding of land for the addition and construction of bicycle lanes;

Encouraging the provision of shading through awnings or canopies over public sidewalk areas to promote pedestrian traffic and provide protection from inclement weather to encourage walking;

Encouraging the construction of new road facilities which provide alternate routes to reduce congestion; or

Encouraging the addition of lanes on existing road facilities, especially where it can be demonstrated that the road will lessen impacts to the Regional Road Network.

#### Develop Multimodal Transportation Systems by

Encouraging development at densities within urban areas which support public transit;

Providing one or more park-and-ride lots to encourage carpooling and ridesharing, and the use of public transit among inter-city commuters;

Providing a system of sidewalks and/or bike paths connecting residential areas to schools, shopping, and recreation facilities;

Establishing an interlocal agreement with an existing public mass transit system provider to provide regular daily inter-city transit service for inter-city commuters; or

Establishing a local public mass transit system.



## f. Regional Review of Local Government Comprehensive Plans and Plan Amendments

Transportation impact analysis of local government comprehensive plans and plan amendments conducted by the Council are generally limited to applicable road segments within one-half mile of the property which is the subject of the comprehensive plan and/or plan amendment. The analysis assumes that the subject property is developed to the maximum allowable intensity of use permitted by the Future Land Use Map category. The analysis does not include a trip distribution, although a trip distribution is used by the Council if a trip distribution is provided by the local government. In lieu of a trip distribution analysis, the Council examines what would happen if all of the trips were distributed to all directions of functionally classified road segments. If the resulting analysis finds that a segment of the regional road network will not meet level of service standards, the Council includes an Objection in its report. The Council recommends that the local government conduct a trip distribution analysis for the amendment and should the analysis result in adverse impacts, modify the amendment to prevent the adverse impacts. Such modification could include a reduction in the size of the subject property, a reduction in maximum allowable intensity of use, or a lowering of the adopted level of service standard of adversely impacted regional road segments.

## g. Developments of Regional Impact

The regional plan has two alternative approaches for Developments of Regional Impact to mitigate significant and adverse impacts to the Regional Road Network. First, significant and adverse impacts are considered to be adequately mitigated if the local government development order contains conditions which maintain the minimum level of service standard for all significantly and adversely impacted segments of the Regional Road Network. Second, impacts to the Regional Road Network are considered to be adequately mitigated when the local government development order contains conditions which implement the proportionate share provisions of Chapter 163, Florida Statutes.

Chapter 163, Florida Statutes, allows Developments of Regional Impact to make a proportionate-share payment/contribution for its significant and adverse traffic impacts. The proportionate share funding provided for a Development of Regional Impact must reflect its share of the cost of all roadway modifications needed to ensure that regional road segments, which are otherwise significantly adversely impacted by the development, can operate at the adopted level of service standard established in the applicable local government comprehensive plan should all of the identified modifications be constructed. Furthermore, the payment for the Development of Regional Impact must be sufficient to pay for at least one transportation modification without the use of additional funds from state or local government.

## 4. University of Florida Campus Master Plan and Impacts to Regional Transportation Facilities

Section 240.155, Florida Statutes, requires the University of Florida to prepare a campus master plan to address the impacts of campus development on off-site public facilities. The data and analysis on which the plan is based must identify the projected impacts of campus development on off-site infrastructure. Campus master plans are required by Section 240.155(5), Florida Statutes, to be consistent with the State Comprehensive Plan and not to conflict with local government comprehensive plans.

Florida Statutes also require the university and applicable local governments to enter into a campus development agreement. The agreement must identify any deficiencies in service which the proposed campus development will create or contribute and identify all improvements to facilities and services

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necessary to eliminate the identified deficiencies. Section 240.155(13), Florida Statutes, states that the Board of Regents is responsible for paying its fair share of the costs for removing deficiencies to affected services and facilities. Identification of the board's fair share must be included in the agreement. Once the campus development agreement is completed, all campus development may proceed without further review by the host local government provided such development is consistent with the adopted campus master plan and associated campus development agreement. In 2009, enrollment at the University of Florida main campus was 46,438 students.

## a. Context Area

Rule 6C-202(3), Florida Administrative Code, defines the Context Area as an area surrounding the University, within which on-campus development may impact local public facilities and services and natural resources, and within which off-campus development may impact university resources and facilities. The size of the Context Area may be defined by natural or man-made functional or visual boundaries, such as areas of concentration of off-campus student-oriented housing and commercial establishments, stormwater basins, habitat range, or other natural features. The Council regularly reviews transportation impacts of Developments of Regional Impact using a transportation impact analysis methodology based on Rule 9J-2.045, Florida Administrative Code. The methodology requires a trip distribution analysis to determine a transportation impact area. The area includes all regionally significant road segments for which the projected volumes of transportation, upon buildout of the development, equals at least 5.0 percent of all projected trips for the impacted road segment. Such an approach may be useful in defining the Context Area.

## b. Impacts to Regional Transportation Facilities

The following segments of the regional road network within the Context Area are projected to operate below the adopted minimum level of service standard contained in local government comprehensive plans by 2015:

1. I-75 from the southern Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area boundary to State Road 222 (Northwest 39th Avenue);
2. U.S. 441 (West 13th Street) from State Road 24 (Archer Road) to Northwest 29th Avenue;
3. State Road 24 (Archer Road) from Southwest 75th Street to Southwest 16th Avenue;
4. State Road 26 (West Newberry Road) from Northwest 122nd Street to Northwest 8th Avenue;
5. State Road 121 (West 34th Street) from State Road 331 to Northwest 16th Avenue; and
6. State Road 331 (Williston Road) from Southwest 8th Avenue to U.S. 441 (West 13th Street).

## c. Transportation Demand Management

One of the most significant developments mitigating University-related transportation impacts in the last 10 years is the implementation of an agreement between the Gainesville Regional Transit System and the University to provide University students and employees with prepaid, unlimited access to transit service. The agreement has led to enhancements to the Gainesville Regional Transit System service, including an increase in number of buses, a decrease in headtimes (intervals between buses), and expanded hours of operation for certain bus routes heavily used by University students. A student transportation fee was added in 1998 at a rate of \$0.19 per credit hour to pay for the additional service. The fee has been increased over the years to a rate of \$7.88 per credit hour in the 2011-2012 school year. As a result, Gainesville Regional Transit System bus ridership has increased from 2.9 million passengers in 1998 to 9.0



million in 2009. The Campus Master Plan Transportation Element contains a number of policies continuing the relationship between the University and Gainesville Regional Transit System.

#### d. Off-Campus Park-and-Ride

The University operates two park-and-ride facilities on the western edge of its main campus (Park and Ride Lot #1, located near SW 34th Street at the Cultural Plaza, and Park and Ride Lot #2, located on Hull Road west of SW 34th Street). Furthermore, campus shuttle buses connect the park and ride lots, as well as other on-campus parking facilities, to the main campus. Additionally, Campus Master Plan Transportation Element Policy 3.1 of Goal 2.0 calls for the University to participate with the City and the County and the Gainesville Regional Transit System to examine the feasibility of park and ride facility development and expanded transit service. While the Campus Master Plan proposes the construction of an additional 1,000 parking space near the Ben Hill Griffin, Jr., Stadium and the Stephen C. O'Connell Center adjacent to State Road 26, it also proposes the construction of an additional 888 parking spaces in the western portion of the campus in areas which are currently used, essentially, as park and ride facilities.

Although the University has established and is proposing to expand its park and ride facilities, the current and proposed parking facilities continue to require automobile drivers to use roads which are, or are projected to be, operating below the minimum level of service standard contained in local government comprehensive plans by 2015. The Campus Master Plan Transportation Element Data and Analysis Report notes a trend of student populations moving from west of Interstate Highway 75 to areas closer to campus in the downtown and the West 13th Street corridor. Such movement may make the establishment of park-and-ride facilities unfeasible if located a significant distance from student residences.

#### e. On-Campus Housing

The Campus Master Plan indicates that on-campus housing is currently available for approximately 22 percent of the student population. The Housing Data and Analysis Report notes that an additional 835 housing units are needed to maintain the current percent level. In conjunction with increased enrollment, the Capital Improvements Element of the Campus Master Plan calls for two on-campus housing construction projects with the intent of increasing the number of students residing on campus by approximately 800. One of the projects is only partially funded and the other project is completely unfunded. Nevertheless, should neither of these two on-campus housing projects are constructed, the percentage of students housed on-campus will be 20.3 percent in 2015.

#### f. Evening Classes

Campus Master Plan Transportation Element Policy 7.4 states that the University shall continue to expand, where appropriate, distance learning and evening class offerings to reduce the peak hour travel demand and its impact on roads and parking. Additionally, the University Campus Master Plan Data and Analysis report indicates that, during 2005, 642 class meetings occurred after 5:00 pm on weeknights. The report notes that this represents an increase of 49 class meetings since 1999, and that 274 more students were served by evening classes in 2005 compared to 1999.



## g. Prohibitions on Freshmen Parking On-Campus

Campus Master Plan Transportation Element Policy 4.1 of Goal 2.0 calls for the University to restrict parking overall availability for lower division students, combined with incentives and opportunities to use public transit, as an alternative to driving.

## 5. Livable Community Reinvestment Plan

Regional Plan Policy 5.6.3 calls for the Council to assist the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area in implementing the vision statement entitled, The Livable Community Reinvestment Plan. The plan serves as a policy and program guide for the development of the Gainesville Metropolitan Area transportation system over 25 years. The plan also guides the City of Gainesville and Alachua County in the update of their growth management plans and the Florida Department of Transportation in the preparation of its five-year work program. As such, the plan outlines the priority list of transportation projects which can be funded with available revenue sources over 25 years.

The Year 2035 Transportation Plan includes a strategic vision for integrating transportation and land use decisions in the Gainesville area. The vision statement states:

*"The Gainesville Urbanized Area will have a multimodal transportation system that integrates land use and transportation planning and investments to promote community well-being through good healthy relations with the region's other communities and natural systems. Specific outcomes will be:*

- 1. sustainable, safe, secure, energy efficient and livable land use patterns and complementary context-sensitive transportation networks that provide mobility choices within and between compact, mixed-use, multimodal-supportive development;*
- 2. balanced east-west Gainesville Urbanized Area growth to reduce socioeconomic disparity through increased transportation mobility and accessibility;*
- 3. transportation infrastructure investments that direct growth to existing infill and redevelopment areas;*
- 4. greenbelts to preserve natural and agricultural lands between all municipalities in the Alachua County region through compact land use patterns served by express transit service and park-and-ride facilities; and*
- 5. a network of Rapid Transit Facilities connecting regional employment centers in order to enhance the economic competitiveness of the area."*

The Livable Community Reinvestment Plan is the framework upon which the economic strength of the Gainesville Metropolitan Area, its development character, and its continued quality of life rests. Transportation decisions made in the past have shaped the way the area has developed and how it continues to grow today. Decisions made today will shape how the area grows and how its transportation system will function in the future. As the economic and institutional center of north central Florida, the successful implementation of The Livable Community Reinvestment Plan strategic vision statement is of regional importance.





The Year 2035 Long Range Transportation Plan of the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area includes recommended transportation modifications on or adjacent to the University of Florida campus. These include the construction of the Cross Campus (Bicycle and Pedestrian) Greenway from Archer Road to SW 34th Street; the Hull Road Parking Area Bicycle Pedestrian Facility from SW 34th Street to the end of the Hull Road Parking Area; the State Road 26 (University Avenue) Multimodal Emphasis Corridor Study from Gale Lemerand Drive to Waldo Road; and the US 441 Multimodal Emphasis Corridor Study from NW 33rd Avenue to Archer Road. Also included in this Plan are several projects to implement bus rapid transit service, including a proposed Bus Rapid Transit project on Archer Road that will serve portions of the University of Florida Campus and the Shands Teaching Hospital area. Policy 1.1.1 of the 2005 - 2015 Campus Master Plan Transportation Element states that the University will cooperate with Gainesville, Alachua County, the Florida Department of Transportation, and the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area in the planning, implementation, and updating of multimodal strategies and projects outlined in the Long Range Transportation Plan. Regional Policy 5.6.1 calls for the Council to coordinate with Gainesville Regional Transit System, the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area, the University, Gainesville, and Alachua County to assist in implementing the Livable Communities Reinvestment Plan.

## B. Problems, Needs and Opportunities

The Council identifies the following regional transportation problems, needs, and opportunities:

1. A need exists to provide public transit services to the north central Florida transportation disadvantaged.
2. A need exists to increase ridership on north central Florida fixed-route public transit systems.
3. A need exists to mitigate transportation impacts to the regional transportation facilities associated with increased enrollment at the University of Florida.
4. An opportunity exists to minimize adverse transportation impacts to segments of the regional road network which service the University of Florida by relocating proposed on-campus parking lots to off-campus locations and operating a series of shuttle buses between the off-campus parking lots and the campus.
5. A need exists to maximize the use of the Gainesville Regional Airport before constructing a new regional airport.
6. A need exists to direct urban development to existing north central Florida municipalities and urban areas.
7. A problem exists with the use of traditional transportation concurrency assessments within many small north central Florida municipalities and urban areas which cannot allow new development due to segments of the Regional Road Network which are either at or near capacity.
8. An opportunity exists to provide policy guidance at the regional level which results in sound transportation planning within small north central Florida municipalities and urban areas while also encouraging urban development within small north central Florida municipalities and urban areas and thereby discouraging urban sprawl.

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## C. Regional Goals and Policies

### 1. Regional Road Network

**REGIONAL GOAL 5.1.** Mitigate the impacts of development to the Regional Road Network as well as adverse extrajurisdictional impacts while encouraging development within urban areas.

#### Regional Indicators

1. In 2009, 33.9 miles, or 2.7 percent, of the north central Florida Regional Road Network did not meet the minimum operating level of service standard contained in local government comprehensive plans.
2. In 2009, 23.4 miles, or 5.4 percent, of Strategic Intermodal System roadways within north central Florida did not meet the minimum operating level of service standard established by the Florida Department of Transportation.
3. In 2009, 10.5 miles, or 1.3 percent, of State Highway System roads which were not part of the Strategic Intermodal System within north central Florida did not meet the minimum operating level of service standard established by the Florida Department of Transportation.
4. In 2009, 9 of the 44 local governments in the region had within their jurisdiction have at least 10 percent or more of the Regional Road Network located within their jurisdictions operating below the minimum level of service standard contained in local government comprehensive plans.
5. In 2009, 17 of the 44 local governments in the region are projected to have at least 10 percent or more of the Regional Road Network located within their jurisdictions operating below the minimum level of service standard contained in local government comprehensive plans by the year 2025.

#### a. Local Government Comprehensive Plans

Table 5.17 below summarizes Regional Policies 5.1.1 through 5.1.4.



TABLE 5.17

SUMMARY OF REGIONAL PLAN POLICIES 5.1.1 THROUGH 5.1.4  
LOCAL GOVERNMENT COMPREHENSIVE PLANS

Area	Local Government Comprehensive Plans Containing Transportation Planning Best Practices	Regional Plan Determination of Impacts
Municipalities, Urban Service Areas, Urban Development Areas	Yes	Adequately Mitigated
Municipalities, Urban Service Areas, Urban Development Areas	No	Florida Department of Transportation Level of Service E
Rural Areas	Yes	Florida Department of Transportation Level of Service E
Rural Areas	No	Florida Department of Transportation Level of Service D

Source: North Central Florida Regional Planning Council, 2011.

**Policy 5.1.1.** Within municipalities, urban service areas, or urban development areas where local government comprehensive plans include goals and policies which implement Transportation Planning Best Practices, adverse impacts to the Regional Road Network are adequately. Such local government comprehensive plans and plan amendments within municipalities, urban service areas, or urban development areas shall not be subject to a regional planning council determination of Regional Road Network or extrajurisdictional impacts.

**Policy 5.1.2.** Within municipalities, urban service areas, and urban development areas where local government comprehensive plans do not include goals and policies implementing Transportation Planning Best Practices, local government comprehensive plans and plan amendments shall be subject to a regional planning council determination of Regional Road Network and extrajurisdictional impacts based on the minimum level of service standard of E as determined by the Florida Department of Transportation Quality/Level of Service Handbook.

**Policy 5.1.3.** Outside municipalities, urban service areas, and urban development areas where local government comprehensive plans include goals and policies implementing Transportation Planning Best Practices, local government comprehensive plans and plan amendments shall be subject to a regional planning council determination of Regional Road Network and extrajurisdictional impacts based on the minimum level of service standard of E as determined by the Florida Department of Transportation Quality/Level of Service Handbook.

**Policy 5.1.4.** Outside municipalities, urban service areas, and urban development areas where local government comprehensive plans do not include goals and policies implementing Transportation Planning Best Practices, local government comprehensive plans and plan amendments shall be subject to a regional planning council determination of Regional Road Network and extrajurisdictional impacts based on the minimum level of service standard of D as determined by the Florida Department of Transportation Quality/Level of Service Handbook.

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b. Developments of Regional Impact

Table 5.18 below summarizes Regional Policies 5.1.5 and 5.1.6.

**TABLE 5.18  
SUMMARY OF REGIONAL PLAN POLICIES 5.1.5 THROUGH 5.1.6  
DEVELOPMENTS OF REGIONAL IMPACT**

Area	Local Government Comprehensive Plans Containing Transportation Planning Best Practices	Regional Plan Determination of Impacts
Municipalities, Urban Service Areas, Urban Development Areas	Yes	Local Comprehensive Plan Level of Service Standard
Municipalities, Urban Service Areas, Urban Development Areas	No	Local Comprehensive Plan Level of Service Standard
Rural Areas	Yes	Local Comprehensive Plan Level of Service Standard
Rural Areas	No	Local Comprehensive Plan Level of Service Standard

Source: North Central Florida Regional Planning Council, 2011.

**Policy 5.1.5.** The significant and adverse transportation impacts to the Regional Road Network created by a Development of Regional Impact shall be considered adequately mitigated where the local government development order contains conditions which either maintain the minimum level of service standard established in local government comprehensive plans for all significantly and adversely impacted portions of the Regional Road Network consistent with Section 380.06, Florida Statutes, or where the local government development order mitigates impacts to the Regional Road Network through the use of proportionate share consistent with Section 163.3184, Florida Statutes, and Rule 9J-2.045, Florida Administrative Code.

**Policy 5.1.6.** For purposes of Policy 5.1.5, the minimum level of service standard for the Regional Road Network shall be as established in local government comprehensive plans.

**Policy 5.1.7.** All proportionate share funds generated by anticipated significant and adverse impacts to the Regional Road Network as a result of Developments of Regional Impact shall be used to make transportation modifications identified in the local government development order which benefit the Regional Road Network.

## 2. Coordination and Assistance

**REGIONAL GOAL 5.2.** Coordinate with and assist state agencies, transportation planning organizations and local governments to implement an energy-efficient, interagency coordinated transportation system.

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**Regional Indicator:**

As of January 2008, the Council provides staff services to the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area.

**Policy 5.2.1.** Provide technical assistance to local governments in preparing and updating Traffic Circulation Elements in local government comprehensive plans to implement an energy-efficient, interagency coordinated transportation system.

**Policy 5.2.2.** Coordinate with the Florida Department of Transportation regarding proposed modifications to the Regional Road Network to assure consistency with local government comprehensive plans which implement an energy-efficient, interagency coordinated transportation system.

**Policy 5.2.3.** Review proposals for road widening and new transportation corridors for impacts upon natural resources of regional significance and adjacent local governments.

**Policy 5.2.4.** Provide technical assistance to local governments seeking funds for transportation modifications which implement an energy-efficient, interagency coordinated transportation system.

a. **University of Florida**

**REGIONAL GOAL 5.3.** Mitigate adverse impacts to regional transportation facilities associated with enrollment growth at the University of Florida.

**Regional Indicators**

1. During the fall 2004 semester, the University of Florida had no off-campus parking areas.
2. During 2005, 542 class meetings occurred after 5:00 pm on weeknights.
3. During the fall 2004 semester, 22.0 percent of University of Florida students lived on-campus in either university housing, housing for college fraternities, or housing for college sororities.

**Policy 5.3.1.** Construct parking lots and garages which serve the University of Florida off-campus and operate a series of University-sponsored shuttle buses between the parking lots and the campus instead of constructing additional parking spaces on the campus.

**Policy 5.3.2.** Maintain the percentage of students living on-campus at 22.0 percent.

**Policy 5.3.3.** Provide an evening division of classes in order to reduce off-campus impacts on the regional road network during peak hour traffic periods.

**Policy 5.3.4.** Complete multi-modal corridor studies as soon as possible for the following roads:

1. I-75 from the southern Gainesville Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area boundary to State Road 222 (NW 39th Avenue);
2. U.S. 441 (W. 13th Street) from State Road 24 (Archer Road) to NW 29th Avenue;
3. State Road 24 (Archer Road) from SW 75th Street to SW 16th Avenue;

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4. State Road 26 (W. Newberry Road) from NW 122nd Street to NW 8th Avenue;
5. State Road 121 (W. 34th Street) from State Road 331 to NW 16th Avenue; and
6. State Road 331 (Williston Road) from SW 8th Avenue to U.S. 441 (W. 13th Street).

**Policy 5.3.5.** Adopt transportation demand management strategies such as carpools, vanpools, public transit, bicycling, incorporating public transit costs in University of Florida student activity fees, and walking to encourage use of the multi-modal corridors for modes of travel other than single-occupant automobiles.

**Policy 5.3.6.** Adopt measures such as prohibiting freshmen from purchasing parking decals to park on campus in order to reduce the demand for parking facilities and encouraging freshmen to use public transit, bicycles, and walking while traveling to and from the University area.

**Policy 5.3.7.** Encourage the University of Florida to determine the Context Area for the University Campus Master Plan based on the transportation impact analysis methodology used for Developments or Regional Impact.

## b. Gainesville Regional Airport

**REGIONAL GOAL 5.4.** Maximize the use of the Gainesville Regional Airport before developing a new regional airport.

### Regional Indicator

In 2008, Gainesville Regional Airport experienced 84,495 itinerant airport operations.<sup>17</sup>

**Policy 5.4.1.** Coordinate development plans of the Gainesville Regional Airport with the City of Gainesville and Alachua County comprehensive plans to avoid unnecessary conflicts, to ensure the safety of airport operations, and to allow for future increases in the operational capacity of the airport.

## c. Rail Lines

**REGIONAL GOAL 5.5.** Include rail lines and railroads as part of an integrated regional transportation system consisting of the Regional Road Network, regional airports and transit service providers.

### Regional Indicator

As of 2010, north central Florida has 314.8 miles of rail lines.

**Policy 5.5.1.** Coordinate rail line expansion plans with the Florida Department of Transportation and with local governments to ensure consistency with local government comprehensive plans, to ensure public safety, and to allow for future increases in the operational capacity of rail lines.

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<sup>17</sup>Florida Statistical Abstract 2000, and Florida Statistical Abstract 2009, University of Florida, Bureau of Economic and Business Research, 2010, Table 13.90.



**Policy 5.5.2.** Review proposals for new rail lines for impact upon natural resources of regional significance and adjacent local governments.

#### d. Paratransit Services and the Transportation Disadvantaged

**REGIONAL GOAL 5.6.** Reduce the unmet General Trip demand of the north central Florida Transportation Disadvantaged population.

##### Regional Indicators

1. An estimated 424,276 general demand trips, 33.2 percent of total estimated transportation disadvantaged trips, were unmet in 2005.
2. In fiscal year 2008-09, 778,348 paratransit trips occurred in the region by north central Florida paratransit service providers.
3. In fiscal year 2008-09, north central Florida paratransit service providers reported annual operating revenues of \$10,906,472.

**Policy 5.6.1.** Improve mobility options for low-income, elderly and disabled citizens.

**Policy 5.6.2.** Increase funding for coordinated transportation systems for the transportation disabled.

**Policy 5.6.3.** The Council and/or the Metropolitan Transportation Organization for the Gainesville Urbanized Area should provide technical assistance to designated north central Florida local transportation coordinating boards and community transportation coordinators.

#### e. Public Transit and Livable Community Reinvestment Plan

**REGIONAL GOAL 5.7.** Increase the percentage of north central Florida residents using public transportation as a primary means of transportation.

##### Regional Indicators

1. In 2000, 1.5 percent of north central Florida residents used public transportation as a primary means of travel to work.
2. The 2007 Gainesville Regional Transit System fixed-route ridership was 8,939,334.

**Policy 5.7.1.** Coordinate with the Gainesville Regional Transit System, the Metropolitan Transportation Planning Agency for the Gainesville Urbanized area, the University of Florida, the City of Gainesville, and Alachua County to provide opportunities through their respective plans and programs for a greater likelihood of increased public transit ridership.

**Policy 5.7.2.** Coordinate with Community Transportation Coordinators and north central Florida local governments to provide opportunities through their respective plans and programs for a greater likelihood of increased public transit ridership.



**Policy 5.7.3.** Assist the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area in implementing the vision statement contained in its Gainesville Metropolitan Area Year 2035 Transportation Plan entitled, The Livable Community Reinvestment Plan.





# Chapter VI

## Regionally Significant Facilities and Resources

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## Chapter VI: Regionally Significant Facilities and Resources

Regionally Significant Facilities and Resources are those facilities and resources identified by the Council as being of regional importance and meets one or more of the following criteria: (1) its uniqueness, function, benefit, service delivery area, or importance is identified as being of regional concern; (2) a facility or resource that requires the participation or involvement of two or more governmental entities to ensure proper and efficient management; or (3) a facility or resource that meets either criteria in 1 or 2 above and is defined to be of state or regional concern or importance in state or federal laws or rules of state or regional agencies adopted pursuant to Chapter 120, Florida Statutes.<sup>1</sup>

Facilities recognized by the North Central Florida Strategic Regional Policy Plan as regionally significant facilities and resources not addressed elsewhere are comprised of cultural facilities, educational institutions, electric power generation stations, hospitals, landfills, military facilities, and state prisons.

Cultural Facilities recognized as regional facilities are those which are either owned or funded (at least in part) by the state or provide cultural opportunities to residents of multiple local jurisdictions.

Educational institutions recognized as regional facilities are those which provide either two or four year college degrees or technical training to residents of multiple local jurisdictions.

Electrical power facilities recognized as regional facilities are those facilities which provide electrical power to multiple local government jurisdictions.

Florida Greenways recognized as regional facilities are those greenways which have been formally recognized as such by the Florida Greenways Commission.

Hospitals recognized as regional facilities are those facilities which provide medical services to residents of multiple local government jurisdictions.

Landfills recognized as regional facilities are those facilities which provide solid waste disposal services to multiple local government jurisdictions.

State prisons are recognized as regional facilities as they hold prisoners whose place of residence is from outside the region. They also represent a significant source of employment for north central Florida residents. Since the majority of prisoners housed in north central Florida prisons are from outside the region, state prisons are considered to be a basic industry for north central Florida.

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<sup>1</sup>North central Florida regionally significant facilities and resources, as defined in Rule 27E.005, Florida Administrative Code, consist of Regionally Significant Emergency Preparedness Facilities identified in Table 3.2, Natural Resources of Regional Significance identified in Table 4.1, Regionally Significant Transportation Facilities identified in Table 5.9, and Regionally Significant Facilities and Resources, identified in Section VI.



## A. Cultural Facilities

Center for Performing Arts  
Florida State Museum  
Florida Trail  
Forest Capital Museum  
Hippodrome State Theater  
Marjorie Kinnan Rawlings State Historical Site  
Samuel P. Harn Art Museum  
Stephen Foster State Folk Culture Center

## B. Educational Institutions

Bradford-Union County Vocational Technical Center  
Lake City Community College  
North Florida Junior College  
Santa Fe College  
Suwannee-Hamilton Vocational Technical Center  
Taylor Technical Institute  
University of Florida

## C. Electric Power Facilities

Electric Power Generating Stations  
Electric Transmission Lines of 500 KVA  
Electric Transmission Lines of Lesser Voltage That Serve Multi-County Jurisdictions  
Electric Substations to Support Above-Referenced Transmission Line Facilities

## D. Florida Greenways

Aucilla River (Madison and Taylor Counties)  
Big Bend Saltwater Paddling Trail (Dixie and Taylor Counties)  
Florida National Scenic Trail (Columbia County)  
Pinhook Swamp Purchase Unit (Columbia County)  
Devils Millhopper State Geological Park (Alachua County)  
Dudley Farm Historic State Park (Alachua County)  
Econfina River State Park (Taylor County)  
Fanning Springs State Park (Gilchrist County)  
Ichetucknee Springs State Park (Columbia and Suwannee Counties)  
Nature Coast Trail State Park (Gilchrist and Dixie Counties)  
O'Leno State Park (Columbia County)  
Peacock Springs State Park (Columbia County)  
River Rise Preserve State Park (Columbia County)  
Stephen Foster State Culture Center Segment (Hamilton County)  
Suwannee River State Park (Hamilton, Madison and Suwannee Counties)  
Suwannee River State Park Segment (Suwannee County)  
Troy Springs State Park (Suwannee County)  
Withlacoochee River (North) (Hamilton and Madison Counties)



## **E. Historical Facilities**

All districts, buildings, and sites listed in the National Register of Historic Places  
All pre-historic sites listed in the Florida Master Site File

## **F. Hospitals**

North Florida Regional Medical Center, Gainesville  
Shands Hospitals in Alachua County  
Veterans Administration Hospital, Gainesville  
Veterans Administration Hospital, Lake City

## **G. Landfills**

New River Solid Waste Management Association (Baker, Bradford, & Union counties)  
Suwannee Valley Solid Waste Management Association (Dixie, Jefferson, Madison, & Taylor counties)

## **H. Natural Gas Transmission Lines**

Natural Gas Transmission Lines

## **I. Military Facilities**

Camp Blanding

## **J. State Prisons**

Columbia Correctional Institution, Columbia County  
Columbia Correction Institution Annex, Columbia County  
Cross City Correctional Institution, Dixie County  
Florida State Prison, Bradford County  
Florida State Prison, West Unit, Bradford County  
Gainesville Community Correctional Center, Alachua County  
Hamilton Correctional Institution, Hamilton County  
Hamilton Correctional Institution Annex, Hamilton County  
Lake Butler Reception and Medical Center, Union County  
Lake City Community Correctional Facility, Columbia County  
Lancaster Correctional Institution, Gilchrist County  
Lawtey Correctional Institute, Bradford County  
Madison Correctional Institution, Madison County  
Mayo Correctional Institution, Lafayette County  
New River Correctional Institution, Bradford County  
New River "O" Unit, Bradford County  
Reception and Medical Center, Main Unit, Union County  
Reception and Medical Center, West Unit, Union County  
Suwannee Correction Institution, Suwannee County  
Taylor Correction Institution, Taylor County  
Taylor Correction Institution Annex, Taylor County  
Union Correctional Institution, Union County

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# Chapter VII

## Coordination Outline



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## Chapter VII: Coordination Outline

The coordination outline provides an overview of the Council's cross acceptance, dispute resolution, public participation, and related regional planning and coordination activities. It focuses on how the Council helps to resolve inconsistencies among the various (local/regional/state) plans and programs.

### A. Public Participation

The Council actively seeks public participation in all of its endeavors. Every meeting of the Council and its committees is advertised in Florida Administrative Weekly. Additionally, Council and committee meeting notices/agendas are distributed to the news media and directly to interested persons who have requested to be placed on the Council's notification lists. Agendas are also available to the public through the Internet via the World Wide Web. The Council's home page Internet address is <http://www.ncfrpc.org>.

Citizens participate in Council programs in a variety of ways. Ongoing citizen participation is accomplished by including eight non-voting citizen members on the Council and various Council committees. This format allows direct citizen input at the policy-making level. Also, citizen advisory committees are created for special projects in which more organized citizen input is desirable.

In developing the regional plan, the Council held one public workshop during the early stages of plan formulation to describe the regional planning effort and to receive input from the public regarding the content, structure, and application of the plan as well as to receive input regarding the process of plan formulation and adoption. Additionally, the Council will hold at least three well-advertised meetings at different locations throughout the region to describe the content of the proposed plan submitted to the Executive Office of the Governor and to receive public comment regarding the proposed plan.

### B. Dispute Resolution

The Council has adopted a dispute resolution process (Rule 29C-8, Florida Administrative Code) designed to reconcile differences in planning, growth management, and other issues among local governments, regional agencies, and private interests. The voluntary process attempts to identify and resolve problems early, provide a range of dispute resolution options, appropriately involve all affected parties, and be both time- and cost-effective.

### C. Cross-Acceptance

Chapter 186.505(22), Florida Statutes, states that regional planning councils have the power "to establish and conduct a cross-acceptance negotiation process with local governments intended to resolve inconsistencies between applicable local and regional plans, with participation by local governments being voluntary."



In order to encourage up-front compatibility among the various regional planning council and local government plans, the North Central Florida Regional Planning Council has established a voluntary cross-acceptance process which can be used to prevent high-profile conflicts between plans of two regional planning Councils, between the regional planning Council and local government plans, and between plans (and plan amendments) being developed by adjacent local governments.

## **1. How the Cross-Acceptance Process Works**

The Council's cross-acceptance process consists of an informal, non-binding, staff-level review of local government plans/plan amendments as well as strategic regional policy plans/plan amendments of adjacent regional planning Councils.

The process is initiated when a local government submits a plan or plan amendment to the Council requesting initiation of the process prior to submitting the plan/amendment for review pursuant to Chapter 163, Florida Statutes. For regional plans/amendments, the process begins when the Council receives a request by an adjacent regional planning Council to initiate the cross-acceptance review. Within ten days of receipt of the plan/amendment for review through the cross-acceptance process, the Council staff will make an informal, non-binding, review of the plan or plan amendment. In the case of a local government comprehensive plan/amendment review, the Council will communicate the results of the review to the initiating local government. In the case of a regional plan/amendment review, the Council will communicate the results of the review to the appropriate regional planning Council.

For proposed regional and local plans/amendments, staff review will consist of a determination as to its effects on regional resources or facilities identified in the regional plan and extrajurisdictional impacts on adjacent local governments. The review will include recommendations as to how the plan/amendment can be made to mitigate significant adverse impacts on adjacent local governments as well as ensure its consistency with the Council's regional plan.

## **2. Council's Local Government Comprehensive Plan Review Process and Its Relationship with the Voluntary Cross-Acceptance Process**

The Council is authorized to review and comment on local government proposed comprehensive plans and plan amendments by Chapter 163, Florida Statutes. The Council's review of proposed plans/amendments is limited to the effects on regional resources or facilities identified in the regional plan and extrajurisdictional impacts which would be inconsistent with the comprehensive plan of the affected local government. Council review of adopted plans/amendments consists of a determination of consistency of the plan as amended with the regional plan. The Council's review findings are considered by the Department of Economic Opportunity during its compliance review of local plans/plan amendments.

This process must be followed regardless of any agreements reached through or modifications made to local plans/amendments as a result of the Council's voluntary cross-acceptance process. Furthermore, any determination or recommendation made by Council staff through the voluntary cross-acceptance process is subject to review and reversal by the Department through the Chapter 163, Florida Statutes, review process described above, with or without a recommendation to do so by the policy body of the Council.



The Council's cross-acceptance process does not obligate the local government or adjoining regional planning Council to change its plan/amendment as a result of the process; nor does it obligate the Council to find the plan/amendment consistent with the regional plan through the Council's formal review processes should the local government or adjoining regional planning council implement any or all of the staff recommendations contained in the cross-acceptance review.

## **D. Regional Planning and Coordination Activities**

The Council conducts a number of various planning activities and programs. These activities and programs include intergovernmental coordination and review, developments of regional impact review, functioning as a regional information center, hurricane preparedness planning, regional public facilities planning, hazardous materials emergency management planning, staffing of the Metropolitan Transportation Planning Organization for the Gainesville urban area, staffing of county transportation disadvantaged programs, and local government technical assistance. These activities and programs are discussed below.

### **3. Intergovernmental Coordination and Review**

One of the ways the Council implements its regional plan is through a federal/state/regional review process formally known as the Intergovernmental Coordination and Review process. The Governor has designated the state's eleven regional planning Councils as areawide clearinghouses for federally-funded projects that affect local governments in Florida.

The Council reviews these applications/projects to avoid and/or mitigate potential adverse impacts that may be created by an activity in neighboring communities or counties, insure coordination and consistency with local government and comprehensive regional policy plans, and to avoid duplication or conflict with other area programs.

### **4. Development of Regional Impact Review Process**

The DRI review process provides state, regional, and local agencies the opportunity to evaluate the impacts of large-scale development projects. The potential impacts of a proposed Development of Regional Impact project on adjacent local governments and on regional resources and facilities are identified by the Council and measures to avoid or mitigate adverse impacts are developed for inclusion in the development order issued by the local government of jurisdiction.

### **5. Regional Information Center**

The Regional Information Center is the information service and publication center of the Council. It includes a library, a research service, and public information resources. The Center is often the starting place for many developers, consultants, marketing specialists, media representatives, students, and planners looking for regional statistics and information. The Council is a Florida Census Data Affiliate and an official repository for federal home loan disclosure reports. Data research requests are filled on a regular basis.

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## 6. Hurricane Preparedness

In 1990, the Council completed its first five-year update of the regional hurricane evacuation and inland shelter studies. Both regional and county plans were prepared by the Council in 1985. The 1990 regional study focuses on updating the number and location of people who need to evacuate in the event of a hurricane, including any special needs created by disabilities or age. The study includes the location and type of shelter spaces available to accommodate evacuees. Evacuation routes and potential impediments, such as flooding, to the movement of vehicles are also discussed. A technical committee composed of county civil defense directors, representatives of the Florida Division of Emergency Management, and the American Red Cross assisted in this effort.

## 7. Regional Public Facilities

Since 1987 when its comprehensive regional policy plan was initially adopted, the Council has assisted the region's counties in creating regional landfills and regional library systems. In a time when economics, new technologies and/or other factors are forcing local governments to look for safe and cost-effective alternatives, the Council can provide the expertise and forum for developing regional solutions to a number of problems facing local governments in Florida.

## 8. Hazardous Materials

The Emergency Planning and Community Right-to-Know Act, also known as Title III of the Superfund Amendments and Reauthorization Act requires the preparation of local emergency hazardous material response plans. In Florida, hazardous materials emergency response plans have been developed utilizing the eleven regional planning Council districts and state-appointed local emergency planning committees. The emergency response plan for the North Central Florida Region was adopted by the Local Emergency Planning Committee on June 9, 1989, and annually updated in November of each year.

Florida follow-up legislation also requires the state's 67 counties to each prepare or update site-specific hazards analyses. The hazards analyses include site-specific information on facilities that contain extremely hazardous substances. The hazards analyses identify the quantities of hazardous material on-site, the vulnerable zone that could be impacted by a worse-case release, and the probability of a release occurring.

The Local Emergency Planning Committee, with financial assistance from the state, also organizes free training sessions for emergency fire and rescue teams, police, and others whose job is to respond to accidents which may involve hazardous materials. Different levels of training are being provided to the "First Responders" with the first level focusing on how to safely recognize and make proper notifications for possible hazardous materials incidents. The most advanced level is for hazardous materials technicians who will wear chemical protective clothing to stop a toxic release.



## 9. Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area

Through an agreement signed by the Florida Department of Transportation, Alachua County, and the City of Gainesville, the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area was formed to conduct transportation planning activities in the Gainesville urbanized area. This program makes the area eligible to receive federal funds for transportation projects. The Council serves as the staff providing technical and administrative assistance in developing transportation plans and programs.

## 10. Transportation Disadvantaged Program

Another major transportation planning activity of the Council is the Transportation Disadvantaged planning program. Counties are required to develop plans in order to receive state funds to increase transportation services to low-income, elderly, and handicapped persons. The Council serves as the designated official planning agency for nine counties in the region. The Metropolitan Transportation Planning Organization serves as the planning agency for Alachua County while the Taylor County Commission is the designated official planning agency for Taylor County. These agencies are responsible for conducting planning studies needed to increase transportation services to low-income individuals, elderly individuals, and persons with disabilities.

## 11. Local Government Technical Assistance

The Council also offers technical assistance to local governments which do not have available staff or expertise for certain activities. These activities range from comprehensive planning to community development.

### a. Comprehensive Planning Assistance

The Local Government Comprehensive Planning and Land Development Regulation Act requires local governments to prepare and adopt comprehensive plans which are consistent with regional and state comprehensive plans. In addition, local governments are required to adopt land development regulations to implement their comprehensive plans. Since this legislation was initially enacted back in 1975, the Council has assisted nearly every local government in the region with preparing all or a portion of their comprehensive plans and development regulations. Technical assistance on plan amendments and general administration of local planning programs is provided on a continuing basis to many of these same local governments by Council under contract.

### b. Community Development Block Grants

The Council also assists local governments in assessing their community development needs, then applying for and administering Community Development Block Grants. The federal block grant program, administered by Department, helps local governments address the need for housing rehabilitation of low-and moderate-income occupied dwelling units, the need for the commercial revitalization of downtowns, and the need for revitalizing public facilities in neighborhoods occupied by low-and moderate-income persons.

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



### c. Florida Communities Trust Grants

The Council also assists local governments in preparing applications for Florida Communities Trust Florida Forever grant funds, a program designed to assist local governments in purchasing sensitive lands within their communities. The Council has prepared or helped to prepare six applications, five of which have been funded.

## 12. Economic Development

The economic development program of the Council consists of economic development planning and technical assistance, and tourism promotion.

### a. Economic Development District

Since the federal Economic Development Administration designation of the region as an Economic Development District in 1978, the Council has continued to maintain a high level of involvement in providing technical assistance to local governments and development authorities in order to promote economic growth.

### b. The Original Florida Tourism Task Force

The Council developed a tourism strategic plan in 1992. Upon completion, the Council entered into a formal agreement with public and private agencies in the region's counties whose representatives form a Tourism Task Force to undertake promotional efforts and other activities for tourism throughout the region. The Council provides in-kind staff assistance to this on-going effort.



# Appendix A

## Dispute Resolution Rule

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



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# Appendix A: Dispute Resolution Rule

## CHAPTER 29C-8

### RULES OF PROCEDURE AND PRACTICE PERTAINING TO THE REGIONAL DISPUTE RESOLUTION PROCESS (RDRP)

29C-8.001	Purpose
29C-8.002	Definitions
29C-8.003	Participation
29C-8.004	Costs
29C-8.005	Timeframes
29C-8.006	Administrative Protocols
29C-8.007	Public Notice, Records, and Confidentiality
29C-8.008	Pre-initiation Meeting
29C-8.009	Situation Assessment
29C-8.010	Formal Initiation of the Process by Jurisdictions
29C-8.011	Requests to Initiate Process Submitted by Others
29C-8.012	Settlement Meetings
29C-8.013	Mediation
29C-8.014	Advisory Decision-making
29C-8.015	Settlement Agreements and Reports
29C-8.016	Other Dispute Resolution Processes

#### **29C-8.001 Purpose.**

(1) The purpose of the rule is to establish a voluntary regional dispute resolution process (RDRP) to reconcile differences on planning, growth management and other issues among local governments, regional agencies and private interests. The process consists of two basic components: process initiation (initiation and response letters), and settlement meetings; and five optional components: pre-initiation meeting, situation assessments, mediation, advisory decision-making, and reference to other dispute resolution processes (judicial, administrative or arbitration proceedings).

(2) The intent of the RDRP is to provide a flexible process to reconcile differences on planning and growth management issues. The process is designed to clearly identify and resolve problems as early as possible, utilize the procedures in a low-to-high cost sequence, allow flexibility in the order in which the procedures are used, provide for the involvement of affected and responsible parties, and provide as much process certainty as possible.

(3) The RDRP may be used to resolve disputes involving: extrajurisdictional impacts as provided for in the intergovernmental coordination elements of local comprehensive plans, as required by Section 163.3177, F.S.; inconsistencies between port master plans and local comprehensive plans, as required by Section 163.3178, F.S.; the siting of community residential homes, as required by Section 419.001(5), F.S.; and any other matters covered by statutes which reference the RDRP.

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(4) The RDRP shall not be used to address disputes involving environmental permits or other regulatory matters unless all of the parties involved agree to initiate use of the RDRP.

(5) Use of the RDRP shall not alter a jurisdiction's organization's, group's or individual's right to a judicial determination of any issue if that entity is entitled to such a determination under statutory or common law.

(6) Participation in the RDRP as a named party or in any other capacity does not convey or limit intervenor status or standing in any judicial or administrative proceedings.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.002 Definitions.**

(1) SITUATION ASSESSMENT is a procedure of information collection that may involve review of documents, interviews and an assessment meeting to identify the issues in dispute, the stakeholders, information needed before a decision can be made, or a recommendation for appropriate dispute resolution procedures.

(2) PRE-INITIATION MEETINGS are opportunities for a party to discuss the suitability of the RDRP with the RPC staff for resolving their dispute before formally initiating the RDRP.

(3) FACILITATION is a procedure in which a neutral party, acting as a facilitator, helps the named parties design and follow a meeting agenda, and assists parties to communicate more effectively throughout the process. The facilitator has no authority to make or recommend a decision.

(4) MEDIATION is a procedure in which a neutral party, acting as a mediator, assists named parties in a negotiation process in exploring their interests, developing and evaluating options, and reaching a mutually-acceptable agreement. A mediator may take more control of the process than a facilitator and usually works in more complex cases where a dispute is more clearly defined.

(5) ADVISORY DECISION-MAKING is a procedure aimed at enhancing the effectiveness of negotiations and helping parties more realistically evaluate their negotiation positions. This procedure may include neutral evaluation, or advisory arbitration in which a neutral party or panel listens to the facts and arguments presented by the parties and renders a non-binding advisory decision.

(6) JURISDICTION is any local, regional, or state government or agency, including special districts, authorities and school boards.

(7) NAMED PARTY shall be any jurisdiction, public or private organization, group or individual which (who) is named in an initiation letter, including the initiating jurisdiction, or is admitted by the named parties to participate in settlement of a dispute pursuant to subsections 29C-8.003(1), (2) and (3), F.A.C. Being a "named party" in the RDRP does not convey or limit standing in any judicial or administrative proceeding.



(8) REPRESENTATIVE is an individual who is given guidance and authority to act, to the extent possible, by a named party in a RDRP case. Subsection 29C-8.003(4), F.A.C., sets forth the designation process.

(9) INITIATION LETTER is a letter from a jurisdiction formally identifying a dispute and asking named parties to engage in this process to resolve the dispute and, at a minimum, attend the initial settlement meeting. Subsection 29C-8.010(2), F.A.C., specifies what must be included in an initiation letter.

(10) RESPONSE LETTER formally notifies the initiator and other named parties that a party is willing to participate in the RDRP and, at a minimum, attend at least one settlement meeting. Subsection 29C-8.010(3), F.A.C., specifies what must be included in a response letter.

(11) SETTLEMENT AGREEMENTS may be voluntarily approved by the individual or governing body authorized to bind the named party. Agreements may take the form of memorandums of understanding, contracts, interlocal agreements or other form mutually agreed to by the signatory parties or as required by law. A settlement may be agreed to by some or all of the named parties.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History—New 7-12-94.*

#### **29C-8.003 Participation.**

(1) Named parties shall automatically be allowed to participate. Other jurisdictions, public or private organizations, groups, or individuals suggested by named parties in response letters or during RDRP meetings or submitting a petition to participate, shall be allowed to become named parties if agreed to by a two-thirds majority of the participating named parties, except as provided for in subsection 29C-8.003(2), F.A.C. Fee allocation agreements may be amended as appropriate.

(2) All initiation and response letters made in accordance with intergovernmental coordination elements (ICE) of local government comprehensive plans shall only list affected local government jurisdictions as named parties. The named parties may, at the initial settlement or at subsequent RDRP meetings, add public or private named parties by mutual agreement of all the current named parties.

(3) Other jurisdictions, public or private organizations, groups or individuals seeking to become named parties shall submit to the North Central Florida Regional Planning Council (Council) a written petition to participate, including reasons for the request and information required in subsection 29C-8.010(2), F.A.C. Such jurisdictions, public or private organizations, groups, or individuals shall become named parties if agreed to by a two-thirds majority of the named parties prior to or during RDRP meetings, except as provided by subsection 29C-8.003(2), F.A.C. Named parties who do not respond within thirty days of the initiation letter may not participate in the RDRP unless they submit a petition for participation.



(4) Each of the jurisdictions, organizations, groups, or individuals participating as named parties in this process shall designate a representative, in writing, or be represented by the chief administrative officer. Such a representative shall have responsibility for representing that party's interest in this process and for maintaining communications with that party throughout the process and, to the extent possible, shall have the authority to act for that party. Jurisdictions are encouraged to designate a representative to participate in the RDRP in advance of initiating or receiving a request.

(5) Any named or neutral party may invite individuals or organizations to attend meetings under this process who (which) can provide information and technical assistance useful in the resolution of the dispute. The parties, by agreement, or the presiding neutral shall determine when and under what circumstances such invited parties may provide input.

(6) All communications by a named party called for in this process shall be submitted to all other named parties and the Council in writing.

(7) All named parties who agree to participate in this process commit to a good faith effort to resolve problems or disputes.

(8) Any named party may withdraw from participation in the RDRP upon written notice to all other named parties and the Council.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

#### **29C-8.004 Costs.**

(1) There shall be no charge for processing a RDRP initiation request and facilitation of the initial settlement meeting. The RPC shall be compensated for situation assessments, facilitation of additional settlement meetings, mediation, technical assistance and other staff services based on reasonable actual costs. Outside professional neutrals shall be compensated at their standard rate or as negotiated by the parties.

(2) The costs of administration, settlement meetings, mediation or advisory arbitration shall be split equally between the named parties or according to another agreed upon allocation. The agreed upon cost allocation shall be documented in a written fee agreement.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

#### **29C-8.005 Timeframes.**

(1) The initial settlement meeting shall be scheduled and held within forty-five days of the date of receipt of the initiation letter at a time and place convenient to the named parties.

(2) Additional settlement meetings, mediation or advisory decision-making shall be completed within sixty days of the date of the conclusion of the initial settlement meeting.



(3) All timeframes specified or agreed to in this process may be shortened or extended if agreed to by a two-thirds majority of the named parties.

(4) The parties may, by mutual agreement, utilize procedures in the RDRP in any order.

(5) Where necessary to allow this process to be effectively carried out, named parties should defer or seek stays of judicial or administrative proceedings.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

#### **29C-8.006 Administrative Protocols.**

The Council may adopt administrative procedures to implement this rule. These may address staff and council roles, procedures for situation assessment, selection of neutrals, consumer guides or other matters. Where required pursuant to Section 120.52, F.S., policies and guidelines should be adopted as rules.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

#### **29C-8.007 Public Notice, Records, and Confidentiality.**

(1) Named parties should provide appropriate opportunities for public input at each step in this process, such as submitting written or oral comments on issues, alternative solutions and impacts of proposed agreements.

(2) Applicable public notice and public records requirements shall be observed as required by Chapters 119 and 120, F.S.

(3) Parties utilizing these procedures agree that no comments, meeting records, or written or oral offers of settlement shall be presented by them as evidence in any subsequent judicial or administrative action.

(4) To the extent permitted by law, mediation under this process will be governed by the confidentiality provisions of applicable laws, which may include Chapter 44, F.S.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

#### **29C-8.008 Pre-initiation Meeting.**

A jurisdiction, organization, group, or individual contemplating initiation of this process must request an informal pre-initiation meeting with the Council staff in order to ascertain whether the potential dispute would be appropriate for this process.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*



### **29C-8.009 Situation Assessment.**

(1) A jurisdiction, organization, group, or individual may request that the Council (or other entity if the Council is one of the named parties) perform a situation assessment at any time, before or after initiation of the process.

(2) The situation assessment may involve examination of documents, interviews and assessment meetings, and shall recommend issues to be addressed, parties that should participate, appropriate resolution procedures, and a proposed schedule.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.010 Formal Initiation of the Process by Jurisdictions.**

(1) A formal process is initiated by an initiation letter from the representative of the governing body of a jurisdiction, other than a regional planning council, to the named parties as provided for in subsections 29C-8.003(1) and (2), F.A.C., and to the Council. The initiation letter must be accompanied by a resolution of the governing body authorizing the specific initiation or by a letter which authorizes its designated representative as defined in this rule to initiate requests utilizing the RDRP.

(2) Such an initiation letter shall identify the following: the issues to be discussed; the named parties to be involved in the dispute resolution process; the initiating party's representative and others who will attend; and a brief history of the dispute indicating why it is appropriate for this process.

(3) Named parties shall send a response letter to the Council and all other named parties confirming their willingness to participate in a settlement meeting within thirty days of receipt of the initiation letter. This response letter shall include any additional issues and potential named parties the respondent wishes considered, as well as, a brief history of the dispute and description of the situation from the respondent's point of view.

(4) Upon receipt of an initiation letter, the Council shall assess its interest in the case. If the Council is a named party or sees itself as a potential party, it shall notify the named parties of the nature of its interest and ascertain whether the parties desire an outside facilitator for the initial settlement meeting.

(5) The Council may not initiate the RDRP but recommend that a potential dispute is suitable for this process and transmit its recommendation to potential parties who may, at their discretion, initiate the RDRP.

(6) The Council shall schedule a settlement meeting within thirty days of the date of receipt of the initiation request.

(7) In the event that a dispute affects jurisdictions involving two or more regions, the process adopted by the region of the initiating jurisdiction shall govern, unless the named parties agree otherwise.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*



### **29C-8.011 Requests to Initiate Process Submitted by Others.**

- (1) Private interests may request any jurisdiction to initiate the process.
- (2) Any public or private organization, group, or individual may request that the Council recommend use of this process to address a potential dispute in accordance with subsection 29C-8.010(5), F.A.C. Such a request shall be submitted in writing and shall include the information required for an initiation letter as outlined in subsection 29C-8.010(2), F.A.C.
- (3) After reviewing the rationale submitted by and consulting with the requesting organization, group, or individual, the Council will conduct a situation assessment and respond in writing.
- (4) If the Council determines that the potential dispute is suitable for the process, it shall transmit that determination in writing to the potential parties. The determination may include a recommendation that one or more of the jurisdictions among the potential parties initiate the procedure. The Council may also suggest that other, resolution processes be considered.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.012 Settlement Meetings.**

- (1) Settlement meetings shall, at a minimum, be attended by the named parties' representatives designated pursuant to subsection 29C-8.003(4), F.A.C.
- (2) Settlement meetings may be facilitated by a Council staff member or other neutral facilitator acceptable to the named parties and shall be held at a time and place acceptable to the named parties.
- (3) At the settlement meeting, the named parties shall consider adding named parties, consider guidelines for participation, identify the issues to be addressed, present their concerns and constraints, explore options for a solution, and seek agreement.
- (4) The named parties shall submit a settlement meeting report in accordance with subsection 29C-8.015(4), F.A.C., of this process.
- (5) If an agreed-upon settlement meeting is not held or a settlement meeting produces no agreement to proceed to additional settlement meetings, mediation or advisory decision-making, any named party who has agreed to participate in this procedure may proceed to a joint meeting of governing bodies pursuant to Chapter 164, F.S., litigation, an administrative hearing or arbitration, as appropriate.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.013 Mediation.**

- (1) If two or more of the named parties submit a request for mediation to the Council, the Council shall assist them in selecting and retaining a mediator or the named parties may request that the Council select a mediator.



(2) All disputes shall be mediated by a mediator who understands Florida growth management issues, has mediation experience and is acceptable to the parties. Named parties may consider mediators who are on the Florida Growth Management Conflict Resolution Consortium rosters or any other mutually-acceptable mediator. Mediators shall be guided by the Standards of Professional Conduct, Florida Rules of Civil Procedure, Rule 10, Part II, Section 020-150.

(3) Named parties shall submit a mediation report in accordance with subsection 29C-8.015(4), F.A.C., at the conclusion of advisory decision-making.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.014 Advisory Decision-making.**

(1) If two or more of the named parties submit a request for advisory decision-making to the Council, the Council shall assist the named parties in selecting and retaining an appropriate neutral party or the named parties may request that the Council make the selection.

(2) All disputes shall be handled by a neutral party who understands Florida growth management issues, has appropriate experience and is acceptable to the named parties.

(3) The named parties shall submit an advisory decision-making report in accordance with subsection 29C-8.015(4), F.A.C., of this process.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.015 Settlement Agreements and Reports.**

(1) The form of all settlements reached through this process shall be determined by the named parties and may include interlocal agreements, concurrent resolutions, memoranda of understanding, plan amendments, deed restrictions, or other forms as appropriate.

(2) Agreements signed by designated representatives may be in the form of recommendations to the named parties and subject to their formal approval.

(3) Agreements may be reached by two or more parties even if all of the named parties do not agree or do not sign a formal agreement.

(4) After settlement meetings, mediation, or advisory decision-making under this process, the named parties shall submit a joint report to the Council which shall, at a minimum, include:

(a) Identification of the issues discussed and copies of any agreements reached;

(b) A list of potentially affected or involved jurisdictions, organizations, groups, or individuals (including those which may not be named parties);





- (c) A timeframe for starting and ending informal negotiations, additional settlement meetings, mediation, advisory decision-making, joint meetings of elected bodies, administrative hearings or litigation;
- (d) Any additional Council assistance requested;
- (e) A written fee allocation agreement to cover the costs of RDRP procedures;
- (f) A description of responsibilities and schedules for implementing and enforcing agreements reached. The report shall include any statements that any named party wishes to include.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*

### **29C-8.016 Other Dispute Resolution Processes.**

- (1) The RDRP is a voluntary opportunity for parties to negotiate a mutual agreement. It may be used before, in parallel with, or after judicial or administrative proceedings.
- (2) When appropriate, parties may obtain a stay of judicial or administrative proceedings to provide time for RDRP negotiations.
- (3) Use of the RDRP shall not alter a jurisdiction's, organization's, group's or individual's right to a judicial or administrative determination of any issue if that person is entitled to such a determination under statutory or common law.
- (4) Participation in the RDRP as a named party or in any other way does not convey or limit intervenor status or standing in any judicial or administrative proceedings.
- (5) Other resolution processes that the parties may wish to consider utilizing which exist within Florida Statutes include the following: Intergovernmental Coordination Element, Section 163.3177(h)1. & 2., F.S.; Port Master Plans, Section 163.3178 F.S.; Community Residential Homes, Section 419.001(5) F.S.; Cross Acceptance Negotiation Process, Section 186.505(22) F.S.; Location of Spoil Sites, Section 380.32(14) F.S.; Termination of the Development of Regional Impact Program, Section 380.27, F.S.; Administrative Procedures Act, Chapter 120 F.S.; Florida Governmental Cooperation Act, Chapter 164, F.S.; Mediation Alternatives to Judicial Action, Chapter 44, F.S.

*Specific Authority 186.509 FS. Law Implemented 186.509 FS. History–New 7-12-94.*



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# Appendix B

## Glossary of Terms

Adopted May 23, 1996, Amended August 28, 1997, February 27, 2003 and October 27, 2011



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## Appendix B: Glossary of Terms

**100-year Floodplain:** An area delineated on the Flood Insurance Rate Map series published by the Federal Emergency Management Agency estimated to have a one in 100 chance of flooding in any given year.

**Acquire/Public Acquisition:** Refers to a variety of ownership forms of real property, including fee simple ownership as well as the ownership of specific rights such as land development rights, mineral rights, and timber rights.

**Adverse Transportation Impact:** A transportation facility operating below the adopted level of service standard contained in a local government comprehensive plan for transportation facilities which are not part of the Strategic Intermodal System. A transportation facility which is part of the Strategic Intermodal System operating below the adopted level of service standard established by the Florida Department of Transportation.

**Affordable Housing:** Housing for which annual costs (including utilities, taxes, maintenance, and other associated costs) represents no more than 30 percent of the residing household's annual income.

**Aquifer:** An underground geologic formation holding ground water.

**Assessed Value:** The value of real property established by a tax assessor which is used as a basis for determining ad valorem property taxes.

**Backlogged Roadway:** An unconstrained roadway operating at a level of service below the adopted minimum level of service standards and not programmed for improvement in the first three years of the Florida Department of Transportation adopted work program or the first three years of the five year schedule of improvements in the local government comprehensive plan's capital improvement element. A roadway formally categorized as such in local government comprehensive plans.

**Basic Industries:** Industries whose products are sold or whose profits are otherwise generated beyond the geographic boundaries of the region. North central Florida basic industries include, but are not limited to, agriculture, educational services, health services, manufacturing, and mining.

**Catastrophic Disasters:** Disasters that require massive state and federal assistance, including immediate military involvement, such as a category four or five hurricane that hit a densely populated area.

**Coastal High Hazard Area:** The evacuation zone for a Category 1 hurricane as established in the regional hurricane evacuation study applicable to the local government.

**Comprehensive Economic Development Strategy:** An economic development plan or strategy for the North Central Florida region developed under guidelines established by the U.S. Department of Commerce. The document is the guiding plan for the activities of the North Central Florida Economic Development District.



**Concurrency Management System:** An ongoing mechanism which ensures that public facilities and services needed to support development is available concurrent with the impacts of such development.

**Cone of Influence:** A depression in the potentiometric surface around a well or spring from which water is withdrawn.

**Constrained Roadway:** A roadway which cannot be widened or enhanced due to physical constraints. A roadway formally categorized as such in local government comprehensive plans.

**Density:** An objective measurement of a number of units per unit of area, such as residents or housing units per acre.

**Economic Development District:** A regional economic development administration district authorized by the U.S. Economic Development Administration that assists local governments within the district with economic development initiatives.

**Ecosystem:** A functional system that includes the organisms of a natural community together with their environment.

**Endangered species:** Animal or plant species that are recognized by federal or state agencies as in imminent danger of extinction or expiration.

**Estuary:** A semi-enclosed coastal body of water having a free connection with the open sea and within which sea water is measurably diluted with fresh water.

**Eutrophication:** The processes that result in a higher concentration of dissolved nutrients in a water body.

**Farm:** means any place from which \$1,000 or more of agricultural products were produced and sold or normally would have been sold, during the census year (1992 Census of Agriculture).

**First Magnitude Spring:** A spring which discharges an average of 100 cubic feet or more of water per second.

**First Responders:** Individuals which are most likely to be first to respond to the scene of a hazardous material release. First responders typically include fire fighters, policemen, and county sheriff personnel.

**Florida Greenways (or Greenways):** Florida Greenways are connections linking existing parks, rivers, and wetland systems to create a statewide network of native habitats, open spaces, and linear parks which have been formally recognized as Florida Greenways by the Florida Greenways Commission.

**Focal Species:** Animal species considered by wildlife biologists to be indicator species of overall ecosystem health. If these species are present in an area, then wildlife biologists are confident that species commonly found in association with the focal species are also present.

**Goal:** A long-term end toward which programs and activities are ultimately directed.

**Gross Rent:** The monthly contract rent plus the estimated average cost of utilities (electricity, gas, and water) and fuels (oil, coal, kerosene, wood, etc.) if these are paid for by the renters.

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**Ground Water:** Water occurring in an aquifer below the surface of the land.

**Habitat:** The place where an organism lives, and where one would go to find it. It is the place that provides an organism with essential life needs, such as food, water, cover, space, and mates.

**Hardwood:** Wood from trees such as oaks and beeches used to make lumber.

**Hardwood Hammock:** A densely wooded upland or wetland community with high plant species diversity, which is dominated by oaks, cabbage palms, or other species of hardwood trees.

**Hazardous Material:** One of several hundred thousand chemicals for which the U.S. Occupational Safety and Health Administration requires a Material Safety Data Sheet (MSDS). An MSDS is a legal document which details a chemical's synonyms; physical properties; shipping, handling, and storage procedures; and health hazard, first aid, reactivity, fire, and explosion, and spill and leakage data.

**Household:** One or more persons, related or unrelated, living together in a single housing unit.

**Identified Attributes:** Selected qualities or characteristics of larger ecosystems or habitats which have been identified, described, and mapped through field surveys by qualified wildlife biologists, botanists, and ecologists as necessary to the survival of self-sustaining populations of representative samples of native Florida animal species, plant species, and habitat types.

**Infrastructure:** Man-made structures which serve the common needs of the population such as sewage disposal systems, potable water systems, potable water wells serving a system, solid waste disposal sites and retention areas, stormwater systems, utilities, piers, docks, wharves, breakwaters, bulkheads, seawalls, bulwarks, revetments, causeways, marinas, navigation channels, and roadways.

**Listed Species:** Listed species means an animal species designated as Endangered, Threatened, or Species of Special Concern in Chapter 68A-27.003-68A-27.005, Florida Administrative Code; a plant species designated as Endangered, Threatened, or Commercially Exploited as designated in Chapter 5B-40, Florida Administrative Code, or an animal or plant species designated as Endangered or Threatened in Title 50, Code of Federal Regulations, Part 17.

**Low Income Household:** A household with an annual income between 50 and 80 percent of the median annual income.

**Major Disaster:** A disaster that will likely exceed local capabilities and require a broad range of state and federal assistance, such as a hurricane.

**Marine League:** A unit of linear measure equal to three nautical miles. A nautical mile equals 6,076.12 feet.

**Mesic Hammock:** An upland natural community characterized as an open canopy forest of widely spaced pine trees with little or no understory, but a dense ground cover of herbs and shrubs.

**Minor Disaster:** A disaster that is likely to be within the response capabilities of local government and to result in only a minimal need for state and federal assistance, such as a tropical storm.



**Moderate Income Household:** A household with an annual income between 80 and 120 percent of the median annual income.

**Monthly (Home)owner Costs:** The sum of payments for mortgages, deeds of trust, contracts to purchase or similar debts on the property (including payments for the first mortgage, second or junior mortgages, and home equity loans); real estate taxes; fire, hazard and flood insurance on the property; utilities (electricity, gas, and water); and fuels (oil, coal, kerosene, wood, etc.). It also includes, where appropriate, the monthly condominium fee for condominiums and mobile home costs (personal property taxes, site rent, registration fees, and license fees) for mobile homes.

**Natural Resource of Regional Significance:** A natural resource or system of interrelated natural resources, that due to its function, size, rarity or endangerment retains or provides benefit of regional significance to the natural or human environment (27E-5.002(4), Florida Administrative Code). Natural resources of regional significance may be referred to as “regionally significant resources” in state law and other Strategic Regional Policy Plans.

**Noninstitutionalized Civilian Labor Force:** Persons age 16 and over, excluding inmates of institutions and military personnel, classified as “employed” or “unemployed” by the U.S. Census Bureau.

**Noninstitutionalized Civilian Labor Force Participation Rate:** The percentage of noninstitutionalized civilians age 16 and over who are either employed or are seeking employment.

**Occupation:** A craft, trade, or profession, or other means of earning a living. The occupational classification system developed for the 1990 Census, which consists of 500 specific occupational categories for employed persons arranged into six summary and 13 major occupational groups. This classification was developed by the U.S. Census Bureau to be consistent with the Standard Occupational Classification Manual: 1980, published by the Office of Federal Statistical Policy and Standards, U.S. Department of Commerce.

**Overcrowding:** A dwelling unit with more than 1.0 persons (residents) per room.

**Paratransit:** Those elements of public transit which provide service between specific origins and destinations selected by the individual user with such service being provided at a time that is agreed upon by the user and the provider of the service. Paratransit service is provided by taxis, limousines, ‘dial-a-ride’ buses, and other demand-responsive operations that are characterized by their nonscheduled, nonfixed route nature (341.031(5), Florida Statutes (1993)).

**Policy:** A way by which programs and activities are conducted to achieve identified goals.

**Poverty Threshold (or Poverty Level/Line):** As defined by the U.S. Census Bureau. The average poverty threshold for a family of four was \$12,674 in 1989. Poverty thresholds were applied on a national basis and were not adjusted for regional, state, or local variations in the cost of living. For a fuller discussion of poverty thresholds, see U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population, Social and Economic Characteristics, Florida, Section 2 of 3, pages B-27 through B-29, Washington, D.C., 1992.





**Projects that Promote Public Transportation:** Projects that directly affect the provisions of public transit, including transit terminals, transit lines and routes, separate lanes for the exclusive use of public transit services, transit stops (shelters and stations), office buildings or projects that include fixed-rail or transit terminals as part of the building, and projects which are transit oriented and designed to complement reasonably proximate planned or existing public facilities.

**Public Facilities:** Transportation systems or facilities, sewer systems or facilities, solid waste systems or facilities, drainage systems or facilities, potable water systems or facilities, educational systems or facilities, parks and recreation systems or facilities and public health systems or facilities.

**Public Transit:** The transporting of people by conveyances, or systems of conveyances, traveling on land or water, local or regional in nature, and available for use by the public. Public transit systems may be either governmentally owned or privately owned. Public transit specifically includes those forms of transportation commonly known as 'Paratransit' (341.031(6), Florida Statutes (1993)).

**Recharge:** The process whereby rain water or surface water seeps into the ground and enters an aquifer.

**Regional Indicator(s):** Associated with regional goals. A statement of baseline information against which progress can be measured in the region's five-year evaluation and appraisal report.

**Regulatory Environment:** All government plans, goals, policies, standards, and regulations which directly or indirectly affect land and land development.

**Regional Road Network:** Road segments identified in Table 5.10 of the North Central Florida Strategic Regional Policy Plan. The Regional Road Network also includes all intersections contiguous to the road segments identified in Table 5.10. of the North Central Florida Strategic Regional Policy Plan.

**Rookery:** The nesting or breeding grounds of gregarious (i.e., social) birds or mammals; also a colony of such birds or mammals.

**Salary-income Range:** A salary-income range is a subset of an income class (i.e., Very Low-income, Low-income, Moderate-Income, or Above Moderate-income). An income class is comprised of multiple salary-income ranges. A salary-income range spans a maximum range of \$2,500. Salary-income range is used in Development of Regional Impact housing analysis.

**Sandhill Community:** An upland natural community located on a well-drained, natural elevation, ridge, or rolling ridges of sand characterized as a forest of widely spaced pine trees with a sparse understory of turkey oaks and a dense ground cover of grasses and herbs.

**Second Magnitude Spring:** A spring which discharges between ten and 100 cubic feet of water per second.

**Significant and Adverse Transportation Impact:** A transportation impact which is both an adverse transportation impact and a significant transportation impact.

**Significant Transportation Impact:** When traffic from a Development of Regional Impact uses 5.0 percent or more of the adopted peak hour level of service maximum service volume of a transportation facility.



**Silviculture:** A branch of forestry dealing with the establishment, development, reproduction, and care of forest areas.

**Softwood:** Wood from trees such as pine trees used to make paper and similar products.

**Stream-to-sink Watersheds:** Drainage basins containing one or more sinkholes which, in some cases, have direct connection to the Floridan Aquifer.

**Storm Surge:** The rise in sea water level accompanying the approach of a hurricane. The extent of storm surge varies with the strength of the hurricane, coastal topography, and tides. Storm surge is compounded by wind-driven wave action on top of the surge water level.

**Storm Water Runoff:** Water that originates from the drainage of land surfaces after a rain event.

**Submergence:** The act of covering or overflowing with water.

**Suwannee River System:** The Suwannee River and its major tributaries (i.e., the Alapaha, Ichetucknee, Santa Fe, and Withlacoochee rivers).

**Taxable Value:** That portion of the assessed value of real property which is taxed for purposes of valorem property taxation.

**Tenure:** The ownership status of housing unit residents. Residents are typically classified by the U.S. Census Bureau as either owners or renters.

**Third Magnitude Spring:** A spring which discharges one to 10 cubic feet of water per second.

**Trace:** A course or path.

**Transportation Demand Management:** Strategies designed to reduce the number of trips made by single occupancy vehicles and enhance the regional mobility of all citizens. These strategies include but are not limited to encouragement and enhancement of traditional ridesharing (carpooling and vanpooling), public transportation, alternative work hours (flextime, compressed work week, etc.), non-motorized transportation (bicycle and pedestrian modes), priority of preferential parking for ride-sharers, and development and implementation of shuttle services. Also included in the promotion of telecommuting programs.

**Transportation Disadvantaged:** Those persons who because of physical or mental disability, income status, or age are unable to transport themselves or to purchase transportation and are, therefore, dependent upon others to obtain access to health care, employment, education, shopping, social activities, or other life-sustaining activities, or children who are handicapped or high risk or at-risk as defined in s.411.202, Florida Statutes, (427.011(1), Florida Statutes (1993)).

**Transportation Management Organization:** An organization which is formed by private organizations such as local businesses, corporate employers, and developers and sometimes partnered with local, regional, or state agencies to address community transportation problems.



**Urban Development Area:** A mapped area on a local government comprehensive plan future land use map which identifies areas planned for future urban development. Sometimes referred to as a Designated Urban Development Area or an Urban Service Area in local government comprehensive plans.

**Very Low Income Household:** A household with an annual income below 50 percent of the median annual income.

**Vulnerable Zone:** An area where the estimated chemical concentration from an accidental release is at a level where people's health could be adversely impacted during a worst-case release.

**Wetland:** An area which has hydric soils and hydrophilic vegetation where the ground is saturated for a portion of the year.



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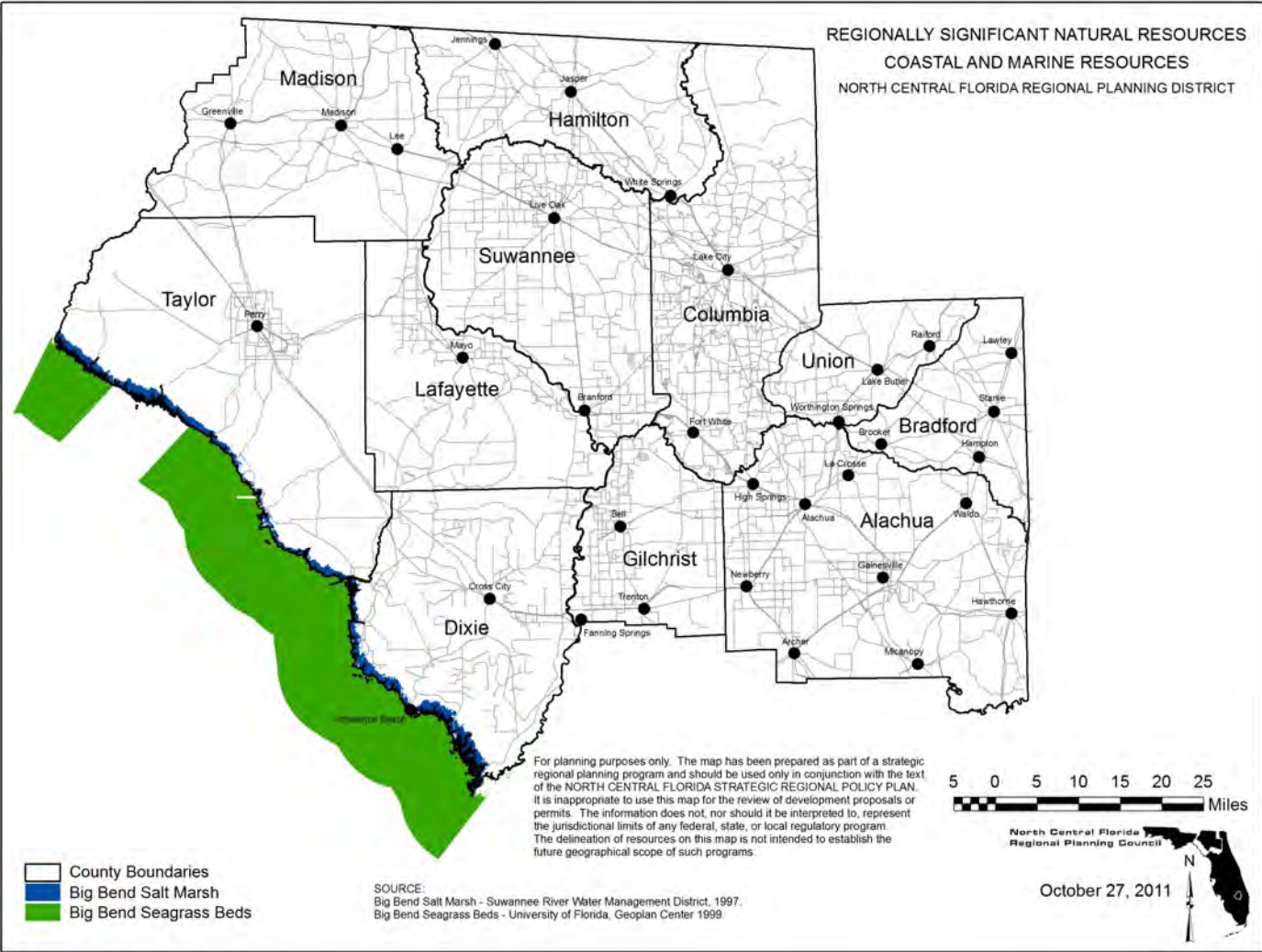


# Appendix C

## Maps of Natural Resources of Regional Significance

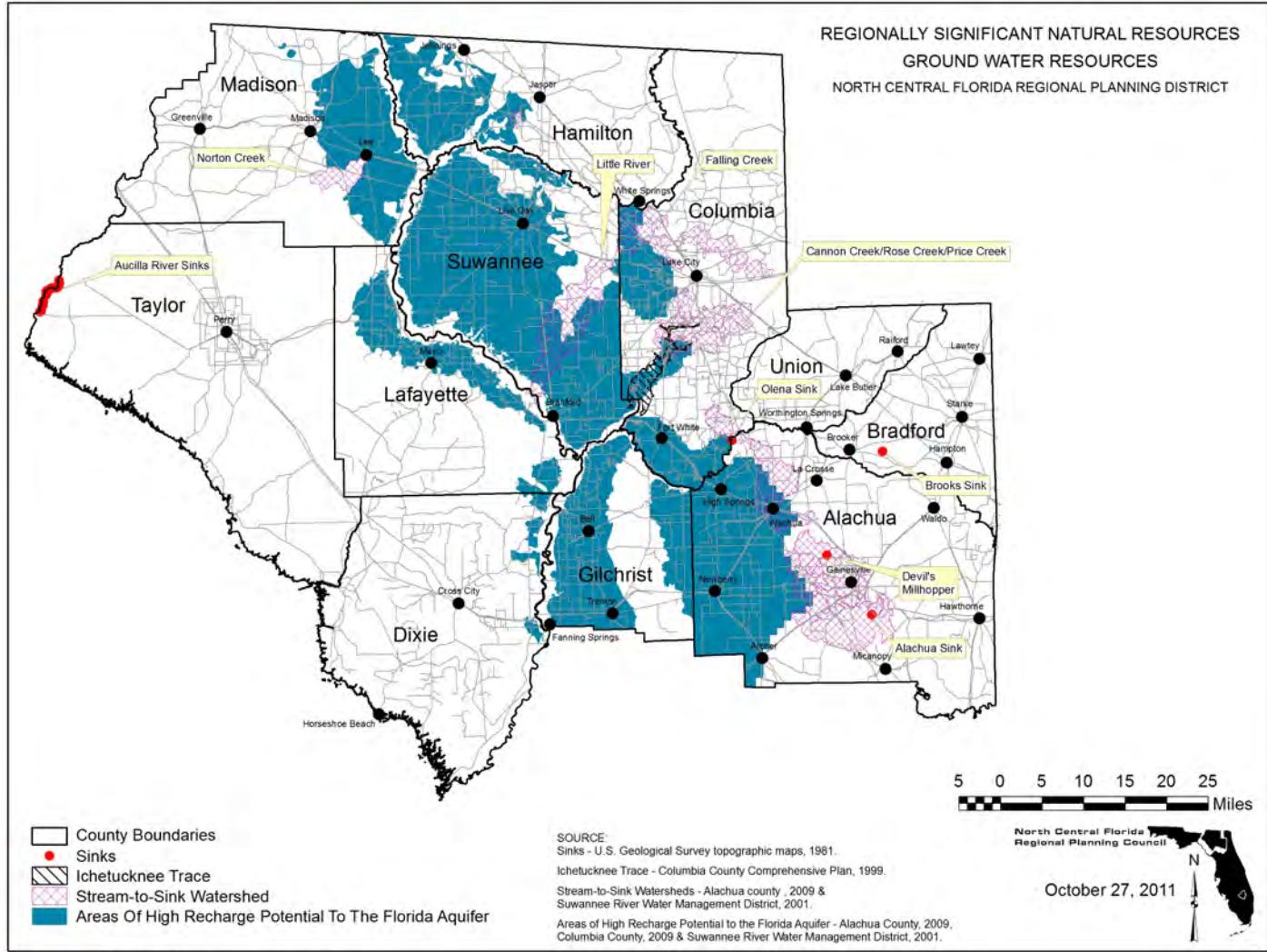


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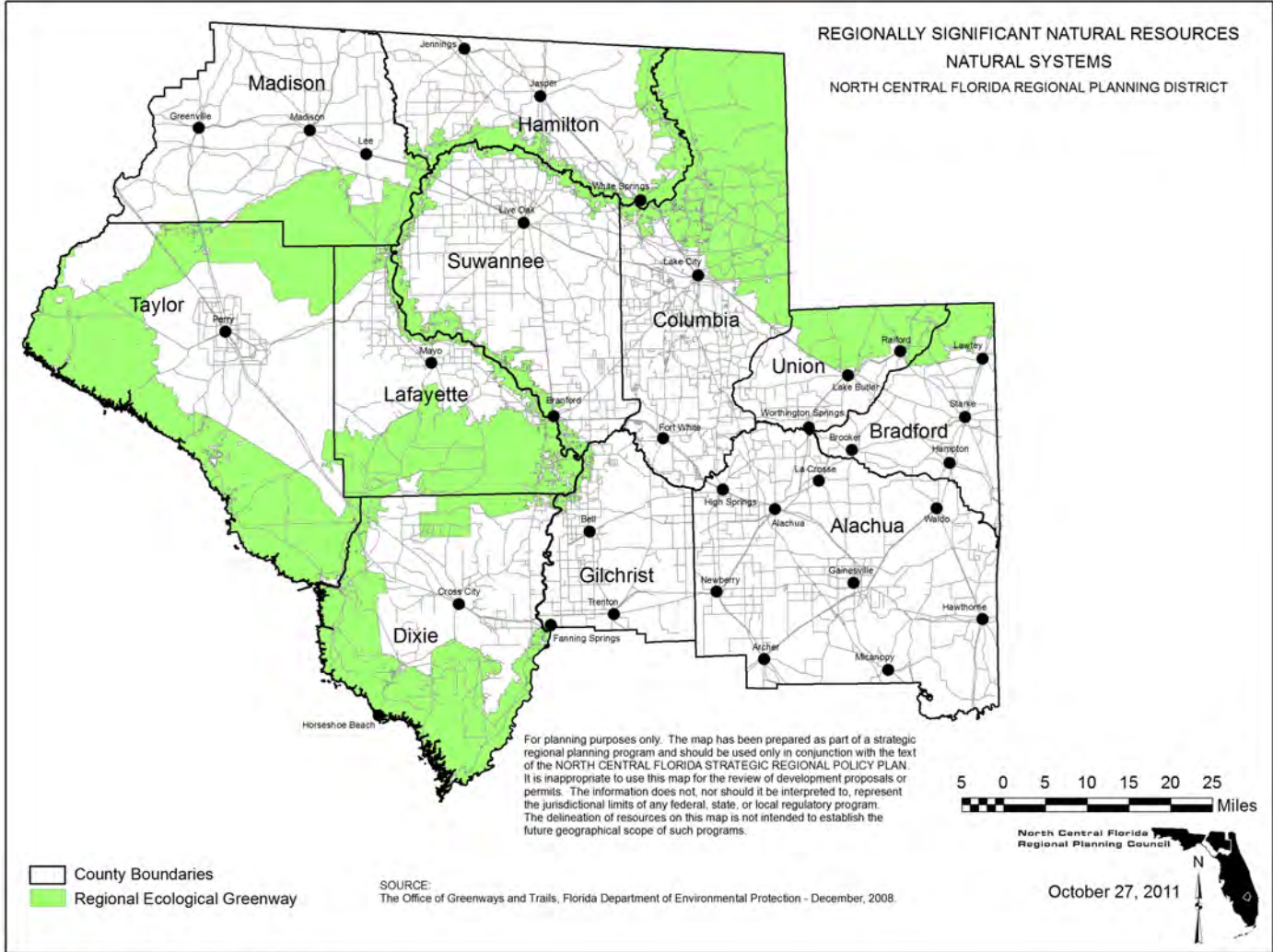
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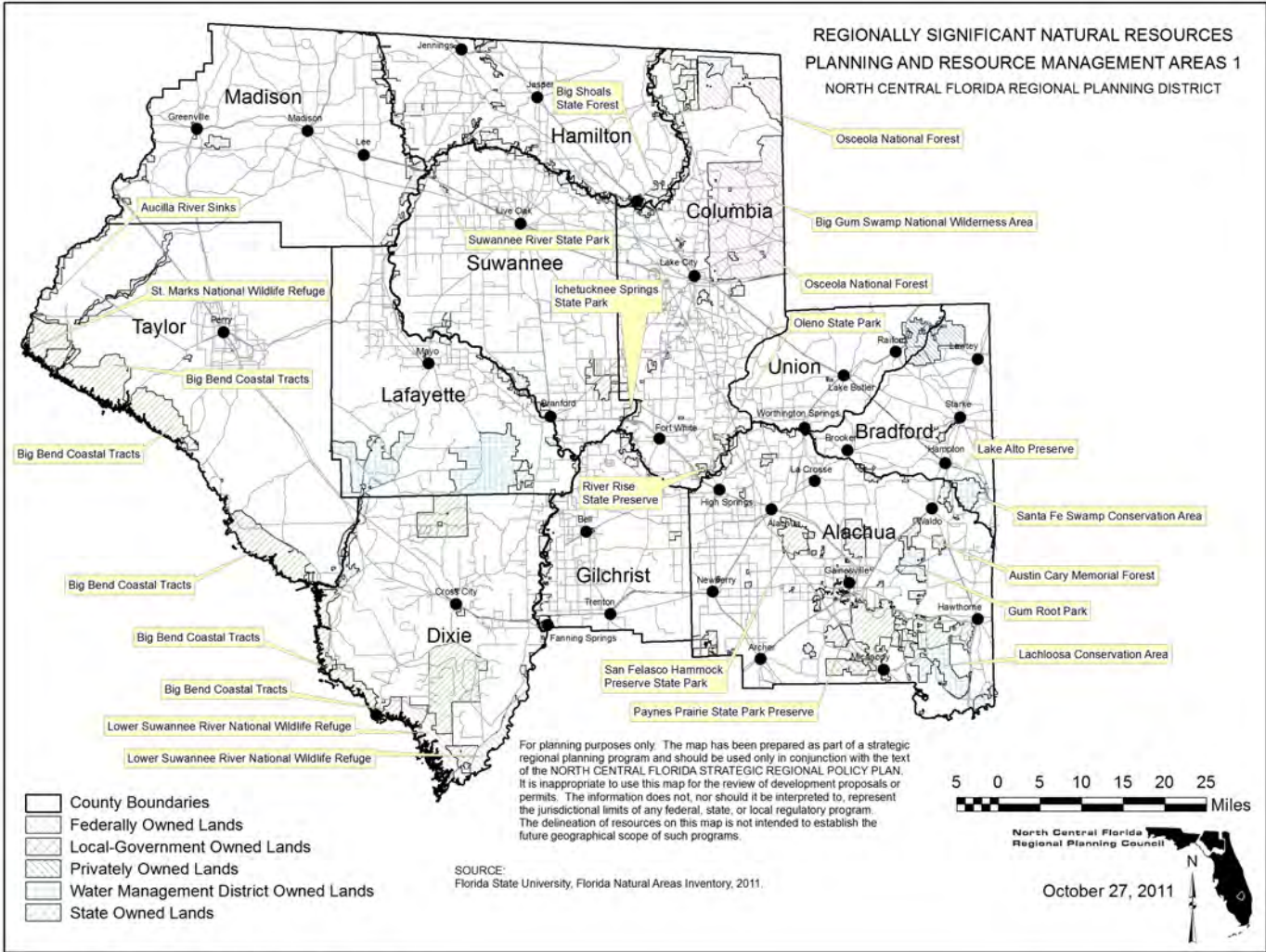
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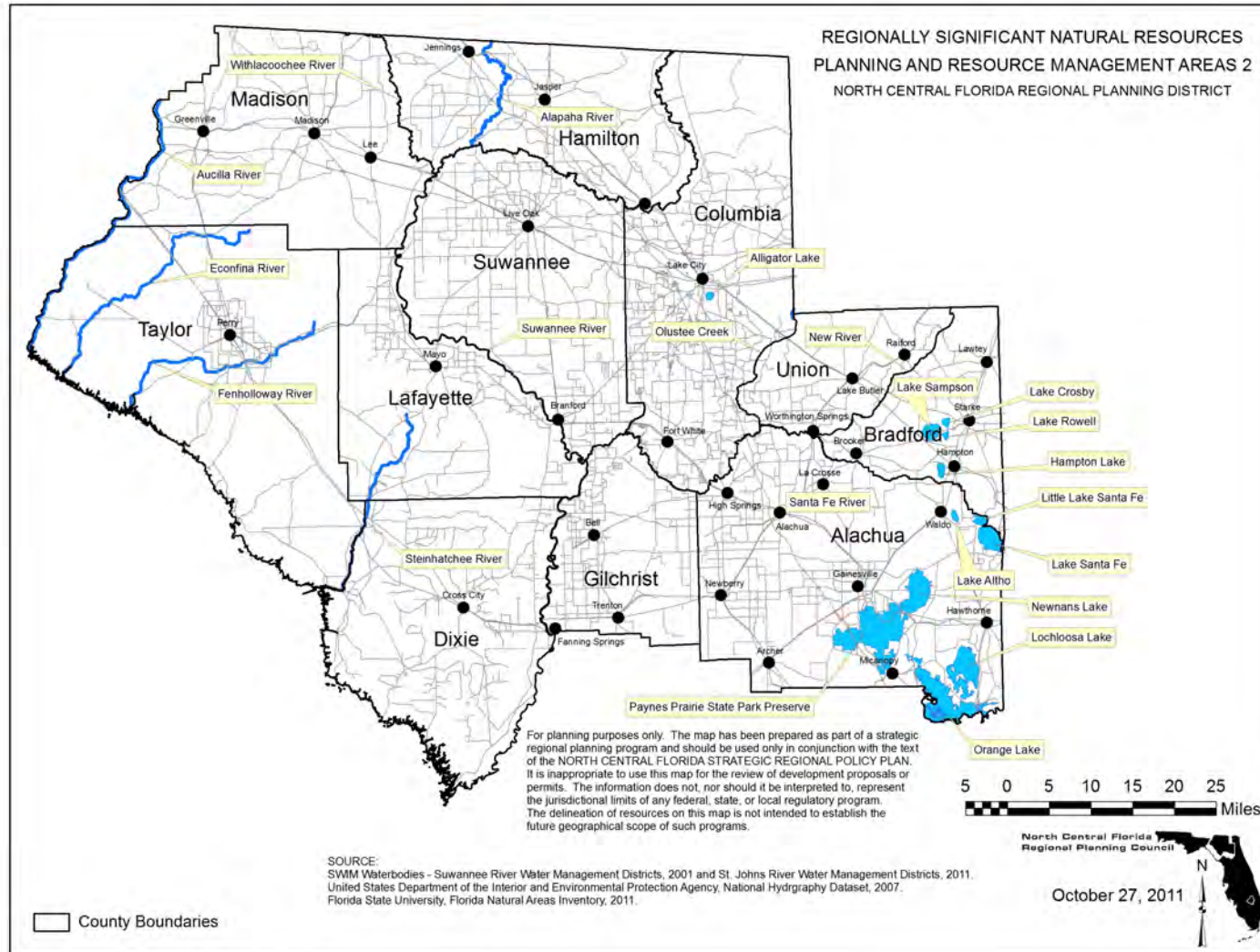
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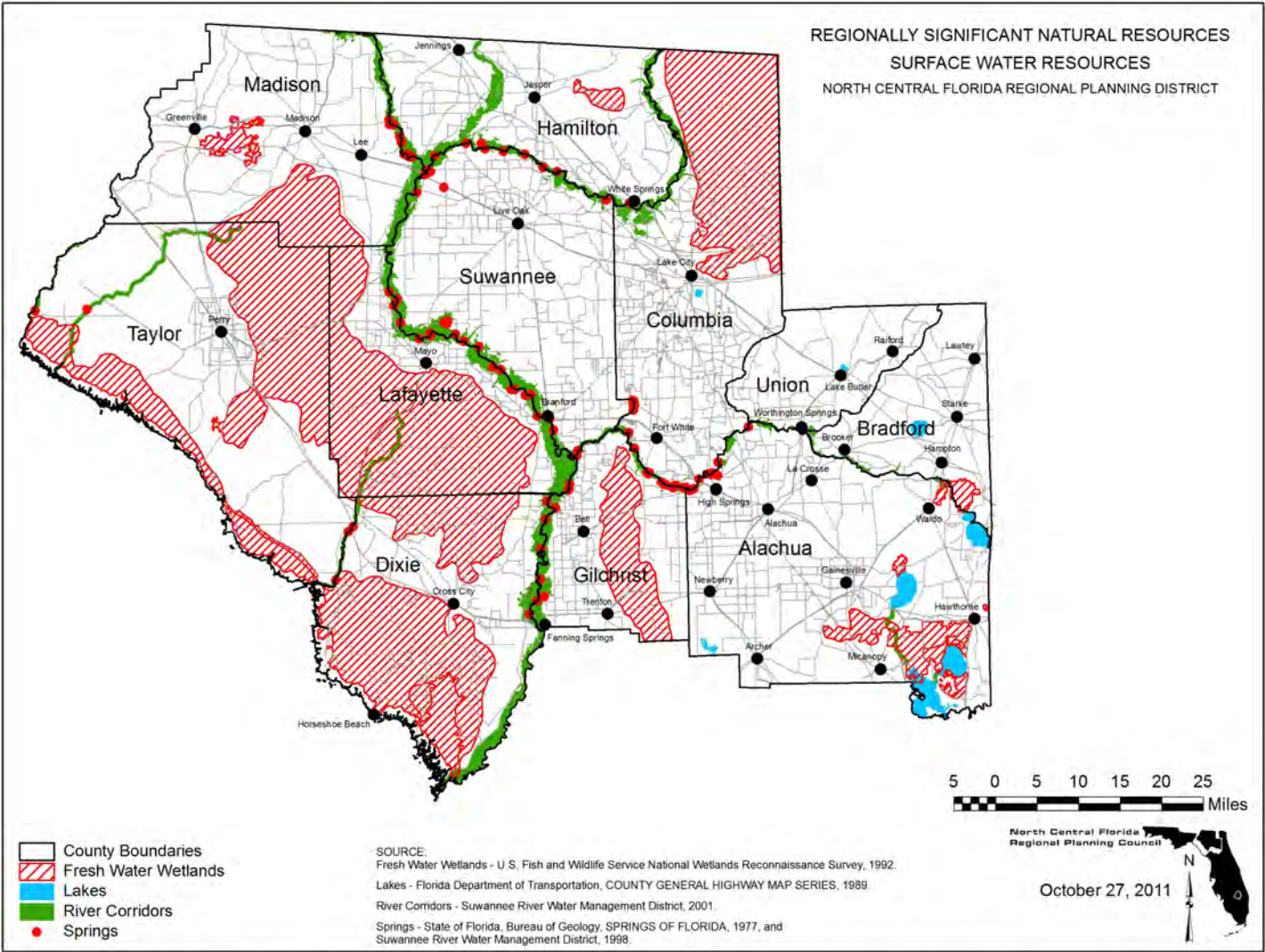
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# North Central Florida Regional Planning Council

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