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 Holmes 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 Holmes 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

Holmes 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 many goals, objectives, and policies that support risk reduction from hurricanes and floods 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 in which Holmes County can continue to reduce or eliminate risks from flood and wildfire. Sinkhole susceptible areas are found in the incorporated area of the County. These recommendations pertain to the use of vacant lands and/or redevelopment practices for unincorporated areas. Based on the land use tabulations, most of the vacant acreage is susceptible to flood. 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, 3,564 are susceptible to 100-year flood and 138 acres are susceptible to wildfire.

Flood

About 11% of the 3,564 vacant acres in the 100-year floodplain are to be developed for mixed use, rural residential, and public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- 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: using buffers around wetlands, surface waters, and natural drainage features; requiring setbacks along floodplain areas; and enforcing FEMA construction standards to reduce flood hazards.
- The County should continue to coordinate with municipalities, state, and regional agencies to develop and update a comprehensive stormwater master plan.
- The Comprehensive Plan should continue to prohibit alterations to existing drainage features that would have an adverse impact for upstream or downstream areas. This is part of the No Adverse Impact initiative that is supported by the Association of State Floodplain Managers.
- The Comprehensive Plan should continue to require that all new road development comply with the stormwater management adopted level of service.
- The Comprehensive Plan should continue to require that stormwater management systems required by new developments be the responsibility of the developer.
- The Comprehensive Plan should continue to provide for developments to integrate their stormwater management systems into landscaping, open space, or recreational area, or require the maintenance of the building lot's native vegetation to absorb stormwater run-off.
- The Comprehensive Plan should continue to maintain low densities in floodprone areas per FLUM designated land use categories,
- The Comprehensive Plan should consider requiring that structures be elevated on pilings on existing sites which do not contain sufficient uplands, and not allow lots or parcels to be created without sufficient uplands.
- The Comprehensive Plan should consider prohibiting septic tanks in flood hazard areas or wetlands.
- The Comprehensive Plan should consider disallowing conversions of agricultural land located in wetlands to other land uses, promoting incentives for clustering outside of the 100-year floodplain, and requiring developments to maintain an open space ratio of the land parcel as determined by the County.
- The County should consider identifying floodplains for acquisition under existing programs.
- The Comprehensive Plan should consider requiring that new or expansions of existing critical facilities (including schools) not occur in floodways and in areas where potential for flooding exists.
- The County should consider including a policy to not approve variances to required flood elevations.
- The County should consider requiring that all structures built in the 100-year floodplain include at least one foot freeboard. Many post-disaster building performance/damage assessments have shown that it is advisable to include freeboard to reduce future flood damages. Okaloosa and Brevard Counties, the City of Jacksonville and the Santa Rosa Island Authority are example communities that have adopted freeboard requirements.
- 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 8% of the 138 vacant acres that are susceptible to wildfire are to be developed for rural residential, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The County should consider participating in the Firewise Medal Community program to reduce risk from wildfire.
- Where reasonable, consideration should be made to design structures and sites within the County to minimize potential for loss of life and property (e.g., outdoor sprinkler systems, fire-resistant building materials or treatments, and landscaping and site design practices); and coordinate with fire protection service or agencies to determine guidelines for use and development in wildfire-prone areas.
- The County should consider increasing public awareness of prescribed burning and require management plans for conservation easements that address reduction in wildfire fuels.

General

- 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 data layers on hazard maps to illustrate population (i.e., density) or property (i.e., value) exposure.
- Include a future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Include a quantitative risk assessment for future development (i.e., loss estimates) or specific critical facilities.
- Use complementary, not contradictory, data in the plans such as the LMS, CEMP, and Comprehensive Plan.

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1. County Overview

Geography and Jurisdictions

Holmes County is located in the Florida Panhandle, bordered by the state of Georgia to the north. It covers a total of 488.7 square miles, of which 482.5 square miles are land and 6.3 square miles are water. There are five incorporated municipalities within Holmes County, as shown in **Table 1.1**. The City of Bonifay 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 Holmes County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. While some residents live in incorporated jurisdictions, approximately 79% live in unincorporated areas of the county. Holmes County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Holmes County had a growth rate of 17.7%, which is one-fourth less than the statewide average of 23.5% for the same time period.

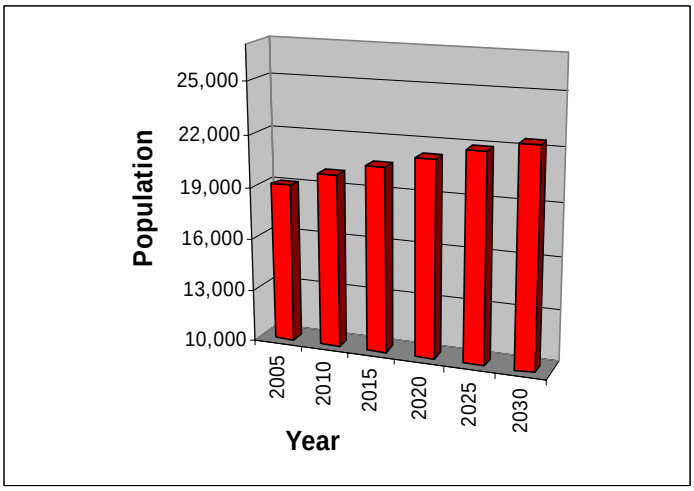
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	14,652	15,035	2.61%	79.08%
Bonifay	2,665	2,677	0.45%	14.08%
Esto	356	379	6.46%	1.99%
Noma	213	230	7.98%	1.21%
Ponce de Leon	457	465	1.75%	2.45%
Westville	221	226	2.26%	1.19%
Total	**18,564**	**19,012**	**2.41%**	**100.00%**

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

According to BEBR (2004), Holmes County's population is projected to grow steadily and reach an estimated 22,500 by the year 2030, increasing the average population density of 39 to 47 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Holmes County based on 2004 calculations.

Figure 1.1 Population Projections for Holmes County, 2005–2030



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

Of particular concern within Holmes 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 18,564 persons residing in Holmes County, 14.8% are listed as 65 years old or over, 27.8% are listed as having a disability, 19.1% are listed as below poverty, and 4.5% live in a home where the primary language is other than English.

2. Hazard Vulnerability

Hazards Identification

The highest risk hazards for Holmes County as identified in the County's Local Mitigation Strategy (LMS) are hurricanes, floods, sinkholes, severe storms, and wildfire. Although Holmes County is not a coastal county, storm surge from Choctawhatchee Bay being pushed from south Walton County up the river valley of the Choctawhatchee River could slow the river's ability to discharge water to the bay, thus causing additional concern for flooding.

Hazards Analysis

The following analysis examines four hazard types: surge from tropical cyclones, flood, wildfire and sinkholes. 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 Category 3 Maxima Scenario for storm surge; FEMA's designated 100-year flood zones (i.e., A, AE, V, VE, AO, 100 IC, IN, AH) for flood; 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. Storm surge exposure data is a subset of flood exposure; therefore, the storm surge results are also included in the flood results. 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).

Because the Bradford County LMS considers storm surge to be a negligible hazard and MEMPHIS data indicates that no persons or structures are exposed to this hazard, no further analysis was conducted for the storm surge hazard.

Existing Population Exposure

Table 2.1 presents the population currently exposed to each hazard in Holmes County. Of the 18,564 (U.S. Census 2000) people that reside in Holmes County, 20.6% are exposed to 100-year flooding, 13.1% are exposed to wildfire, and no persons are exposed to sinkholes. Of the 3,826 people exposed to flood, 58.7% are disabled and 16.7% are over age 65.

Table 2.1 Estimated Number of Persons Exposed to Selected Hazards

Segment of Population	Flood	Wildfire
Total (all persons)*	**3,826**	**2,423**
Minority	85	81
Over 65	640	413
Disabled	2,247	1,258
Poverty	623	564
Lang Isolated	0	0
Single Parent	164	183

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 Holmes 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. Thus, it is important to not only consider evacuation times for Holmes County, but also for other counties in the region as shown in **Table 2.2**. Also, 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
Calhoun	24	24	24	30	30
Gadsden	*Not Available*				
Holmes	6.25	7	7	10.25	10.25
Jackson	5.5	8.25	8.25	11	11
Liberty	*Not Available*				
Washington	6.25	6.5	6.5	8.5	8.5

Source: DCA, DEM Hurricane Evacuation Study Database, 2005

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

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. Currently, it is expected to take between 6.25 and 10.25 hours to safely evacuate Holmes County depending on the corresponding magnitude of the storm, as shown in **Table 2.2**. This data was derived from eleven regional Hurricane Evacuation Studies that have been produced by FEMA, the United States Army Corps of Engineers and Regional Planning Councils in Florida. The study dates range from 1995 to 2004. These regional studies are updated on a rotating basis.

Similar to most of Florida's coastal counties, Holmes County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Holmes County has an existing shelter capacity of 850 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 1,415 people, leaving an existing shelter deficit of 565. In 2009, the projected shelter demand is 1,530, leaving an anticipated shelter deficit of 680. This deficit is likely to be greater due to the influx of evacuees seeking shelter from nearby counties, as Holmes is a host county. Therefore, it is essential that Holmes 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. Holmes County could encourage new homes to be built with saferooms, 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 Holmes County by occupancy type that are exposed to each of the 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 Holmes County's existing structures to the 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	1,562	693	2
Mobile Home	444	153	0
Multi-Family	376	118	0
Commercial	379	157	0
Agriculture	4,957	2,662	0
Gov. / Institutional	1,204	328	2
Total	**8,922**	**4,111**	**4**

Source: Mapping for Emergency Management, Parallel Hazard Information System

There are 13,037 structures exposed to at least one of the three hazards, of which most are used for agriculture. Of these structures, 68.4% are exposed to flood. Nearly 9,000 structures are located within the 100-year floodplain. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 22 repetitive loss properties in unincorporated areas of Holmes 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."

Over 31%, or 4,111 structures are exposed to wildfire, of which 64.8% are used for agriculture. According to the Florida Department of Forestry, approximately 85% to 90% of the land in the Holmes County is open forestland and most locations outside of the floodplains and swamplands consist of natural vegetation historically related to the Longleaf Pine or upland Southeastern forests, which is a fire dependent ecology (Holmes County LMS, 2005). Only four structures are located within sinkholes susceptible areas, of which two are single-family homes and two are government/institutional buildings.

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, storm surge velocity, 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. Holmes County future land use data was acquired in March 2006 and might not reflect changes per recent future land use amendments. DCA has provided 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 Holmes County future land use map dated March 2006. 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 the coastal hazards zone in relation to storm surge, 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. There are flood-prone areas scattered across the County. However, a majority of the large swaths surround the many creeks, streams and rivers such as the Holmes, Wright, and Sandy Creeks; and the Choctwhatchee and Pea Rivers, The total amount of land in the special flood hazard area is 87,411.1 acres. As shown in **Table 2.4**, 79.4% are in agricultural use; 13.1% are parks, conservation areas and golf courses; 4.1% are currently undeveloped; and 1.7% is used for residential single-family homes. **Table 2.5** shows that of the 3,564 undeveloped acres, 89.5% are designated for agriculture/silviculture. The County has taken favorable action in designating 89.5% of vacant acreage in the 100-year flood zone for agriculture/silviculture.

In **Attachment B**, two maps present the existing and future land uses within wildfire susceptible areas. These small isolated areas are scattered across the County. The total amount of land in the wildfire susceptible areas is 4,131.6 acres. As shown in **Table 2.4**, 90.2% are in agricultural use; 3.3% are currently undeveloped; 2.6% are parks, conservation areas and golf courses; and 1.9% is used for residential single-family homes. **Table 2.5** shows that of the 138 undeveloped

acres, 92.2% are designated for agriculture/silviculture. 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 located in Westville. Because there are no sinkhole susceptible areas in unincorporated areas of the county, this hazard is not included in **Tables 2.4** and **2.5**.

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

Existing Land Use Category		Flood Zones	Wildfire Susceptible Areas
Agriculture	Acres	69,400.8	3,727.2
	%	79.4	90.2
Attractions, Stadiums, Lodging	Acres	0.0	0.0
	%	0.0	0.0
Places of Worship	Acres	103.0	5.1
	%	0.1	0.1
Commercial	Acres	10.9	0.0
	%	0.0	0.0
Government, Institutional, Hospitals, Education	Acres	415.8	4.0
	%	0.5	0.1
Industrial	Acres	34.1	0.0
	%	0.0	0.0
Parks, Conservation Areas, Golf Courses	Acres	11,461.5	105.4
	%	13.1	2.6
Residential Group Quarters, Nursing Homes	Acres	16.1	0.0
	%	0.0	0.0
Residential Multi-Family	Acres	0.7	0.0
	%	0.0	0.0
Residential Mobile Home, or Commercial Parking Lot	Acres	713.2	58.2
	%	0.8	1.4
Residential Single-Family	Acres	1,475.8	80.5
	%	1.7	1.9
Submerged Land (Water Bodies)	Acres	9.4	2.7
	%	0.0	0.1
Transportation, Communication, Rights-Of-Way	Acres	156.3	0.0
	%	0.2	0.0
Utility Plants and Lines, Solid Waste Disposal	Acres	49.5	10.5
	%	0.1	0.3
Vacant	Acres	3,564.0	138.0
	%	4.1	3.3
Total Acres	**Acres**	**87,411.1**	**4,131.6**
	%	**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		Flood Zones		Wildfire Susceptible Areas	
		Total	Vacant	Total	Vacant
Agriculture/Silviculture	Acres	72,602.1	3,189.0	3,793.4	127.3
	%	83.1	89.5	91.8	92.2
Conservation	Acres	10,606.8	0.0	24.5	0.0
	%	12.1	0.0	0.6	0.0
Crossroads Mixed Use	Acres	550.6	25.6	68.2	0.0
	%	0.6	0.7	1.7	0.0
Industrial	Acres	245.0	0.0	0.0	0.0
	%	0.3	0.0	0.0	0.0
Public/Semi-Public/Educational	Acres	261.9	8.7	10.5	0.0
	%	0.3	0.2	0.3	0.0
Recreation/Open Space	Acres	100.8	0.0	57.7	0.0
	%	0.1	0.0	1.4	0.0
Rural Residential	Acres	3,043.7	340.6	177.2	10.7
	%	3.5	9.6	4.3	7.8
Total Acres	**Acres**	**87,410.9**	**3,564.0**	**4,131.6**	**138.0**
	%	**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 Holmes County's five 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.

The City of Ponce de Leon has the most acres in the flood zone but Noma has the largest proportion of flood zone acres out of its vacant land area. The Town of Westville has the most acres in the wildfire susceptible areas, but no municipality has vacant land area in wildfire susceptible acres. The Town of Westville is the only municipality with sinkhole susceptible areas.

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 Holmes 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		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant
Bonifay	Acres	268.4	42.1	0.0	0.0	0.0	0.0
	%	100.0	15.7	0.0	0.0	0.0	0.0
Esto	Acres	295.6	8.0	0.2	0.0	0.0	0.0
	%	100.0	2.7	100.0	0.0	0.0	0.0
Noma	Acres	74.9	15.4	0.9	0.0	0.0	0.0
	%	100.0	20.5	100.0	0.0	0.0	0.0
Ponce de Leon	Acres	1,331.8	161.0	12.0	0.0	0.0	0.0
	%	100.0	12.1	100.0	0.0	0.0	0.0
Westville	Acres	3,250.1	61.5	39.0	0.0	331.7	2.7
	%	100.0	1.9	100.0	0.0	100.0	0.8
Total Municipal Acres	**Acres**	**5,220.8**	**288.0**	**52.2**	**0.0**	**331.7**	**2.7**
	%	**100.0**	**5.5**	**100.0**	**0.0**	**100.0**	**0.8**

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 Holmes County LMS (adopted in 2005) 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).

Hazard Analysis and Vulnerability Assessment (Sections 4 and 5)

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

Strengths:

- Provides information about demographics such as age, income, and special needs population.
- Provides a hazards analysis and a qualitative and quantitative vulnerability assessment.
- Provides a clear detailed description of geographic areas exposed to each of the hazards.
- Includes maps for each of the hazards that show population centers.
- Includes a quantitative risk assessment (i.e., loss estimates) for each hazard by jurisdiction.
- Includes hazards exposure and loss estimates by land use.
- Addresses the vulnerability of critical facilities as hazard mitigation projects in Appendix C: Initiatives/Prioritization List.
- Includes a quantitative risk assessment for existing development (i.e., loss estimates)

Weaknesses:

- Hazard maps do not include data layers to illustrate property (i.e., value) exposure.
- Does not include a future land use map, nor does it include future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Does not include a quantitative risk assessment for future development (i.e., loss estimates) or specific critical facilities.

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 Holmes County LMS does not include a Guiding Principles section for the county nor each municipality. 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. It is recommended that Holmes County's next LMS update include a Guiding Principles section.

LMS Goals and Objectives

The Holmes 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**. The following is a summary of the LMS goals that support comprehensive plan GOPs.

Goal 4 strives to assist property owners, residents, businesses, non-profits and others in understanding and knowing of their eligibility for grants, loans and services that may help to mitigate hazards that directly affect their interests. This can be accomplished by working with existing programs within the County and Municipalities (building inspections, local Community Rating System/National Flood Insurance Program, emergency management, chambers of commerce, etc.) to connect mitigation to these efforts.

Goal 5 aims to reduce or eliminate hazards identified to at risk locations in the County and its municipalities. This can be accomplished by targeting mitigation efforts and activities towards areas where hazards exist; working with agencies, professionals, and the public to develop the best solutions for identified hazards; and examining and implementing appropriate technologies to identify, model, or otherwise simulate risks and zones of risk and incorporating these into the LMS plan

Maintaining consistent language for outlining goals and objectives in both the LMS and comprehensive plan presents a united front on decreasing risk in the county. While the LMS may not be able to regulate land use as the comprehensive plan does, having these common goals and objectives increases the likelihood of the jurisdictions of Holmes County adopting and implementing corresponding policies that are legally enforceable.

Comprehensive Emergency Operations Plan (CEMP)

The Holmes County CEMP briefly references the LMS in Section 3: Mitigation Functions Annex. The CEMP notes that all mitigation goals, projects, and prioritization are documented in the LMS. The CEMP also notes jurisdiction participation in the National Flood Insurance Program. The Holmes County Office of Grant Management is responsible for the applying for funding for LMS approved projects.

Holmes County does not have a mitigation assessment team. The Damage Assessment Team will continually look for mitigation projects as damage assessments are being performed and will present such information to the LMS Committee for review.

The CEMP could be a more robust tool for planners by identifying specific collaborative procedures for working with emergency management such as developing the LMS and risk assessment, participating in post-disaster damage assessments, and assisting with the identification of hazard mitigation projects.

Post-Disaster Redevelopment Plan (PDRP)

The Holmes County PDRP was not available for review at the time that this profile was developed.

National Flood Insurance Program/Community Rating System

Holmes County and all of its municipalities participate in the National Flood Insurance Program (NFIP). Neither Holmes County nor any of its municipalities currently participate in the NFIP Community Rating System (CRS).

4. Comprehensive Plan Review

Purpose and Intent

The Holmes County and the Municipalities of: Esto, Noma, Ponce De Leon, and Westville 2010 Comprehensive Plan (Adopted: August 16, 2000) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps Holmes 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, wildfire 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 Holmes County as identified in the County's Local Mitigation Strategy (LMS) are hurricanes, floods, sinkholes, severe storms, and wildfire. Although, Holmes in not a coastal county, storm surge from Choctawhatchee Bay being pushed from south Walton County up the river valley of the Choctawhatchee River could cause riverine flooding.

The Holmes County Comprehensive Plan focuses on the protection of natural features such as floodplains, wetlands, and other natural systems through development controls and stormwater management. Policies relating to hazard mitigation within the Plan include those relating to protecting lives and property from flooding by regulating building practices, maintaining drainage ways, and through stormwater control and abatement. No policies pertaining to wildfires or sinkholes were found in the Comprehensive Plan.

Flooding

Flooding is addressed from two vantage points, the protection of natural drainage features, and protection of life and properties through development standards and stormwater abatement. Several policies deal with interagency coordination and planning to address county-wide drainage issues. Policies include the adoption of a county-wide drainage plan to identify drainage features, flood prone areas, and potential locations for major drainage retention facilities. Policies state that by 2005, the County and its municipalities will adopt a comprehensive Stormwater Master Plan designed to protect public and private property, human life, businesses, industry, and the natural environment.

Future Land Use Element policies include the following provisions: Resource protection standards must be designed to minimize flood damage and maintain the natural function of wetlands. Standards will include, but not be limited to, provisions such as native vegetative buffers around wetlands and surface water bodies and specific construction standards for flood

hazard reduction. The development approval process for the County, as discussed in the Comprehensive Plan must ensure that new development and redevelopment is consistent with natural drainage patterns. The process will also require appropriate stormwater management systems, consistent with the adopted stormwater management level of service, natural drainage patterns, and soil conditions.

Sheltering

Although Holmes County is not coastal, as with many counties in Florida, the County faces a shelter deficit in the event of a hurricane. According to Florida's Statewide Emergency Shelter Plan, Holmes County has an existing shelter capacity of 850 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 1,415 people, leaving an existing shelter deficit of 565. It is essential that Holmes 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.

Wildfire

The Holmes County Comprehensive Plan is limited in fire mitigation and management practices goals, objectives and policies. No policies pertaining to wildfires were found in the Comprehensive Plan.

Sinkholes

No policies pertaining to sinkholes were found in the Comprehensive Plan.

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
Source: FEMA FIRM GIS coverages (1996), supplied by University of Florida GeoPlan Center Florida Geographic Data Library Version 3.0.

- Areas with an "A_", "V_", "FPQ", "D", "100IC", or "FWIC" value in the "Zone" field in these coverages were considered to be in the 100-year flood zone, and were used in the mapping/analysis.

Hurricane Evacuation Zone/Coastal High-Hazard Area (Category 1 Hurricane Evacuation Zone)
Source: GIS coverage of hurricane zones compiled by Florida Department of Community Affairs/Division of Emergency Management (2003), from GIS data collected from county emergency management agencies in the State of Florida.

- Areas shown/analyzed are those areas in the above-referenced GIS coverage where the value in the field "Evac_cat" is equal to "Zone TS", "Zone A/1", "Zone B/2", or "Zone C/3", in the maps/tables for the Hurricane Vulnerability Zone.
- Areas shown/analyzed are those areas in the above-referenced GIS coverage where the value in the field "Evac_cat" is equal to "Zone TS" or "Zone A/1", in the maps/tables for the Coastal Hazards Zone.

Hurricane Storm Surge Zone GIS Data
Source: GIS coverage of storm surge zones compiled by Florida Department of Community Affairs/Division of Emergency Management (2004), from various storm surge studies performed by regional planning councils and the U.S. Army Corps of Engineers.

- Areas shown/analyzed are those areas in the above-referenced GIS coverage where the value in the field “Category” is equal to “Tropical Storm” or “Category 1".

Sinkhole Hazard GIS Data
Source: Kinetic Analysis Corporation web site (2005),
at: http://lmsmaps.methaz.org/lmsmaps/final_cty/

- 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 the above website.

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.

Parks, Conservation Areas, Golf Courses
“Parks, Conservation Areas, Golf Courses” existing land uses include all public and private conservation areas depicted on the statewide GIS coverage of conservation lands “flma_200501.shp”, produced by FDEP (2005).

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

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

Goal 4: Assist property owners, residents, businesses, non-profits and others in understanding and knowing of their eligibility for grants, loans and services that may help to mitigate hazards that directly affect their interests.

Accomplish by:

- Working with existing programs within the County and Municipalities (building inspections, local Community Rating System/National Flood Insurance Program, emergency management, chambers of commerce, etc.) to connect mitigation to these efforts.

Goal 5: Reduce or eliminate hazards identified to at risk locations in the County and its municipalities.

Accomplish by:

- Targeting mitigation efforts and activities towards areas where hazards exist.
- Working with agencies, professionals, and the public to develop the best solutions for identified hazards.
- Examining and implementing appropriate technologies to identify, model, or otherwise simulate risks and zones of risk and incorporating these into the LMS plan

ATTACHMENT E
Holmes County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation

FUTURE LAND USE ELEMENT

OBJECTIVE 3: Natural resources and environmental lands shall be protected through identification, classification, planning and management, and limitations on use consistent with the degree of protection required (also refer to Conservation Element Goals, Objectives and Policies).

Policy 3.2: Resource protection standards shall be designed to minimize flood damage and maintain the natural function of wetlands. Standards will include, but not be limited to, provisions such as native vegetative buffers around wetlands and surface water bodies and specific construction standards for flood hazard reduction.

Policy 3.3: Protecting the functions of potable water well fields and moderately- high to high aquifer recharge zones of the Floridan Aquifer shall be accomplished through implementation of applicable Conservation Element objectives and policies, including the following: 1. Limiting impervious surfaces; 2. Prohibiting or limiting commercial and industrial uses, including solid waste transfer stations or processing facilities, that pose a threat of contamination; 3. Managing stormwater runoff to reduce sedimentation and non-point pollution; 4. Prohibiting the establishment of new or expanded urban service zones where existing development does not already warrant the establishment of such zones; 5. Prohibiting domestic or industrial wastes. (Wastes shall be considered to include any liquid or solid product including, but not limited to, hazardous, non-hazardous, and toxic wastes and wastewater. Domestic or industrial wastewater effluent and by-products shall be considered wastes. This definition shall not be construed to prohibit the use of individual household septic tank systems or other alternative individual domestic waste systems which satisfy all other locational requirements.)

OBJECTIVE 4: The County and its municipalities shall coordinate the location of future land uses with topographic conditions, soil types and environmental constraints.

Policy 4.2: The development approval process shall ensure that new development and redevelopment is consistent with natural drainage patterns, and further shall require appropriate stormwater management systems consistent with the adopted stormwater management level of service, natural drainage patterns, and soil conditions.

Policy 4.3: Floodplains and floodways shall be identified and development shall be limited, consistent with FEMA requirements (also see applicable objectives and policies in the Conservation Element).

OBJECTIVE 8: Holmes County land development regulations shall implement the objectives established by the Holmes County Comprehensive Plan.

Policy 8.5: Land development regulations will include standards for stormwater management for residential, commercial, public, and industrial land uses to eliminate adverse impacts on adjacent land uses and natural resources.

Policy 8.6: By 2005, the County and its municipalities shall adopt a comprehensive Stormwater Master Plan designed to protect public and private property, human life, businesses, industry, and the natural environment.

Policy 8.8: Land development regulations shall provide for development standards for locations in the county and municipalities subject to seasonal or periodic flooding, as identified by the Flood Insurance Rate Maps (FIRM) for Zones A-B.

PUBLIC FACILITIES ELEMENT

OBJECTIVE 3: By 2003, the County and its municipalities shall initiate efforts to plan for the overall management of stormwater.

Policy 3.1.1: By 2005, the County and its municipalities shall complete a Comprehensive Stormwater Master Plan. This may be done independently or cooperatively through interlocal agreements; however, any Stormwater Master Plan produced independently by any municipality shall be consistent with similar plans for unincorporated areas of Holmes County.

Policy 3.1.2: Priorities for replacement, correction of deficiencies that may be shown in the stormwater management plan and providing for future facility needs shall be as follows: 1) When facilities must be replaced they shall be constructed according to the adopted level of service standards; 2) Correction of any remaining deficiencies shall be through the following implementation measures: a. Where feasible, new roads shall be designed and constructed and existing roads overlaid providing for stormwater management according to adopted level of service standards according to the time frame adopted in the Capital Improvements Element; Holmes County 2010 Comprehensive Plan Policy Document; b. The County shall coordinate with Natural Resource Conservation District erosion and sedimentation control programs and water quality improvement programs; and 3) Development orders for new development and redevelopment shall not be issued until the applicant provides proof of DEP, Army Corps of Engineers, or other applicable federal or state agencies, permit or exemption and proof of meeting adopted level of service standards for stormwater management.

Policy 3.1.3: The development and adoption of a comprehensive stormwater master plan for Holmes County and its municipalities shall be developed using professional engineering studies of the drainage basins within Holmes County and its municipalities. The plan shall be made in cooperation with the Department of Environmental Protection and Northwest Florida Water Management District. The plan shall include an inventory of existing facilities and shall recommend needed stormwater management improvements, analyze the adopted level of service standards and recommend alternative standards if necessary.

OBJECTIVE 3.2: Coordinate the extension of or increase the capacity of stormwater management facilities to meet future needs. This shall be accomplished in part through enforcement of land development regulations that protect the quantity and quality of stormwater runoff and that ensure that the capacity of stormwater management facilities are designed to meet projected needs.

Policy 3.2.1: Stormwater management facilities necessary to accommodate new development shall be designed and constructed by the development. The cost for design, construction and maintenance for stormwater management facilities for developments shall be the sole responsibility of the developer until accepted by the Holmes County Board of County Commissioners for permanent maintenance by the County.

Policy 3.2.2: Projects to retrofit stormwater management facilities shall be prioritized by population served, vehicle traffic counts, quality and use of receiving waters, and ability of the facility to handle existing flows.

Policy 3.2.4 The County and its municipalities hereby adopt a minimum water quantity level of service that requires the first one (1) inch of runoff from the property shall be retained on the site of the development and post-development runoff shall not exceed the pre-development runoff rate for a twenty-five (25) year storm event, up to and including an event with a twenty-four (24) hour duration. The LDR shall include design and performance standards that meet Section 17-25.025, Florida Administrative Code

(F.A.C.) And Section 17-3.051, F.A.C. The level of service standard for stormwater management on county roads such that street gutter systems are flowing full; however, ten to twelve feet of the road crown is not submerged and traffic can move at a slightly reduced speed. Stormwater swales and ditches may be full with water overflowing the tops and edges in some locations and may be ponded eight to ten feet onto private property and yards. Inlets and culverts may flow full to overfull slightly backing up water at entrances.

Policy 3.2.5: No approvals for development shall be issued for new development which would not comply with the adopted level of service.

OBJECTIVE 3.3: Stormwater management regulations will be incorporated into the land development regulations. Revisions to the LDR's will be made after the completion of a Stormwater Master Plan, as necessary.

Policy 3.3.1: Stormwater management regulations will prohibit the alteration of existing drainage features unless such alterations will not create adverse impacts in the form of decreased performance for upstream and downstream areas. The evaluation of adverse impacts shall be by acceptable engineering methodologies and shall consider storage volume, conveyance capacity, water quality and maintenance. Stormwater management regulations shall require that future development utilize the stormwater management plan(s) as a basis for design.

Policy 3.3.2: Stormwater management regulations will: a) Require that new developments provide stormwater management systems which meet the water quality and quantity levels of service defined in Drainage Policies 3.2.3 and 3.2.4; (b) Require that appropriate stormwater engineering, design and construction standards for on-site systems are provided and utilized; (c) Require that erosion and sediment controls are used during development; (d) Require that periodic inspection and maintenance of on-site systems is provided by the owner, unless the system is accepted by the County or municipality for maintenance; (e) Require buffer zones for areas adjacent to natural drainage features; (f) Provide for new commercial, industrial, public and residential developments to integrate their stormwater management systems into their project's landscaping, open space, or recreational areas and to require the maintenance of the building lot's native vegetation in order to absorb stormwater run-off; (g) Include provisions to prevent the creation of breeding areas for disease- carrying vectors, such as mosquitoes; and (h) Prohibit the channeling of stormwater runoff directly into waterbodies.

OBJECTIVE 5.1: The function of natural groundwater recharge to the Sand-and-Gravel Aquifer shall be protected through the regulation of land uses and provision of adequate open space.

Policy 5.1.1: The County and its municipalities shall continue to require new development to provide for on-site percolation of stormwater.

CONSERVATION ELEMENT

OBJECTIVE 3: Throughout the planning period, the County and its municipalities shall reduce hazards to life and property in, and protect the flood assimilative functions of all areas that fall within, the 100-year floodplain by restricting development in these areas.

Policy 3.1: The County and the municipalities of Esto and Ponce de Leon shall continue to enforce existing setbacks along floodplain areas.

OBJECTIVE 4: Throughout the planning period, the County and its municipalities shall conserve the water supply and protect the quantity and quality of the current water source and any new

water sources through appropriate land use planning, regulation, and education and through cooperation with environmental planning and regulatory agencies.

> **Policy 4.3** Channeling runoff directly into surface water bodies shall be prohibited, and natural watercourses shall not be dredged, cleared of vegetation, deepened, widened, straightened, or otherwise altered without appropriate local, state and federal permits. Stormwater facilities shall be designed to protect surface water bodies from the impact of runoff. Best Management Practices shall be utilized to avoid impacts of erosion or sedimentation or high rates of flow.

INTERGOVERNMENTAL COORDINATION

OBJECTIVE 2: By 2001, the County and its municipalities will enter into interlocal agreements to coordinate governmental functions and impacts within their jurisdictions and initiate joint efforts with adjacent local governments or regional government agencies.

> **Policy 2.2:** By 2001, the County and its municipalities shall individually determine a method of developing a comprehensive Stormwater Master Plan for their respective jurisdictions, establishing an intergovernmental cooperative effort among the local governments or by pursuing independent efforts towards the development of the plan, consistent with the Stormwater Master Plan.