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 Hernando 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 Hernando 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

Hernando 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 Hernando County can continue to reduce or eliminate risks from storm surge, flood, wildfire, and sinkhole. 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 and sinkholes. 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, 3,942 acres are susceptible to Category 1 storm surge (CHZ), 3,950 acres are susceptible to Category 1 – 3 storm surge (HVZ), 7,343 are susceptible to 100-year flood, 19,148 acres are susceptible to wildfire, and 15,132 acres are susceptible to sinkholes. Susceptibility for surge, flood and wildfire are based on risk, whereas susceptibility for sinkhole is based on exposure. Therefore, further analysis is needed to determine the level of risk associated with sinkhole hazards.

Storm Surge

Around 44% of the 3,942 vacant acres in the Coastal High Hazard Area and 44% of the 3,950 vacant acres in the Hurricane Vulnerability Zone 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 Comprehensive Plan should continue restricting development in the V-Zone and Coastal High Hazard Area (CHHA) to low intensity; not allowing new or expanded development of schools in the V-Zone; using transfer of development rights to reduce development in the V-Zone; limiting residential density in the CHHA to low density (i.e., 1.0 du/ac of upland); minimizing redevelopment of hurricane-damaged structures in the CHHA via property acquisition and zoning; limiting county funded public facilities; granting development approvals conditioned on the ability to safely evacuate populations and not increase clearance time.
- The Comprehensive Plan should continue developing the capability to evacuate all residents before roads become impassable and within eight hour hours or less; requiring mobile home developments with a net density of 1.0 du/ac or greater to have direct access to arterial or major connector roads to facilitate hurricane evacuation requirements; and providing adequate transportation networks for evacuations.
- The Comprehensive Plan should continue requiring that new septic tanks be fitted with back-flow preventers, retrofitting potable water facilities, sufficiently valving water mains to isolate segments of the system in case of damage, and prohibiting sewage treatment facilities (unless adequate retention capacity is available) in the Hurricane Vulnerability Zone (HVZ); prohibiting sanitary landfills in the CHHA; and other existing measures to reduce the risk from surge.
- The County should considering requiring mobile home parks to have on-site shelter.
- The County should consider coordinating with the MPO to prioritize transportation maintenance and improvements for critical evacuation routes.
- The County should consider prohibiting new septic tanks in the CHHA.
- The Comprehensive Plan should consider not allowing solid waste and commercial hazardous waste management facilities in the HVZ.
- The Comprehensive Plan should continue to require that developments in the HVZ evaluate the impact that additional population will have on shelter capacity.
- The County should consider denying requests for residential density increases within the CHHA, above what is included on the Future Land Use Map.
- The County should consider developing an inventory of transportation disadvantaged persons that would be affected by an evacuation order, and ensure the availability of adequate transportation for safe and timely evacuation of high risk areas.
- The County should consider prohibiting new schools in the CHHA and retrofitting new schools as shelters outside the HVZ, where possible.
- The County should consider requiring that the deeds for the sale of land or structures in hurricane vulnerable zones contain a hurricane hazard disclosure statement.
- The Comprehensive Plan should consider prohibiting the development of nursing homes, adult congregate living facilities, hospitals, mobile homes, and other high-risk developments inside the CHHA. Building these facilities out of harm's way reduces risk to critical and essential government facilities, and lessens evacuation needs of the special needs population. In addition, the number of evacuees is reduced who are under medical supervision or need medical staff chaperones, potentially reducing hurricane evacuation clearance times.
- The Comprehensive Plan should consider a policy to institute a level of service (LOS) standard for evacuation route capacity that is tied to levels of development or population and/or institute an impact fee in the CHHA or HVZ to help pay for additional road capacity, retrofits required for evacuations, and shelter space.

Flood

About 18% of the 7,343 vacant acres in the 100-year floodplain 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 Comprehensive Plan should continue implementing policies that limit single family density development to low density (i.e., 0.2 du/ac); prohibiting new or expanded educational facilities from being located in a floodway; adopting land development regulations to not degrade functions of natural drainage systems; prohibiting land filling that would result in a net loss of storage area in the 100-year floodplain; reviewing landscape and subdivision ordinances to ensure development does not have an adverse impact on storage capacities, increase flood prone areas, or cause unfavorable drainage conditions; and promoting the use of vegetated swales, sodding, landscaping, and retention of natural vegetation as components of the drainage system for natural runoff through the use of landscape and subdivision ordinances.
- The County should continue working with the Southwest Florida Water Management District to alleviate specific drainage problems, prioritizing drainage improvement projects in areas that flood; considering to establish an impact fee for construction of drainage facilities across the county or in districts with high flooding; establishing conservation future land use designations for contiguous wetlands and floodways of the Withlacoochee River; and other measures to reduce the risk from flood.
- The County should consider prohibiting the construction of new or expansion of existing bridges linking the mainland to any island or key unless shown on the Future Traffic Circulation Map.
- The County should consider retrofitting stormwater management facilities.
- The County should consider encouraging new developments to demonstrate cluster development to achieve open space to protect floodplains, require that new development be designed so that post-development stormwater runoff is similar or better than predevelopment, minimize filling low lying areas as a means of meeting minimum flood elevations, prohibiting unmitigated encroachment in the 100-year floodplain of riverine systems.
- The County should consider including a policy for reducing repetitive (flood) loss properties such as at risk property acquisition or elevation.
- The County should consider reducing future losses through the use of transfers of development right from areas within the 100-year floodplain to areas outside the 100-year floodplain.
- The County should consider including a policy to not approve variances to required flood elevations.
- The County should consider creating incentives and disincentives to reduce the desirability of septic installation within the 100-year floodplain.
- The County should consider requiring that all structures built in the 100-year floodplain include at least 1 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, City of Jacksonville and the Santa Rosa Island Authority are example communities that have adopted freeboard requirements.
- The County should consider requiring that stormwater management planning and construction of capital improvements coincide with stormwater drainage requirements to adequately address growth and development.
- The County should consider requiring that developers incorporate wetland portions of sites within the 100-year floodplain as conservation easements.
- The County should consider requiring that the maintenance and operation of private stormwater systems is funded by private sources, if applicable.

- 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 all non coastal flood hazard areas.

Wildfire

About 46% of the 19,148 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.

- The County should consider participating in the Firewise Medal Community program to reduce risks within the wildland urban interface.
- 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); review proposals for subdivisions, lot splits, and other developments for fire protection needs during site plan review process; coordinate with fire protection service or agencies to determine guidelines for use and development in wildfire-prone areas.
- The County should consider 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.

Sinkhole

About 60% of the 15,132 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 Comprehensive Plan should continue implementing policies for reducing risk from sinkholes such as possibly requiring buffers between proposed development and sinkholes; preparing a county-wide drainage study which includes the identification of major drainage sinkholes; and coordinating with the Southwest Florida Water Management District and the Florida Department of Environmental Protection to identify sinkholes.
- The Comprehensive Plan should continue designating Special Protection Areas around vulnerable features which have the potential to discharge directly to the aquifer; developing an aquifer protection program including public education, coordination with appropriate agencies, provision of adequate collection, and disposal facilities in order to limit the amount of contaminants reaching the surficial or Floridan aquifers; and other measures to reduce the risk from sinkhole.
- The County should consider protecting the public against sinkhole threat though it's planning and land development process, by publishing available sinkhole data and providing for consideration of sinkhole risk in land suitability analyses.
- The County should consider further coordination with the Southwest Florida Water Management District to provide technical expertise to the public with regard to sinkhole risks.
- The County should consider requiring new development to demonstrate clustered development to achieve open space to protect aquifer recharge.
- The County should consider prohibiting new stormwater management facilities from discharging untreated stormwater runoff into directly-connected sinkholes.

- The County should consider the possibility of requiring sub-surface investigations of soil stability in areas suspected of sinkhole activity, per technical advice provided by the Southwest Florida Water Management District and other geo-technical experts.

General

- 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 recommendations from existing and future interagency hazard mitigation reports into the Comprehensive Plan during the Evaluation and Appraisal Report process as determined feasible and appropriate by the Board of County Commissioners.
- 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 hurricanes, floods, wildfires, and sinkholes, 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.
- Provide a list and/or map of repetitive losses.
- Include a quantitative risk assessment for future development (i.e., loss estimates).
- Use complementary, not contradictory data in the plans such as the LMS, CEMP, and Comprehensive Plan.

Table of Contents

1. County Overview

Geography and Jurisdictions

Hernando County is located along the Gulf of Mexico in the western portion of the central Florida peninsula. It covers a total of 589.1 square miles, of which 478.3 square miles are land and 110.8 square miles are water. There are two incorporated municipalities within Hernando County, as shown in **Table 1.1**. The City of Brooksville 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 Hernando County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. While some residents live in incorporated jurisdictions, nearly 95% live in unincorporated areas of the county. Hernando County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Hernando County had a growth rate of 29.4%, which is slightly greater than the statewide average of 23.5% for the same time period.

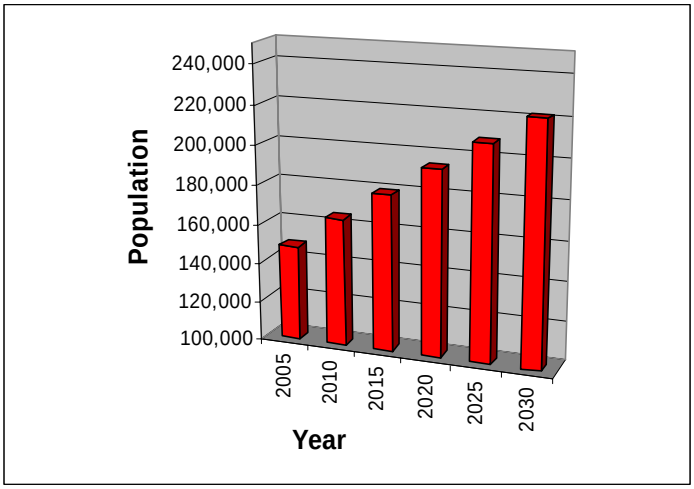
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	123,526	137,920	11.65%	94.98%
Brooksville	7,264	7,279	0.21%	5.01%
Weeki Wachee	12	8	-33.33%	0.01%
Total	**130,802**	**145,207**	**11.01%**	**100.00%**

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

According to BEBR (2004), Hernando County's population is projected to grow steadily and reach an estimated 221,600 by the year 2030, increasing the average population density of 304 to 463 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Hernando County based on 2004 calculations.

Figure 1.1 Population Projections for Hernando County, 2005–2030



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

Of particular concern within Hernando 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 130,802 persons residing in Hernando County 30.9% are listed as 65 years old or over, 27.2% are listed as having a disability, 10.3% are listed as below poverty, and 9.3% live in a home where the primary language is other than English.

2. Hazard Vulnerability

Hazards Identification

The highest risk hazards for Hernando County as identified in the County's Local Mitigation Strategy (LMS) are hurricanes and coastal storms, severe storms and tornadoes, floods, wildfires, and landslides and sinkholes.

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).

Existing Population Exposure

Table 2.1 presents the population currently exposed to each hazard in Hernando County. Of the 130,802 (U.S. Census 2000) people that reside in Hernando County, less than one percent is exposed to storm surge, 7.4% are exposed to 100-year flooding, 51.8% are exposed to wildfire, and 52.3% are exposed to sinkholes. Of the 9,730 people exposed to flood, 45.7% are disabled and 28.7% are over age 65.

Table 2.1 Estimated Number of Persons Exposed to Selected Hazards

Segment of Population	Storm Surge**	Flood	Wildfire	Sinkhole
Total (all persons)*	**1,231**	**9,730**	**67,730**	**68,427**
Minority	19	409	4,695	3,816
Over 65	415	2,796	18,911	25,817
Disabled	646	4,448	30,641	33,713
Poverty	81	923	6,547	6,102
Language-Isolated	0	84	428	228
Single Parent	41	544	3,093	3,103

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.
**Note: Storm surge related flooding population exposure results are a subset of the flood results.

Evacuation and Shelters

As discussed in the previous sections, population growth in Hernando 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 Hernando 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
Hernando	8	8	10.5	16	16
Hillsborough	17	17.5	19	21.5	21.5
Manatee	11	16	16.5	19	19
Pasco	9	10.5	14.5	19.5	19.5
Pinellas	17	17.5	19	21.5	21.5

Source: DCA, DEM Hurricane Evacuation Study Database, 2005

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 8 and 16 hours to safely evacuate Hernando 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, Hernando County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Hernando County has an existing shelter capacity of 4,350 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 17,320 people, leaving an existing shelter deficit of 12,970. In 2009, the projected shelter demand is 19,331, leaving an anticipated shelter deficit of 14,921.

Per an objective in the Coastal Element (9J-5.012(3)(b)7.), counties must maintain or reduce hurricane evacuation times. This could be accomplished by using better topographical data to determine the surge risk to populations to evaluate which areas to evacuate, and increasing the ability to shelter in place to decrease the number of evacuees. Hernando 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 Hernando 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 Hernando County's existing structures to the storm surge, flood, wildfire, and sinkhole hazards was determined through MEMPHIS.

Table 2.3 Estimated Number of Structures Exposed to Selected Hazards

Occupancy Type	Storm Surge*	Flood	Wildfire	Sinkhole
Single Family	953	15,616	21,892	27,956
Mobile Home	15	4,481	6,617	5,921
Multi-Family	228	2,455	1,322	1,147
Commercial	42	1,844	1,277	741
Agriculture	1	2,773	1,728	394
Gov. / Institutional	21	286	1,214	435
Total	**1,260**	**27,455**	**34,050**	**36,594**

Source: Mapping for Emergency Management, Parallel Hazard Information System

*Note: Storm surge related flooding building exposure results are a subset of the flood results.

There are 98,099 structures exposed to at least one of the four hazards, of which most are single-family homes in subdivisions. Of these structures, 28% are exposed to flood. Over 27,000 structures are located within the 100-year floodplain, of which 21.8% are exposed to storm surge induced flooding. Nearly 76% of the structures exposed to surge are single-family homes, and 18% are multi-family homes. Typically, structures exposed to surge are high-value real estate due to their proximity to the ocean such as the Gulf of Mexico. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 132 repetitive loss properties in unincorporated areas of Hernando 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."

Nearly 35%, or 34,050 structures are exposed to wildfire, of which 64.3% are single-family homes. Most planned or proposed development is in the south central portion of the county, away from heavily forested areas, though one development (Seville) in the northwest is in close proximity to large forested tracts (Hernando County LMS, 2005). Over 37% or 36,594 structures are located within sinkholes susceptible areas, of which 76.4% 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, 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 surge, 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. Hernando County future land use data was acquired in March 2004 from Hernando County 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 Hernando County future land use map dated March 2004. 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, hurricane vulnerability zones in relation to evacuation clearance times, 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 the Coastal Hazards Zone (CHZ), which represents the Category 1 Hurricane Evacuation Zone joined with the Category 1 Storm Surge Zone, to fully demonstrate all areas that are prone to storm surge. The areas that are most susceptible to storm surge are located in the western portion of the County, along the Gulf of Mexico and in the City of Weeki Wachee. The total amount of land in the CHZ is 56,193.4 acres. As shown in **Table 2.4**, 70.6% are parks, conservation areas and golf courses; 7% are currently undeveloped; 6% are used for government, institutional, hospitals or education purposes; and 4.3% are used for agriculture. **Table 2.5** shows that of the 3,942.3 undeveloped acres, 37.5% are designated for residential development and 37.4% are designated for conservation. The County has taken favorable action in designating 37.4% for conservation area, and has the opportunity to implement existing mitigation measures to reduce storm surge damage to residential structures, such as Transfers of Development Rights and low intensity development, or additional mitigation measures such as elevating structures above the NFIP “V” and “Coastal A” zone requirements.

In **Attachment B**, two maps present the existing and future land uses within the Hurricane Vulnerability Zone (HVZ), which represents Category 1 to 3 Hurricane Evacuation Zones. The HVZ is predominantly located in the western portion of the County, along the Gulf of Mexico and in the City of Weeki Wachee. The total amount of land in the HVZ is 56,134.9 acres. As shown in **Table 2.4**, 70.6% are parks, conservation areas and golf courses; 7% are currently undeveloped; 5.9% are used for government, institutional, hospitals, or education purposes; and 4.3% are used for agriculture. **Table 2.5** shows that of the 3,949.7 undeveloped acres, 37.8% are designated for residential development and 37.5% are designated for conservation. The County has taken favorable action in designating 37.5% for conservation area, and has the opportunity to implement mitigation measures to reduce storm surge damage to residential structures, such as elevating structures above the NFIP “V” and “A” zone requirements.

In **Attachment C**, 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 are located in the western portion of the County, and also surround the many creeks, streams and tidal wetlands. The total amount of land in the special flood hazard area is 78,026.6 acres. As shown in **Table 2.4**, 59.4% are parks, conservation areas and golf courses; 11.2% are in agricultural use; 9.4% are currently undeveloped; and 6% are used for government, institutional, hospitals or education purposes. **Table 2.5** shows that of the 7,343.3 undeveloped acres, 45.1% are designated for rural development and 27.6% for conservation. The County has taken favorable action in designating 27.6% for conservation and 45.1% for very low density development.

In **Attachment D**, two maps present the existing and future land uses within wildfire susceptible areas. These areas are predominantly located between U.S. Highway 19 and the Suncoast Parkway, as well as in areas east of Brooksville. The total amount of land in the wildfire

susceptible areas is 60,761.7 acres. As shown in **Table 2.4**, 31.5% are currently undeveloped; 15.1% are parks, conservation areas and golf courses; 13.9% are used for residential single-family homes; and 12.8% are used for agriculture. **Table 2.5** shows that of the 19,147.9 undeveloped acres, 49% are designated for rural development. The County should continue to take measures to reduce wildfire risk within the urban/rural interface.

In **Attachment E**, two maps present the existing and future land uses within sinkhole susceptible areas. These areas are scattered across the county, with large concentrations located in and around Weeki Wachee. The total amount of land in the sinkhole susceptible areas is 61,185.2 acres. As shown in **Table 2.4**, 24.7% are currently undeveloped; 19.5% are used for residential single-family homes; 18.1% are in agricultural use; and 9.8% are used for transportation, communication and rights-of-way. **Table 2.5** shows that of the 15,132.3 undeveloped acres, 52.8% are designated for residential development. The County has the opportunity to implement existing mitigation measures outlined in the Plan such as coordinating with the Southwest Florida Water Management District and Florida Department of Environmental Protection to identify sinkholes, and potentially requiring buffers between proposed development and identified sinkholes.

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

Existing Land Use Category		Coastal Hazard Zone	Hurricane Vulnerability Zone	Flood Zones	Wildfire Susceptible Areas	Sinkhole Susceptible Areas
Agriculture	Acres	2,398.5	2,396.1	8,734.6	7,791.6	11,066.0
	%	4.3	4.3	11.2	12.8	18.1
Attractions, Stadiums, Lodging	Acres	4.7	4.2	80.7	22.1	217.1
	%	0.0	0.0	0.1	0.0	0.4
Places of Worship	Acres	66.7	64.9	60.4	154.9	260.2
	%	0.1	0.1	0.1	0.3	0.4
Commercial	Acres	224.7	226.9	80.0	174.3	782.9
	%	0.4	0.4	0.1	0.3	1.3
Government, Institutional, Hospitals, Education	Acres	3,344.4	3,336.6	4,673.7	3,343.7	3,002.4
	%	6.0	5.9	6.0	5.5	4.9
Industrial	Acres	150.5	148.2	243.4	177.0	430.5
	%	0.3	0.3	0.3	0.3	0.7
Parks, Conservation Areas, Golf Courses	Acres	39,626.3	39,614.9	46,313.7	9,199.4	5,254.9
	%	70.6	70.6	59.4	15.1	8.6
Residential Group Quarters, Nursing Homes	Acres	17.6	16.9	3.6	58.0	95.4
	%	0.0	0.0	0.0	0.1	0.2
Residential Multi-Family	Acres	20.1	21.0	21.8	56.0	228.3
	%	0.0	0.0	0.0	0.1	0.4
Residential Mobile Home, or Commercial Parking Lot	Acres	456.1	453.4	956.8	6,139.9	3,862.0
	%	0.8	0.8	1.2	10.1	6.3
Residential Single-Family	Acres	1,653.5	1,653.5	2,229.5	8,449.3	11,946.4
	%	2.9	2.9	2.9	13.9	19.5
Submerged Land (Water Bodies)	Acres	905.8	918.7	2,404.3	242.1	1,727.7
	%	1.6	1.6	3.1	0.4	2.8
Transportation, Communication, Rights-Of-Way	Acres	1,227.9	1,209.8	2,463.8	5,006.1	5,975.9
	%	2.2	2.2	3.2	8.2	9.8
Utility Plants and Lines, Solid Waste Disposal	Acres	2,124.3	2,120.1	2,417.0	799.4	1,203.2
	%	3.8	3.8	3.1	1.3	2.0
Vacant	Acres	3,942.3	3,949.7	7,343.3	19,147.9	15,132.3
	%	7.0	7.0	9.4	31.5	24.7
Total Acres	**Acres**	**56,163.4**	**56,134.9**	**78,026.6**	**60,761.7**	**61,185.2**
	%	**100.0**	**100.0**	**100.0**	**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		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Commercial	Acres	562.0	186.8	562.5	186.8	172.1	65.5	987.8	461.0	2,289.5	777.8
	%	1.0	4.7	1.0	4.7	0.2	0.9	1.6	2.4	3.7	5.1
Conservation	Acres	47,711.9	1,475.8	47,705.5	1,480.7	59,388.6	2,030.0	6,486.8	62.6	6,504.2	530.1
	%	85.0	37.4	85.0	37.5	76.1	27.6	10.7	0.3	10.6	3.5
Education	Acres	8.7	0.9	8.7	0.7	9.6	0.0	170.5	0.0	264.4	4.0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4	0.0
Industrial	Acres	0.0	0.0	0.0	0.0	104.6	21.6	154.3	58.0	148.9	45.3
	%	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.2	0.3
Mine	Acres	0.0	0.0	0.0	0.0	1,333.6	586.3	1,237.0	333.3	1,330.4	316.8
	%	0.0	0.0	0.0	0.0	1.7	8.0	2.0	1.7	2.2	2.1
Planned Development	Acres	33.2	0.7	33.4	0.7	499.8	5.1	1,980.7	296.3	2,015.5	169.4
	%	0.1	0.0	0.1	0.0	0.6	0.1	3.3	1.5	3.3	1.1
Public Facilities	Acres	153.8	77.8	151.4	76.9	64.2	10.0	858.3	186.4	795.6	117.7
	%	0.3	2.0	0.3	1.9	0.1	0.1	1.4	1.0	1.3	0.8
Recreation	Acres	626.2	56.8	624.4	58.9	507.8	132.9	2,157.7	543.1	2,160.9	556.4
	%	1.1	1.4	1.1	1.5	0.7	1.8	3.6	2.8	3.5	3.7
Residential	Acres	5,547.8	1,477.6	5,547.8	1,491.6	4,682.0	1,180.0	20,271.9	7,821.5	29,402.5	7,984.0
	%	9.9	37.5	9.9	37.8	6.0	16.1	33.4	40.8	48.1	52.8
Rural	Acres	1,519.5	665.9	1,501.2	653.4	11,264.7	3,311.8	26,456.7	9,385.8	16,273.2	4,630.7
	%	2.7	16.9	2.7	16.5	14.4	45.1	43.5	49.0	26.6	30.6
Total Acres	**Acres**	**56,163.2**	**3,942.3**	**56,134.9**	**3,949.7**	**78,026.8**	**7,343.3**	**60,761.8**	**19,147.9**	**61,185.1**	**15,132.3**
	%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**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 Hernando County's two 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 Weeki Wachee is the only municipality with acreage located in the Coastal Hazards Zone and HVZ. The City of Brooksville has the most acres in the flood zone, as well as the largest proportion of flood zone acres out of its vacant land area. The City of Brooksville has the most acres in the wildfire susceptible areas, as well as the largest proportion of wildfire susceptible acres out of its vacant land area. The City of Weeki Wachee has the most acres in sinkhole susceptible areas, although Brooksville 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 Hernando 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		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Brooksville	Acres	0.0	0.0	0.0	0.0	198.6	46.8	477.1	68.4	184.4	26.3
	%	0.0	0.0	0.0	0.0	100.0	23.6	100.0	14.3	100.0	14.3
Weeki Wachee	Acres	432.3	3.6	432.3	3.6	83.8	4.7	30.8	0.0	552.6	40.1
	%	100.0	0.8	100.0	0.8	100.0	5.6	100.0	0.0	100.0	7.3
Total Municipal Acres	**Acres**	**432.3**	**3.6**	**432.3**	**3.6**	**282.5**	**51.5**	**507.8**	**68.4**	**737.0**	**66.4**
	%	**100.0**	**0.8**	**100.0**	**0.8**	**100.0**	**18.2**	**100.0**	**13.5**	**100.0**	**9.0**

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 Hernando County LMS (adopted in 2005) was assessed to determine if the hazard analysis and vulnerability assessment (i.e., surge, 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 (Attachment A)

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

Strengths:

- Provides information about demographic, income, and special needs population.
- Provides property exposure to hurricanes and surge.
- Provides a hazards analysis and a qualitative vulnerability assessment.
- Provides a clear description of geographic areas exposed to each of the hazards.
- Includes maps for each of the hazards.
- Provides exposure and loss estimates for several occupancy classes for some of the hazards (i.e., flood and hurricane).
- Includes a qualitative risk assessment for each hazard (Tab 9. Hazard Analysis Summary).
- Includes a quantitative risk assessment for existing development (i.e., loss estimates).
- Includes a future land use map.

Weaknesses:

- Hazard maps do not include data layers to illustrate population (i.e., density) or property (i.e., value) exposure.
- 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.
- Does not provide a list and/or map of repetitive losses.
- Does not include a quantitative risk assessment for future development (i.e., loss estimates).

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 Hernando County LMS does not contain a Guiding Principles section. It does, however, include a section briefly outlining incorporation of the LMS into other plans, such as the Comprehensive Emergency Management Plan, Comprehensive Land Use Plan, and Capital Improvements Program. The Guiding Principles contain a list of regulations, policies, and documents pertaining to local hazard mitigation measures that are being implemented by the county and municipalities within the county". 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 Hernando County LMS has goals that support mitigation principles that are found in the comprehensive plan. A list of the LMS goals and objectives pertaining to comprehensive planning can be found in **Attachment F**. The following is a summary of the LMS goals that support comprehensive plan GOPs.

The first goal is to educate home and business owners on mitigation measures. The second goal encourages participation in the National Flood Insurance Program and Flood Mitigation Assistance Programs. The third goal strives to complete projects that benefit as many residents as possible. The fourth goal seeks to ensure that critical services are protected. The fifth goal aims to ensure that projects produce long-term, cost-effective benefits. The sixth goal attempts to provide sufficient shelter space in public facilities by retrofitting.

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 Hernando County adopting and implementing corresponding policies that are legally enforceable.

Comprehensive Emergency Operations Plan (CEMP)

The Hernando County CEMP references the LMS in the Hazard Mitigation Annex. The CEMP notes that all pre-disaster mitigation priorities and projects are generated through the LMS. Pre- and post-disaster mitigation priorities consider the LMS analyses and project lists, in addition to damage assessment reports and the expertise of the County Emergency Management Director and LMS Workgroup. 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, Public Assistance Program, and the Community Development Block Grant (CDBG) Disaster Recovery Initiatives.

Though the identification of mitigation opportunities lies predominately with the County Emergency Management Director and the LMS working group, the document lists numerous activities and supporting agencies to assist in supporting mitigation in the County. The County Fire Department and Cities of Brooksville and Weeki Wachee have supporting roles in mitigation. Municipalities are expected to be capable of accomplishing n their own damage assessments following a disaster event. Following a disaster, mitigation assessment teams accompany damage assessment teams and are charged with assessing structures damaged in the floodplain.

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)

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

National Flood Insurance Program/Community Rating System

Hernando County and all of its municipalities participate in the National Flood Insurance Program (NFIP). Hernando County also participates in the NFIP Community Rating System (CRS). The municipalities of Brooksville and Weeki Wachee do not currently participate in the CRS program.

4. Comprehensive Plan Review

Purpose and Intent

The Hernando County Comprehensive Plan (adopted June 7, 1989; Amendment dates listed at the end of summary.) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps Hernando 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 tropical cyclone generated storm surge, 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 G**. 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 Hernando County as identified in the County's Local Mitigation Strategy (LMS) are hurricanes and coastal storms, severe storms and tornadoes, floods, wildfires, and sinkholes and landslides. Hernando County is a coastal county, so many policies are geared toward coastal management and coastal resource protection. Policies relating to hazard mitigation within the Plan include those relating to flooding, stormwater control and protection, and surge mitigation. No policies pertaining to wildfire were found in the Comprehensive Plan.

The Hernando County Comprehensive Plan focuses on the protection of natural features such as floodplains, wetlands, and dune systems through development controls and stormwater management. The Plan supports a surface management strategy that relies on natural features and natural systems to receive and otherwise manage storm and surface waters.

Storm Surge, Evacuation and Sheltering

The Plan uses a number of mechanisms including density controls and planning districts to minimize future damage and prevent loss of life from a storm event. Within the Coastal High Hazard Area (CHHA), Transfers of Development Rights (TDRs) are permitted, and density is limited to one unit per acre unless the parcel is an existing lot of record or vested.

The Coastal Element refers to a specific district within the CHHA, defined as the "V-Zone" on adopted County flood maps. Within that district, County or State purchase is considered as a first option prior to the issuance of zoning approval. All new developments in the "V-Zone" are required to meet specific performance standards and to provide all necessary infrastructure generated by the development.

The Plan refers to the use of "zoning methods" to minimize location of development within the CHHA which have sustained recurring hurricane damage. Methods such as property acquisition will be used to reduce the probability of future loss due to a storm event and to direct development outside of the CHHA. The County maintains and updates GIS tools, including a Critical Facilities database to identify mitigation needs and opportunities.

Hurricane evacuation policies include zoning, transportation and housing related policies, such as the requirement for the County to maintain capacity on County maintained evacuation routes, so that clearance times may be maintained. Coastal infrastructure policies dictate that evacuation roadways within the Coastal Zone should be able to remove evacuation traffic within a design period of eight hours. Roadways and infrastructure will be evaluated to determine deficiencies or needs to be incorporated into the County evacuation plan.

The adequacy of existing capacity for an evacuation must be evaluated before new development is permitted, and new transportation corridors will not be constructed within the "V-Zone" except in those cases where the routes are specific to evacuation purposes. Mobile home evacuation is directly addressed through the policy requiring direct access for this unit type to arterial or collector roadways when the densities are at or greater than one dwelling unit per acre.

According to Florida's Statewide Emergency Shelter Plan, Pinellas County had a shelter deficit of 12,970 people in 2004. The opportunity exists to construct new facilities to standards that will allow them to serve as shelters, and to construct future public facilities outside of floodplain and storm surge areas. The deficit for this County is significant and will need attention as future policies are developed and implemented.

The Plan contains provisions for the creation of a Post Disaster Redevelopment Plan (PDRP), to reduce the risk to life and property from natural disasters. There is also a requirement for the County Planning Department to have the opportunity to review and comment on the Plan. Policies directly reference the education of County staff regarding floodplain management and post-disaster hazard mitigation, and the formation of a Reconstruction Task Force to assist and guide in mitigation activities.

Flooding

Flooding is addressed from two vantage points, the protection of natural drainage features, and the protection of 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 reference the County floodplain ordinance, and its role in minimizing development impact on floodplains, including storage capacity and any increase or decrease in the natural flow of floodwater. The County will also coordinate with the Southwest Florida Water Management District to establish a work program to alleviate specific drainage problem areas. To address potential flood issues related to new development, Policy 5.01(B) of the Coastal Management Element requires that development approvals in flood prone areas be specifically conditioned upon the ability of evacuation routes to provide safe exodus for potential residents of both existing development and the proposed development.

Wildfire

Policies directly relating to wildfire hazard were not found during this review.

Sinkholes

Policies referencing sinkholes were found in several Comprehensive Plan Elements. The County will coordinate with the Southwest Florida Water Management District (SWFWMD) and Florida Department of Environmental Protection (DEP) to identify prime recharge areas and sinkholes. In order to reduce the impact of encroaching land uses, buffers may be required between proposed development and identified sinkholes. To protect resources and resolve drainage issues, major drainage sinkholes are to be identified as part of the county-wide drainage study. In addition, Special Protection Areas are designated around vulnerable features which have the potential to discharge directly to the aquifer. There is also a policy to develop an aquifer protection program including public education, coordination with appropriate agencies, provision of adequate collection, and disposal facilities in order to limit the amount of contaminants reaching the surficial or Floridan aquifers.

Comprehensive Plan Amendment Dates:
November 14, 1990 (Ord. 90-21)
October 23, 1991 (Ord. 91-32)
December 18, 1991 (Ord. 91-39)
July 8, 1992 (Ord. 92-9)
December 15, 1992 (Ord. 92-20)
December 14, 1993 (Ord. 93-25, 93-26)
June 7, 1994 (Ord. 94-6)
November 15, 1994 (Ord. 94-16)
May 16, 1995 (Ord. 95-7)
December 5, 1995 (Ord. 95-25)
September 9, 1997 (Ord. 97-20)
December 16, 1997 (Ord. 97-33)
December 22, 1998 (Ord. 98-32, 98-33)
December 21, 1999 (Ord. 99-29, 99-30)
June 7, 2000 (Ord. 2000-11)
November 1, 2000 (Ord. 2000-15)
June 6, 2001 (Ord. 2001-08)
July 10, 2002 (Ord. 2002-11)
December 11, 2002 (Ord. 2002-21)
December 10, 2003 (Ord. 2003-22)
July 14, 2004 (Ord. 2004-10)
December 14, 2004 (Ord. 2004-26)

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 Coastal Hazards Zone

ATTACHMENT B
Maps of the Existing and Future Land Uses within Hurricane Vulnerability Zone

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

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

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

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

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

- Educate home and business owners on mitigation measures.
- Encourage participation in the National Flood Insurance Program and Flood Mitigation Assistance Programs.
- Complete projects that benefit as many residents as possible.
- Ensure that critical services are protected.
- Ensure that projects produce long-term, cost-effective benefits.
- Provide sufficient shelter space in public facilities by retrofitting.

ATTACHMENT G
Hernando County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation

From the Hernando County Comprehensive Plan (as amended through December 14, 2004):

FUTURE LAND USE ELEMENT

OBJECTIVE 1.01K: To regulate the location of mobile homes in the County through requirements which shall ensure the availability of the necessary facilities and services and which shall ensure compatibility with other adjacent land uses.

Policy 1.01K(5): In order to facilitate hurricane evacuation requirements, mobile home developments at a net density of one (1) unit per acre or greater shall have direct access to arterials or major collector roads.

OBJECTIVE 1.01Q: Establish appropriate location criteria for all single family residential land use categories.

Policy 1.01Q(4): Single family density of greater than .2 dwelling units per acre in the major flood areas should not be allowed.

OBJECTIVE 1.01S: Establish buffers between adjacent land uses and between land uses and environmental or archaeological features.

Policy 1.01S(8): In order to reduce the impact of encroaching land uses, buffers may be required between proposed development and lakes, rivers, wetlands, historical or archaeological sites, eagles' nests, sinkholes or similar significant natural features.

OBJECTIVE 1.01I: Establish standards for the location of future school sites.

Policy 1.01I(7): The County School Board and the County shall cooperate to review and consider the proposed location of a new and/or materially expanded educational facility within one of the future land use categories listed above, in utilizing the following general criteria, in addition to consistency with the County's Comprehensive Plan: g) Not in conflict with the County's Stormwater Management Plan and any watershed management plans adopted by the County, if applicable. h) Not in a velocity zone or a floodway.

OBJECTIVE 1.06A: To coordinate Future Land Uses with topography and soil conditions as inventoried and evaluated by the USDA Natural Resources Conservation Service (NRCS) and to conserve, develop and productively use soil resources consistent with the measurable standards of the County soil survey.

Policy 1.06A(1): All required drainage and stormwater management must be consistent with applicable regulations and rules of State and Federal agencies.

Policy 1.06A(4): Utilize the Natural Resources Conservation Service identification of soils subject to flooding, in addition to FEMA mapping, in the regulation of seasonally or periodically flooded areas.

TRANSPORTATION ELEMENT

OBJECTIVE 2.07B: To review any Port Authority facility modification, improvement, and expansion for its effects on the coastal zone, transportation system, and land use pattern.

Policy 2.07B(1): By 2001, the County shall establish a review procedure that evaluates the effect of proposed Port Authority related projects on the environment, public facilities, road and adjacent land uses, proposing mitigation measures, if required.

OBJECTIVE 2.08B: As necessary, monitor and update integration mechanisms to assure coordinated planning, development and management.

Policy 2.08B(7): The County shall prepare a master stormwater management plan for the Airport property, review that plan with the Southwest Florida Water Management District, and coordinate future permitting with that plan.

DRAINAGE AND NATURAL GROUNDWATER AQUIFER RECHARGE ELEMENT

OBJECTIVE 4.08A: County will adopt and maintain land development regulations to require new development to utilize, but not degrade the functions of natural drainage systems, including floodplains, wetlands, streams, rivers and lakes.

Policy 4.08A(1): Prohibit land filling which results in net loss of storage within the areas inundated by the 100-year storm event.

Policy 4.08A(2): Review and modify the landscape and subdivision ordinances to ensure that development will not have an adverse impact on storage capacities or water quality, increase flood prone areas, erosion, or cause other unfavorable drainage conditions.

Policy 4.08A(3): Promote the use of vegetated swales, sodding, landscaping, and retention of natural vegetation as components of the drainage system for natural runoff and filtration control through the use of landscape and subdivision ordinances.

Policy 4.08A(4): The County shall practice coordinated permitting with the Southwest Florida Water Management District in matters related to the quality of storm water runoff.

OBJECTIVE 4.08B: Identified drainage deficiencies shall be evaluated and scheduled for appropriate resolution.

Policy 4.08B(1): The County shall work with the Southwest Florida Water Management District to establish and implement a work program to alleviate specific drainage problem areas as identified in this element. The initial priority will be the Bystre Lake Drainage Study. Both structural and non-structural alternatives will be considered as solutions.

Policy 4.08B(2): The County shall acquire future drainage retention sites, water storage rights, and access as feasible to include funding, in order to construct drainage system improvements that are identified in the county-wide drainage study. This shall not preclude the County from entering into agreements with other governmental entities.

OBJECTIVE 4.09A: All new drainage facilities to correct existing deficiencies and address future needs shall meet levels of service standards established by County and the State of Florida.

Policy 4.09A(1): A county-wide drainage study shall be prepared which identifies major drainage basins, major drainage sinkholes, natural storage areas, anticipated storage capacity requirements, flood prone areas, conveyance features, and appropriate areas for major drainage retention facilities.

Policy 4.09A(2): Upon completion of the County-wide drainage study, the feasibility of implementing drainage improvement projects under a county master drainage plan shall be determined, with priority given to areas of known flooding proclivity.

Policy 4.09A(3): The County shall 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.

Policy 4.09A(4): The County shall coordinate closely with other drainage regulatory agencies, (Southwest Florida Water Management District, Florida Department of Transportation, and Federal Emergency Management Agency) prior to the adoption and implementation of county drainage regulations and pursuant to revisions in agency regulations.

Policy 4.09A(5): Upon adoption of a county-wide drainage plan, the Office of the County Engineer shall prepare for adoption, and update regulations and levels of service standards for drainage retention for all development. Existing standards as described in State of Florida regulations, Southwest Florida Water Management District (SWFWMD) regulations, and County ordinances shall be in effect until revisions are made and adopted. Until standards are developed based upon the county-wide drainage plan, the interim level of service standard shall be: post development runoff shall be no greater than pre-development runoff based on 25-year frequency, 24-hour duration; Rainfall Intensity curve-zone 8, Florida Department of Transportation (FDOT) Drainage Manual, 1979.

OBJECTIVE 4.10A: appropriate methods shall be adopted which ensure the function and integrity of the aquifer recharge system.

POLICY 4.10A(1): Develop an aquifer protection program including public education, coordination with appropriate agencies, provision of adequate collection, and disposal facilities in order to limit the amount of contaminants reaching the surficial or Floridan aquifers.

POLICY 4.10A(2): Public facility review of sewage treatment plant siting shall include an evaluation of the site characteristics and the disposal methods for sludge and effluent to determine potential effects on the aquifer.

GROUNDWATER PROTECTION

OBJECTIVE 4.10C: Protect and maintain the quality of groundwater in Hernando county by providing criteria for land uses and the siting of facilities which use, handle, produce, store, or dispose of regulated substances and by providing protection to vulnerable features Which discharge directly to the Floridan aquifer.

POLICY 4.10C(2): Special Protection Areas shall be designated around vulnerable features which have the potential to discharge directly to the aquifer.

COASTAL MANAGEMENT ELEMENT

CONSERVATION AREA USAGE

OBJECTIVE 5.01B: To provide for careful utilization of conservation areas with full identification of and respect for the natural resource limitations of those areas.

Policy 5.01B(1): Access may be constructed in conservation areas in conjunction with the development of open space facilities, extension of the County hurricane evacuation highway network, or driveways to individual parcels. Improvements should not have a substantially adverse affect upon the water quality of coastal wetlands or estuaries nor a substantially negative affect upon wildlife habitats.

Policy 5.01B(4): Development approvals in flood prone areas will be specifically conditioned upon the ability of evacuation routes to provide safe exodus for all potential residents of existing development within the flood prone area and the proposed new development.

OBJECTIVE 5.01D: Maintain or restore estuarine water quality, vegetative communities and habitat at or above predevelopment conditions, in terms of both quantity and quality.

Policy 5.01D(1): County Staff shall continue to coordinate and participate with appropriate agencies to ensure adequate sites for water dependent uses, prevent estuarine pollution, control surface water runoff, protect living resources, reduce exposure to natural hazards, and ensure public access.

DEVELOPMENT IN THE V-ZONE WITHIN COASTAL HIGH-HAZARD AREAS

OBJECTIVE 5.02A: Development in the V-Zone within Coastal High-Hazard Areas shall be restricted to low intensity uses and recreation oriented projects.

Policy 5.02A(1): County has established a district within the coastal high hazard area within which water-dependent uses are encouraged, the transfer of development rights is permitted and County or State purchase is considered as a first option prior to the issuance of zoning approval. As defined herein, this district includes and is limited to the "V-Zone" on the adopted flood insurance rate map.

Policy 5.02A(2): New county funded public facilities shall not be built in the “V-Zone” on the adopted Flood Insurance Rate Map unless the facility is for recreation, public access or resource restoration.

Policy 5.02A(5): Residential densities in any other new developments approved in the “V-Zone” within the Coastal High Hazard Area will be no greater than 1.0 dwelling unit per acre of upland.

DEVELOPMENT AND INFRASTRUCTURE WITHIN THE COASTAL HIGH-HAZARD AREA

OBJECTIVE 5.02B: Ensure that development in the Coastal High-Hazard Area is compatible with its natural character and that public expenditures for infrastructure in the Coastal High-Hazard are limited.

Policy 5.02B(1): County will establish a coastal high hazard area within which the transfer of development rights is permitted and density is limited to one (1) unit per acre unless the parcel is an existing lot of record or part of a vested development. As defined herein, the coastal high hazard area is the evacuation zone for a Category 1 Hurricane.

Policy 5.02B(2): Complete and maintain an inventory of existing infrastructure within the coastal high hazard area and develop a program to relocate or retrofit such facilities where feasible and as replacement becomes necessary.

Policy 5.02B(3): Ensure that future development and redevelopment within the coastal high hazard area is compatible with site characteristics, consistent with coastal resource protection, and will not increase clearance times along evacuation routes.

Policy 5.02B(4): Minimize the location of development within areas of the coastal high hazard area which have sustained recurring hurricane related damage, through acquisition of property, use of zoning methods to reduce the probability of future property loss due to storm event, or direct development outside the coastal high hazard area.

Policy 5.02B(5): Limit the construction of County-funded public facilities within the coastal high hazard area unless the facilities are necessary for public health, safety, resource restoration or for the restoration of existing development following a storm event.

Policy 5.02B(6): The County shall maintain capacity on all identified major evacuation routes maintained by the County so that the clearance times as identified by the Hurricane Evacuation Study can be maintained.

Policy 5.02B(7): Those portions of Beach, Pine Island and vested developments in the Coastal High Hazard Area will be allowed to continue limited new development in accordance with vested

development rights, provided that all applicable zoning, construction and environmental regulations are met.

COASTAL TRANSPORTATION NETWORK

OBJECTIVE 5.03A: Provide an adequate transportation network in the coastal zone to meet County-wide levels-of-service standards and hurricane evacuation levels-of-service.

Policy 5.03A(1): Continue a transportation planning analysis for the coastal transportation network, identifying the type, timing, location and cost of improvements needed to accommodate: a. The population proposed for the coastal zone, based upon the Future Land Use Map; b. Increased demand for water-dependent recreational opportunities; c. Hurricane evacuation; and d. Roadway elevations.

Policy 5.03A(2): Develop the capability to evacuate all residents before roads become impassable and within eight (8) hours or less.

Policy 5.03A(3): The County will evaluate road levels and determine adequate heights at which the various roads will flood during a hurricane storm surge.

Policy 5.03A(4): Any deficiencies or needs identified in this analysis will be incorporated into the local evacuation plan.

Policy 5.03A(5): Evaluate the adequacy of hurricane evacuation capacity before allowing new development.

INFRASTRUCTURE NEEDED IN THE COASTAL ZONE

OBJECTIVE 5.04A: County shall discourage the development of lands in the V-Zone within the designated Coastal High Hazard Area by eliminating all direct and indirect County subsidies to each new development.

Policy 5.04A(1): Each new development in the designated V-Zone within the coastal high hazard area shall provide and maintain all the necessary infrastructure (roads, drainage, sewer collection and water distribution systems) concurrent with demand generated by that development.

Policy 5.04A(2): County shall not accept for public ownership or maintenance, any roads, drainage, sewer or water infrastructure of new developments in the designated V-Zone within the coastal high-hazard area.

Policy 5.04A(3): County shall not construct new transportation corridors in the V-Zone within the coastal high-hazard areas except to provide necessary hurricane evacuation.

COASTAL INFRASTRUCTURE LEVELS OF SERVICE

OBJECTIVE 5.04B: Level of service standards shall be established for the Coastal Zone and special development standards for the V-Zone within the Coastal High-Hazard Area.

Policy 5.04B(1): New or improved coastal facilities shall provide the following special development standards, by category and measure. Category 1: New Sanitary Sewage Facilities in the Hurricane Flood Zone shall be protected against inflow and infiltration and damage to equipment and electrical service. Category 2: Evacuation roadways within the Coastal Zone should be able to remove evacuation traffic in a design period of 8 hours. Category 3: New septic tanks within the hurricane flood zone shall be fitted with back flow preventors. Category 4: New potable water facilities in the Hurricane Flood Zone shall be protected against inflow and infiltration and damage to equipment and electrical service. Category 5: Sufficient valving shall be installed in water mains to isolate segments of the system in case of damage. Category 6:

Package sewage treatment plants shall be prohibited unless retention areas are adequate to hold all pollution run-off and overflow on the sewage treatment site.

Policy 5.04(2): Review all applications for infrastructure improvements and implement only infrastructure improvements and level of service standards specified in the County's Comprehensive Plan within the coastal area unless overriding public interest is established. Phasing of improvements for the coastal area will be prioritized accordingly: water dependent, water related, and all other uses.

ADOPTION OF A POST-DISASTER REDEVELOPMENT PLAN

OBJECTIVE 5.04C: Designate a disaster preparedness official, who will prepare and present an adopted Post-Disaster Redevelopment Plan.

Policy 5.04C(1): The County disaster preparedness official shall prepare a post-disaster redevelopment plan. This plan will: a. Be submitted to the Planning Department for review and comment; b. Establish residential emergency housing and relocation as a top priority following a disaster; c. Establish damage assessment procedures and reconstruction design criteria which assure that redevelopment protects lives and property from future loss; d. Discourage substantial long-term repair and redevelopment to nonconforming structures under the guise of repair and clean-up to protect public health and safety; e. Address policies regarding the removal, relocation or structural modification of damaged infrastructure and unsafe structures; f. Limit public redevelopment to water-dependent uses; g. Incorporate the recommendations of interagency hazard mitigation reports; and h. Be reviewed, revised as necessary, and adopted by the local governing body.

HAZARD MITIGATION

OBJECTIVE 5.04D: Prevent losses by reducing the risks to people and property from natural disasters through implementation of hazard mitigation measures.

Policy 5.04D(1): Continue efforts to update and integrate hazard and vulnerability data, including Critical Facilities Database, into the GIS system. The data should be used to identify mitigation needs and opportunities.

Policy 5.04D(2): Evaluate the efforts and the experience of other communities, and regional, state and federal agencies involved in hazard identification, preparedness, response, recovery and mitigation for application in County.

Policy 5.04D(3): The County shall form a Reconstruction Task Force to assist and guide mitigation activities.

Policy 5.04D(4): Educate appropriate County Staff regarding floodplain management and post-disaster hazard mitigation.

Policy 5.04D(5): Identify and pursue available grant funds and other funding sources for hazard mitigation activities.

CONSTRUCTION CONSTRAINTS

OBJECTIVE 5.04E: Revise local ordinances as necessary to establish levels of wind and floods that new construction must withstand to encourage non-water dependent uses to locate outside the Coastal High Hazard Area.

Policy 5.04E(1): County will continue to review, revise as necessary, and enforce the flood plain ordinance and Building Code as they relate to activities in the Coastal Zone.

SALTWATER/FRESHWATER INTERFACES

Policy 5.04F(5): Sanitary landfills will be prohibited in the Coastal Zone.

STANDARDS FOR PRIORITIZING SHORELINE USES

OBJECTIVE 5.05A: Provide criteria or standards for prioritizing shoreline uses, giving priority to commercial and recreational fishing and other water-dependent uses, when not in conflict with protection of marine resources.

Policy 5.04F(1): New subdivisions in the coastal zone should utilize water supply sources located inland from the coastal zone.

Policy 5.05A(4): Shoreline development shall conform to local flood plain, zoning and construction ordinances and codes, as adopted by County. These standards will be more strict than inland development standards, for purposes of environmental protection as well as protection of property and lives.

CONSERVATION ELEMENT

OBJECTIVE 6.01D: Establish conservation areas in the Weeki Wachee Swamp and floodways of the Withlacoochee River.

Policy 6.01D(3): Identify the contiguous wetlands and floodways of the Withlacoochee River through mapping of hydric soils and Flood Insurance Rate Map flood areas and SWFWMD mapping.

Policy 6.01D(5): Establish a conservation future land use designation for the above areas based upon factors including contiguous wetlands, flooding, scenic views, valuable or unique habitat and passive recreational value.

Policy 6.01D(6): For those areas located within the Weeki Wachee and Withlacoochee River Protection Areas as mapped in the Future Land Use Element, Land Development Regulations shall be developed which include but are not limited to the following concepts:… c. On-site drainage design to prevent the flow of untreated Stormwater runoff from entering the Weeki Wachee or Withlacoochee Rivers.

PROTECTION OF THE GROUNDWATER AQUIFER

OBJECTIVE 6.02A: Protect the groundwater aquifer from pollution which would adversely impact water quality.

Policy 6.02A(1): Coordinate with the Southwest Florida Water Management District (SWFWMD) and Florida Department of Environmental Protection (DEP) the identification of aquifer quality, prime recharge areas, sinkholes and pollution sources.

Policy 6.02A(3): Stormwater management systems shall be designed to minimize the impacts of stormwater runoff .

PROTECTION OF WATER LEVELS AND WATER QUALITY

OBJECTIVE 6.02B: Protect the water levels and the water quality of lakes and rivers.

Policy 6.02B(1): By the deadline established by state statute, the County shall adopt and implement, in cooperation with appropriate agencies, a stormwater management ordinance which includes the following criteria: a. buffer zones adjacent to rivers to preserve vegetation which provides natural filtration of stormwater runoff; b. treatment of stormwater prior to entrance into

surface water bodies in order to minimize post-development pollutant loads; c. inclusion of natural water bodies and wetlands into the drainage system in order to maintain water levels; and d. best management practices for agricultural and silvicultural land uses which drain to rivers and lakes, consistent with state and federal recommended standards, to reduce pesticide and fertilizer runoff and soil erosion.

DEVELOPMENT COMPATIBLE WITH THE NATURAL SYSTEM

OBJECTIVE 6.08A: Development shall be compatible with the ability of the natural systems to support the intensity of development.

Policy 6.08A(1): Minimum lot sizes for septic fields may be further restricted from the minimum ½ acre in prime aquifer recharge areas, sinkhole areas, areas adjacent to lakes or rivers or areas where soils have severe limitations (USDA Natural Resources Conservation Service (NRCS)).

Policy 6.08A(2): Development in flood-prone areas shall generally be less intensive and shall meet the standards established in the County flood plain ordinance.

Policy 6.08A(3): The flood plain ordinance shall minimize development impact on flood plains, including storage capacity and increase or decrease in the natural flow of floodwater.

INTERGOVERNMENTAL COORDINATION ELEMENT

COORDINATION WITH THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT ACTIVITIES

OBJECTIVE 8.01F: County shall maintain formal coordination mechanisms with SWFWMD.

Policy 8.01F(1): Coordinate with SWFWMD in the preparation of studies involving County. These may include localized drainage problems, groundwater protection, and water conservation.

CAPITAL IMPROVEMENTS ELEMENT

PUBLIC EXPENDITURES IN THE HIGH HAZARD COASTAL AREAS

OBJECTIVE 9.01B: Public expenditures that subsidize or otherwise encourage development in High Hazard coastal areas will be limited to those improvements included in the Coastal Management Element.

Policy 9.01B(1): County may expend funds in high hazard coastal areas for the replacement and renewal of existing public facilities in such areas.

ISSUANCE OF DEVELOPMENT ORDERS AND PERMITS

OBJECTIVE 9.01E: Decisions regarding the issuance of development orders and permits will be based upon coordination of the development requirements included in this Plan, the Land Development Regulations, and the availability of necessary public facilities needed to support such development at the time needed.

Policy 9.01E(3): Proposed plan amendments and requests for new development or redevelopment shall be evaluated according to the following guidelines as to whether the proposed action would: ….d. Contribute to a condition of public hazard as described in the Transportation, Potable Water and Sanitary Sewer, Solid Waste, Drainage, and Coastal Management Elements of the Comprehensive Plan.