

Executive Summary

The experiences of the 2004 Hurricane Season epitomize the importance of better integrating hazard mitigation activities into local comprehensive planning. Last fall, 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 St. Johns 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 Duval 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

St. Johns 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 through which St. Johns County can continue to reduce or eliminate risks to storm surge, flood, and wildfire. 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 storm surge, flood, and wildfire. Sinkholes were discussed in the LMS, but the potential for occurrence was considered to be very low for the entire county. Therefore, the St. Johns County Comprehensive Plan elements were not reviewed for policies pertaining to sinkhole hazards. 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, 5,577 acres are susceptible to Category 1 storm surge (CHZ), 19,004 acres are susceptible to Category 1 – 3 storm surge (HVZ), 16,333 are susceptible to 100-year flood, and 2,313 acres are susceptible to wildfire.

Storm Surge

Nearly 69% of the 5,577 vacant acres in the Coastal Hazard Zone and 69% of the 19,004 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 to maintain low density residential development in the Coastal High Hazard Area (CHHA), prohibit new or expanded mobile home or recreational vehicle developments on barrier islands or V-Zones, protect the coastline naturally, and other existing measures to minimize risk.
- The Comprehensive Plan should continue to ensure that existing evacuation routes are mapped and physically posted. Special consideration for improvements to these transportation facilities shall be given within the County's Capital Improvement Program, FDOT Five Year Work Program and MPO Program.
- The Comprehensive Plan should continue to require that the County shall not approve Comprehensive Plan amendments that increase the residential density within the CHHA.
- The Comprehensive Plan should continue to support programs of land acquisition in the CHHA.
- The Comprehensive Plan should continue to require the County evaluate residential development orders for their impacts on evacuation routes and require mitigation for any project which utilizes 10% or more of the adopted level of service standard.
- The Comprehensive Plan should continue to require the County give higher priority in the Capital Improvement Program to improvements to those roadways which function as evacuation routes as identified in the NEFRPC Regional Hurricane Study.
- The Comprehensive Plan should continue to limit public expenditures in the CHHA.
- The Comprehensive Plan should continue to require that all public and private members of the community support and participate in Local Emergency Planning Committee activities.
- The Comprehensive Plan should continue to require that the County develop and adopt standards and procedures, to ensure the protection, enhancement or restoration of the County's dune systems.
- The Comprehensive Plan should continue to require that seawalls and other shoreline modifications shall be discouraged.
- The Comprehensive Plan should continue to require that the County update its Hurricane Evacuation Plan and Peacetime Emergency Plan now referred to as the Comprehensive Emergency Management Plan every four years.
- The Comprehensive Plan should continue to require that disaster preparedness plans include accommodations for the handicapped and indigent, including transportation and sheltering.
- The Comprehensive Plan should continue to require that adverse regional impacts created by shelter deficits will continue to be mitigated.
- The Comprehensive Plan should continue to require that the County add three additional public buildings as hurricane evacuation shelters to its inventory. The Comprehensive Plan should continue to require that new publicly funded buildings in St. Johns County be designed to serve as evacuation shelters where feasible.
- The Comprehensive Plan should continue to require that the County prohibit new development of adult congregate living facilities, nursing homes for the aged, total

care facilities, hospitals, correctional facilities and similar developments within the CHHA.

- The Comprehensive Plan should continue to require that the County evaluate development orders for their impacts on traffic circulation, evacuation routes, onsite hurricane shelter provisions and proximity to offsite shelter facilities within the Storm Category Zone 1, 2 and 3.
- The Comprehensive Plan should continue to require that the County should not approve development plans that increase densities in the CHHA or hurricane evacuation times without appropriate mitigation.
- The Comprehensive Plan should continue to strongly encourage new development to have on site shelter facilities for their residents or plans for alternative offsite shelters that are outside of the HVZ,
- The Comprehensive Plan should continue to require the County annually review evacuation route needs to assure that the necessary improvements are incorporated within the Capital Improvement Element, Transportation Element, and the FDOT five year work program.
- The Comprehensive Plan should continue to require that St. Johns County shall coordinate with the School Board to ensure that future school facilities are located outside areas susceptible to storm damage and/or areas prone to flooding.
- The Comprehensive Plan should continue to require that by 2001 or sooner, the County will develop standards and procedures, for dune restoration and enhancement programs, which prevent further dune damage by controlling beach access.
- The Comprehensive Plan should continue to require that St. Johns County permit the utilization of local funds for shoreline stabilization and beach renourishment projects.
- The Comprehensive Plan should continue to require that the County request and support state expenditures necessary to address or improve capacity deficiencies on roads or bridges necessary to support the County Hurricane Evacuation Plan.
- The County should consider prohibiting septic tanks in the CHHA.

Flood

About 57% of the 16,333 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 to maintain stringent stormwater mitigation standards and requirements. The Comprehensive Plan should continue to require that new development be required to construct adequate stormwater management facilities according to County standards.
- The Comprehensive Plan should continue to require consistency with National Flood Insurance Program (NFIP) requirements.
- The Comprehensive Plan should continue to require that the County seek grants to establish a grant funded Geographic Information System (GIS) - based inventory of all stormwater management facilities under the county's jurisdiction.
- The Comprehensive Plan should continue to require that the County create LDR's to regulate encroachments, including fill, new construction, substantial improvements, and other development, within a FEMA designated "special flood hazard area".

- The Comprehensive Plan should continue to require that construction in floodplains and floodways comply with FEMA, Federal Insurance Administration, and County building codes.
- The Comprehensive Plan should continue to require undisturbed native vegetative buffers to protect wetlands and floodplains.
- The Comprehensive Plan should continue to require that the County regulate development within the flood prone areas to minimize flood storage capacity reduction and to afford protection to life and property within the floodplain.
- The Comprehensive Plan should consider the adoption of an Environmentally Sensitive Overlay Zone (ESOZ) to address the protection of flood storage and floodplain capacity.
- The County should consider building shelters and essential public facilities outside of the 100-year floodplain.
- 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.
- The Comprehensive Plan should consider requiring a minimum of 1 foot of freeboard above base flood elevation.

Wildfire

About 37% of the 2,313 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 continue to implement practices to reduce risk from wildfire, such as directing developers to manage natural areas around private recreational facilities with Best Management Practices (including prescribed burning), and using a natural resources management plan to acquire sensitive lands for which fire management planning is to occur.
- The County shall continue to coordinate with the State Florida Department of Agriculture and Consumer Services, Florida Department of Agriculture and Consumer Services, Division of Forestry to ensure that appropriate fire prevention methods are implemented for the burning of land clearing debris within the Rural/ Silviculture areas.
- 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 & implement a wildfire mitigation plan specific to that development, subject to review & 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

Sinkholes were discussed in the LMS, but the risk was considered to be very low for the entire county. The Comprehensive Plan does not address the sinkhole hazard, therefore preliminary recommendations were not provided for this hazard.

- Sinkhole hazards could be evaluated further in the next update of the hazards analysis of the LMS to determine the risk. However, based on available data, it appears that sinkhole risk is very low.

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, and should consider including these recommendations 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 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 for population and property exposure to multi-hazards.
- Include a clear description of geographic areas exposed to each of the hazards that the community is most susceptible to.
- Include hazard maps which include data layers to illustrate population (i.e., density) or property (i.e, value) exposure.
- Include future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Include loss estimates by land use.
- Include a quantitative risk assessment for existing and future development (i.e., loss estimates) or specific critical facilities. The LMS Committee is planning on including this information in the future.

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1. County Overview



Geography and Jurisdictions

St. Johns County is located along the Atlantic Ocean in northeast Florida. It covers a total of 821.4 square miles, of which 609 square miles are land and 212.4 square miles are water. There are four incorporated municipalities within St. Johns County, as shown in **Table 1.1**. The City of St. Augustine 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 St. Johns County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. The most populated city in the County is St. Augustine, but 86.89% of the countywide population lives in the unincorporated portion of the County. St. Johns County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, St. Johns County had a growth rate of 46.9%, which was essentially double the statewide average of 23.5% for the same time period.

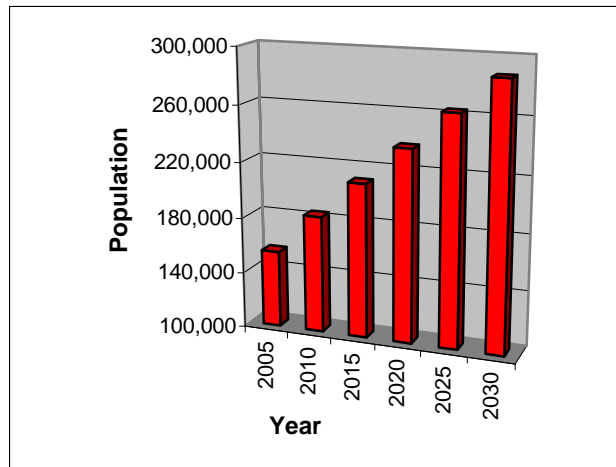
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
UNINCORPORATED	106,339	129,759	22.02%	86.89%
Hastings	521	635	21.88%	0.43%
Marineland	0	1	100.00%	0.0%
St. Augustine	11,592	13,363	15.28%	8.95%
St. Augustine Beach	4,683	5,578	19.11%	3.74%
Countywide Total	123,135	149,336	21.28%	100.00%

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

According to BEBR (2004), St. Johns County’s population is projected to grow steadily and reach an estimated 287,500 by the year 2030, increasing the average population density of 245 to 472 persons per square mile. **Figure 1.1** illustrates medium growth population projections for St. Johns County based on 2004 calculations.

Figure 1. Population Projections for St. Johns County, 2005–2030



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

Of particular concern within St. Johns 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 123,135 persons residing in St. Johns County 15.9% are listed as 65 years old or over; 17.4% are listed as having a disability, 8% are listed as below poverty, and 6.7% live in a home where the primary language is other than English.

2. Hazard Vulnerability

Hazards Identification

The highest risk hazards for St. Johns County as identified in the County’s Local Mitigation Strategy (LMS) are tropical cyclone generated storm surge and high winds, flood, wildfires in the urban/wildland interface, and hazardous materials spills. Sinkholes were discussed in the LMS, but the potential for occurrence was considered to be very low for the entire county.

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 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. No population or structures were determined to be exposed to sinkholes. 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

[Editorial note: DCA is checking on whether the storm surge and flood numbers are accurate, as the surge numbers should be less than flood.]

Table 2.1 presents the population currently exposed to each hazard in St. Johns County. Of the 123,135 (U.S. Census 2000) people that reside in St. Johns County, xx% are exposed to storm surge, xx% are exposed to 100-year flooding (includes storm surge), and 20.4% are exposed to wildfire. Of those exposed to flood, 27.5% are minorities and 29% are disabled.

Table 2.1 Estimated Numbers of Persons Exposed to Selected Hazards

Segment of Population	Storm Surge**	Flood	Wildfire
Total (all persons)*	54,568	37,680	30,428
Minority	2,750	2,138	3,209
Over 65	9,588	6,908	5,978
Disabled	13,610	9,484	10,020
Poverty	3,466	2,547	2,613
Language-Isolated	0	0	0
Single Parent	2,056	1,472	1,431

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 St. Johns 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 St. Johns 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
Baker	12	12	19.5	19.5	19.5
Clay	9	9	11.25	11.25	11.25
Duval	8.5	12	16.75	19.5	19.5
Nassau	10.25	12.25	12.75	13.25	13.25
Putnam	10	12	17.75	18	18
St. Johns	11	14	16	16.75	16.75

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 11 and 16.75 hours to safely evacuate St. Johns 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 with Northeast Florida region scheduled for completion in the fall of 2005.

Similar to most of Florida’s coastal counties, St. Johns County currently has a significant shelter deficit. According to Florida’s Statewide Emergency Shelter Plan, St. Johns County has an existing shelter capacity of 7,320 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 9,829 people, leaving an existing shelter deficit of 2,509. In 2009, the projected shelter demand is 11,564, leaving an anticipated shelter deficit of 4,244.

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. St. Johns 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 (DCA to confirm). 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 St. Johns County by occupancy type that are exposed to each of the three hazards being analyzed. The estimated exposure of St. Johns County’s existing structures to the storm surge, flood, and wildfire hazards was determined through MEMPHIS.

Table 2.3 Estimated Numbers of Structures at Risk to Selected Hazards

Occupancy Type	Storm Surge*	Flood	Wildfire
Single Family	15,560	16,502	9,498
Mobile Home	1,338	8,716	5,581
Multi-Family	7,662	6,458	3,440
Commercial	1,645	1,509	1,017
Agriculture	131	1,843	1,219
Gov. / Institutional	575	440	225
Total	26,911	35,468	20,980

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 56,448 structures exposed to at least one of the three hazards, of which most are single-family homes. Of these structures, 63% are exposed to flood. Over 35,000 structures are located within the 100-year floodplain, of which 75% are exposed to storm surge induced flooding. About 58% of the structures exposed to surge are single-family homes, and 28% are multi-family homes. Typically, structures exposed to surge are high-value real estate due to their proximity to the ocean or tidally influenced water bodies, such as the St. Johns River. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 24 repetitive loss properties in St. Johns 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.”

A total of 37% or 20,980 structures are exposed to wildfire, of which 45% are single-family homes. St. Johns County is changing from a rural to an urban county, though a large percentage of land is still forested. The most vulnerable areas are located in wildland/urban interface areas in the Western part of the county (St. Johns County LMS, 2004). When subdivisions are developed without clearing the wooded areas surrounding them, the vegetation in these interfaces could allow wildfires to spread from the wooded parcels into the subdivisions.

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. St. Johns County future land use data was acquired in May 2004 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 St. Johns County future land use map dated August 2002. 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, and wildfire 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. The areas that are most susceptible to storm surge are located in the coastal communities of St. Augustine, St. Augustine Beach, Hastings, and the unincorporated areas of Vilano Beach, Ponte Vedre and Ponte Vedre Beach, as well as along the Intracoastal Waterway and a few areas along the St. Johns River. The total amount of land in the CHZ is 41,786.4 acres. As shown in **Table 2.4**, 34.2% are parks, conservation areas and golf courses; 15.8% are used for government, institutional, hospitals or education purposes; 13.4% are currently undeveloped; and 10.7% are in agricultural use. **Table 2.5** shows that of the 5,577 undeveloped acres, 27.9% are designated for residential-B use, which is low density development at two dwelling units per acre. The County has taken favorable action in designating 27.9% of vacant acreage in the CHZ for low dwelling density.

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 coastal communities that are East of U.S. Highway 1, two areas in Central St. Johns County that are directly West of U.S. Highway 1, and in several areas along the St. Johns River. The total amount of land in the HVZ is 127,012.8 acres. As shown in **Table 2.4**, 27.4% are in agricultural use; 25.2% are parks, conservation areas and golf courses; 15% are currently undeveloped; and 10% are used for residential single-family homes. **Table 2.5** shows that of the 19,003.9 undeveloped acres, 24% are designated for residential-B use, which is low density development at two dwelling units per acre. The County has taken favorable action in designating 24% of vacant acreage in the HVZ for low dwelling density.

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 surround the many creeks, streams and tidal wetlands including St. Johns River, the largest navigable waterway in Florida; along the Intracoastal Waterway; and along the coastline. The total amount of land in the special flood hazard area is 136,912.7 acres. As shown in **Table 2.4**, 38.7% are in agricultural use; 24.1% are parks, conservation areas and golf courses; 11.9% are currently undeveloped; and 8.3% are used for transportation, communication and rights-of-way. **Table 2.5** shows that of the 16,333.2 undeveloped acres, 31.5% are designated for rural, silviculture and miscellaneous use. The County has taken favorable action in designating 31.5% for rural, silviculture and miscellaneous use versus designating these lands for populated use.

In **Attachment D**, two maps present the existing and future land uses within wildfire susceptible areas. These areas are scattered across the County. The total amount of land in the wildfire susceptible areas is 19,631.2 acres. As shown in **Table 2.4**, 57.9% are in agricultural use; 12.3% are parks, conservation areas and golf courses; 11.8% are currently undeveloped; and 6.2% are used for residential single-family homes. **Table 2.5** shows that of the 2,313.4 undeveloped acres,

59.3% are designated for rural, silviculture and miscellaneous use. The County has taken favorable action in designating 59.3% for rural, silviculture and miscellaneous use versus designating these lands for populated use. However, measures should be taken to reduce the potential spread of wildfire in the wildland urban interface.

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
Agriculture	Acres	4,474.0	34,778.6	53,043.7	11,372.1
	%	10.7	27.4	38.7	57.9
Attractions, Stadiums, Lodging	Acres	439.2	785.6	581.0	234.8
	%	1.1	0.6	0.4	1.2
Places of Worship	Acres	104.6	430.3	140.7	14.7
	%	0.3	0.3	0.1	0.1
Commercial	Acres	195.7	1,263.1	482.4	92.7
	%	0.5	1.0	0.4	0.5
Government, Institutional, Hospitals, Education	Acres	6,606.1	9,748.5	10,871.4	292.0
	%	15.8	7.7	7.9	1.5
Industrial	Acres	53.1	514.3	117.5	20.3
	%	0.1	0.4	0.1	0.1
Parks, Conservation Areas, Golf Courses	Acres	14,268.9	32,062.9	33,054.7	2,409.7
	%	34.2	25.2	24.1	12.3
Residential Group Quarters, Nursing Homes	Acres	46.4	112.1	79.1	0.2
	%	0.1	0.1	0.1	0.0
Residential Multi-Family	Acres	294.5	1,867.0	780.9	173.4
	%	0.7	1.5	0.6	0.9
Residential Mobile Home	Acres	0.0	0.0	2.5	0.0
	%	0.0	0.0	0.0	0.0
Residential Mobile Home, or Commercial Parking Lot	Acres	460.4	2,779.3	1,553.2	611.5
	%	1.1	2.2	1.1	3.1
Residential Single-Family	Acres	3,941.4	12,687.0	5,126.3	1,223.2
	%	9.4	10.0	3.7	6.2
Submerged Land (Water Bodies)	Acres	108.8	242.1	489.1	18.7
	%	0.3	0.2	0.4	0.1
Transportation, Communication, Rights-Of-Way	Acres	3,623.3	8,318.4	11,332.9	775.8
	%	8.7	6.6	8.3	4.0
Utility Plants and Lines, Solid Waste Disposal	Acres	1,593.3	2,419.7	2,924.2	78.7
	%	3.8	1.9	2.1	0.4
Vacant	Acres	5,577.0	19,003.9	16,333.2	2,313.4
	%	13.4	15.0	11.9	11.8
Total Acres	Acres	41,786.4	127,012.8	136,912.7	19,631.2
	%	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	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Agriculture	Acres	1,430.1	657.9	5,342.5	1,186.7	5,724.8	1,297.0	553.1	83.6
	%	100.0	11.8	100.0	6.2	100.0	7.9	100.0	3.6
Airport District	Acres	338.9	3.1	1,334.5	116.8	955.5	73.1	12.5	0.0
	%	100.0	0.1	100.0	0.6	100.0	0.4	100.0	0.0
Caballos Del Mar DRI	Acres	1,263.6	262.2	3,425.3	685.7	1,456.6	331.7	161.2	9.8
	%	100.0	4.7	100.0	3.6	100.0	2.0	100.0	0.4
Commercial	Acres	227.8	51.7	362.0	79.1	115.5	33.0	3.8	0.2
	%	100.0	0.9	100.0	0.4	100.0	0.2	100.0	0.0
Community Commercial	Acres	7.8	0.5	96.1	28.1	47.0	26.3	0.0	0.0
	%	100.0	0.0	100.0	0.1	100.0	0.2	0.0	0.0
Conservation	Acres	11,136.3	512.3	12,667.1	553.8	21,059.3	569.4	120.4	10.7
	%	100.0	9.2	100.0	2.9	100.0	3.5	100.0	0.5
Industrial	Acres	0.0	0.0	84.5	5.1	168.3	17.6	43.7	1.6
	%	0.0	0.0	100.0	0.0	100.0	0.1	100.0	0.1
Intensive Commercial	Acres	0.0	0.0	9.4	0.0	603.3	0.0	58.0	0.0
	%	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Julington Creek DRI	Acres	568.7	371.9	837.6	442.3	585.6	458.6	61.5	10.7
	%	100.0	6.7	100.0	2.3	100.0	2.8	100.0	0.5
Miscellaneous	Acres	0.0	0.0	0.0	0.0	51.1	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Mixed Use District	Acres	167.0	45.3	5,125.4	1,791.9	3,575.8	783.6	711.8	206.2
	%	100.0	0.8	100.0	9.4	100.0	4.8	100.0	8.9
Neighborhood Commercial	Acres	0.0	0.0	32.3	8.9	1.1	0.7	0.0	0.0
	%	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
New Town	Acres	37.7	0.0	11,324.4	35.9	5,572.8	12.9	1,458.2	1.8
	%	100.0	0.0	100.0	0.2	100.0	0.1	100.0	0.1
Park/Recreation	Acres	11,572.5	25.4	18,919.0	54.2	14,813.3	32.6	260.2	0.2
	%	100.0	0.5	100.0	0.3	100.0	0.2	100.0	0.0
Public	Acres	71.6	4.5	656.8	20.7	257.5	2.5	52.4	0.2
	%	100.0	0.1	100.0	0.1	100.0	0.0	100.0	0.0
Residential-A	Acres	1,204.7	296.1	3,092.5	621.5	1,952.6	401.7	31.7	4.5
	%	100.0	5.3	100.0	3.3	100.0	2.5	100.0	0.2
Residential-B	Acres	4,894.7	1,553.6	15,152.6	4,598.2	12,803.8	3,466.3	1,880.0	248.6
	%	100.0	27.9	100.0	24.2	100.0	21.2	100.0	10.7
Residential-C	Acres	2,902.3	734.1	11,311.5	3,663.4	4,497.2	1,433.2	1,562.7	287.4
	%	100.0	13.2	100.0	19.3	100.0	8.8	100.0	12.4
Residential-D	Acres	617.5	195.7	1,344.7	385.5	262.8	133.8	69.6	21.4
	%	100.0	3.5	100.0	2.0	100.0	0.8	100.0	0.9
Right Of Way	Acres	1,799.5	311.4	2,525.4	539.0	1,218.5	247.2	70.0	10.9
	%	100.0	5.6	100.0	2.8	100.0	1.5	100.0	0.5
Rural/Sylviculture /Miscellaneous	Acres	3,542.4	551.5	33,130.3	4,182.4	45,365.8	5,149.2	11,386.2	1,372.8
	%	100.0	9.9	100.0	22.0	100.0	31.5	100.0	59.3
Rural/Sylviculture /SJRWMD	Acres	0.0	0.0	130.6	0.0	12,964.5	23.0	1,010.1	0.0
	%	0.0	0.0	100.0	0.0	100.0	0.1	100.0	0.0
Rural Commercial	Acres	3.6	0.0	65.3	4.7	46.8	0.2	0.0	0.0
	%	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
St. Johns DRI	Acres	0.0	0.0	43.3	0.0	2,813.2	1,839.6	124.4	42.8
	%	0.0	0.0	100.0	0.0	100.0	11.3	100.0	1.9
Total Acres	Acres	41,786.5	5,577.0	127,012.8	19,003.9	136,912.68	16,333.2	19,631.2	2,313.4
	%	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 St. Johns 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 St. Augustine has the most vacant acres in the Coastal Hazards Zone, HVZ, flood zones and in wildfire susceptible areas, as well as the largest proportion of acres exposed to these hazards 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 St. Johns 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	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Hastings	Acres	19.0	6.9	425.8	85.6	199.5	52.4	20.1	7.6
	%	100.0	0.6	100.0	5.8	100.0	4.9	100.0	19.2
Jacksonville	Acres	12.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0
	%	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Marineland	Acres	6.5	0.0	0.0	0.0	4.9	0.0	0.0	0.0
	%	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
St. Augustine	Acres	3,856.9	794.3	5,183.1	996.7	6,107.4	943.2	74.5	16.3
	%	100.0	66.5	100.0	67.6	100.0	87.5	100.0	41.2
St. Augustine Beach	Acres	1,178.9	393.5	1,180.4	391.5	350.7	82.7	76.9	15.6
	%	100.0	32.9	100.0	26.6	100.0	7.7	100.0	39.6
Total Municipal Acres	Acres	5,073.2	1,194.7	6,789.3	1,473.8	6,675.6	1,078.3	171.4	39.5
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Community Affairs

3. Existing Mitigation Measures

Local Mitigation Strategy (LMS) Assessment

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

As noted in DCA's *Protecting Florida's Communities* Guide, one significant strategy for reducing community vulnerability is to manage the development and redevelopment of land exposed to natural hazards. Where vacant land is exposed to hazard forces, local government decisions about allowable land uses, and the provision of public facilities and infrastructure to support those uses, can have major impacts on the extent to which the community makes itself vulnerable to natural hazards. Where communities are already established and land is predominately "built out," local governments can take initiatives to reduce existing levels of vulnerability by altering current land uses both in the aftermath of disasters, when opportunities for redevelopment may arise, and under "blue sky" conditions as part of planned redevelopment initiatives.

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

Hazard Identification and Vulnerability Assessment. This section identifies a community's vulnerability to natural hazards. Under Florida rules, the HIVA is required to include, at a minimum, an evaluation of the vulnerability of structures, infrastructure, special risk populations, environmental resources, and the economy to any hazard to which the community is susceptible. According to FEMA, LMSes revised pursuant to the Disaster Mitigation Act of 2000 (DMA 2000) criteria must include maps and descriptions of the areas that would be affected by each hazard to which the jurisdiction is exposed, information on previous events, and estimates of future probabilities. Vulnerability should be assessed for the types and numbers of exposed buildings, infrastructure, and critical facilities with estimates of potential dollar losses. Plan updates will be required to assess the vulnerability of future growth and development.

Guiding Principles. This section lists and assesses the community's existing hazard mitigation policies and programs and their impacts on community vulnerability. This section typically contains a list of existing policies from the community's Comprehensive Plan and local ordinances that govern or are related to hazard mitigation. Coastal counties frequently include policies from their PDRPs.

Mitigation Initiatives. This component identifies and prioritizes structural and non-structural initiatives that can reduce hazards vulnerability. Proposals for amendments to Comprehensive Plans, land development regulations, and building codes are often included. Structural projects typically address public facilities and infrastructure, and buy-outs of private structures that are repetitively damaged by flood. Many of these qualify as capital improvement projects based on the magnitude of their costs and may also be included in the capital improvements elements of the counties' and cities' Comprehensive Plans.

The St. Johns County LMS (adopted in 2005) was assessed to determine if the hazard analysis and vulnerability assessment (i.e., surge, flood, and wildfire; sinkhole was deemed by the LMS committee to pose a low risk) data can support comprehensive planning, whether the guiding principles include a comprehensive list of policies for the county and municipalities, and whether the LMS goals and objectives support comprehensive planning goals, objectives, and policies (GOP). Future updates to the assessment will include working with St. Johns County to

determine if the county's capital improvement projects are included in the LMS hazard mitigation project list.

Hazard Analysis and Vulnerability Assessment (LMS, pp 35-90).

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 county property values for occupancy classes based on data from the *Florida Statistical Abstract (2003)*.
- 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.
- Includes a qualitative risk assessment for each hazard (Table A-1. Hazards Identification Information Table).
- Includes a future land use map.
- Includes a list of types and map of critical facilities.
- Provides a list and map of repetitive losses.

Weaknesses:

- Does not include data for population and property exposure to multi-hazards.
- 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 include loss estimates by land use.
- Does not include a quantitative risk assessment for existing and future development (i.e., loss estimates) or specific critical facilities. However, the LMS Committee is planning on including this information in the future.

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 St. Johns County LMS Guiding Principles section contains a list of policies for the county and each municipality. **Table 1.1** in the St. Johns County LMS includes the category (e.g., flood, hurricane, general), objectives and policies, source (e.g., comprehensive plan GOP), and notes (e.g., status of initiative, impact on vulnerability reduction). 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 St. Johns 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 F**. An assessment of whether the LMS goals are reflected in the comprehensive plan (and vice versa) is provided in **Table 5.1** as part of the preliminary recommendations. Final recommendations will result from a collaborative process between DCA, St. Johns County, and PBS&J. The following is a summary of the LMS goals that support comprehensive plan GOPs.

Goal 1 refers to the protection of the lives of residents of St. Johns County and its Municipalities. Goal 2 refers to the protection property to ensure that its intrinsic value is preserved. Goal 3 refers to the protection infrastructure so that it is available during and after a disaster. Goal 4 refers to the protection of the environment to ensure that quality of life and economic wellbeing are preserved.

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 St. Johns County adopting and implementing corresponding policies that are legally enforceable.

Comprehensive Emergency Operations Plan (CEMP)

The St. Johns County CEMP references the LMS in Annex B: Mitigation, and states that the hazard mitigation activities are describe in detail in the LMS. The CEMP notes that all pre- and post-disaster mitigation priorities and projects are generated through the LMS, and that operational assistance is coordinated with various supporting agencies within the county. Annex B of 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.

Pre- and post-disaster mitigation activities are primarily the responsibility of the St. Johns County Department of Emergency Management. County staff from the Property Appraisers Office, Building Department, and Planning Department are actively involved with pre-disaster mitigation as members of the LMS Task Force. These departments also provide support to the Department of Emergency Management for post-disaster mitigation activities. The Property Appraiser provides expertise regarding property values, damages and losses to properties as a result of a disaster. The Building Department helps identify mitigation activities that could reduce the vulnerability of public infrastructure, businesses and housing stock to damage and loss from natural and manmade disasters. Although most of the mitigation project identification occurs during the pre-disaster phase, opportunities for mitigation are also encountered during the initial and preliminary damage assessments and through the FEMA Public Assistance Program process.

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 St. Johns County PDRP was not available for review at the time that this profile was developed.

National Flood Insurance Program/Community Rating System

St. Johns County and all municipalities participate in the National Flood Insurance Program (NFIP). St. Johns County is a participant in the National Flood Insurance Program's Community Rating System with a Class 7 rating. St. Augustine and St. Augustine Beach participate in the NFIP Community Rating System (CRS), each with a Class rating of eight. Hastings does not participate in the CRS.

4. Comprehensive Plan Review

Purpose and Intent

The St. Johns County Comprehensive Plan (adopted May 2000) (the “Plan”) was reviewed for the purpose of developing this profile. This review was undertaken to assess what steps St. Johns County has taken to integrate hazard mitigation initiatives from the Local Mitigation Strategy (LMS), and hazard mitigation in general, into the planning process. Each Element of the Plan was evaluated to establish whether the principles in the LMS were incorporated into the policies of the Comprehensive Plan.

Approach

This review includes an assessment of storm surge, flooding, and wildfire hazards. Sinkholes were discussed in the LMS, but the potential for occurrence was considered to be very low for the entire county. Therefore, the St. Johns County Comprehensive Plan elements were not reviewed for policies pertaining to 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 F**. 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 St. Johns County Plan focuses on guiding development growth while preserving natural features and protecting the population from hazards through land development regulation, intergovernmental coordination, environmental regulation, and land use designations. The Plan considered directing/guiding development and growth in the county to be of utmost importance and most policies relate to the smart growth of the community and standards to obtain. Through these growth guidelines is interwoven the need to protect the natural environment, maintain infrastructure needs and grow smartly without sprawl or excessive demand of infrastructure needs. There were provisions designed to maintain communication between the surrounding municipalities and other jurisdictions. The Plan is strong in relation to intergovernmental coordination and utilizes land use guides, development controls, focus groups and task forces as well as incentives to protect vulnerable populations, properties and interests.

The Plan contains policies related to growth in the County and tries to direct growth to areas that are designated for economic and population growth on the Future Land Use Map with minimal impacts to ecologically sensitive lands and areas vulnerable to hazards. Unavoidable impacts to the land are detailed with mitigation options and impact fees assessed for each. The Plan also focused on limiting development in the coastal high hazard areas and protecting the function of natural systems. The Comprehensive Plan also has many policies considered to be best management practices related to the protection of natural drainage features, wetlands, and floodplains. The Plan contains detailed policies related to limiting development density and intensity within the Coastal High Hazard Area (CHHA) throughout its entirety, directing development outside of the CHHA, and mitigating the impact of natural hazards in the area. Pre- and post-disaster planning is emphasized to decrease vulnerability of existing and new construction to losses.

Flooding

Stormwater management and flooding are addressed in the Master Stormwater Management Plan. Flood mitigation is further addressed through policies aimed at protecting the natural environment to minimize flooding impacts. There were also policies that require proper identification of flood zones and analysis of stormwater system needs.

Hurricane Evacuation

The Plan contains detailed policies related to limiting development density and intensity within the Coastal High Hazard Area (CHHA), directing it development outside of the CHHA, and mitigating the impact of natural hazards in the area. The Plan also details redevelopment procedures to be followed after a natural disaster. Both the CEMP and the PDRP are referenced in the Conservation/Coastal Element of the Plan. Pre- and post-disaster planning is emphasized to decrease vulnerability of existing and new construction to losses.

The County will not approve Comprehensive Plan Amendments that increase the residential density on the Future Land Use Map within the Coastal High Hazard Area, and will evaluate development orders for their impacts on traffic circulation, evacuation routes, onsite hurricane shelter provisions and proximity to offsite shelter facilities within the Storm Category Zone 1, 2 and 3. Amendments to the Comprehensive Plan in the Coastal Area shall not be approved which will result in an increase in hurricane evacuation times, without mitigation of the adverse impact to evacuation times. A proposed development in a hurricane evacuation zone which is anticipated to utilize ten percent (10 %) or more of an identified hurricane evacuation route's level of service E hourly directional maximum service volume will be identified as having an adverse regional impact, and shall be mitigated. St. Johns County will evaluate residential development orders for their impacts on evacuation routes and require mitigation for any project which utilizes 10% or more of the adopted level of service standard from the regional evacuation routes identified in the Transportation Analysis of the NEFRPC Regional Hurricane Study. The County will also give higher priority in the Capital Improvement Program to improvements to those roadways which function as evacuation routes as identified in the NEFRPC Regional Hurricane Study. The County has established an estimated hurricane evacuation time of 10.5 hours for a category 3 storm event as projected for the year 2005 by the Northeast Florida Regional Hurricane Evacuation Study (December 1998), though a more recent study completed by DCA shows this clearance time to be 16 hours.

The County plans to add several new emergency shelters by 2005. Law enforcement, fire rescue and emergency medical buildings are to be designed to function as emergency shelters for their mission personnel and equipped with an emergency power supply. The County updates its hurricane guide showing evacuation routes, hurricane hazards, safety procedures, shelters, and other pertinent information for its citizens. Adverse regional impacts on sheltering from proposed development are to be assessed and mitigated. Consistent with the Northeast Florida Regional Planning Council Strategic Regional Policy Plan (SRPP), the County strongly encourages that new mobile home and RV parks have on site shelter facilities for their residents or plans for alternative offsite shelters. In addition, County strongly encourages that new apartment complexes and condominiums located outside of hurricane evacuation areas to provide onsite shelter space as well.

Wildfire

Several policies addressed fire and the risk associated with development. Policy A.1.3.12 speaks to rezoning of property and the County considers the compatibility of such rezoning to the surrounding community and other environmental features into the approval or denial of said rezoning by considering the fire risk. Policy E.2.9.4 and Policy G.1.9.20 ensure the appropriate fire prevention method are implemented for the burning of land clearing debris by coordinating with the State Florida Department of Agriculture and Consumer Services, Florida Department of Agriculture and Consumer Services, Division of Forestry.

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.

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 (2005)

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

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

Wildfire Susceptibility GIS Data

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

- Areas shown as "wildfire susceptible areas" and that were analyzed are those areas with a "Wildfire Susceptibility Index" value of greater than 10,000 (in north Florida counties) or greater than 0.1 (in south Florida counties)*, based on the FRAS model, and that are also within areas of forest or shrub vegetation or "low impact urban" land cover, based on the Florida Fish and Wildlife Conservation Commission "Florida Vegetation and Land Cover - 2003" GIS data.
- * The rating scale in the "Wildfire Susceptibility Index" GIS coverages has a range of 0 to 100,000 in north Florida counties, and a range of 0 to 1.0 in south Florida counties.

Municipal Boundaries

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

ATTACHMENT A
Maps of the Existing and Future Land Uses within 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
Local Mitigation Strategy
Goals and Objectives Pertaining to Comprehensive Planning

St. Johns County's LMS includes the following goals that are directly related to local comprehensive planning and growth management (LMS, page 5):

- **Goal 1** – *Protect the lives of the residents of St. Johns County and its Municipalities.*
- **Goal 2** – *Protect property to ensure that its intrinsic value is preserved.*
- **Goal 3** – *Protect infrastructure so that it is available during and after a disaster.*
- **Goal 4** – *Protect the environment to ensure that quality of life and economic wellbeing are preserved.*

ATTACHMENT F

St. Johns County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation

FUTURE LAND USE ELEMENT

Objective A.1.1 Environmental Conditions

The County shall designate future land uses based upon environmental conditions and constraints including but not limited to: vegetation, topography, soil conditions, wildlife, aquifer recharge areas, and drainage. The County shall coordinate with state and federal agencies responsible for environmental and natural resource protection to include sharing of environmental data and studies to support the designation of appropriate land uses.

Objective A.1.5 Coastal Areas

Through the Future Land Use Plan, the County shall ensure safe evacuation of coastal areas and shall coordinate coastal area population densities with appropriate regional hurricane plans. The County shall limit increases in population density within the Coastal High Hazard Area. Policies

A.1.5.1 For the purposes of this Plan, the Coastal Planning Area (also “Coastal Area”) shall mean that portion of unincorporated St. Johns County lying easterly of the mean high water line of the west shoreline of the Intracoastal Waterway.

A.1.5.2 The Coastal High Hazard Area (CHHA) shall mean the evacuation zone for a Category 1 hurricane as established in the 1998 Hurricane Evacuation Study for Northeast Florida, as updated.

A.1.5.3 Existing evacuation routes shall be mapped and physically posted. Special consideration for improvements to these transportation facilities shall be given within the County’s Capital Improvement Program and in the priorities for funding for the FDOT Five Year Work Program and MPO Transportation Improvement Program.

A.1.5.4 The County shall update its hurricane evacuation plan and disaster preparedness plan consistent with state and federal requirements and also shall reevaluate its effectiveness immediately after a major disaster event to recommend appropriate improvements.

A.1.5.5 The County shall update its hurricane guide annually, if needed, showing: evacuation routes, hurricane hazards, safety procedures, shelters, and other pertinent information for its citizens.

A.1.5.6 The County shall not approve Comprehensive Plan amendments that increase the residential density on the Future Land Use Map within the Coastal High Hazard Area (CHHA).

A.1.5.7 The County shall prohibit new development of adult congregate living facilities, nursing homes for the aged, total care facilities, and similar developments within the Coastal High Hazard Area (CHHA).

A.1.5.8 The County shall support programs of land acquisition in the Coastal Area for protection of natural resources and critical dune systems.

A.1.5.9 Amendments to the Comprehensive Plan in the Coastal Area shall not be approved which will result in an increase in hurricane evacuation times, without mitigation of the adverse impact to evacuation times.

A.1.7.12 The County land development regulations, at a minimum, shall contain provisions for the following: (f) regulations for areas subject to seasonal and periodic flooding; (g) drainage and stormwater management;

A.1.15.2 Applications requesting amendment to the Comprehensive Plan or Future Land Use Map shall be evaluated based upon criteria which shall include, but not be limited to the following:...(b) consistency with the adopted State Comprehensive Plan and Northeast Florida Strategic Regional Policy Plan;...

TRANSPORTATION ELEMENT

Objective B.1.6 Transportation and Land Use

All residential, nonresidential, and planned unit developments shall provide a circulation system which: provides safe access to the major roadway network; provides for proper design of local and collector streets within such development; and otherwise supports the objectives and policies of the Land Use and Transportation Elements of the Plan.

B.1.6.6 St. Johns County will evaluate residential development orders for their impacts on evacuation routes and require mitigation for any project which utilizes 10% or more of the adopted level of service standard from the regional evacuation routes identified in the Transportation Analysis of the NEFRPC Regional Hurricane Study.

B.1.6.7 The County shall give higher priority in the Capital Improvement Program to improvements to those roadways which function as evacuation routes as identified in the NEFRPC Regional Hurricane Study.

INFRASTRUCTURE ELEMENT

D.1.1.9 New public infrastructure within the Coastal Area shall be planned and constructed in a manner which minimizes the impact upon coastal marshes, wetlands and surface water. New infrastructure development within the Coastal Areas shall be subject to the Land Development Regulations.

D.1.1.10 Public expenditures within the Coastal High Hazard Areas (CHHA) shall be limited pursuant to Objective H.1.4. and supporting policies unless required for the health, safety or welfare of existing residents.

D.2.3.6 The County shall encourage all public and private members of the community to support and participate in Local Emergency Planning Committee activities.

INFRASTRUCTURE ELEMENT – STORMWATER MANAGEMENT SUB-ELEMENT

Goal D.3. St. Johns County shall provide an efficient and environmentally sound system of Stormwater Management. This system shall increase the efficiency of the existing system, afford reasonable protection from flooding, and protect the quality of surface water and groundwater in St. Johns County.

Objective D.3.1 Surface Water Management

By 2001, the County shall seek funding (i.e. stormwater utility or other revenue sources) so the County can work toward completing a Countywide Master Drainage Study. This Master Drainage Study shall include inventories of existing drainage facilities, geographic locations, land uses, operating entities, design capacities, existing capacity usage, general performance, impacts of the facilities on the natural environment, problems and opportunities solutions to the deficiencies. Upon completion of the drainage study, the County shall review and amend the Plan to include or implement the study’s findings.
Policies

D.3.1.6 By 2003, the County shall develop a map identifying where the major drainage problems have occurred and what drainage problems the County has corrected.

D.3.1.7 There shall be no reduction in the flood storage capacity or the other natural functions and values of the floodplain in St. Johns County in areas designated as regulatory floodway as updated by FEMA Flood Insurance studies in St. Johns County. Encroachments shall be prohibited within designated regulatory floodway including, but not limited to, fill, new construction and development improvements, that would result in any increase in flood levels.

D.3.1.8 The County shall regulate development within the floodprone areas to minimize flood storage capacity reduction, so that post development equals predevelopment standards which will afford protection to life and property within the floodplain.

Objective D.3.2 Future Development

St. Johns County shall continue to update their Land Development Regulations which shall require the implementation of stormwater management procedures that ensure water quality and quantity is improved and that adequate facility capacity is available to serve future developments.

D.3.2.1 New development shall be required to construct adequate stormwater management facilities according to County standards.

D.3.2.2 By December 1999, the County shall review its existing Floodplain Management Ordinance (9024) and Roadway and Drainage Standards Ordinance (9640) and, as necessary or appropriate, shall revise and incorporate these ordinances within the Land Development Regulations (LDRs).

D.3.2.3 The County shall manage and regulate development within the 100-year floodplain through enforcement of the County floodplain management regulations and the procedures recommended by FEMA. These regulations shall become part of the County's development review permit process.

CONSERVATION\COASTAL MANAGEMENT ELEMENT COASTAL

Goal E.1. The County shall manage, use, conserve, protect, and enhance coastal resources, along with protecting human life from natural disasters.

Objective E.1.2 Dune Preservation

The County shall assure the protection, conservation and enhancement of the County's coastal barrier areas, dunes, and beaches through: (a) coordination of County permitting activities with the activities of other regulating State and Federal agencies; (b) establishment or continued enforcement of construction standards for the coastal building zones; (c) establishment of procedures and Land Development Regulations including revisions to the County's Beach Code to protect the County's dune systems by December 2001; and (d) utilization of the State's approved dune walkover structures at all County owned and maintained beaches to prevent impacts to native vegetation, wildlife and the dune systems.

E.1.2.1. The County shall provide technical support and assistance to applicable State and Federal agencies in identifying and inventorying all beaches and dune systems, so that they may be protected, enhanced and renourished.

E.1.2.2. By 2005, the County shall develop procedures and, through adoption of Land Development Regulations shall develop and adopt standards and procedures, to ensure the protection, enhancement or restoration of the County's dune systems. At a minimum, these procedures or regulations shall provide for: (a) Coordination with DEP as to applications to develop seaward of the established Coastal Construction Control Line, in order to monitor and comment on DEP applications for variances to the CCCL requirements, and to allow variances to County setback requirements where possible or appropriate to avoid or minimize development seaward of the CCCL; and (b) The County's use of beach ramp fees and/or tolls, consistent with

applicable law, for dune restoration and enhancement programs (such as, without limitation, the construction of dune walkovers, the use of native (indigenous) plant species, the establishment of a salt tolerant vegetation /revegetation program, and public education programs in cooperation with the Marine Extension Service), and to further control beach access in order to prevent dune damage; and (c) Establishment of standards and enforcement mechanisms to prevent destruction of dune vegetation; and (d) Continued enforcement of the County's requirements and prohibitions against uncontrolled vehicular beach access pursuant to Ordinance No. 732, and related ordinances; and (e) Continued enforcement, through the development permit review process, of applicable Federal, State or Local coastal construction zone requirements; and (f) Improvements to beach access and offbeach parking facilities as provided in Policy F.1.1.1.

E.1.2.3. Seawall and other shoreline modifications shall be discouraged, or at a minimum set landward of, the mean high water line, except as provided by law. The County and other agencies having jurisdiction shall coordinate in establishing appropriate setbacks.

Objective E.1.3 Post Disaster Planning, Coastal Area Redevelopment and Hurricane Preparedness

The County shall prepare postdisaster redevelopment plans which will reduce or eliminate the exposure of human life and public and private property to natural hazards.

E.1.3.1. County shall update its Hurricane Evacuation Plan and Peacetime Emergency Plan now referred to as the Comprehensive Emergency Management Plan every four years, and shall reevaluate their effectiveness immediately after a major disaster event to recommend and adopt appropriate modifications.

E.1.3.2. St. Johns County's Comprehensive Emergency Management Plan shall be used as the operational guide to prepare for the response to, and recover from a tropical storm, hurricane and/or other emergencies.

E.1.3.3. The County shall update its hurricane guide showing evacuation routes, hurricane hazards, safety procedures, shelters, and other pertinent information for its citizens.

E.1.3.4. Disaster preparedness plans shall include accommodations for the handicapped and indigent, including transportation and sheltering.

E.1.3.5. By 2005, the County shall add three additional public buildings as hurricane evacuation shelters to its inventory of evacuation centers.

E.1.3.6. The County shall coordinate disaster preparedness plans with adjacent counties and municipalities.

E.1.3.7. The County shall reduce the risks to human life, and to public and private property from natural disasters through the following postdisaster redevelopment planning and implementation of hazard mitigation measures:

(a) Prioritize immediate repair and cleanup actions and permitting activities following a natural disaster.

(3) Long term repairs and redevelopment activities shall be postponed until the priority short term activities have been completed.

(b) By 2007, the County shall, by adoption of Land Development Regulations, as necessary or appropriate, adopt policies to direct long-term redevelopment activities within storm damaged areas. The policies shall, at a minimum, address the following issues:

- (1) A formal decision making process to evaluate options for damaged public facilities including: abandonment, repair in place, relocation and reconstruction with structured modifications; and
 - (2) Consider the need for Comprehensive Plan Amendments to effect hazard mitigation activities; and
 - (3) Relocation of habitable structures which have incurred damage from a natural disaster event, where damage is greater than 75 percent of their assessed value, to new locations that are outside the Coastal High Hazard Areas (CHHA), provided that sufficient land is available on the subject parcel for such relocation; and
 - (4) Utilization of improved construction site development practices during redevelopment, in a manner consistent with the land development regulations, to minimize the risk of recurrent damage.
- (c) Minimization of the disturbance of natural shoreline resources which:
- (1) Provide shoreline stabilization, and
 - (2) Protect landward areas from the effects of storm events.
- (d) Require that all project approvals within the Coastal High Hazard Area (CHHA) meet certain criteria, performance standards and procedures, as adopted in the County's Land Development Regulations, including at a minimum:
- (1) Where appropriate and consistent with applicable law, requirements for additional user fees or surcharges for Coastal High Hazard Area (CHHA) infrastructure to ensure that additional costs of design, construction, maintenance and/or replacement of public infrastructure within the CHHA are not otherwise present in the areas outside the CHHA are completely paid for by the projects within the CHHA, and not by the general public; and
 - (2) Special standards for the design and construction of all infrastructure within the Coastal High Hazard Area (CHHA) to minimize risks of damage to such infrastructure, where increased risks of damage due to coastal flooding can be reasonably anticipated; and
 - (3) Consistent with applicable law, specific authorization for the use of special assessments within the Coastal High Hazard Area (CHHA) to recoup expenditures for repair of damage to public or private infrastructure within a reasonable time frame, where storm related damage is incurred; and
 - (4) Required notification to residents/ businesses located within the CHHA that specific standards and/or additional costs may be associated with locating within the Coastal High Hazard Area (CHHA); and
 - (5) Requirements for the development of hurricane evacuation plans for the proposed project, in coordination with the County's Emergency Management Division and requirements for the implementation of such planning by the developers of the project and their successors.

E.1.3.8. New publicly funded buildings in St. Johns County should be designed to serve as evacuation shelters where feasible. Law enforcement, fire rescue and emergency medical buildings shall be designed to function as emergency shelters for their mission personnel and equipped with an emergency power supply.

E.1.3.9. The County shall prohibit new development of adult congregate living facilities, nursing homes for the aged, total care facilities, hospitals, correctional facilities and similar developments within the Coastal High Hazard Area.

E.1.3.10. The County shall consider, and as necessary implement where appropriate, the recommendations of the hazard mitigation annex of the local Peacetime Emergency Plan now referred to as the a Comprehensive Emergency Management Plan.

E.1.3.11 The County shall not approve Comprehensive Plan Amendments that increase the residential density on the Future Land Use Map within the Coastal High Hazard Area.

E.1.3.12 St. Johns County will evaluate development orders for their impacts on traffic circulation, evacuation routes, onsite hurricane shelter provisions and proximity to offsite shelter facilities within the Storm Category Zone 1, 2 and 3.

E.1.3.13 St. Johns County will coordinate with the School Board to make sure that future school facilities are located outside areas susceptible to hurricane and/or storm damage and/or areas prone to flooding, or as consistent with Chapter 235 F.S. and Rule 6A2 F.A.C. regarding flood plain and school building requirements.

E.1.3.14 Amendments to the Comprehensive Plan in the Coastal Area shall not be approved which will result in an increase in hurricane evacuation times, without mitigation of the adverse impact to evacuation times.

E.1.3.15 A proposed development in a hurricane evacuation zone which is anticipated to utilize ten percent (10 %) or more of an identified hurricane evacuation route's level of service E hourly directional maximum service volume will be identified as having an adverse regional impact. The volume is based on the Florida Department of Transportation's Generalized Hour/ Peak Direction Level of Service Maximum Volumes as presented in the Florida Highway Systems Manual. These adverse impacts shall be mitigated.

E.1.3.16 Where shelter deficits exist, an adverse regional impact is a proposed development with anticipated public shelter space demand that will require 200 spaces or five percent (5%) of the shelter space capacity; or where shelter deficits do not exist, an adverse regional impact is a proposed development with anticipated public shelter space demand that will cause a deficit of 200 spaces or more. These adverse impacts shall be mitigated.

E.1.3.17 Consistent with the Northeast Florida Regional Planning Council Strategic Regional Policy Plan (SRPP), the County shall strongly encourage new mobile home and RV parks to have on site shelter facilities for their residents or plans for alternative offsite shelters. Onsite shelter facilities may include public meeting buildings, community centers and recreational centers as long as designed to hurricane shelter standards.

E.1.3.18 Consistent with the Northeast Florida Regional Planning Council Strategic Regional Policy Plan (SRPP), the County shall strongly encourage new apartment complexes and condominiums located outside of hurricane evacuation areas to provide onsite shelter space.

Objective E.1.7. Infrastructure

Routing of new infrastructure and public services within the Coastal Area shall be designed to direct growth away from Environmentally Sensitive Lands (ESL) and the Coastal High Hazard Area (CHHA), and to limit public expenditures within the CHHA.

Objective E.1.9 Hurricane Evacuation Time

The County shall maintain hurricane evacuation times.

E.1.9.1. The County shall maintain an estimated hurricane evacuation time of 10.5 hours (Category 3 Storm Event) as projected for the year 2005 by the Northeast Florida Regional Hurricane Evacuation Study (December 1998).

E.1.9.2. By 2003, the County shall, through adoption of Land Development Regulations, establish procedures and guidelines for assessing the impact of new development and redevelopment on hurricane evacuation times.

E.1.9.3. The County shall annually review evacuation route needs to assure that the necessary improvements are incorporated within the Capital Improvement Element, Transportation Element, and the FDOT five year work program.

E.1.9.5 St. Johns County shall attempt to limit the density within the Coastal High Hazard Area as allowed by law.

Objective E.2.2. Native Forests, Floodplains, Wetlands, Upland Communities, and Surface Water

The County shall protect native forests, floodplains, wetlands, upland communities, and surface waters within the County from development impacts to provide for maintenance of environmental quality and wildlife habitats

E.2.2.17. By 2005 or sooner, the County shall consider adoption of an Environmentally Sensitive Overlay Zone (ESOZ) for areas designated on the Environmentally Sensitive Lands Map The ESOZ shall establish standards and procedures to address the following:...(c) Protection of flood storage and floodplain capacity;...

Site analysis of the soil conditions, topographic relief, vegetative communities, wildlife, historical/ archeological resources, mean high water line (MHWL), 100 year floodplain as well as other pertinent site characteristics may be required as appropriate, to substantiate the effects of any proposed development. Buffer zones shall be created in an effort to maintain and control erosion, sedimentation, attenuate flood waters and maintain or improve water quality...Stormwater management systems shall be designed to mimic and use the features and functions of the natural drainage systems. Existing features such as natural drainage ways, depressions, wetlands, floodplain, highly permeable soils and vegetation shall be utilized. The County shall work with the SJRWMD to establish stormwater criteria which will achieve the specified intent....

E.2.3.5 There shall be no reduction in the flood storage capacity or the other natural functions and values of the floodplain in St. Johns County by regulating development in areas designated as regulatory floodway as updated by FEMA Flood Insurance Studies in St. Johns County. Encroachments shall be prohibited within designated regulatory floodway including, but not limited to, fill, new construction, development improvements, that would result in any increase in flood levels.

E.2.3.6 The County shall regulate development within the flood prone areas to minimize flood storage capacity reduction and to afford protection to life and property within the floodplain.

E.2.9.4 The County shall coordinate with the State Florida Department of Agriculture and Consumer Services, Florida Department of Agriculture and Consumer Services, Division of Forestry to ensure that appropriate fire prevention methods are implemented for the burning of land clearing debris within the Rural/ Sylviculture areas.

INTERGOVERNMENTAL COORDINATION ELEMENT

G.1.1.4 The County shall review the County's Comprehensive Plan and Plan amendments for consistency with the State Comprehensive Plan and the Strategic Regional Policy Plan. (Element 3 – Emergency Preparedness)

G.1.7.7 The County shall ensure that amendments to its Comprehensive Plan are consistent with the Strategic Regional Policy Plan; the State Comprehensive Plan (Chapter 187, F.S.); the Local Government Comprehensive Planning and Land Development Regulation Act (Chapter 163, F.S.); and the Minimum Criteria for Review of Local Government Comprehensive Plans and Plan Amendments and Determination of Compliance (Florida Administrative Code, Rule 9J5).

G.1.9.11 St. Johns County shall coordinate with the School Board to ensure that future school facilities are located outside areas susceptible to hurricane and/or storm damage and/or areas prone to flooding, or as consistent with Chapter 235, F.S. and Rule 6A2, F.A.C., regarding flood plain and school building requirements.

G.1.9.20 The County shall coordinate with the Florida Department of Agriculture and Consumer Services, Division of Forestry, to ensure that appropriate fire prevention methods are implemented for the burning of land clearing debris within the Rural/Sylviculture areas.

G.1.10.5 By 2001 or sooner, the County shall develop standards and procedures, through the adoption of Land Development Regulations, to ensure the protection, enhancement or restoration of the County's dune systems. Among other things (as enumerated at Coastal Management Policy E.1.2.2), these procedures or regulations shall provide for continued enforcement of Federal, State or Local coastal construction zone requirements, and the County's use of beach ramp fees or tolls, consistent with applicable law, for dune restoration and enhancement programs, which prevent further dune damage by controlling beach access.

G.1.10.6 St. Johns County shall permit the utilization of local funds for shoreline stabilization and beach renourishment projects. Priority shall be given to those projects which demonstrate a high cost benefit ratio while having the least impact to the offshore reef and near shore beach and dune ecological communities.

Objective H.1.4

The County shall limit public capital investment that subsidizes development in coastal high hazard areas to those improvements included in the Coastal/Conservation Element, and to those expenditures necessary for health and safety, hurricane evacuation, and which will facilitate the use of the natural open areas and recreation areas.

H.1.4.1 The County shall incorporate into its review processes for infrastructure planning an assessment of the appropriateness of public capital improvements in the coastal high hazard areas as identified in the Coastal/Conservation Element of this Plan.

H.1.4.2 The County shall request and support state expenditures necessary to address or improve capacity deficiencies on roads or bridges necessary to support the effective Hurricane Evacuation Plan for the County, particularly in those areas, or with respect to those facilities, which are experiencing level of service deficiencies.