Executive Summary

The experiences of the 2004 Hurricane Season epitomize the importance of better integrating hazard mitigation activities into local comprehensive planning. Residents from all over the state experienced significant damages from Hurricanes Charley, Frances, Jeanne, and Ivan by either winds, tornadoes, surge, or flooding. But this was not the only time that we have experienced natural disaster, nor will it be the last. In 1992, Hurricane Andrew devastated South Florida. In 1998 and 1999, most counties in Florida experienced wildfires. In some cases, despite fire fighters best efforts, the fires advanced through neighborhoods and homes were lost. Every year in Central Florida, new sinkholes emerge swallowing homes and damaging infrastructure. The cost of recovery for these various disasters ranges from hundreds of thousands to billions of dollars, significantly taxing local, state, and federal financial sources. Losses covered through federal funding as a result of the 2004 hurricanes alone could reach as high as $7 billion. Worst of all, however, are the many lives that, directly or indirectly, are lost due to natural disasters. It is imperative that we reduce the human and financial costs of natural disasters. Through better integration of natural hazard considerations into local comprehensive planning, we can build safer communities.

This profile of Hamilton County has been prepared as part of a statewide effort by the Florida Department of Community Affairs (DCA) to guide local governments on integrating hazard mitigation principles into local comprehensive plans. Through the process outlined in this profile, planners will be able to (1) convey Hamilton County's existing and potential risk to identified hazards; (2) assess how well local hazard mitigation principles have been incorporated into the County's Comprehensive Plan; (3) provide recommendations on how hazard mitigation can better be integrated into the Comprehensive Plan; and (4) determine if any enhancements could be made to the LMS to better support comprehensive planning. Best available statewide level data is provided to convey exposure and risk as well as to illustrate the vulnerability assessment component of the integration process.

Summary of Recommendations

Hamilton County's Comprehensive Plan has good integration of hazard mitigation principles and its LMS has adequate data and goals to support comprehensive planning. There are goals, objectives, and policies that support risk reduction from predominantly flood and wildfire in the LMS and Comprehensive Plan. However, there are always ways to strengthen such plans, and the following is a summary of options for the County to do so.

Comprehensive Plan Preliminary Recommendations

The following recommendations include hazard mitigation measures through which Hamilton County can continue to reduce or eliminate risks from flood, wildfire, and sinkholes. These recommendations pertain to the use of vacant lands and/or redevelopment practices. Based on the land use tabulations, most of the vacant acreage is susceptible to wildfire. Land use tabulations were not provided for flood as the flood zones are not available in shapefile format. However, flood is considered a high risk according the Hamilton County LMS. Sinkholes were discussed in the LMS, but the risk was considered to be very low for the entire county. The Comprehensive Plan addresses stormwater discharge into sinkholes in Hamilton County, therefore preliminary recommendations are also provided for this hazard. For more information about the methodology and data used for the land use tabulations, please refer to Section 2. Hazard Vulnerability in this hazards profile.

Of the vacant lands, 1,088 acres are susceptible to wildfire and 338 are susceptible to sinkholes.

Flood

The georeferenced data was not available to determine the acreage susceptible to flooding, however the LMS deemed flood to be a high risk. Therefore recommendations are included for this hazard.

- The Comprehensive Plan should continue to include policies pertaining to the Suwannee River System 100-Year Floodplain Special Planning Area.
- The County should consider giving priority to those projects listed on the LMS project list.
- The County should continue policies pertaining to the preparation of a stormwater master plan to further mitigate the impacts of flooding in the community. This should be listed as a prioritized project on their LMS project list for possible funding sources such as FEMA's Hazard Mitigation Grant Program.
- The Comprehensive Plan should continue the implementation of policies for preserving and enhancing the natural environment (i.e., 100-year floodplain) through the enforcement of land development regulations for floodplain management and stormwater management to maintain the natural functions.
- The Comprehensive Plan should continue to require that the County maintain an inventory of environmentally sensitive areas which shall include 100-year floodplains.
- The County should continue to identify floodplains for acquisition under existing programs.
- The County should continue to adopt or amend land development regulations which limit the density of dwelling units within FEMA designated 100-year floodplains such that existing flood storage is maintained and allowable densities do not create potential flood hazards, or degrade the natural functions of the floodplain.
- The County should continue to require that all structures built in the 100-year floodplain include at least one foot freeboard.
- The Comprehensive Plan should consider prohibiting septic tanks in flood hazard areas or wetlands.
- The County should consider including a policy to not approve variances to required flood elevations.
- The County should consider establishing an impact fee and/or other equitable user-oriented revenue sources for the construction of drainage facilities, either county-wide or in districts of high flooding potential.
- The County should consider requiring areas that have not established base flood elevations to be studied prior to development.
- The County should consider calling for compensating storage calculations in flood hazard areas.

Wildfire

About 2% of the 1,088 vacant acres that are susceptible to wildfire are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- Where reasonable, the County should consider creating a policy in the Comprehensive Plan to update the Land Development Regulations for the County to

include wildfire mitigation principles, such as defensible space buffering surrounding development or multiple exits for large development. This could also include provisions for vegetation maintenance and the required removal of exotic vegetation or land cover that could be conducive to wildfire.

- The County should consider including policies for coordination with area volunteer fire departments to ensure fire protection is provided to all areas of the County.
- The County should consider participating in the Firewise Medal Community program to reduce risks within the wildland urban interface.
- The County should consider a requirement for all new development to include and implement a wildfire mitigation plan specific to that development, subject to review and approval by the County Fire Rescue Department.
- The County should consider increasing public awareness of prescribed burning and require management plans for conservation easements that address reduction in wildfire fuels.

Sinkholes

The LMS has deemed sinkhole hazard to be low risk. However the Comprehensive Plan contains sinkhole goals, objectives, and policies, so recommendations have been provided for this hazard. About 34% of the 338 vacant acres that are susceptible to sinkholes are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The County should continue to include policies in the Comprehensive Plan that designate sinkholes as environmentally sensitive areas that are protected through land development regulations.
- The County should consider promoting PDR and TDR in areas highly susceptible to sinkholes.
- Through the Comprehensive Plan and/or the overlay zones, promote the use of cluster development to mitigate sinkhole hazards. In this way, the areas highly susceptible to sinkholes could be preserved as open space, while allowing other areas to be developed at a higher density.

General

- Current growth management techniques such as clustering, conservation of floodplains and wetlands, elevating structures in special flood hazard areas and stormwater mitigation policies are employed by the community to protect natural features and to protect areas from flooding. Therefore, the County should update these policies in the Comprehensive Plan, emphasizing the benefits of hazard mitigation.
- The County should determine whether or not the conserved areas in the County have lifetime designations. In North Florida, some areas that were formally designated as uses with low densities are being slated for rural and urban development. It is important to determine if and when, all of the conservation agreements end, in order to determine if additional actions can be taken in the Comprehensive Plan to ensure that the property is protected.

- The Comprehensive Plan should consider including a policy to incorporate recommendations from existing and future interagency hazard mitigation reports into the Comprehensive Plan, and should consider including these recommendations during the Evaluation and Appraisal Report process as determined feasible and appropriate by the Board of County Commissioners.
- Include each hazard layer on the existing and future land use maps to determine where risks are possible to target hazard mitigation strategies.
- The Comprehensive Plan should consider including a policy to incorporate applicable provisions of the Comprehensive Plan into the Comprehensive Emergency Management Plan and the Local Mitigation Strategy.
- Continue educating the public, especially those at high risk from floods and wildfires, and make them aware of proactive steps they can take to mitigate damage.

Local Mitigation Strategy Preliminary Recommendations

The following data and information could be included in an update of the LMS. This information could help convey how and where disasters impact the population and the built environment to support comprehensive planning.

- Include hazard maps with data layers to illustrate population (i.e., density) or property (i.e., value) exposure.
- Include a future land use map with hazard data layers (i.e., one FLUM per hazard) to illustrate which future land use categories are susceptible to each hazard.
- Include loss estimates by land use.
- Reference or include a list and/or map of repetitive loss properties.
- Include a quantitative risk assessment for existing and future development (i.e., loss estimates) or specific critical facilities.

Table of Contents

1. County Overview

Geography and Jurisdictions

Hamilton County is located in North Central Florida bordering Georgia. It covers a total of 519.3 square miles, of which 514.0 square miles are land and 4.5 square miles are water. There are three incorporated municipalities within Hamilton County, as shown in **Table 1.1**. The City of Jasper serves as the county seat.

Population and Demographics

According to the April 1, 2004 population estimate by the University of Florida's Bureau of Economic and Business Research (BEBR), population estimates for all jurisdictions within Hamilton County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. Most residents live in unincorporated jurisdictions. Hamilton County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Hamilton County had a growth rate of 21.9%, which was near the statewide average of 23.5% for the same time period.

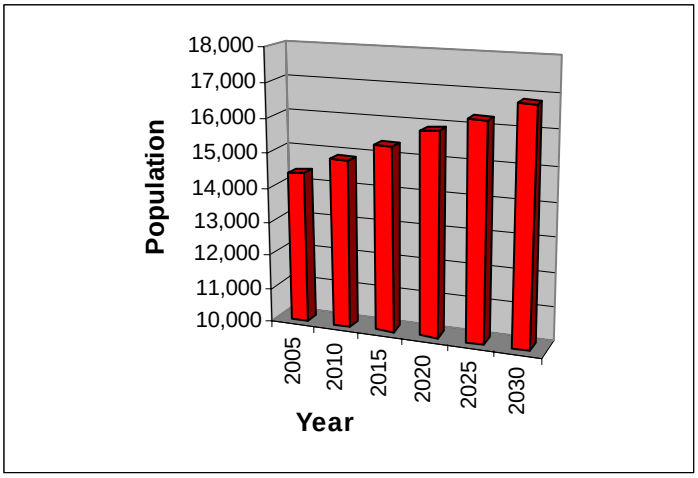
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	9,895	10,988	11.05%	76.82%
Jasper	1,780	1,719	-3.43%	12.02%
Jennings	833	836	0.36%	5.84%
White Springs	819	760	-7.20%	5.31%
Countywide Total	**13,327**	**14,303**	7.32%	100.00%

Source: University of Florida, Bureau of Economic and Business Research, 2004

According to BEBR (2004), Hamilton County's population is projected to grow steadily and reach an estimated 16,800 by the year 2030, increasing the average population density of 25.6 to 32 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Hamilton County based on 2004 calculations.

Figure 1.1 Population Projections for Hamilton County, 2005–2030



Source: University of Florida, Bureau of Economic and Business Research, 2004

Of particular concern within Hamilton County's population are those persons with special needs or perhaps limited resources such as the elderly, disabled, low-income or language isolated residents. According to the 2000 Census, of the 13,327 persons residing in Hamilton County 11.2% are listed as 65 years old or over, 20.7% are listed as having a disability, 26% are listed as below poverty, and 6.4% live in a home where the primary language is other than English.

2. Hazard Vulnerability

Hazards Identification

The highest risk hazards for Hamilton County as identified in the County's Local Mitigation Strategy (LMS) are tropical cyclone generated high winds, floods, and wildfire. Sinkholes were discussed in the LMS, but the risk was considered to be very low for the entire county.

Hazards Analysis

The following analysis examines three hazard types: flood, wildfire, and sinkhole. All of the information in this section was obtained through the online Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS). MEMPHIS was designed to provide a variety of hazard related data in support of the Florida Local Mitigation Strategy DMA 2K project, and was created by Kinetic Analysis Corporation (KAC) under contract with the Florida Department of Community Affairs (DCA). Estimated exposure values were determined using the FEMA's designated 100-year flood zones (i.e., A, AE, V, VE, AO, 100 IC, IN, AH) for flood; and all medium-to-high risk zones from MEMPHIS for wildfire (Level 5 through Level 9); and the combined high, very high, extreme and adjacent zones for sinkhole based on the KAC analysis. For more details on a particular hazard or an explanation of the MEMPHIS methodology, consult the MEMPHIS Web site (http://lmsmaps.methaz.org/lmsmaps/index.html).

Existing Population Exposure

Table 2.1 presents the population currently exposed to each hazard in Hamilton County. Of the 13,327 (U.S. Census 2000) people that reside in Hamilton County none are exposed to 100-year flooding, 17% are exposed to wildfire, and 13% are exposed to sinkholes. Of the 2,270 people exposed to wildfire, 45% are disabled.

Table 2.1 Estimated Number of Persons Exposed to Selected Hazards

Segment of Population	Wildfire	Sinkhole
Total (all persons)*	**2,270**	**1,766**
Minority	937	1,034
Over 65	280	319
Disabled	1,039	980
Poverty	649	663
Language Isolated	171	171
Single Parent	234	239

Source: Mapping for Emergency Management, Parallel Hazard Information System

*Note: The "Total" amount does not equal the sum of all segments of the population, but indicates the total population at risk to the selected hazards.

Evacuation and Shelters

As discussed in the previous sections, population growth in Hamilton County has been steady, and the trend is projected to continue. Additionally, storm events requiring evacuation typically impact large areas, often forcing multiple counties to issue evacuation orders simultaneously and placing a greater cumulative number of evacuees on the roadways which may slow evacuation

time further. Evacuees from coastal counties will likely evacuate to inland areas, seeking shelter in host counties such as Hamilton County. Thus, it is important to consider evacuation times for all counties in the region as shown in **Table 2.2**. As the population increases in the future, the demand for shelter space and the length of time to evacuate will increase, unless measures are taken now. Also, it should be noted that population that will reside in new housing stock might not be required to evacuate as new construction will be built to higher codes and standards.

Table 2.2 County Clearance Times per Hurricane Category (Hours)

(High Tourist Occupancy, Medium Response)

County	Category 1 Hurricane	Category 2 Hurricane	Category 3 Hurricane	Category 4 Hurricane	Category 5 Hurricane
Alachua	10.25	12	17.75	17.75	17.75
Bradford	18	18	18	18	18
Columbia	*Not Available*				
Gilchrist	6	6	8	8	10
Hamilton	*Not Available*				
Lafayette	*Not Available*				
Madison	8	8	8	8	8
Suwannee	*Not Available*				
Union	*Not Available*				

Source: DCA, DEM Hurricane Evacuation Study Database, 2005

Note: This is best available data in 2005, although data is not available for some counties.

Data regarding evacuation clearance times for Hamilton County is not yet available. The data in **Table 2.2** was derived from eleven regional Hurricane Evacuation Studies that have been produced by FEMA, the U.S. Army Corps of Engineers, and Florida Regional Planning Councils. The study dates range from 1995 to 2004. These regional studies are updated on a rotating basis with Northeast Florida region scheduled for completion in the fall of 2005.

Similar to most of Florida's coastal counties Hamilton County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Hamilton County has an existing shelter capacity of 501 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 1,455 people, leaving an existing shelter deficit of 954. In 2009, the projected shelter demand is 1,588, leaving an anticipated shelter deficit of 1,087. However, because Hamilton County is a host county there might not be enough shelter space for its own residents due to the influx of evacuees seeking shelter from nearby counties. Therefore, it is essential that Hamilton County continue to coordinate with nearby counties for evacuation and shelter planning. The opportunity also exists to construct new facilities to standards that will allow them to serve as shelters, and to construct future public facilities outside of floodplain areas.

It is important for counties to maintain or reduce hurricane evacuation times. This could be accomplished by using better data to determine the hazard risk to populations to evaluate which areas to evacuate, and increasing the ability to shelter in place to decrease the number of evacuees. Hamilton County could encourage new homes to be built with saferooms, or community centers in mobile home parks or developments to be built to shelter standards (outside of the hurricane vulnerability zones), or require that new schools be built or existing schools be retrofitted to shelter standards; which would be based on FEMA saferoom and American Red Cross shelter standards. Additionally, the county could establish level of service (LOS) standards that are tied to development.

Existing Built Environment Exposure

While the concern for human life is always highest in preparing for a natural disaster, there are also substantial economic impacts to local communities, regions, and even the state when

property damages are incurred. To be truly sustainable in the face of natural hazards, we must work to protect the residents and also to limit, as much as possible, property losses that slow down a community's ability to bounce back from a disaster. **Table 2.3** presents estimates of the number of structures in Hamilton County by occupancy type that are exposed to each of the four hazards being analyzed. Exposure refers to the number of people or structures that are susceptible to loss of life, property damage and economic impact due to a particular hazard. The estimated exposure of Hamilton County's existing structures to flood, wildfire, and sinkhole hazards was determined through MEMPHIS.

Table 2.3 Estimated Number of Structures Exposed to Selected Hazards

Occupancy Type	Flood	Wildfire	Sinkhole
Single Family	19	829	548
Mobile Home	11	444	89
Multi-Family	8	312	88
Commercial	7	354	107
Agriculture	9	1,520	110
Gov. / Institutional	6	430	83
Total	**60**	**3,889**	**1,025**

Source: Mapping for Emergency Management, Parallel Hazard Information System

There are 4,974 structures exposed to at least one of the three hazards, of which most are single-family homes in subdivisions. Of these structures, 1.2% are exposed to flood. There are 60 structures are located within the 100-year floodplain, of which over 30% are single-family homes and 18% are mobile homes. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 15 repetitive loss properties in Hamilton County. Under the National Flood Insurance Program (NFIP), repetitive loss properties are defined as "any NFIP-insured property that, since 1978 and regardless of any change(s) of ownership during that period, has experienced: a) four or more paid flood losses; or b) two paid flood losses within a 10-year period that equal or exceed the current value of the insured property; or c) three or more paid losses that equal or exceed the current value of the insured property."

About 78% or 3,999 structures are exposed to wildfire, of which 21.3% are single-family homes. In recent years, development has extended mainly east and southeast along major roadways. Agriculture, people and property are at risk to wildfire throughout the county. The unincorporated areas and the Town of White Springs are at a moderate risk and The Town of Jennings and the City of Jasper are at a low risk. (Hamilton County LMS, 2004). The vegetation that remains or grows back after these homes have been built could allow wildfires to spread from the rural parcels into the subdivisions. About 20% or 1,025 structures are located within sinkholes susceptible areas, of which 53% are single-family homes.

In addition to understanding exposure, risk assessment results must also be considered for prioritizing and implementing hazard mitigation measures. The risk assessment takes into account the probability (how often) and severity (e.g., flood depth, wildfire duration) of the hazard as it impacts people and property. Risk can be described qualitatively, using terms like high, medium or low; or quantitatively by estimating the losses to be expected from a specific hazard event expressed in dollars of future expected losses. Although people and property are exposed to hazards, losses can be greatly reduced through building practices, land use, and structural hazard mitigation measures. The next section of this report examines the existing and future land use acreage in hazard areas. This information can be useful to consider where to implement risk reducing comprehensive planning measures.

Analysis of Current and Future Vulnerability Based on Land Use

The previous hazards analysis section discussed population and existing structures exposed to flood, sinkholes, and wildfire according to MEMPHIS estimates. This section is used to demonstrate the County's vulnerabilities to these hazards in both tabular format and spatially, in relation to existing and future land uses. DCA tabulated the total amount of acres and percentage of land in identified hazard exposure areas, sorted by existing land use category for the unincorporated areas. Existing land use data was acquired from County Property Appraisers and the Florida Department of Revenue in 2004. DCA also tabulated the total amount of acres and percentage of land in the identified hazards areas sorted by their future land use category according to the local Future Land Use Map (FLUM), as well as the amount of these lands listed as vacant according to existing land use. Hamilton County future land use data was acquired in February 2001 from the North Central Florida Regional Planning Council and might not reflect changes per recent future land use amendments.

Maps of existing land use within hazard areas based on the 2004 County Property Appraiser geographic information system (GIS) shapefiles. Maps of future land uses in hazard areas were developed using the Hamilton County future land use data as of February. A series of maps were created as part of the analysis and are available as attachments to the county profile. All maps are for general planning purposes only.

For the purposes of this profile, the identified hazard areas include flood zones in relation to the 100-year flood, wildfire susceptible areas, and sinkhole susceptible areas.

In **Attachment A**, two maps present the existing and future land uses within a 100-year flood zone. These areas are located in the Suwannee River Floodplain. Land use data and shapefiles for flood are not currently available for analysis and are therefore not included in this analysis. Maps were made from scanned images of the flood zones overlaid with the existing land use maps and FLUMs. Data was obtained from the Suwannee River Water Management District.

In **Attachment B**, two maps present the existing and future land uses within wildfire susceptible areas. These areas are scattered across the county. The total amount of land in the wildfire susceptible areas is 10,141 acres. As shown in **Table 2.4**, 73.7% are used for agriculture; 4.6% are used for parks, conservation areas and golf courses; and 10.7% are undeveloped. **Table 2.5** shows that of the 1,088.1 undeveloped acres, 52.7% are designated agricultural (< 1 du/40 ac) with less than one dwelling unit per 40 acres, and about 30% are for low to medium density residential dwellings within agricultural land uses. The County should continue to take measures to reduce wildfire risk within the urban/rural interface.

In **Attachment C**, two maps present the existing and future land uses within sinkhole susceptible areas. These areas are primarily located in the three municipalities, though much of the land is agricultural. The total amount of land in the sinkhole susceptible areas is 6,017.6 acres. As shown in **Table 2.4**, 63.2% are used for agriculture; 11.3% parks, conservation areas and golf courses; and 5.6% are undeveloped areas. **Table 2.5** shows that of the 337.7 undeveloped acres, 31.5% are designated for unknown purposes; 20.9 are designated for Agriculture with less than one dwelling unit per five acres (with restrictions as noted); and 18.1% is designated for Medium Density Residential with less than eight dwelling units per acre. The County has the opportunity to further research the vulnerability of the acreage designated for unknown purposes and development to determine if mitigation measures are necessary.

Table 2.4 Total Unincorporated Acres in Hazard Areas by Existing Land Use Category

Existing Land Use Category		Wildfire Susceptible Areas	Sinkhole Susceptible Areas
Agriculture	Acres	7,474.4	3,802.3
	%	73.7	63.2
Attractions, Stadiums, Lodging	Acres	0.0	21.8
	%	0.0	0.4
Places of Worship	Acres	7.1	51.7
	%	0.1	0.9
Commercial	Acres	6.7	34.8
	%	0.1	0.6
Government, Institutional, Hospitals, Education	Acres	48.8	141.6
	%	0.5	2.4
Industrial	Acres	394.8	135.8
	%	3.9	2.3
Parks, Conservation Areas, Golf Courses	Acres	462.4	682.6
	%	4.6	11.3
Residential Group Quarters, Nursing Homes	Acres	0.0	3.3
	%	0.0	0.1
Residential Multi-Family	Acres	0.0	14.3
	%	0.0	0.2
Residential Mobile Home, or Commercial Parking Lot	Acres	215.8	155.4
	%	2.1	2.6
Residential Single-Family	Acres	205.3	281.6
	%	2.0	4.7
Transportation, Communication, Rights-Of-Way	Acres	232.5	353.8
	%	2.3	5.9
Utility Plants and Lines, Solid Waste Disposal	Acres	5.1	0.0
	%	0.1	0.0
Vacant	Acres	1,088.1	337.7
	%	10.7	5.6
Total Acres	**Acres**	**10,141.0**	**6,016.7**
	%	**100.0**	**100.0**

Source: Department of Community Affairs

Table 2.5 Total Unincorporated Acres in Hazard Areas by Future Land Use Category

Future Land Use Category		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant
Agriculture - 1 (< 1 d.u. per 40 acres) within rural area	Acres	3,411.7	573.6	712.3	1.3
	%	33.6	52.7	11.8	0.4
Agriculture - 2 (< 1 d.u. per 20 acres) within rural area	Acres	155.8	0.0	0.0	0.0
	%	1.5	0.0	0.0	0.0
Agriculture - 3 (< 1 d.u. per 10 acres) within rural area	Acres	365.6	12.3	32.8	0.0
	%	3.6	1.1	0.5	0.0
Agriculture - 4 (< 1 d.u. per 5 acres except in Pol. 1.2.)	Acres	4,566.1	313.4	2,173.3	70.7
	%	45.0	28.8	36.1	20.9
Agriculture - 5 (< 1 d.u. per acre)	Acres	513.4	13.4	861.2	40.8
	%	5.1	1.2	14.3	12.1
Commercial	Acres	0.7	0.0	7.4	1.6
	%	0.0	0.0	0.1	0.5
Conservation	Acres	155.6	0.4	431.4	0.0
	%	1.5	0.0	7.2	0.0
Environmentally Sensitive Areas - 2 (< 1 d.u. per 10 ac)	Acres	745.3	145.3	554.6	1.1
	%	7.3	13.4	9.2	0.3
Highway Interchange	Acres	40.6	10.0	0.0	0.0
	%	0.4	0.9	0.0	0.0
Industrial	Acres	2.0	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0
Natural Resources Processing Areas	Acres	21.6	0.0	0.0	0.0
	%	0.2	0.0	0.0	0.0
None	Acres	3.1	0.0	2.9	2.7
	%	0.0	0.0	0.0	0.8
Public	Acres	18.5	0.0	40.6	2.0
	%	0.2	0.0	0.7	0.6
Recreation	Acres	0.7	0.4	0.0	0.0
	%	0.0	0.0	0.0	0.0
Residential - High Density (< 20 d.u. per acre)	Acres	0.9	0.9	34.6	8.2
	%	0.0	0.1	0.6	2.4
Residential - Low Density (< 2 d.u. per acre)	Acres	35.0	2.5	189.5	41.9
	%	0.3	0.2	3.1	12.4
Residential - Medium Density (< 8 d.u. per acre)	Acres	34.6	4.5	256.6	61.1
	%	0.3	0.4	4.3	18.1
Unknown	Acres	70.0	11.4	719.6	106.3
	%	0.7	1.0	12.0	31.5
Total Acres	**Acres**	**10,141.1**	**1,088.1**	**6,016.7**	**337.7**
	%	**100.0**	**100.0**	**100.0**	**100.0**

Source: Department of Community Affairs

The amount of total land and existing vacant land in identified hazard areas was also tabulated for each of Hamilton County's three incorporated municipalities. These amounts are listed in **Table 2.6.** The intent of this table is to show the vacant acreage in hazard zones in each municipality, and to show the percentage of vacant acreage in each hazard zone for each municipality. In the total column for each hazard, the percentage for each municipality is the hazard zone acreage as a percent of total hazard acreage for all municipalities. In the vacant column for each hazard, the percentage for each municipality is the percent of area in the hazard zone for the respective municipality. The total municipal percent of vacant acreage is the percent of acreage in the hazard zones for all municipalities.

Flood zone shapefiles were not available to perform calculations of acreage in the flood zone for the municipalities. The City of Jasper has the most acres in the wildfire susceptible areas, but the Town of White Springs has the largest proportion of wildfire susceptible acres out of its vacant land area. The City of Jasper has the most acres in sinkhole susceptible areas, but the Town of Jennings has the largest proportion of sinkhole susceptible acres out of its vacant land area.

Vacant land is often destined to be developed. It is prudent to conduct further analyses of what the vacant lands will be used for, to determine whether they will be populated, and at what level of intensity/density, to ensure that hazard risks are minimized or eliminated. Each of the municipalities in Hamilton County has vacant lands that are in hazard areas. Since hazards cross jurisdictional boundaries, it is important to consider all hazard areas to collaboratively formulate hazard mitigation strategies and policies throughout the county.

Table 2.6 Total Land and Existing Vacant Land in Hazard Areas by Municipal Jurisdiction

Jurisdiction		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant
Jasper	Acres	36.3	13.8	529.2	151.6
	%	43.0	37.7	65.5	46.9
Jennings	Acres	12.7	2.5	214.2	161.8
	%	15.0	6.8	26.5	50.1
White Springs	Acres	35.4	20.3	64.9	9.6
	%	41.9	55.5	8.0	3.0
Total Municipal Acres	**Acres**	**84.5**	**36.6**	**808.3**	**323.0**
	%	**100.0**	**100.0**	**100.0**	**100.0**

Source: Department of Community Affairs

3. Existing Mitigation Measures

Local Mitigation Strategy (LMS) Assessment

The Local Mitigation Strategy is suited to be a repository for all hazard mitigation analyses (i.e., vulnerability and risk assessment), programs, policies and projects for the county and municipalities. The LMS identifies hazard mitigation needs in a community and alternative structural and nonstructural initiatives that can be employed to reduce community vulnerability to natural hazards. The LMS is multi-jurisdictional and intergovernmental in nature. Communities can reduce their vulnerability to natural hazards by integrating the LMS analyses and mitigation priorities into the local government comprehensive plan.

As noted in DCA's *Protecting Florida's Communities* Guide, one significant strategy for reducing community vulnerability is to manage the development and redevelopment of land exposed to natural hazards. Where vacant land is exposed to hazard forces, local government decisions about allowable land uses, and the provision of public facilities and infrastructure to support those uses, can have major impacts on the extent to which the community makes itself vulnerable to

natural hazards. Where communities are already established and land is predominately "built out," local governments can take initiatives to reduce existing levels of vulnerability by altering current land uses both in the aftermath of disasters, when opportunities for redevelopment may arise, and under "blue sky" conditions as part of planned redevelopment initiatives.

Per the *DCA's Protecting Florida's Communities* Guide, LMSes prepared pursuant to the state's guidelines (Florida Department of Community Affairs, 1998) have three substantive components:

> Hazard Identification and Vulnerability Assessment. This section identifies a community's vulnerability to natural hazards. Under Florida rules, the HIVA is required to include, at a minimum, an evaluation of the vulnerability of structures, infrastructure, special risk populations, environmental resources, and the economy to any hazard to which the community is susceptible. According to FEMA, LMSes revised pursuant to the Disaster Mitigation Act of 2000 (DMA 2000) criteria must include maps and descriptions of the areas that would be affected by each hazard to which the jurisdiction is exposed, information on previous events, and estimates of future probabilities. Vulnerability should be assessed for the types and numbers of exposed buildings, infrastructure, and critical facilities with estimates of potential dollar losses. Plan updates will be required to assess the vulnerability of future growth and development.
>
> Guiding Principles. This section lists and assesses the community's existing hazard mitigation policies and programs and their impacts on community vulnerability. This section typically contains a list of existing policies from the community's Comprehensive Plan and local ordinances that govern or are related to hazard mitigation. Coastal counties frequently include policies from their PDRPs.
>
> Mitigation Initiatives. This component identifies and prioritizes structural and non-structural initiatives that can reduce hazards vulnerability. Proposals for amendments to Comprehensive Plans, land development regulations, and building codes are often included. Structural projects typically address public facilities and infrastructure, and buy-outs of private structures that are repetitively damaged by flood. Many of these qualify as capital improvement projects based on the magnitude of their costs and may also be included in the capital improvements elements of the counties' and cities' Comprehensive Plans.

The Hamilton County LMS (adopted in 2004) was assessed to determine if the hazard analysis and vulnerability assessment (i.e., flood, wildfire, and sinkhole) data can support comprehensive planning, whether the guiding principles include a comprehensive list of policies for the county and municipalities, and whether the LMS goals and objectives support comprehensive planning goals, objectives, and policies (GOP). Future updates to the assessment will include working with Hamilton County to determine if the capital improvement projects are included in the LMS hazard mitigation project list.

Hazard Analysis and Vulnerability Assessment (pp. 1-67)

The strengths and weaknesses of the Hazard Analysis and Vulnerability Assessment are as follows:

Strengths:

- Provides a hazards analysis and a quantitative vulnerability and risk assessment for each hazard.
- Provides information about demographic, income, and special needs population.
- Provides population (general and special needs) exposure to multi-hazards.
- Provides property exposure (building count and dollar value) within County land use categories to multi-hazards. Values are provided for damage classes (e.g., severe, moderate, etc.)
- Provides a description of geographic areas exposed to each of the hazards.

- Includes maps for each of the hazards.
- Includes loss estimates for each hazard by damage class within County land use categories.
- Includes a vulnerability of critical facilities that have been assigned a location vulnerability score for each hazard.

Weaknesses:

- Does not include loss estimates by occupancy class.
- Hazard maps do not include data layers to illustrate population (i.e., density) or property (i.e., value) exposure.
- Does not reference or include list or map of repetitive loss properties, but does have action items to elevate or acquire repetitive loss properties.
- Does not include a future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.

Incorporating land use and population data into the risk assessment of the LMS provides a better source of data for planners to use in policy making and policy evaluation of the local comprehensive plan. The LMS also sets a standard for the quality of data that should be used in determining risk and thereby used to determine mitigation policies.

Guiding Principles

The Hamilton County LMS Guiding Principles section contains a list of policies for the county and each municipality. They are categorized by those that address public health, safety and welfare; stormwater management; floodplain management; natural resource protection; land development regulations; infrastructure/critical facilities; construction codes; affordable housing; post-disaster development; hazards assessment; cultural and historical resources; governmental coordination; and disaster preparedness. The Guiding Principles section is found in most counties' LMSes and is useful in providing the different jurisdictions ideas for enhancing their own plans or providing the LMS committee an analysis of where there may be weaknesses in implementing mitigation strategies.

LMS Goals and Objectives

The Hamilton County LMS has goals that support mitigation principles that are found in the comprehensive plan. A list of the LMS goals pertaining to comprehensive planning can be found in **Attachment D**. An assessment of whether the LMS goals and objectives are reflected in the comprehensive plan (and vice versa) is provided in **Table 5.1** as part of the preliminary recommendations. Final recommendations will result from a collaborative process between DCA, Hamilton County, and PBS&J. The following is a summary of the LMS goals that support comprehensive plan GOPs.

Goal 3 refers to maintaining current levels and rates of riverine erosion by limiting development within, and directing development away from the 100-year floodplains of rivers, streams and creeks.

Goal 4 supports minimizing damage to future buildings and infrastructure by identifying and mapping sinkholes and areas of known sinkhole formation and providing policy direction in local government comprehensive plans which limits and/or guides development away from such areas.

Goal 7 supports minimizing damage to existing and future buildings and infrastructure as a result of flooding.

Goal 8 supports minimizing damage to existing and future buildings and infrastructure as a result of wildfires.

Comprehensive Emergency Operations Plan (CEMP)

The Hamilton County CEMP Mitigation Annex references the LMS, and states that the LMS Working Group is responsible for developing guiding principles, hazard identification and vulnerability assessment and mitigation initiatives. All County agencies and departments participate in the LMS Working Group. The CEMP notes that all pre-disaster mitigation priorities and projects are generated through the LMS. The CEMP discusses hazard mitigation in the context of standard operating procedures, activities, responsibilities and available programs. This includes the post-disaster implementation of the Hazard Mitigation Grant Program and related disaster mitigation, response and recovery assistance programs, as well as pre-disaster mitigation programs such as the National Flood Insurance Program, Community Rating System and Flood Mitigation Assistance Program.

The document lists numerous activities and supporting agencies to assist in supporting mitigation in the County. All municipal planning departments are responsible to support pre- and post-disaster mitigation. The Department of Emergency Management and the Building Department primarily coordinate post disaster hazard mitigation activities. The Property Appraiser is also involved with damage assessment and mitigation activities. As included in the LMS, proactive mitigation initiatives are accomplished through County ordinances, resolutions, the application of a stringent building code requirements, zoning changes, structural retrofits, and the demolition of repetitively damaged or destroyed structures.

As such, the CEMP is a good tool for planners, which includes collaborative procedures for working with emergency managers to reduce vulnerability from hazards.

Post-Disaster Redevelopment Plan (PDRP)

Hamilton County is not required to develop a PDRP, but it is recommended.

National Flood Insurance Program/Community Rating System

Hamilton County and the Town of White Springs participate in the National Flood Insurance Program (NFIP). Both jurisdictions plan to apply for NFIP Community Rating System (CRS) certificates.

4. Comprehensive Plan Review

Purpose and Intent

The Hamilton County Comprehensive Plan (Adopted July 23, 1991; last amended August 15, 1995) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps Hamilton County has taken to integrate hazard mitigation initiatives from their Local Mitigation Strategy (LMS), and hazard mitigation initiatives in general, into the local planning process. Each Element of the Plan was evaluated to establish the extent to which the principles from the LMS were incorporated into the objectives and policies of the existing Comprehensive Plan.

Approach

This review includes an assessment of flooding, wildfires and sinkhole hazards. A preliminary list of objectives and policies currently contained in the Plan that pertain to hazard mitigation and any policies related to these hazards is found in **Attachment E**. The following is a discussion of the extent to which the Plan appears to address each of the hazards. Recent policy amendments may not have been available for review, or proposed policies might be in the process of creation, which address these hazards. As a result, this assessment is considered preliminary and subject to input from the local government.

Summary of Findings

The highest risk hazards for Hamilton County as identified in the County's Local Mitigation Strategy (LMS) are flooding, wildfires, and sinkholes. Flooding and sinkholes are addressed in the Comprehensive Plan. Wildfire hazards have not been identified in the Plan, although considered a risk by the LMS.

Hamilton County is not a coastal county, so policies are not geared toward coastal management and coastal resource protection. Policies relating to hazard mitigation within the Plan primarily include those relating to flooding and stormwater control. Wildfire mitigation is not a hazard referred to in the Plan.

The Hamilton County Comprehensive Plan primarily focuses on the protection of natural features such as floodplains and sinkholes, through development controls and stormwater management. References to emergency management were not located in the Plan. However, a section of the Plan is dedicated to the Suwannee River System, defined as the 100-year floodplain of the Suwannee River, Alapaha River, and Withlacoochee River.

Flooding

Flooding is addressed primarily to protect the natural features along the Suwannee River System. However, these policies consequently protect life and property within the 100-year floodplain. Intergovernmental coordination is exceptional between the County and the Suwannee River Water Management District with the development review of these lands. Development standards include setbacks from the floodplain, lower densities, and roadway construction design to prevent increase in floodway obstructions. In addition, development standards must conform to the National Flood Insurance Program for all properties within the 100-year floodplain of the Suwannee River System.

The County has also adopted level of service standards for drainage to include Florida Administrative Code standards. Peak rate of post development runoff cannot exceed the peak-rate of pre-development runoff for storm events. In addition, the County requires construction of structure or landscape alterations which maintain natural drainage flows including sheet flow and flow to isolated wetland systems

Sheltering

As with many inland counties in Florida, in the event of a hurricane, Hamilton County may receive evacuees from coastal counties. Similar to most of Florida's coastal counties, Hamilton County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Hamilton County has an existing shelter capacity of 501 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 1,455 people, leaving an existing shelter deficit of 954. In 2009, the projected shelter demand is 1,588, leaving an anticipated shelter deficit of 1,087. However, because Hamilton County is a host county there might not be enough shelter space for its own residents due to the influx of evacuees seeking shelter from nearby counties. Therefore, it is essential that Hamilton County continue to coordinate with nearby counties for evacuation and shelter planning. The opportunity also exists to construct new facilities to standards that will allow them to serve as shelters, and to construct future public facilities outside of floodplain areas.

Sinkholes

Policies found during this review to reduce sinkhole hazards included prohibition of the discharge of stormwater into sinkholes, or reducing the quantity of water into such sinkholes. Stormwater conveyance must be designed to percolate 80 percent of the runoff from a three year, one hour design storm within 72 hours after a storm event. No policies were located that prohibit development within an identified sinkhole area.

Wildfire

No policies were identified in the Hamilton County Comprehensive Plan to reduce wildfire hazards.

5. Data Sources

County Overview:

Florida Statistical Abstract – 2004 (38th Edition). Bureau of Economic and Business Research, Warrington College of Business, University of Florida. Gainesville, Florida.

State and County QuickFacts. U.S. Census Bureau. Data derived from 2000 Census of Population and Housing.

Hazard Vulnerability:

Florida Repetitive Loss List March 05. Florida Department of Community Affairs, Division of Emergency Management, Flood Mitigation Assistance Office. March 2005.

Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS). Florida Department of Community Affairs, Division of Emergency Management. http://lmsmaps.methaz.org/lmsmaps/

Protecting Florida's Communities – Land Use Planning Strategies and Best Development Practices for Minimizing Vulnerability to Flooding and Coastal Storms. Florida Department of Community Affairs, Division of Community Planning and Division of Emergency Management. September 2004.

State of Florida 2004 Statewide Emergency Shelter Plan. Florida Department of Community Affairs, Division of Emergency Management.

State of Florida. 2005 Hurricane Evacuation Study Database. Florida Department of Community Affairs, Division of Emergency Management.

GIS Data:

Flood Zone FLOOD GIS DATA NOT AVAILABLE—ONLY IMAGES
Source: FEMA FIRM maps, supplied by Suwannee River Water Management District (digitized images).

Sinkhole Hazard GIS Data
Source: Kinetic Analysis Corporation (2005)

- Areas shown/analyzed are those areas in the "Rawsink1.shp" GIS coverage supplied by KAC, where the value in the field "Gridcode" is 3 to 6, representing "High", or Very High", "Extremely High", or "Adjacent", based on the classification system used in the sinkhole hazard maps available at:

http://lmsmaps.methaz.org/lmsmaps/final_cty/

Wildfire Susceptibility GIS Data
Source: Florida Department of Agriculture and Consumer Services/Division of Forestry, Florida Fire Risk Assessment System (FRAS) data, 2004.

- Areas shown as "wildfire susceptible areas" and that were analyzed are those areas with a "Wildfire Susceptibility Index" value of greater than 10,000 (in north Florida counties) or greater than 0.1 (in south Florida counties)*, based on the FRAS model, and that are also within areas of forest or shrub vegetation or "low impact urban" land cover, based on the Florida Fish and Wildlife Conservation Commission "Florida Vegetation and Land Cover - 2003" GIS data.

- The rating scale in the "Wildfire Susceptibility Index" GIS coverages has a range of 0 to 100,000 in north Florida counties, and a range of 0 to 1.0 in south Florida counties.

Municipal Boundaries

Source: Boundaries of municipalities were extracted from the U.S. Census 2000 "Places" GIS coverage for the State of Florida.

ATTACHMENT A
Maps of the Existing and Future Land Uses within the 100-year Floodplain

ATTACHMENT B
Maps of the Existing and Future Land Uses within Wildfire Susceptible Areas

ATTACHMENT C
Maps of the Existing and Future Land Uses within the Sinkhole Susceptible Areas

ATTACHMENT D
Local Mitigation Strategy
Goals and Objectives Pertaining to Comprehensive Planning

Hamilton County's LMS includes the following goals and objectives that are directly related to local comprehensive planning and growth management:

- ***Goal 3.1*** *– Maintain current levels and rates of riverine erosion by limiting development within, and directing development away from the 100-year floodplains of rivers, streams and creeks.*

- ***Goal 4.1*** *– Minimize damage to future buildings and infrastructure by identifying and mapping sinkholes and areas of known sinkhole formation and providing policy direction in local government comprehensive plans which limits and/or guides development away from such areas.*

- ***Goal 7.1*** *– Minimize damage to existing and future buildings and infrastructure as a result of flooding.*

- ***Goal 8.1*** *– Minimize damage to existing and future buildings and infrastructure as a result of wildfires.*

ATTACHMENT E
Hamilton County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation

FUTURE LAND USE ELEMENT

OBJECTIVES AND POLICIES FOR URBAN DEVELOPMENT AREAS

Policy I.1.6 (in part)
Environmentally Sensitive Land Use
Environmentally Sensitive Areas, which are lands within the 100-year flood, as designated by the Federal Emergency Management Agency, Flood Insurance Rate Map, dated June 4, 1987, and located in the Alapaha River Corridor, Suwamee River Corridor and Withlacoochee River Corridor as shown on the Future Land Use Plan Map of this Comprehensive Plan shall conform with the following densities;

Environmentally Sensitive Areas - 1 5 1 d.u. per 40 acres
Environmentally Sensitive Areas - 2 ***5*** 1 d.u. per 10 acres
Environmentally Sensitive Areas - **3** ***5*** 1 d.u. per 5 acres

Further, provided that within the Environmentally Sensitive Area-2 category, dwelling units may be clustered on smaller lots with no lot being less than 5 acres, if the site is developed as a Planned Rural Residential Development and a density of 1 dwelling unit per 10 acres is maintained on site as follows:

(e) the developed area of the development, shall be located outside of (1) wetlands, (2) floodplains, (3) native upland vegetation, and (4) active agricultural areas, unless the entire development site consists of any or a combination of such areas. If the entire development site consists of any or a combination of such areas, the developed area shall be located in the least sensitive of such areas. Least sensitive areas shall be determined according to the order of priority of the above listing of such areas from most sensitive to least sensitive. In addition, if any developed area is located within any such sensitive areas, the development of such areas shall be in accordance with Policies V.2.7 and V.2.8.

OBJECTIVES AND POLICIES FOR RURAL AREAS

Policy I.2.2 (in part)
Agriculture Land Use -
All Planned Rural Residential Developments shall be developed as follows:

e) the developed area of the development, shall be located outside of (1) wetlands; (2) floodplains; (3) native upland vegetation; and (4) active agricultural areas, unless the entire development site consists of any or a combination of such areas. If the entire development site consists of any or a combination of such areas, the developed area shall be located in the least sensitive of such areas. Least sensitive areas shall be determined according to the order of priority of the above listing of such areas from most sensitive to least sensitive. In addition, if any developed area is located within any such sensitive areas, the development of such area shall be in accordance with Policies V.2.7 and V.2.8.

Environmentally Sensitive Land Use -
Environmentally Sensitive Areas, which are lands within the 100-year flood, as designated by the Federal Emergency Management Agency, Flood Insurance Rate Map, dated June 4, 1987, and located in the Alapaha River Corridor, Suwannee River Corridor and Withlacoochee River Corridor as shown on the Future Land Use Plan Map of this Comprehensive Plan shall conform with the following densities:
Environmentally Sensitive Areas - 1 I 1 d.u. per 40 acres
Environmentally Sensitive Areas - 2 I 1 d.u. per 10 acres
Environmentally Sensitive Areas - 3 I 1 d.u. per 5 acres
Further, provided that within the Environmentally Sensitive Area-2 category, dwelling units may be clustered on smaller lots with no lot being less than 5 acres, if the site is developed as a

Planned Rural Residential Development and a density of 1 dwelling unit per 10 acres is maintained on site as follows:

> (e) the developed area of the development, shall be located outside of (1) wetlands, (2) floodplains, (3) native upland vegetation, and (4) active agricultural areas, unless the entire development site consists of any or a combination of such areas. If the entire development site consists of any or a combination of such areas, the developed area shall be located in the least sensitive of such areas. Least sensitive areas shall be determined according to the order of priority of the above listing of such areas from most sensitive to least sensitive. In addition, if any developed area is located within any such sensitive areas, the development of such areas shall be in accordance with Policies V.2.7 and V.2.8.

NATURAL RESOURCE PROCESSING AREAS

Policy I.2.3 The areas within the 100-year floodplain, as designated by the Federal Emergency Management Agency, Flood Insurance Rate Map, as amended, which are located in the Suwannee River Corridor, Withlacoochee River Corridor and Alapaha River, identified within the Future Land Use Plan Map of this Comprehensive Plan as Environmentally Sensitive Areas shall maintain an average lot size of 10 acres with no lot being less than 5 acres in size, nor having a length to width ratio of greater than 3 to 1. In addition, the County's land development regulations shall prohibit the location of non-residential uses such as industrial activities and commercial uses within these areas, although resource-based activities, such as campgrounds of less than 200 campsites, may be allowed as special exceptions.

OBJECTIVES AND POLICIES FOR BOTH URBAN DEVELOPMENT AREAS AND RURAL AREAS

Policy I.3.5 The County's land development regulations shall include provisions for drainage, stormwater management, open space, convenient on site traffic flow and needed vehicle parking for all development.

Policy I.3.7 The County shall participate in the National Flood Insurance Program and regulate development and the installation of utilities in flood hazard areas in conformance with the program's requirements.

OBJECTIVE I.7 The County shall adopt regulations to protect natural resources and environmentally sensitive lands (including but not limited to wetlands and floodplains) by 1992.

Policy I.7.4 As part of the County's development review process environmentally sensitive land shall be identified for protection. These environmentally sensitive lands shall include, but not be limited to, wetlands, flood prone areas, areas designated as prime groundwater aquifer recharge areas and critical habitat areas for designated rare, threatened, endangered, or species of special concern.

Policy I.7.5 The County shall protect groundwater aquifer recharge areas by: preventing drainage wells and sinkholes to be used for stormwater disposal; requiring well construction modification and closure to be regulated in conformance with criteria established by the Water Management District and Florida Department of Health and Rehabilitative Services, (in particular, abandoned wells shall be closed in accordance with Chapter 17- 28, Florida Administrative Code, in effect upon adoption of this policy); and prohibiting the discharge and requiring protection against accidental releases of hazardous or toxic materials to the soils or groundwater.

Policy I.7.6 The County's land development regulations shall include stormwater management and land use design provisions which minimize the direct surface run-off into all surface water bodies and especially the following springs: Morgan's Spring, White Springs, Alapaha Rise and Holton Spring.

Objective I.10 The County shall adopt regulations by 1992 which regulate the location of development consistent with United States Department of Interior Geodetic survey topographic information and soil conditions as identified within the United States Department of Agriculture Soil Conservation Service Soil Survey for the County.

Policy I.10.1 The County's land development regulations shall restrict development within unsuitable areas due to flooding, improper drainage, steep slopes, rock formations and adverse earth formations, unless acceptable methods are formulated by the developer and approved by the County to solve the problems created by the unsuitable land conditions.

Suwannee River System 100-year Floodplain Special Planning Area

OVERALL GOAL To protect and maintain the natural functions of the Suwannee River system (defined as the 100-year floodplain of the Suwannee, Alapaha and Withlacoochee Rivers in the County) including floodwater storage and conveyance, water quality assurance, and fish and wildlife habitat, while allowing for the appropriate use and development of the land.

OBJECTIVE S.1 To help ensure that development proposals and activities wholly or partially within the 100-year floodplain of the Suwannee River system are conducted in accordance with the physical limitations of this environmentally sensitive area, the County shall establish coordination provisions between the County and all agencies with jurisdiction within the 100-year floodplain of the Suwannee River system within one year of submittal of this plan. Such coordination provisions shall provide a mechanism for all such agencies to review and make comment on such proposals or activities.

Policy S.1.3 The review of preliminary subdivision plats and site and development plans within the 100-year floodplain of the Suwannee River system shall be based on the best available information regarding the physical characteristics of the site, including floodplain and wetlands delineation, soil conditions, vegetative cover, and critical wildlife habitat areas.

OBJECTIVE S.2 The County shall take the actions identified within the following policies within one year of submittal of this plan to protect unique natural areas within the Suwannee River system, including but not limited to springs and spring runs, critical habitat areas for fish and wildlife, unique vegetative communities, and public recreation areas.

Policy S.2.2 The County's land development regulations shall require an undisturbed regulated buffer along the property lines of public lands within the 100-year floodplain of the Suwannee River system for the purposes of visual screening, stormwater runoff and erosion control, public safety, and buffering potentially incompatible land uses. The width of such buffering shall be established using criteria within the land development regulations. Variations in the width of this buffer shall be made only for cases of undue hardship and on a site-specific review.

Policy S.2.3 The County shall participate in the acquisition planning process of state and regional agencies for lands and unique natural areas located within the 100-year floodplain of the Suwannee River system.

OBJECTIVE S.3 The County will adopt land development regulations within one year from the submittal of this plan that regulate land use types, densities, and intensities for all lands within the 100-year floodplain of the Suwannee River system and will define and provide a mechanism to phase out non-conforming platted subdivisions which are unimproved and undeveloped, discontinue non-conforming uses, and bring nonconforming structures into compliance within the floodplain.

Policy S.3.2 (in part) The areas within the 100-year floodplain, as designated by the Federal Emergency Management Agency, Flood Insurance Rate Map, dated June 4, 1987, of the Suwannee River system, which are located outside of the designated urban development areas

shall maintain an average lot size of 10 acres within each designated area, with no lot being less than 5 acres in size, nor having a length to width ratio of greater than 3 to 1.

Policy S.3.3 The County's land development regulations shall contain provisions and schedules which require the vacating or replatting of unimproved, undeveloped subdivisions where such lots of record within the 100-year floodplain of the Suwannee River system do not meet the minimum lot area requirements based upon density standards established in the County's Comprehensive Plan and land development regulations.

Policy S.3.4 The County shall, inside designated urban development areas within the 100-year floodplain of the Suwannee River system, limit dwelling unit density of residential uses to no greater than one (1) dwelling unit per acre in areas not served by centralized potable water systems and sanitary sewer systems. On-site sewage disposal systems shall conform to the standards as specified in Chapter 10D-6, Florida Administrative Code, in effect on April 16, 1992. Within the 100-year floodplain of the Suwannee River system inside designated urban development areas, the County shall limit dwelling unit density of residential uses to no greater than two dwelling units per acre in areas served by centralized potable water systems and sanitary sewer systems. Residential uses in such areas shall be connected to such potable water systems and sanitary sewer systems. Each individual parcel shall conform to all applicable state and County regulations. Development shall maintain the functions of the floodplain. In addition, the County shall not approve new or expansion of designated urban development areas within the 100-year floodplain of the Suwannee River system.

Policy S.3.5 The County shall prohibit development on the river berm by requiring a minimum undisturbed, vegetated buffer of 75 feet measured from the generally recognized river bank of the Alapaha, Suwannee and Withlachoochee Rivers be maintained for all single-family residential uses and agricultural uses and silvicultural activities. All other land uses shall conform with the variable buffer requirements contained in Rule 40B- 4.3 03 0(4), Florida Administrative Code, as administered by the Water Management District, in effect upon adoption of this policy. Exception shall be made for the provision of reasonable access to the river and resource-based recreational activities within buffer areas. Reasonable access shall mean the minimum amount of clearing necessary for access not to exceed 25 feet in width.

OBJECTIVE S.4 The County shall ensure that all development and redevelopment occurring in the 100-year floodplain of the Suwannee River system meet the building and design standards of the National Flood Insurance Program, the County, and the Suwannee River Water Management District.

Policy S.4.1 The County's land development regulations shall conform to the National Flood Insurance Program requirements for construction activities undertaken in the 100-year floodplain of the Suwannee River system.

Policy S.4.2 The County's land development regulations shall require all habitable structures be elevated no less than one foot above the 100-year flood elevation, without the use of fill materials in the regulatory floodway of the Suwannee River system.

Policy S.4.3 The County's land development regulations shall require all road construction and improvement projects within the 100-year floodplain of the Suwannee River system be designed in such a manner as to avoid any increase in floodway obstruction, any increase in the peak rate or volume of stormwater runoff, and any increase in pollutant loading to the receiving waters.

SANITARY SEWER, SOLID WASTE, DRAINAGE, POTABLE WATER AND NATURAL GROUNDWATER AQUIFER RECHARGE ELEMENT

OBJECTIVE IV.1 The County, upon the adoption of this Objective shall correct existing deficiencies by undertaking capital improvement projects in accordance with the schedule contained in the Capital Improvements Element of this Comprehensive Plan.

POLICIES FOR DRAINAGE

Policy IV.2.8 The County hereby establishes the following level of service standards for drainage facilities:

LEVEL OF SERVICE STANDARD
For all projects not exempted from Chapter 4013-4 and 17-25, Florida Administrative Code within the County, stormwater management systems must be installed such that the peak rate of post development runoff will not exceed the peak-rate of pre-development runoff for storm events up through and including either:

1. A design storm with a 10-year, 24-hour rainfall depth with Soil Conservation Service Type I1 distribution falling on average antecedent moisture conditions for projects serving exclusively agricultural, forest, conservation, or recreational uses; or
2. A design storm with 100-year critical duration rainfall depth for projects serving any land use other than agricultural, silvicultural, conservation, or recreational issues. Any development exempt from Chapter 17-25 or 40B-4 as cited above and which is adjacent to or drains into a surface water, canal, or stream, or which enters a ditch which empties into a sinkhole, shall first allow the runoff to enter a grassed swale or other conveyance designed to percolate 80 percent of the runoff from a three year, one hour design storm within 72 hours after a storm event. In addition, any development exempt from Chapter 17-25 or 40B-4, as cited above, which is directly discharged into an Outstanding Florida Water shall include an additional level of treatment equal to the runoff of the first 1.5 inches of rainfall from the design storm consistent with Chapter 17-25.025(9), Florida Administrative Code, in order to meet the receiving water quality standards of Chapter 17-302, F.A.C. Stormwater discharge facilities shall be designed so as not to lower the receiving water quality below the minimum condition necessary to assure the suitability of water for the designated use of its classification as established in Chapter 17-302, Florida Administrative Code.

Policy V.2.9 The County's land development regulations shall include provisions which control development which would interrupt natural drainage flows, including sheet flow and flow to isolated wetland systems. Mining operations shall be conducted in accordance Policy 1.3.4.

CONSERVATION ELEMENT

Policy V.2.5 The County shall, through the development review process, require that post-development runoff rates and pollutant loads do not exceed predevelopment conditions.

Policy V.2.6 The County's land development regulations shall require all new development to maintain the natural functions of environmentally sensitive areas, including but not limited to wetlands and 100-year floodplains so that the long term environmental integrity and economic and recreational value of these areas is maintained.

Policy V.2.7 The County shall require all structures to be clustered on the non-flood prone portion of a site. Where the entire site is in a flood prone area, or an insufficient buildable area on the non-flood prone portion of a site exists, all structures, located in flood plains, shall be elevated no lower than 1 foot above base flood elevation. Non-residential structures located in floodplains, may be flood proofed in lieu of being elevated provided that all areas of the structure below the required elevation are water tight. In addition, where the entire site is in a flood prone area or an insufficient buildable area on the non-flood prone portion of site exists, all structures, located in

areas of shallow flooding shall be elevated at least two feet above the highest adjacent grade. In addition, the County shall further regulate development in the 100-year floodplains of the Alapaha, Suwannee and Withaloochee Rivers in accordance with the policies for the Suwannee River System 100-year Floodplain Special Planning Area contained in the Comprehensive Plan.

Policy V.2.8 Where the alternative of clustering all structures on the non-wetland portion of the site exists, the County shall provide for the conservation of wetlands by prohibiting development which alters the natural function of wetlands and regulating mining operations as provided for in Policy V.3.4 within wetlands. Mitigation efforts shall be required for activities which alter the natural function of wetlands in accordance with Chapter 17-3 12, Florida Administrative Code in effect upon the adoption of this policy. Such mitigation efforts shall result in no net loss of wetland functions and all restored or created wetlands shall be of the same ecological type, nature and function.

Where the alternative of clustering all structures on the non-wetland portion of a site does not exist, the County shall allow only minimal residential development activity in those areas defined as wetlands within this Comprehensive Plan and such development activity shall conform to the density requirement for the land use classification applicable to the location of the wetland. However, in no case shall residential dwelling unit density be greater than 1 dwelling unit per 5 acres. In addition, such development activity shall comply with the following densities and performance standards:

1. Residences and any support buildings shall be elevated no lower than 1 foot above the highest recorded flood level in the wetland. If flooding data is not available, residences and any support buildings shall be built at least 2 feet above the highest seasonal water level.

INTERGOVERNMENTAL COORDINATION ELEMENT

Policy VII.1.1 The County shall establish a procedure, as part of the Comprehensive Plan review and amendment process, that all plan amendments proposed within the Comprehensive Plan are coordinated with adjacent local governments, the School Board, Water Management District, Regional Planning Council, State and other units of government providing services but not having regulatory authority over the use of land.

CAPITAL IMPROVEMENTS ELEMENT

Policy VIII.1.2 The County shall, upon identification of a need for drainage facility improvements due to deficiencies based upon the established level of service standards within the Comprehensive Plan, coordinate plans for improvements with the Water Management District prior to scheduling such drainage facility improvement.

Policy VIII.2.1 (in part) The County shall use the following level of service standards in reviewing impacts of new development and redevelopment upon the provision of public facilities:
DRAINAGE LEVEL OF SERVICE STANDARDS
For all projects not exempted from Chapter 40B-4 and 17-25, Florida Administrative Code within the County, stormwater management systems must be installed such that the peak rate of post-development runoff will not exceed the peak-rate of predevelopment runoff for storm events up through and including either:

1. A design storm with a 10-year, 24-hour rainfall depth with Soil Conservation Service Type I1 distribution falling on average antecedent moisture conditions for projects serving exclusively agricultural, forest, conservation, or recreational uses; or
2. A design storm with 100-year critical duration rainfall depth for projects serving any land use other than agricultural, silvicultural, conservation, or recreational issues.
3. Facilities which directly discharge into an Outstanding Florida Water shall include an additional level of treatment equal to the runoff of the first 1.5 inches of rainfall from the design storm consistent with Chapter 17-25.025(9), Florida Administrative Code, in order to meet the receiving water quality standards of Chapter 17-302, Florida Administrative Code.

Stormwater discharge facilities shall be designed so as not to lower the receiving water quality below the minimum conditions necessary to assure the suitability of water for the designated use of its classification as established in Chapter 17-302, Florida Administrative Code.

Any development exempt from Chapter 17-25 or 40B-4 as cited above and which is adjacent to or drains into a surface water, canal, or stream, or which enters a ditch which empties into a sinkhole, shall first allow the runoff to enter a grassed swale or other conveyance designed to percolate 80 percent of the runoff from a three year, one hour design storm within 72 hours after a storm event.